PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

6:00 PM Master Plan Update
7:00 Public Hearings begin

August 21, 2025

AGENDA

REGULAR MEETING 7:00pm

I. MASTER PLAN UPDATE

A. Presentation by Utile

II. PRESENTATIONS

A. Staff presentation on Capital Improvement Plan Process

III. APPROVAL OF MINUTES

A. Approval of the July 17, 2025 meeting minutes.

IV. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

A. The request of **361 Hanover Steam Factory LLC (Owner)**, for property located at **361 Hanover Street** requesting Site Plan Review approval and Preliminary and Final Subdivision Approval for the addition of three new residential structures and the renovation of the existing commercial building at 361 Hanover Street with the associated and required site improvements.

SITE PLAN REVIEW

A. The request of **361 Hanover Steam Factory LLC (Owner)**, for property located at **361 Hanover Street** requesting Site Plan Review approval and Preliminary and Final Subdivision Approval for the addition of three new residential structures and the

renovation of the existing commercial building at 361 Hanover Street with the associated and required site improvements.

B. The request of **Bromley Portsmouth, LLC (Owner),** for property located at **1465 Woodbury Avenue** requesting a Conditional Use Permit from Section 10.5B41.10 for a Development Site, a Conditional Use Permit from Section 10.440, Use 19.40 for a drive-through facility, and Site Plan Review Approval for the construction of a ±2,847 square-foot, single-story banking facility with drive-through and associated site improvements including parking, pedestrian access, utility infrastructure, stormwater management systems, lighting and landscaping.

C. The request of **The City of Portsmouth (Owner),** for property located at **35 Sherburne Road** requesting review of Site Plan Review and Conditional Use Permit applications within the Highway Noise Overlay District for a recommendation to the City Manager for the construction of 127-workforce housing units in three buildings including demolition of the rear gym of the school and converting the remaining structure into 8 units, construction of a 4-story 90 unit building, construction of a 3-story 29 unit building and associated site improvements including utilities, lighting, landscaping, stormwater, parking and access.

V. PUBLIC HEARINGS -- OLD BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

A. REQUEST TO POSTPONE The request of **SLF Realty Group LLC (Owner),** for property located at **400 Spaulding Turnpike** requesting an amended Site Plan approval to change the temporary access path to a permanent access path. Said property is located on Assessor Map 238 Lot 2 and lies within the Gateway Corridor (G1) District. **REQUEST TO POSTPONE** (LU-25-50)

B. REQUEST TO POSTPONE The request of **SLF Realty Group LLC (Owner),** for property located at **400 Spaulding Turnpike** requesting an after-the-fact Wetland Conditional Use Permit for permanent wetland buffer impacts that were not included in the original wetland conditional use permit for this project. The new request is an increase in wetland buffer impacts from 1,644 square feet to 3,685 square feet. Said property is located on Assessor Map 238 Lot 2 and lies within the Gateway Corridor (G1) District. **REQUEST TO POSTPONE** (LU-25-50)

VI. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

A. The request of **Ryan Leibundgut (Owner),** for property located at **137 Walker Bungalow Road** requesting an after-the-fact Wetland Conditional Use Permit for work done within the 100' wetland buffer and 100' vernal pool buffer without a permit. The applicant had previously removed a 6 x 12' rear deck and footings and new concrete footings were poured and a new 6 x 12' deck was built. Crushed stone underneath the deck, a set of stairs and a 5 s.f. concrete landing, and new plantings within the buffer area are all proposed with this application. Said property is located on Assessor Map 202 Lot 4 and lies within the Single Residence B (SRB) District. (LU-25-81)

B. The request of **361 Hanover Steam Factory LLC (Owner)**, for property located at **361 Hanover Street** requesting Site Plan Review approval and Preliminary and Final Subdivision Approval for the addition of three new residential structures and the renovation of the existing commercial building at 361 Hanover Street with the associated and required site improvements. Said property is located on Assessor Map 138 Lot 63 and lies within Character District 5 (CD5) and Downtown Overlay District. (LU-24-196)

C. The request of **Bromley Portsmouth, LLC (Owner**), for property located at **1465 Woodbury Avenue** requesting a Conditional Use Permit from Section 10.5B41.10 for a Development Site, a Conditional Use Permit from Section 10.440, Use 19.40 for a drive-through facility, and Site Plan Review Approval for the construction of a ±2,847 square-foot, single-story banking facility with drive-through and associated site improvements including parking, pedestrian access, utility infrastructure, stormwater management systems, lighting and landscaping. Said property is located on Assessor Map 216 Lot 3 and lies within the Gateway Corridor (G1) District. (LU-25-93)

D. The request of **The City of Portsmouth (Owner),** for property located at **35 Sherburne Road** requesting review of Site Plan Review and Conditional Use Permit applications within the Highway Noise Overlay District for a recommendation to the City Manager for the construction of 127-workforce housing units in three buildings including demolition of the rear gym of the school and converting the remaining structure into 8 units, construction of a 4-story 90 unit building, construction of a 3-story 29 unit building and associated site improvements including utilities, lighting, landscaping, stormwater, parking and access. Said property is located on Assessor Map 259 Lot 10 and lies within the Municipal (M) District. (LU-25-94)

E. The request of **Market Square LLC (Owner),** for property located at **1** and **15 (21) Congress Street** requesting a Conditional Use Permit from Section 10.440, Use 1.71 Coliving. Said property is located on Assessor Map 117 Lots 12 & 14 and lies within the Character District 4 (CD-4), Character District 5 (CD-5), Historic, and Downtown Overlay Districts. (LU-22-12)

VII. PRELIMINARY CONCEPTUAL CONSULTATION

A. The request of **St. Nicholas Greek Orthodox Church (Owner),** for property located at **0 Lafayette Road** requesting Preliminary Conceptual Consultation. Said property is located on Assessor 229 Map Lot 6A and lies within the Gateway Corridor (G1) District. (LUPD-25-8)

B. The request of **Double MC LLC (Owner),** for property located at **134 Pleasant Street** requesting Preliminary Conceptual Consultation. Said property is located on Assessor Map 116 Lot 30 and lies within the Character District 4 (CD4) and Historic Districts. (LUPD-25-9)

VIII. OTHER BUSINESS

A. Zoning Amendments

B. Chairman updates and discussion items

C. Board discussion of Regulatory Amendments & other matters

X. ADJOURNMENT

**Members of the public also have the option to join this meeting over Zoom; a unique meeting ID and password will be provided once you register. To register, click on the link below or copy and paste this into your web browser:*

https://us06web.zoom.us/webinar/register/WN_l-RwM3PpSPe8rKh1Ij0mmw

City of Portsmouth
Planning Department
1 Junkins Ave, 3rd Floor
Portsmouth, NH
(603)610-7216

Memorandum

To: Planning Board

From: Peter Stith, AICP
Planning Manager

Date: August 15, 2025

Re: Recommendations for the August 21, 2025 Planning Board Meeting

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I. MASTER PLAN UPDATE - UTILE

Presentation by Utile followed by Q & A with the Board.

II. PRESENTATIONS

2. Receive a presentation on the Capital Improvement Plan Process

Background

The Capital Improvement Plan (CIP) is both a financial and infrastructure planning tool that sets forth a multi-year schedule and financing strategies for accomplishing public capital projects that both maintain safe quality city infrastructure and assist in the achievement of Citywide Goals. Careful development of and adherence to the CIP ensures that needed capital projects are accomplished within the City's financial capability. In combination with the annual City budget, the Capital Improvement Plan has a significant impact on the planned allocation of fiscal resources and is thus one of the most important documents considered by the City Council.

State/Local Regulatory Context

RSA 674.5: Capital Improvement Program

"674:5 Authorization. – In a municipality where the planning board has adopted a master plan, the local legislative body may authorize the planning board to prepare and amend a recommended program of municipal capital improvement projects projected over a period of at least 6 years….

The capital improvements program may encompass major projects being currently undertaken or future projects to be undertaken with federal, state, county and other public funds. The sole purpose and

effect of the capital improvements program shall be to aid the mayor or selectmen and the budget committee in their consideration of the annual budget."

City Charter

City Charter Section 7.6 - Capital Program:

The Manager shall prepare and submit to the Council a six (6) year capital program at least three (3) months prior to the final date for submission of the budget (May 15). The program shall include:

- *A general summary of its content;*
- *A list of all capital improvements proposed during the next six (6) fiscal years;*
- *Cost estimates, methods of financing, recommended time schedules for each improvement; and*
- *Estimating annual operating and maintenance costs.*

The purpose of the CIP is to:

1. Implement needed improvements on a scheduled basis
   - Provides a complete picture of the City's major development needs
   - Coordinates activities of various City departments and agencies
   - Assists in implementing recommendations of the City's Master Plan
2. Forecast future allocation of fiscal resources
   - Establishes fiscal priorities for projects
   - Aids in the proper utilization of funding sources
3. Help plan for future City expenditures
   - Discourages piecemeal improvements and duplication of expenditures
4. Ensure capital project needs are provided within the City's financial capability
   - Informs the taxpayers of anticipated future improvements
   - Helps to schedule major projects to avoid large fluctuations in the tax rate

As used in the CIP, a capital improvement project is defined as a major fiscal expenditure that falls into one or more of the following categories:

- ✓ Land acquisition;
- ✓ Construction or expansion of a public facility, street, utility or public infrastructure;
- ✓ Rehabilitation of a public facility or public infrastructure provided the cost is $50,000 or more;
- ✓ Design work or planning study related to a capital project or implementation of the Master Plan;
- ✓ Any item or piece of equipment, non-vehicular in nature, that costs more than $50,000 and has a life expectancy of 5 or more years; or
- ✓ Replacement and purchase of vehicles which have a life expectancy of more than 5 years or cost more than $50,000.

Plan Development Process

The capital planning process is coordinated by the Finance and Planning Departments under the direction of the City Manager. Capital project requests are initially formulated by City department heads and submitted to the Finance Department. Members of the public may also submit project requests, which are reviewed by City departments and incorporated into the departmental project submissions as appropriate.

CIP projects originate from three sources.

- ✓ Capital Improvement Plan from the Prior Fiscal Year
- ✓ City Staff
- ✓ Residents

Staff works to update the prior year's CIP projects to reflect the current status, project needs and costing. After city departments and residents submit their new requests for capital project, staff works with the City Manager to prioritize them by utilizing the following:

- **Project requirements** – Is the project required to meet legal, compliance, or regulatory requirements?
- **Timing** – How soon does the project need to be implemented to address the needs identified?
- **Strategic alignment** – To what extent is the project aligned with other city projects, policies, processes?
- **Public value** – How much value does the outcome of this project provide to the general public? How much public support is there for implementing this project?
- **Finance planning** – Is the project fundable in the time frame identified, are there available funding sources for this project?

Although the factors above are consistently utilized in the prioritization process, other factors, such as urgent community needs or public health and safety, may also contribute to the final project placement, allowing the process to be nimble and responsive to emerging community needs.

Planning Board and City Council Adoption

Beginning in 2024, the Planning Board and City Council held a joint work session and joint public hearing to streamline the process to allow the Council to adopt the CIP in December. This same adoption process is proposed this year as is presented in the timeline below. Once adopted, the CIP is utilized in the development of the annual budget in accordance with RSA 674.5.

Financing

Capital improvement projects are funded from a variety of sources. These funding sources include: General Fund (GF) Capital Outlay; Federal/State Grants; Bond or Lease; Revenues (Parking, Water and Sewer); State Revolving Loan Fund (SRF) and Public Private Partnerships (PPP).

General Fund – Capital Outlay – One method used for financing capital projects is through the use of the General Fund – Capital Outlay. The General Fund includes the money raised by the local property tax for a given year. When a project is funded with General Fund revenues, its entire cost is paid off within the year. The intent is to budget annually a certain amount from the General Fund (approximately 2% of previous Fiscal Year General Fund total Budget) to address City General Fund priorities.

Grants – One source of grants is from other levels of government, for example, the Environmental Protection Agency, the NH Department of Health and Human Services, U.S. Housing and Urban Development, NH Department of Environmental Services, and the NH Department of Transportation. Generally, these Federal and State sources provide an outright grant or matching funds to go with locally raised funds. The City also pursues non-governmental private grants when applicable.

General Obligation Bonds – Bonds are used to finance major municipal capital projects. These are issued for a period of time generally extending from ten to thirty years during which time principal and interest payments are made. They are secured by the full faith and credit of the Municipal Government. This type of payment has the advantage of allowing the costs to be amortized over the life of the project and of allowing taxpayers or rate payers to pay a smaller amount of the project's cost at a time. However, they do commit the City's resources over a long period of time and decrease the flexibility of how yearly revenues can be utilized. The City's bonding capacity is a limited resource. All projects that are to be bonded should meet minimum eligibility criteria and must have a useful life of at least equal to the bond terms. **Projects that are funded through bonds must go through an additional process, after the adoption of the CIP and the budget, of authorization by the City Council after a public hearing.**

Revenues – The City has two established Enterprise Funds (Water and Sewer). The needs for these two divisions are met through the revenues raised from providing that particular service. Therefore, there is no impact on the City's tax rate. Additionally, the City has established a Parking and Transportation Fund (Special Revenue Fund). Revenues derived from the City's parking functions are transferred to this fund in order to operate the City's parking and traffic related activities.

State Revolving Loan Fund (SRF) – This is a program offered through the NH Department of Environmental Services for the purpose of providing low interest rate funding for approved water pollution control projects. State approval of applications does not bind the City to any of the individual projects but does lock into a low interest rate loan. Upon completion of projects, the loan becomes a serial bond payable by the City of Portsmouth Sewer or Water Fund to the State of NH. In addition, the City applies for State Aid Grant (SAG) funding to assist in repaying SRF loans up to 30% of the total project cost.

Public Private Partnership – This method of financing involves joint funding of a particular project between the City and one or more private sector or non-governmental partners. This method is used for projects that will benefit the partners and help to minimize costs to local taxpayers.

Deciding on which method of financing should be selected for a given project depends on a number of factors. These include the cost of the project, its useful life, the eligibility of the project to receive funds from other than local taxes, long-term and short-term financial obligations of the City and a project's relative priority in terms of implementation. The Capital Improvement Plan seeks to maximize the potential benefits from all revenue sources.

Timeline

- August 18, 2025 - City Council CIP Presentation
- **August 21, 2025 - Planning Board CIP Presentation**
- September 19, 2025 - Citizens/Committee Requests Due
- September 26, 2025 – Staff/Department Submissions Due
- October 9, 2025 - City Council Citizen Request Subcommittee meeting
- **November 12, 2025 – Joint Work Session City Council & Planning Board**
- **November 17, 2025 - Joint Public Hearing City Council & Planning Board**
- **November 20,2025 - Planning Board Meeting Vote to Recommend CIP to City Council**
- December 8, 2025 - City Council Adoption of CIP

III. APPROVAL OF MINUTES

A. Approval of the July 17, 2025 meeting minutes.

Planning Department Recommendation

1) Board members should determine if the draft minutes include all relevant details for the decision-making process that occurred at the July 17, 2025 meeting and vote to approve meeting minutes with edits if needed.

IV. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

A. The request of **361 Hanover Steam Factory LLC (Owner)**, for property located at **361 Hanover Street** requesting Site Plan Review approval and Preliminary and Final Subdivision Approval for the addition of three new residential structures and the renovation of the existing commercial building at 361 Hanover Street with the associated and required site improvements.

Planning Department Recommendation

Vote to determine that Item A is complete according to the Subdivision Review Regulations, (contingent on the granting of any required waivers under Section VI of the agenda) and to accept the application for consideration.

SITE PLAN REVIEW

A. The request of **361 Hanover Steam Factory LLC (Owner)**, for property located at **361 Hanover Street** requesting Site Plan Review approval and Preliminary and Final Subdivision Approval for the addition of three new residential structures and the renovation of the existing commercial building at 361 Hanover Street with the associated and required site improvements.

B. The request of **Bromley Portsmouth, LLC (Owner)**, for property located at **1465 Woodbury Avenue** requesting a Conditional Use Permit from Section 10.5B41.10 for a Development Site, a Conditional Use Permit from Section 10.440, Use 19.40 for a drive-through facility, and Site Plan Review Approval for the construction of a ±2,847 square-foot, single-story banking facility with drive-through and associated site improvements including parking, pedestrian access, utility infrastructure, stormwater management systems, lighting and landscaping.

C. The request of **The City of Portsmouth (Owner)**, for property located at **35 Sherburne Road** requesting review of Site Plan Review and Conditional Use Permit applications within the Highway Noise Overlay District for a recommendation to the City Manager for the construction of 127-workforce housing units in three buildings including demolition of the rear gym of the school and converting the remaining structure into 8 units, construction of a 4-story 90 unit building, construction of a 3-story 29 unit building and associated site improvements including utilities, lighting, landscaping, stormwater, parking and access.

Planning Department Recommendation

Vote to determine that Items A-C are complete according to the Site Plan Review Regulations, (contingent on the granting of any required waivers under Section VI of the agenda) and to accept the applications for consideration.

V. PUBLIC HEARINGS – OLD BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

It is recommended that Old Business Item A and B be discussed together and voted on separately. A motion is required to consider these matters together.

A. REQUEST TO POSTPONE The request of **SLF Realty Group LLC (Owner),** for property located at **400 Spaulding Turnpike** requesting an amended Site Plan approval to change the temporary access path to a permanent access path. Said property is located on Assessor Map 238 Lot 2 and lies within the Gateway Corridor (G1) District.

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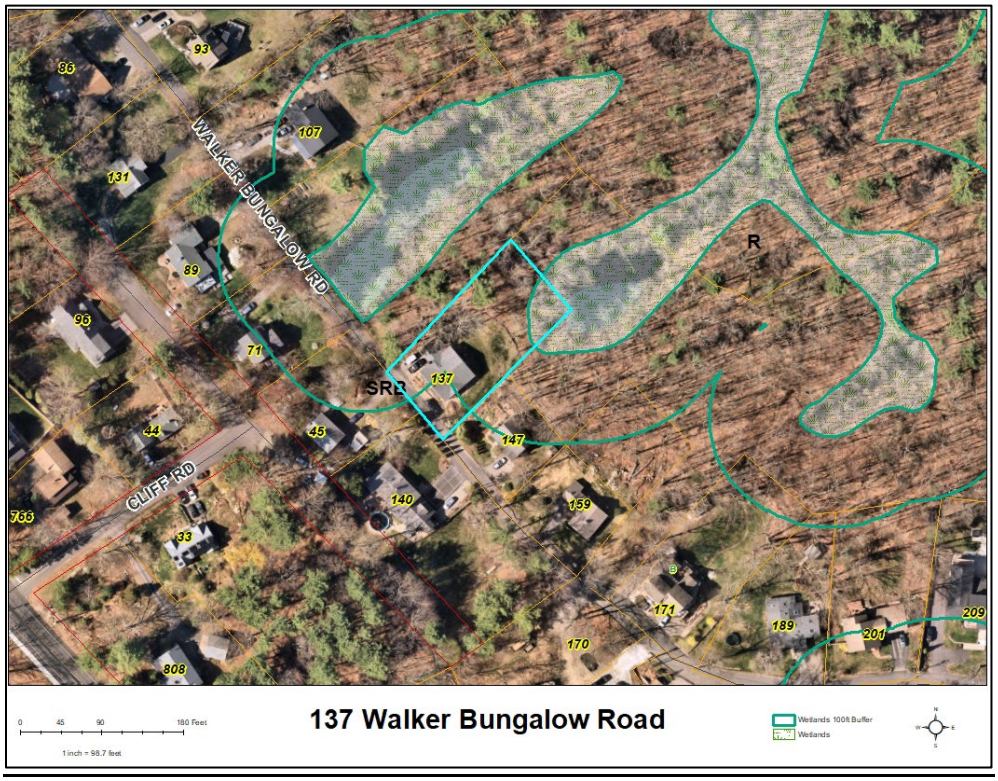
VI. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

A. The request of **Ryan Leibundgut (Owner),** for property located at **137 Walker Bungalow Road** requesting an after-the-fact Wetland Conditional Use Permit for work done within the 100' wetland buffer and 100' vernal pool buffer without a permit. The applicant had previously removed a 6 x 12' rear deck and footings and new concrete footings were poured and a new 6 x 12' deck was built. Crushed stone underneath the deck, a set of stairs and a 5 s.f. concrete landing, and new plantings within the buffer area are all proposed with this application. Said property is located on Assessor Map 202 Lot 4 and lies within the Single Residence B (SRB) District. (LU-25-81)

Background

The applicant removed the rear deck without any permits and is proposing to build a new deck the same dimensions as the old. As shown on the map below, most of the property and house are located within the 100-foot wetland buffer area. Two vernal pools nearby which impact this property with a buffer protection area. Vernal pools, regardless of size, have a 100-foot buffer area. The application includes improved drainage under the new deck, plantings, signage and has delineated a no mow area in the buffer.



Staff Analysis – Wetland CUP

According to Article 10 Section 10.1017.50 the applicant must satisfy the following conditions for approval of this project.

1. **The land is reasonably suited to the use activity or alteration.**

The property previously had the same size deck in place. The impact from the new deck will be from the soil disturbance created to rebuild the deck and pour new footings.

2. **There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration**.

The egress already existed within this location of the home and stairs or a deck were needed to access the doorway. This location is reasonable as there was a deck here and the new deck will be the same size.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.

The applicant is proposing to help offset impacts from the new build with crushed stone placed below the deck and plantings within the yard to increase the vegetation within the buffer.

4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.

This project was rebuilt in an already disturbed area and the applicant is proposing the installation of new plantings to bolster the vegetative state of the buffer.

5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.

This rebuild appears to be almost entirely within the existing impacted area where the previous deck was located. Impacts to the wetland resource were offset with the removal of the existing sump pump drainage and removal of the septic system as noted by the applicant. In addition, the introduction of new plantings will help to offset impacts and the crushed stone placement should slow stormwater that is entering the wetland buffer.

6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

This project proposes no impact to the 50’ vegetated buffer strip. Applicant proposes new plantings within this area.

Conservation Commission

The applicant was before the Conservation Commission at its regularly scheduled meeting of Wednesday, July 9, 2025 meeting, the Commission voted (6-0) to recommend approval with the following conditions:

1. *In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the 25' vegetative buffer at 50-foot intervals and must be permanently installed as a part of this after the fact permit.*
2. *Prior to submission to the Planning Board, applicant shall provide a detail sheet depicting the profile of the proposed crushed stone for underneath the deck (depth, stone size, material layers, etc.).*
3. *Prior to submission to the Planning Board, applicant shall provide a planting plan with the following information: the species, size, quantity and exact location of the five plantings proposed at least five feet inward from the existing silt fence and the delineation of the proposed no-mowing line where the existing silt fence is.*

The conditions have been satisfied with the Planning Board application or added as conditions of approval below.

Planning Department Recommendation
Wetland Conditional Use Permit

1) Vote to find that the Conditional Use Permit Application meets the requirements set forth in Section 10.1017.50 of the Ordinance and adopt the findings of fact as presented.

(Alt.) Vote to find that the Conditional Use Permit Application meets the requirements set forth in Section 10.1017.50 of the Ordinance and adopt the findings of fact as amended.

2) Vote to grant the Conditional Use Permit with the following conditions:

2.1) In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the 25' vegetative buffer at 50-foot intervals and must be permanently installed.

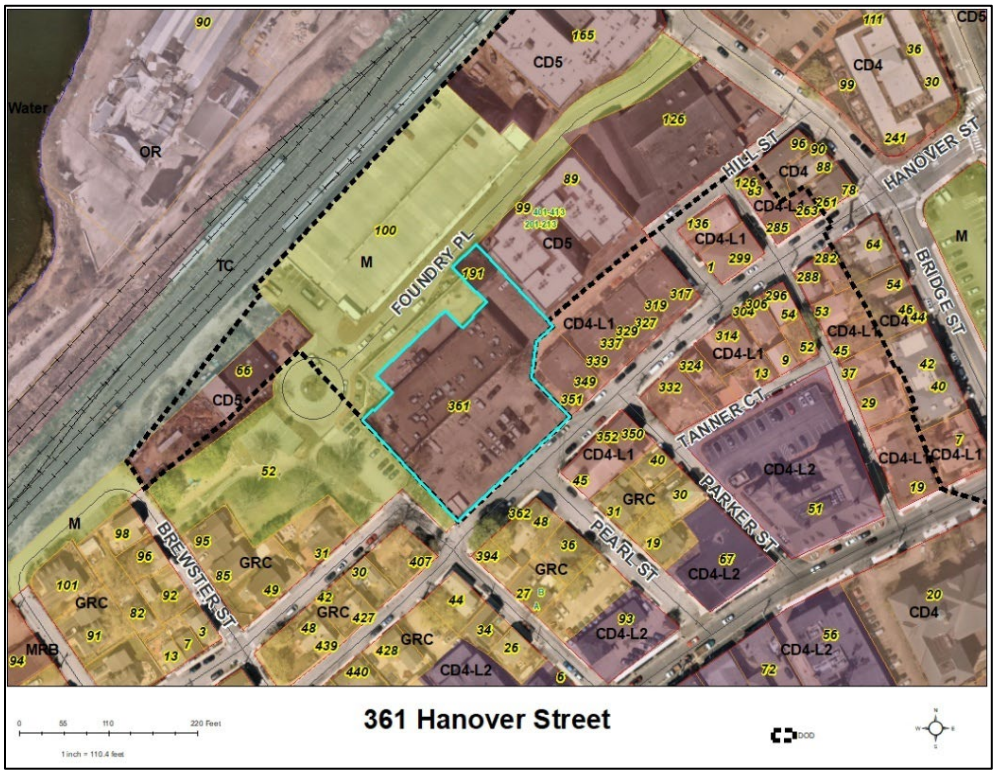
VI. PUBLIC HEARINGS – NEW BUSINESS

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B. The request of **361 Hanover Steam Factory LLC (Owner)**, for property located at **361 Hanover Street** requesting Site Plan Review approval and Preliminary and Final Subdivision Approval for the addition of three new residential structures and the renovation of the existing commercial building at 361 Hanover Street with the associated and required site improvements. Said property is located on Assessor Map 138 Lot 63 and lies within Character District 5 (CD5) and Downtown Overlay District. (LU-24-196)

Project Background

The applicant is proposing to renovate the existing building and construct three new residential buildings for a total of 48 residential units in four buildings. construct a 4-bay garage attached to an existing three-unit dwelling. The applicant received Design Review approval for a by-right development in 2024, however the applicant's preferred plan required variances. The applicant sought relief from the Board of Adjustment and after the applicant received variances they came back to the Planning Board for Design review in early 2025 and Design Review was determined to be complete at the April 17, 2025 Planning Board meeting after a public hearing.



Project Review, Decisions, and Recommendations

The applicant was before the Technical Advisory Committee and Zoning Board of Adjustment. See below for details.

Board of Adjustment

The applicant was before the Zoning Board of Adjustment for several months in 2024 and at its regularly scheduled meeting of Tuesday, February 18, 2025 the Board voted 4-1 to grant the following variances and condition of approval below:

1) Variance from Section 10.642 to allow residential principal use on the ground floor of the buildings;
2) Variance from Section 10.5A41 - Figure 10.5A41.10D to a) allow for "Apartment", "Rowhouse" and "Duplex" building types where they are not permitted; and b) allow a ground floor height of 10.5 feet where 12 feet is required.

Condition of Approval:
1) The design and locations of the buildings may change as a result of the Planning Board's review and approval.

Technical Advisory Committee

The applicant was before the Technical Advisory Committee at its regularly scheduled meeting of Tuesday, July 1, 2025 and the Committee voted unanimously to recommend approval with the following conditions:

The Committee voted to recommend approval of this application unanimously to the Planning Board with the following conditions to be satisfied prior to submission to the Planning Board:

1. The proposed electrical service must come off of a pole that is not within the City sidewalk.

2. The radii of the curb in the entrance driveway needs to be five feet.

3. The back corner of Building E needs to be chamfered or relocate last garage door.

4. The final grade needs to be shown on the plans and it cannot inhibit vehicular access across the property.

5. The final proposed connections to the water and sewer system needs to be approved by DPW.

6. Applicant will be required to obtain a stormwater connection permit.

7. An updated traffic study is needed and shall be reviewed by DPW.

8. The proposed sidewalks on Hanover Street will be reconstructed to City standards.

9. Proposed disturbed areas on Hanover Street will be milled and paved as approved by DPW.

10. A CMMP is required.

The conditions have been satisfied with the Planning Board application or added as conditions of approval below.

Planning Department Recommendation
Subdivision

1) *Vote to find that the Subdivision Application meets the requirements set forth in the Subdivision Regulations and adopt the findings of fact as presented.*

2) *Vote to grant Preliminary and Final Subdivision Approval with the following stipulations:*
   - 2.1) *The subdivision plan, and any easement plans and deeds shall be recorded simultaneously at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.*
   - 2.2) *Property monuments shall be set as required by the Department of Public Works prior to the filing of the plat;*
   - 2.3) *GIS data shall be provided to the Department of Public Works in the form as required by the City;*

Planning Department Recommendation
Site Plan Approval

1) Vote to find that the Site Plan Application meets the requirements set forth in the Site Plan Regulations Section 2.9 Evaluation Criteria and adopt the findings of fact as presented.

2) Vote to grant Site Plan approval with the following conditions:

Conditions to be satisfied subsequent to final approval of site plan but prior to the issuance of a building permit or the commencement of any site work or construction activity:

- 2.1) *The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.*
- 2.2) *The applicant shall prepare a Construction Management and Mitigation*

Plan (CMMP) for review and approval by the City's Legal and Planning Departments unless City staff determines that such plan is not needed.

2.3) The applicant shall agree to pay for the services of an oversight engineer, to be selected by the City, to monitor the construction of improvements within the public rights-of-way and on site.

2.4) Owner shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.

2.5) Any site development (new or redevelopment) resulting in 15,000 square feet or greater ground disturbance will require the submittal of a Land Use Development Tracking Form through the Pollutant Tracking and Accounting Program (PTAP) online portal. For more information visit https://www.cityofportsmouth.com/publicworks/stormwater/ptap <https://www.cityofportsmouth.com/publicworks/stormwater/ptap>

Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy.

2.6) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance;

2.7) A stormwater inspection and maintenance report shall be completed annually and copies shall be submitted for review to the City's Stormwater Division/ Public Works Department.

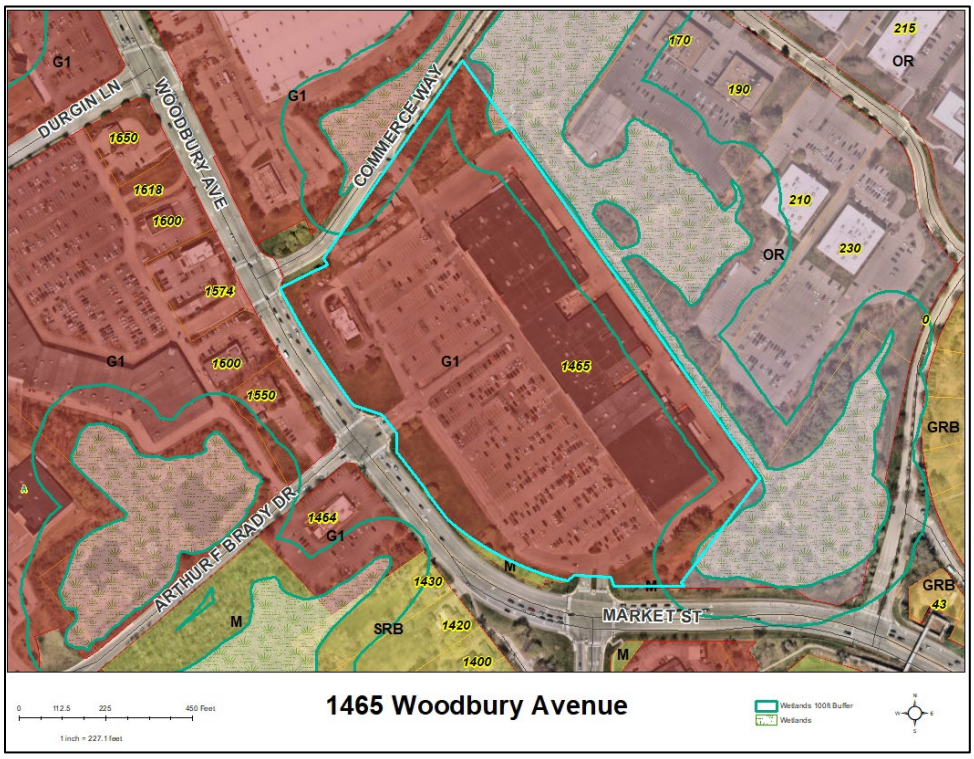
VI. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

C. The request of **Bromley Portsmouth, LLC (Owner)**, for property located at **1465 Woodbury Avenue** requesting a Conditional Use Permit from Section 10.5B41.10 for a Development Site, a Conditional Use Permit from Section 10.440, Use 19.40 for a drive-through facility, and Site Plan Review Approval for the construction of a ±2,847 square-foot, single-story banking facility with drive-through and associated site improvements including parking, pedestrian access, utility infrastructure, stormwater management systems, lighting and landscaping. Said property is located on Assessor Map 216 Lot 3 and lies within the Gateway Corridor (G1) District. (LU-25-93)

Project Background

This proposal is for the construction of a new bank building along Woodbury Avenue. The property is located in the Gateway-1 District and the addition of the new building triggers a Conditional Use Permit (CUP) for a Development Site under the zoning which has a requirement for 10% community space which equates to almost 2 acres of community space because the parcel is over 19 acres. A CUP is also required for the drive-through facility associated with the bank.



Project Review, Decisions, and Recommendations

The applicant was before the Technical Advisory Committee, see below for details.

Technical Advisory Committee
The applicant was before the Technical Advisory Committee at its regularly scheduled meeting of Tuesday, July 1, 2025 and the Committee voted unanimously to recommend approval with the following conditions:

The Committee voted to recommend approval of this application unanimously to the Planning Board with the following conditions to be satisfied prior to submission to the Planning Board:
1. The hydrant valve should be placed next to the hydrant, not at the split.
2. The hydrant connection needs to face the entrance.
3. Existing and proposed hydrants must be shown on the landscaping plans.

The conditions above have been addressed in the Planning Board submission.

Planning Department Recommendation
Development Site
Conditional Use Permit

1) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.5B11 and 10.5B73 and to adopt the findings of fact as presented.

(Alt.) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.5B11 and 10.5B73 and to adopt the findings of fact as amended and read into the record.

2) Vote to grant the Conditional Use Permit for the development site.

Planning Department Recommendation
Drive Through Conditional Use Permit

1) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.243 and to adopt the findings of fact as presented.

(Alt.) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.243 and to adopt the findings of fact as amended and read into the record.

2) Vote to grant the Conditional Use Permit for accessory drive through facility.

Planning Department Recommendation
Site Plan Approval

1) Vote to find that the Site Plan Application meets the requirements set forth in the Site Plan Regulations Section 2.9 Evaluation Criteria and adopt the findings of fact as presented.

2) Vote to grant Site Plan approval with the following conditions:

Conditions to be satisfied subsequent to final approval of site plan but prior to the issuance of a building permit or the commencement of any site work or construction activity:

2.1) The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

2.2) The applicant shall agree to pay for the services of an oversight engineer, to be selected by the City, to monitor the construction of improvements within the public rights-of-way and on site.

2.3) Owner shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.

2.4) Any site development (new or redevelopment) resulting in 15,000 square feet or greater ground disturbance will require the submittal of a Land Use Development Tracking Form through the Pollutant Tracking and Accounting Program (PTAP) online portal. For more information visit https://www.cityofportsmouth.com/publicworks/stormwater/ptap

Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy.

2.5) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance;

2.6) A stormwater inspection and maintenance report shall be completed annually and copies shall be submitted for review to the City's Stormwater Division/ Public Works Department.

VI. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

D. The request of **The City of Portsmouth (Owner),** for property located at **35 Sherburne Road** requesting review of Site Plan Review and Conditional Use Permit applications within the Highway Noise Overlay District for a recommendation to the City Manager for the construction of 127-workforce housing units in three buildings including demolition of the rear gym of the school and converting the remaining structure into 8 units, construction of a 4-story 90 unit building, construction of a 3-story 29 unit building and associated site improvements including utilities, lighting, landscaping, stormwater, parking and access. Said property is located on Assessor Map 259 Lot 10 and lies within the Municipal (M) District. (LU-25-94)

Background

The City has partnered with the Portsmouth Housing Authority (PHA) after a request for proposals (RFP) to construct below market rate housing on city land at 35 Sherburne Road. The site is 5.3 acres and is Municipally zoned and is located in the Highway Noise Overlay District (HNOD). The ground lease is attached which provides more background about the selection process and the terms of the lease with PHA. The development consists of building 127 below market rate units in 2 new buildings and renovating a portion of the existing school, which will contain 8 units.

Because the property is zoned Municipal, the Zoning Ordinance does not apply, with the exception of Article 10, Environmental Protection Standards, of which there are no wetlands on the property. Included in the packet is a Land Use Compliance Agreement between PHA and the City that outlines the land use review process. This process was voted on by the City Council at their February 18, 2025 meeting. Relevant excerpts from the review agreement are below that outline the review and approval process for this project with regard to the Planning Board's role.

WHEREAS, the Portsmouth City Council voted on February 18, 2025 to establish a land use review process, as further defined below.

NOW THEREFORE, the Parties agree that the PHA Project shall be subject to the following land use approval process.

. **Review Criteria**: Pursuant to the City Council vote of February 18, 2025, Portsmouth Housing's development of the Property shall be subject to the following criteria:

i. Consistency with Portsmouth's Site Plan Review Regulations
ii. Consistency with the City's Highway Noise Overlay District, Portsmouth Zoning Ordinance Section 10.670.
iii. Consistency with the RFP and all addenda thereto.
iv. Consistency with the PHA Response.
v. Consistency with the best interests of the City. (i – v collectively the "Review Criteria")

. **Review Process**:

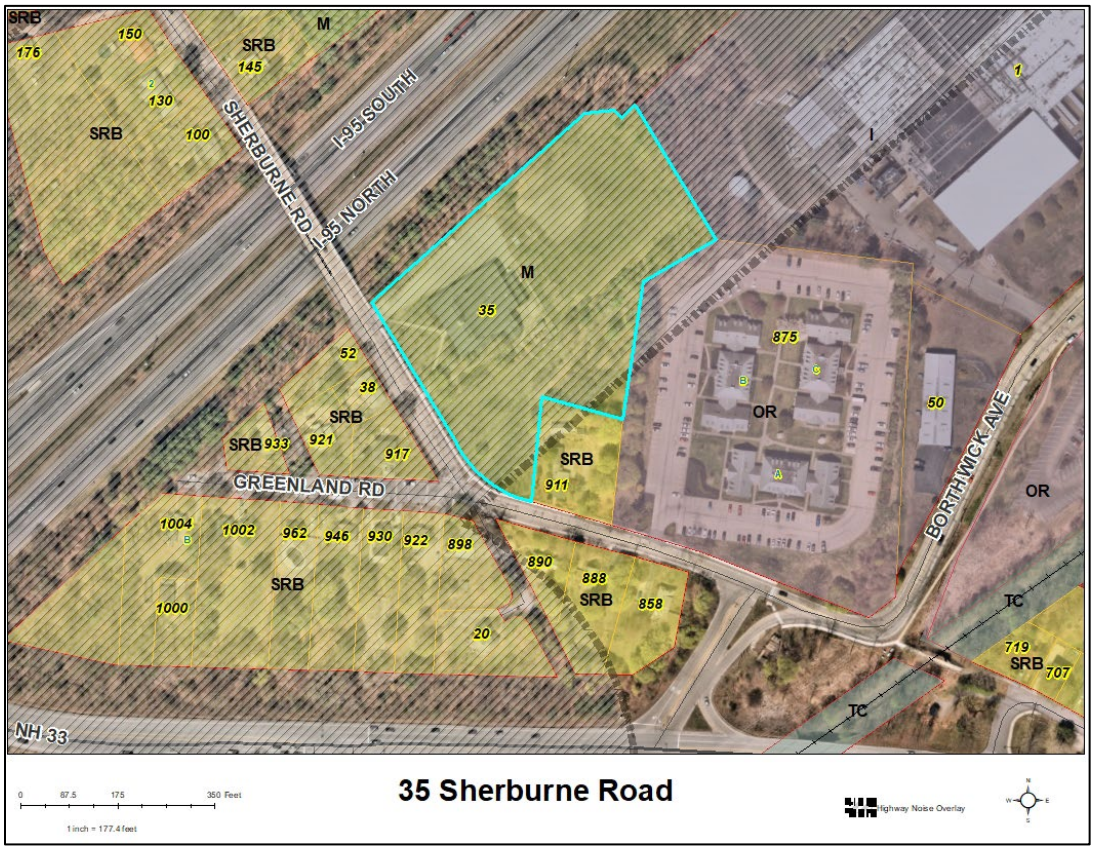
A. Portsmouth Housing Authority shall submit a Site Plan application to the City in accordance with the City's published Site Plan Review Regulations. Within thirty (30) days of receipt of the Site Plan Documentation, the City's Technical Advisory Committee shall review the Site Plan Review Documentation at a public meeting. PHA representative(s) shall be present at the TAC meeting and shall present the proposed Site Plan Review documentation, specifications, construction schedule, and provide any explanation. TAC shall then provide nonbinding comments based on the Review Criteria to the Planning Board for the Planning Board's consideration. Within thirty (30) days of receipt of a recommendation by TAC, the Planning Board shall hold a public hearing to consider the Site Plan Review Documentation submitted by PHA. PHA representative(s) shall be present at the Planning Board meeting and shall present the proposed Site Plan Review documentation, specifications, construction schedule, and provide any explanation. The Planning Board shall then provide nonbinding comments based upon the Review Criteria to the City Manager for final approval.

. **City Manager Approval Process**: The City Manager shall accept or reject PHA's proposal, or request modification to PHA's proposal, within five (5) days receipt of comments from the Planning Board. The City Manager's review shall be in accordance with the Review Criteria.

. The above process shall be collectively referred to as the "Project Approval Process". Acknowledging the short time period the City Manager has to render a final decision regarding the applications for the PHA Project, starting on April 15, 2025 PHA shall provide written updates to the City Manager at least every thirty (30) days, including but not limited to submission of any and all project site plans, design plans, and architectural plans which are available at the time of submission.

If the City Manager approves the project, any material changes to those items subject to review pursuant to the City's Site Plan Review Regulations to the form or substance of the approved project shall only be made following a written request from Portsmouth Housing. The City Manager, at her discretion, may request additional information from Portsmouth Housing in order to process the request. The City Manager may, in her discretion, request additional feedback regarding any proposed amendments from TAC, the Planning Board, or the Public Art Review Committee as the City Manager deems appropriate. If the City Manager reasonably determines that any requested amendment is inconsistent with the Review Criteria, Portsmouth Housing may within thirty (30) days withdraw the request or amend the request to be consistent with the Review Criteria. If, following the thirty-day period, Portsmouth Housing has not withdrawn the request or amended the request in an effort to be consistent with the Review Criteria, the City may terminate this Option Agreement without any further recourse on the part of Portsmouth Housing or PHA, unless the City grants an extension in its reasonable discretion.

Acknowledging that the TAC and Planning Board meeting schedules are publicly posted for the 2025 calendar year, it shall be the responsibility of PHA to ensure that the Project Approval Process results in Planning Board consideration no later than August 21, 2025, unless extended by the City in its reasonable discretion. The City shall work in good faith to provide flexible deadlines for submission of documents and scheduling of special meetings to accommodate the Project Approval Process while respecting statutory deadlines for public hearing notices.



Project Review, Decisions, and Recommendations

The applicant was before the Technical Advisory Committee, see below for details.

Technical Advisory Committee

The applicant was before the Technical Advisory Committee at its regularly scheduled meeting of Tuesday, July 1, 2025 and the Committee voted unanimously to recommend approval with the following conditions

1. *The 3" line needs to be upgraded to a 4" line.*

2. *A test of the actual speeds on Sherburne Road needs to be performed.*

3. *The hydrant in the accessway needs to be relocated and the hydrant locations need to be included in the landscape plans.*

4. *Fire Department must review and approve the landscaping plans prior to Planning Board submission.*

The conditions above have been addressed in the Planning Board submission.

At the request of the applicant two "Projects" are proposed for this development. Project 1 which will include construction of the 4-story, 90-unit building and Project 2 will include renovation of the school and construction of the 3-story, 29-unit building. The recommendations below are 2 votes for each Project, which have the same conditions for each with the exception of Project 2, which outlines a timeline for when a building permit must be obtained.

Planning Department Recommendation
Highway Noise Overlay District
Conditional Use Permit Project 1

1) Vote to find that the Conditional Use Permit Application meets the requirements set forth in Section 10.674 of the Ordinance and recommend the City Manager adopt the findings of fact as presented for Project 1 and Project 2.

(Alt.) Vote to find that the Conditional Use Permit Application meets the requirements set forth in Section 10.674 of the Ordinance and recommend the City Manager adopt the findings of fact as amended for Project 1 and Project 2..

2.) Vote to recommend the City Manager approve Conditional Use Permit as presented for Project 1.

3.) Vote to recommend the City Manager approve the Conditional Use Permit as

presented for Project 2.

Planning Department Recommendation
Site Plan Approval Project 1

1) Vote to find that the Site Plan Application meets the requirements set forth in the Site Plan Regulations Section 2.9 Evaluation Criteria and recommend the City Manager adopt the findings of fact as presented for Project 1 and Project 2.

2) Vote to recommend the City Manager grant Site Plan approval for Project 1 with the following conditions:

Conditions to be satisfied subsequent to final approval of site plan but prior to the issuance of a building permit or the commencement of any site work or construction activity:

2.1) The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

2.2) The applicant shall agree to pay for the services of an oversight engineer, to be selected by the City, to monitor the construction of improvements within the public rights-of-way and on site.

2.3) Owner shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.

2.4) Any site development (new or redevelopment) resulting in 15,000 square feet or greater ground disturbance will require the submittal of a Land Use Development Tracking Form through the Pollutant Tracking and Accounting Program (PTAP) online portal. For more information visit https://www.cityofportsmouth.com/publicworks/stormwater/ptap

Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy.

2.5) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance;

2.6) A stormwater inspection and maintenance report shall be completed

annually and copies shall be submitted for review to the City's Stormwater Division/ Public Works Department.

Planning Department Recommendation
Site Plan Approval Project 2

2) Vote to recommend the City Manager grant Site Plan approval for Project 2 with the following conditions:

Conditions to be satisfied subsequent to final approval of site plan but prior to the issuance of a building permit or the commencement of any site work or construction activity:

2.1) The applicant has 2 years from the issuance of the first building permit for Project 1 to obtain a building permit for Project 2.

2.2) The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

2.3) The applicant shall agree to pay for the services of an oversight engineer, to be selected by the City, to monitor the construction of improvements within the public rights-of-way and on site.

2.4) Owner shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.

2.5) Any site development (new or redevelopment) resulting in 15,000 square feet or greater ground disturbance will require the submittal of a Land Use Development Tracking Form through the Pollutant Tracking and Accounting Program (PTAP) online portal. For more information visit https://www.cityofportsmouth.com/publicworks/stormwater/ptap

Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy.

2.6) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance;

2.7) A stormwater inspection and maintenance report shall be completed annually and copies shall be submitted for review to the City's Stormwater Division/ Public Works Department.

VI. PUBLIC HEARINGS – NEW BUSINESS

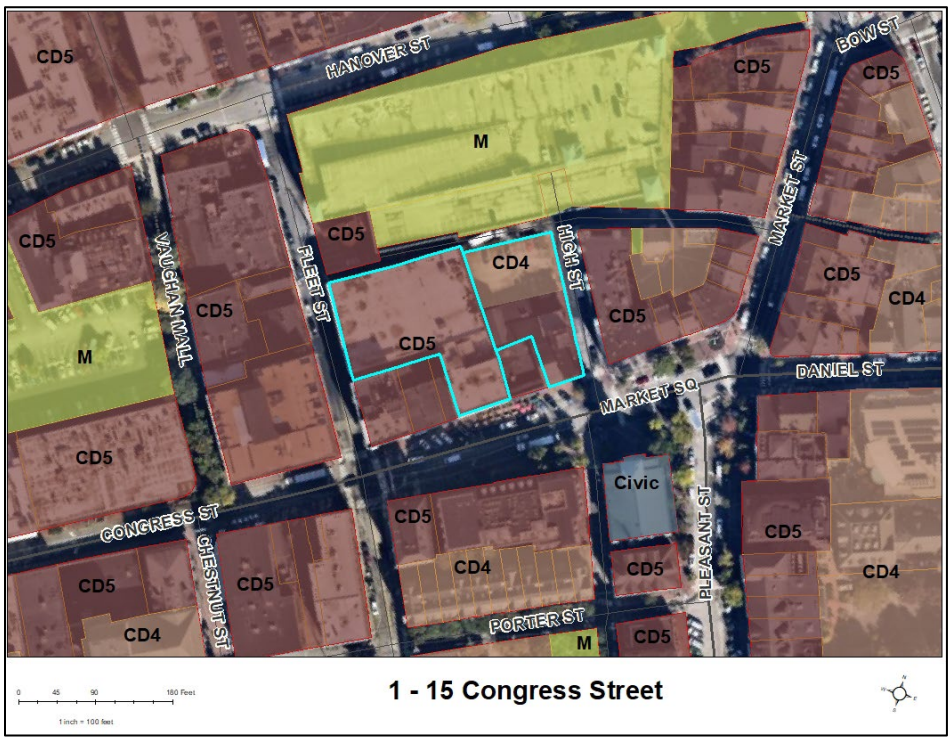
The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

E. The request of **Market Square LLC (Owner),** for property located at **1** and **15 (21) Congress Street** requesting a Conditional Use Permit from Section 10.440, Use 1.71 Coliving. Said property is located on Assessor Map 117 Lots 12 & 14 and lies within the Character District 4 (CD-4), Character District 5 (CD-5), Historic, and Downtown Overlay Districts. (LU-22-12)

Project Background

This applicant was before the Board in January for site plan review to combine the former 1 Congress project with the 15 Congress. That proposal included 40 apartments in the JJ Newbury building and the Board granted a Conditional Use Permit (CUP) for parking related to the residential use to allow 21 parking spaces where 53 were required. It is important to note that HB284, passed on July 15, 2025, limits the number of residential parking spaces to no more than 1 space per unit. This law takes effect on September 13, 2025 and with the new proposal, the site will be compliant with parking with 21 spaces required and 21 provided. The zoning amendments for coliving we adopted on May 5, 2025 and the applicant is requesting a CUP to provide coliving on two floors to replace some of the originally proposed apartments.

Section 10.815 outlines the standards for coliving, which can be modified by the Planning Board upon request by the applicant per section 10.815.41. The applicant complies with the standards for coliving with the exception of Section 10.815.26 which states that coliving facilities shall not exceed 80 units per building or 40 residents per floor. The proposal includes 34 double occupancy units on the 3rd floor, which equals 68 residents per floor and is proposing 49 double occupancy units on the 2nd floor, which equals 98 residents per floor and 166 residents per building where 40 and 80 are allowed, respectively.



Planning Department Recommendation
Development Site
Conditional Use Permit

1) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.243 and to adopt the findings of fact as presented.

(Alt.) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.243 and to adopt the findings of fact as amended and read into the record.

2) Vote to grant the modification from Section 10.815.26 to allow more than 80 residents per building and more than 40 residents per floor.

3) Vote to grant the Conditional Use Permit for coliving with the following conditions:

3.1) The applicant shall obtain a permit through the City Clerk's office in accordance with Section 10.815.50 prior to a Certificate of Occupancy for any Coliving Facility.

VII. PRELIMINARY CONCEPTUAL CONSULTATION

The applicants under Items **VII A** and **B** have provided preliminary site plans for their respective projects. As authorized by NH **RSA 676:4,II**, the Site Plan Regulations require preliminary conceptual consultation for certain proposals, including (1) the construction of 30,000 sq. ft. or more gross floor area, (2) the creation of 20 or more dwelling units, or (3) the construction of more than one principal structure on a lot. Preliminary conceptual consultation precedes review by the Technical Advisory Committee.

Preliminary conceptual consultation is described in the state statute as follows: *[Preliminary conceptual consultation] … shall be directed at review of the basic concept of the proposal and suggestions which might be of assistance in resolving problems with meeting requirements during final consideration. Such consultation shall not bind either the applicant or the board and statements made by planning board members shall not be the basis for disqualifying said members or invalidating any action taken. The board and the applicant may discuss proposals in conceptual form only and in general terms such as desirability of types of development and proposals under the master plan.*

The preliminary conceptual consultation phase provides the Planning Board with an opportunity to review the outlines of a proposed project before it gets to detailed design (and before the applicant refines the plan as a result of review by the Technical Advisory Committee and public comment at TAC hearings). In order to maximize the value of this phase, Board members are encouraged to engage in dialogue with the proponent to offer suggestions and to raise any concerns so that they may be addressed in a formal application. Preliminary conceptual consultation does not involve a public hearing, and no vote is taken by the Board on the proposal at this stage. Unlike Design Review, completion of Preliminary Conceptual Consultation does not vest the project to the current zoning.

A. The request of **St. Nicholas Greek Orthodox Church (Owner),** for property located at **0 Lafayette Road** requesting Preliminary Conceptual Consultation. Said property is located on Assessor 229 Map Lot 6A and lies within the Gateway Corridor (G1) District. (LUPD-25-8)

The applicant has submitted plans proposing one building containing 16 units on the subject property with associated site improvements.

B. The request of **Double MC LLC (Owner),** for property located at **134 Pleasant Street** requesting Preliminary Conceptual Consultation. Said property is located on Assessor Map 116 Lot 30 and lies within the Character District 4 (CD4) and Historic Districts. (LUPD-25-9)

The applicant has submitted plans for redevelopment of the property which includes a front addition for expansion of the bank footprint, added retail space and coliving with associated site improvements to support the development.

VIII. OTHER BUSINESS

A. Zoning Amendments

Mechanical Units

Earlier this year, the Planning Board considered zoning amendments referred by the City Council regarding accessory structures, fences and mechanical units. The Planning Board recommended removal of Section 10.515.14, which related to setbacks for mechanical units. The section below was previously in the Ordinance and was struck as part of the amendments the City Council adopted in March. After the July Planning Board meeting, staff met with the Inspections Department to discuss standard sizes of mechanical equipment.

Article 5 Dimensional and Intensity Standards

Section 10.510 General Requirements

10.515 Measurement Rules

10.515.13 Fences not over 4 feet in height shall be exempt from front yard requirements, and fences not over 8 ~~6~~ feet in height shall be exempt from side and rear yard requirements.

~~10.515.14 A mechanical system (i.e. HVAC, power generator, etc.) that is less than 36 inches above the ground level with a mounting pad not exceeding 10 square feet shall be exempt from yard requirements, but shall be set back at least 10 feet from a property line; and shall not be located closer to the street than the front of the principal structure.~~

To further clarify the intent of the amendment above, staff suggests the following revisions to the definition of building coverage and structure to clarify that these types of mechanical systems are exempt from setbacks and coverage.

Building coverage

The aggregate horizontal area or percentage (depending on context) of a **lot** or **development site** covered by all **building**s and **structure**s on the **lot**, excluding

(a) gutters, **cornice**s and eaves projecting not more than 30 inches from a vertical wall, and
(b) **structure**s less than 18 inches above ground level (such as decks and patios);
(c) balconies, bay windows or awnings projecting not more than 2 feet from a vertical wall, not exceeding 4 feet in width, and cumulatively not exceeding 50% of the width of the **building** face;
(d) fences; and
(e) mechanical systems (i.e. HVAC, power generator, etc.) ~~that is less than 36 inches above the ground level with a mounting pad not exceeding 10 square feet.~~

Structure (including **roof structure**)

Any production or piece of work, artificially built up or composed of parts and joined together in some definite manner. **Structure**s include, but are not limited to, **building**s, fences over 4 feet in height, **sign**s, and swimming pools. (See also: **temporary structure**.) For the purposes of this Ordinance, mechanical systems (i.e. HVAC, power generator, etc.) shall not be considered structures, but any power generator must be setback a minimum of 5 feet from any lot line.

Planning Department Recommendation

1) Vote to recommend the City Council hold first reading on the proposed zoning amendments as presented.

Solar

Staff will work to bring amendments back to the Planning Board at the September meeting.

B. Chairman's Updates and Discussion Items
C. Board Discussion of Regulatory Amendments and Other Matters

For the September meeting, Staff and Legal will provide the Board with recently enacted legislation that will need zoning amendments which impact Accessory Dwelling Units (HB 577), Parking requirements (HB 284), permitting residential uses on commercially zoned property (HB 631), and vesting time periods for subdivisions and site plans (HB 413).

VII. ADJOURNMENT

PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

7:00 PM Public Hearings begin **July 17, 2025**

MEMBERS PRESENT: Rick Chellman, Chairman; Anthony Coviello**,** Vice-Chair; Joseph Almeida, Facilities Manager; Beth Moreau, City Councilor; Members Paul Giuliano, Andrew Samonas**,** William Bowen, Ryann Wolf; and Alternates Frank Perier and Logan Roy

ALSO PRESENT: Peter Stith, Planning Department Manager

MEMBERS EXCUSED: Karen Conard, City Manager

Chair Chellman called the meeting to order at 7:00 pm. He appointed Alternate Mr. Logan to take a voting seat for City Manager Conard and Alternate Mr. Perrier to take a voting seat until Vice-Chair Coviello arrived.

I. APPROVAL OF MINUTES

A. Approval of the **June 18, 2025** meeting minutes.

*Mr. Almeida moved to **approve** the June 18 minutes as presented, seconded by Councilor Moreau. The motion **passed** with all in favor, with Mr. Giuliano abstaining.*

II. DETERMINATIONS OF COMPLETENESS

SITE PLAN REVIEW

A. The request of **Gary B. Dodds Revocable Trust (Owner),** for property located at **294 Lincoln Avenue** requesting Site Plan Review approval for the demolition of an existing garage and construction of a new attached 4-bay garage with associated site improvements. Said property is located on Assessor Map 130 Lot 24 and lies within the General Residence A (GRA) District. (LU-24-225)

*Mr. Giuliano moved that the Board determine that Item A is complete according to the Site Plan Review Regulations (contingent on the granting of any required waivers under Section IV of the agenda) and to accept the application for consideration. Mr. Almeida seconded. The motion **passed** with all in favor.*

DRAFT

III. PUBLIC HEARINGS -- OLD BUSINESS

*Councilor Moreau moved that the Board **consolidate** Items III.A and III.B below. Mr. Samonas seconded. The motion **passed** with all in favor.*

A. REQUEST TO POSTPONE The request of **SLF Realty Group LLC (Owner),** for property located at **400 Spaulding Turnpike** requesting an amended Site Plan approval to change the temporary access path to a permanent access path. Said property is located on Assessor Map 238 Lot 2 and lies within the Gateway Corridor (G1) District. **REQUEST TO POSTPONE (LU-25-50)**

B. REQUEST TO POSTPONE The request of SLF Realty Group LLC (Owner), for property located at 400 Spaulding Turnpike requesting an after-the-fact Wetland Conditional Use Permit for permanent wetland buffer impacts that were not included in the original wetland conditional use permit for this project. The new request is an increase in wetland buffer impacts from 1,644 square feet to 3,685 square feet. Said property is located on Assessor Map 238 Lot 2 and lies within the Gateway Corridor (G1) District. **REQUEST TO POSTPONE** (LU-25-50)

*Councilor Moreau moved to **postpone** the two petitions to the August meeting, seconded by Mr. Samonas. The motion **passed** with all in favor.*

*Councilor Moreau moved that the Board **consolidate** Items III.C and III.D below. Mr. Samonas seconded. The motion to consolidate **passed** with all in favor.*

C. The request of **GIRI Portsmouth 505 Inc. (Owner),** for property located at **505 US Route 1 Bypass** requesting an amended Site Plan approval, and a Conditional Use Permit for Electric Vehicle fueling space B to install 4 EV fueling stations for 8 charging spaces. Said property is located on Assessor Map 234 Lot 5 and lies within the Gateway Corridor (G1) District. (LU-25-66)

SPEAKING TO THE PETITION

[Timestamp 12:17] Project engineer Rebecca Mauser-Hoye was present on behalf of the applicant. She reviewed the amended Site Plan and the EV fueling station. She said the Conservation Commission requested that the chargers be moved farther away, so they were moved to the right, resulting in increasing the conversion of the existing asphalt to a seeded area, from 959 sf to 2,135 sf. She said based on the revised design, the new net impervious area would be 1,962 sf within the Hodgson Brook buffer. She reviewed the Conservation Commission's six conditions and the findings of fact for the amended site plan review and said the project met the applicable ordinances and codes, apart from the few that got approval for from the BOA.

[Timestamp 20:04] Councilor Moreau asked if the City's project in that area would be taken into consideration. Ms. Mauser-Hoye said they talked to the City engineer about the location of the utility pole and said the project would not be affected. Chair Chellman asked if the project's schedule was about the same as the Coakley Rd schedule, and Ms. Mauser-Hoye agreed.

DRAFT

[Timestamp 21:47] Ms. Mauser-Hoye then reviewed the Conditional Use Permit criteria for the EV charging units and the wetlands Conditional Use Permit criteria.

[Timestamp 26:36] Mr. Bowen said the first plan was a greater intrusion on the wetland buffer but the final pass was still not the ultimate intrusion. Ms. Mauser-Hoyle said in the first pass they took 950 sf of concrete and converted it to grass, so they increased the buffer by almost 1,000 sf. She said the Conservation Commission asked if it could be moved over to protect the brook even more, so they moved it as far as they could to maintain the eight parking spaces and existing parking. Mr. Bowen asked what the implications of moving it even farther to the right would be. Ms. Mauser-Hoye said it would be in the access road to the hotel and that they wanted to maintain the turning radius for the cars and enough width for the access to the hotel.

Chair Chellman opened the public hearing.

SPEAKING TO, FOR, OR AGAINST THE PETITION

No one spoke, and Chair Chellman closed the public hearing.

DECISION OF THE BOARD

1) *Mr. Guiliano moved that the Board find that the Site Plan Application meets the requirements set forth in the Site Plan Regulations Section 2.9 Evaluation Criteria and adopt the findings of fact as presented. Mr. Almeida seconded. The motion **passed** with all in favor.*

2) *Mr. Giuliano moved that the Board **grant** Amended Site Plan approval, seconded by Mr. Almeida. The motion **passed** with all in favor.*

3) *Mr. Giuliano moved that the Board find that the Conditional Use Permit Application meets the requirements set forth in Section 10.243 of the Ordinance and adopt the findings of fact as presented. Mr. Almeida seconded. The motion **passed** with all in favor.*

4) *Mr. Giuliano moved that the Board **grant** the Conditional Use Permit as presented. Mr. Almeida seconded. The motion **passed** with all in favor.*

D. The request of **GIRI Portsmouth 505 Inc. (Owner),** for property located at **505 US Route 1 Bypass requesting** a Wetland Conditional Use Permit in accordance with Section 10.1017.50. The project includes 1,434 square feet of impacts within the wetland buffer including 303 square feet of temporary impacts, 173 square feet of permanent impacts in the wetland buffer and 958 square feet conversion from pavement into grassed areas within the wetland buffer area. Said property is located on Assessor Map 234 Lot 5 and lies within the Gateway Corridor (G1) District. (LU-25-66)

DECISION OF THE BOARD

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*1) Mr. Giuliano moved that the Board find that the Conditional Use Permit Application meets the requirements set forth in Section 10.1017.50 of the Ordinance and adopt the findings of fact as presented. Mr. Almeida seconded. The motion **passed** with all in favor.*

*2.) Mr. Giuliano moved that the Board **grant** the Conditional Use Permit with the following **conditions**:*

2.1) In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the 25' vegetative buffer at 50-foot intervals and must be permanently installed.

2.2) The planting plan shall be reviewed and approved by the Planning and Sustainability Department Staff.

2.3) Yard waste and existing brush pile shall be cleaned up from the Hodgson Brook bank to the west of and in the existing bio-retention area as part of this project.

2.4) A sign shall be installed that instructs pet owners to clean up after their pets.

2.5) A sign shall be installed that states "No Dumping".

2.6) The applicant shall create a maintenance plan for the newly restored area and the Hodgson Brook buffer for internal use on this site to be reviewed and approved by Planning Staff.

*Mr. Almeida seconded. The motion **passed** with all in favor.*

Note: At this point, Vice-Chair Coviello arrived, and Mr. Perier returned to alternate status.

IV. PUBLIC HEARINGS – NEW BUSINESS

A. The request of **Gary B. Dodds Revocable Trust (Owner),** for property located at **294 Lincoln Avenue** requesting Site Plan Review approval for the demolition of an existing garage and construction of a new attached 4-bay garage with associated site improvements. Said property is located on Assessor Map 130 Lot 24 and lies within the General Residence A (GRA) District. (LU-24-225)

SPEAKING TO THE PETITION

[Timestamp 32:15] The owner/applicant Gary Dodds and project engineer Eric Weinrieb were present. Mr. Dodds said he wanted to build a 4-bay garage with office space and storage on the second floor and demolish the existing garage. He said the Board of Adjustment granted building coverage and density variances. He said the new garage would be attached to the primary

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dwelling and that three bays would face Lincoln Avenue and one bay would face Miller Avenue. He said they would address TAC's concerns but had already addressed the test pits and were working with the City on the sidewalk easement.

[Timestamp 37:12] Councilor Moreau asked how the flow of water would be maintained on the property. Mr. Weinrieb said when the property was developed, everything sheet flowed across the site, so they provided stone drip edges on the south side of the garage expansion area and redirected the runoff on the north side of the garage and to the west side of the house into the lowest point for a catch basin and then created a primary directional flow into a tiny leach field. He further explained it and said it would all be in accordance with the City's criteria. Mr. Samonas asked if the flat roof would be eliminated on the addition. Mr. Dodds said it was a 3-sided hip roof coming off the main house and that the ridge would be reframed so that water did not run into the new building. Mr. Samonas confirmed that Mr. Dobbs had two addresses. Mr. Bowen asked if the proposed office would be a living space. Mr. Dodds said that was not his intention at this time because he needed drafting space for his work. Chair Chellman asked Mr. Weinrieb to verify that there would be no net increase of surface flow off the property due to all the improvements taking place. Mr. Weinrieb said a two-year storm would have a .14 CFF, a 10-year storm would have .01 CFF, a 25-year storm would have a .05 CFF, and a 50-year storm would have a .11 CFF. He also noted that the findings of fact stated that there would be an increase in noise but that it should read that there would **not** be an increase in noise.

Chair Chellman opened the public hearing.

SPEAKING TO, FOR, OR AGAINST THE PETITION

No one spoke, and Chair Chellman closed the public hearing.

DECISION OF THE BOARD

1) *Councilor Moreau moved that the Board find that the Site Plan Application meets the requirements set forth in the Site Plan Regulations Section 2.9 Evaluation Criteria and adopt the findings of fact as amended by changing number 13 to say it will not create additional noise. Vice-Chair Coviello seconded. The motion **passed** with all in favor.*

2) *Councilor Moreau moved that the Board find that the requested waivers will not have the effect of nullifying the spirit and intent of the City's Master Plan or the Site Plan Review Regulations, and to waive the regulations as requested. Mr. Coviello seconded. The motion **passed** with all in favor.*

*3) Councilor Moreau moved to **grant** Site Plan approval with the following **condition**:*
   3.1) An easement shall be provided to the City for the sidewalk on Lincoln Avenue prior to the issuance of a Certificate of Completion.

*Ms. Wolff seconded. The motion **passed** with all in favor.*

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*Mr. Giuliano moved to **consolidate** Items IV.B and IV.C below. Mr. Almeida seconded. The motion **passed** with all in favor.*

B. The request of **The City of Portsmouth Department of Public Works (Applicant**), and **Pease Development Authority Wastewater Treatment Plant (Owner),** for property located at **135 Corporate Drive** requesting Site Plan Review Approval from the Pease Development Authority (PDA) for the construction of four new buildings and demolition of the existing Control Operations Building and associated site improvements including utilities, parking, electrical, and stormwater infrastructure. Said property is located on Assessor Map 303 Lot 6 and lies within the Airport Business Commercial (ABC) and Natural Resources Protection (NRP) Districts. (LU-25-90)

SPEAKING TO THE PETITION

[Timestamp 48:10] City engineer Erich Fiedler was present, with project engineer Eric Weinrieb. Mr. Fiedler said the project was primarily driven by a need for additional aeration capacity at the PDA wastewater treatment plan, and they had to provide additional blower capacity and membranes for aeration, which meant new electrical service, a new electrical building, a new generator and conduits, and so on and that a primary sludge pump station was required. He said the site was built in the late 1950s and was upgraded various times until 1997, so there were no stormwater treatment devices. He said a large portion of the site was in the wetland buffer, so they proposed to do two bioretention cells to mitigate some of the new impervious impacts.

[Timestamp 50:50] Mr. Weinrieb said it was a 12.7 acre parcel and they were only working in the buffer and not disturbing wetlands or natural areas. He reviewed the stormwater management treatments that they proposed. He said the runoff from the site would be decreased in all storm events and that they would provide 2,000 sf of extra stormwater runoff treatment than proposed. He said they would provide a culvert for the runoff and rebuild that portion of the driveway to prevent the water from running across. He said the existing impervious on the site would be a change of 4,006 sf and that they would make the site better by 2,800 square feet.

[Timestamp 54:57] Mr. Bowen asked if the facility and upgrade would have the capacity and technology to handle 100-200 housing units if it was decided in the future to have housing at Pease. Mr. Fiedler said the project would only maintain capacity and not expand it and did not account for future housing. It was further discussed.

Chair Chellman opened the public hearing.

SPEAKING TO, FOR, OR AGAINST THE PETITION

No one spoke, and Chair Chellman closed the public hearing.

DECISION OF THE BOARD

1) *Vice-Chair Coviello moved that the Board **recommend Site Plan Approval** to the PDA Board. Councilor Moreau seconded. The motion **passed** with all in favor.*

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C. The request of **The City of Portsmouth Department of Public Works (Applicant**), and **Pease Development Authority Wastewater Treatment Plant (Owner),** for property located at **135 Corporate Drive** requesting a Wetland Conditional Use permit from the Pease Development Authority (PDA) for upgrades toe the Treatment Facility which include construction of a building, stormwater infrastructure, utilities and grading totaling 23,600 square feet of buffer impacts including 2,950 square feet of permanent impacts, 18,550 square feet of temporary impacts onsite and 2,100 square feet off-site temporary impacts. Said property is located on Assessor Map 303 Lot 6 and lies within the Airport Business Commercial (ABC) and Natural Resources Protection (NRP) Districts. (LU-25-90)

*1) Vice-Chair Coviello moved that the Board **recommend approval** of the Wetland Conditional Use permit to the PDA with the following **condition**:*

1.1) Wetland delineation shall be certified and stamped by an NH Certified Wetland Scientist (CWS).

*Mr. Giuliano seconded. The motion **passed** with all in favor.*

D) The request of **The City of Portsmouth Department of Public Works (Applicant), and Reichl Family Revocable Trust (Owner),** for property located at **15 Marjorie Street** requesting a Wetland Conditional Use Permit for the installation of a new 6" sewer service for the property to redirect flow to a new pump station's collection area and abandoning the existing service. The property's existing driveway will be demolished and re-vegetated and a new driveway will be constructed above the proposed sewer service with a 12" culvert under the proposed driveway. Said property is located on Assessor Map 232 Lot 41 and lies within the Single Residence B (SRB) District. (LU-25-82)

SPEAKING TO THE PETITION

[Timestamp 1:03:37] City engineer Erich Fiedler was present. He said the project was driven by the need to remove a discharge to a cross-country easement. He said it was part of the Marjorie Street pump station portfolio of work and that they completed the pump station and disconnected the Chase Home from the cross-country sewer line. He said the City was under a legal obligation to remove it and was working with the property owner. He said most of the home and all of the lot were in the wetland buffer, so they proposed redirecting the existing sewer line through the City's paper street and doing a new alignment for the driveway. He said the culvert would accommodate the drainage feature to be bridged as part of the driveway.

[Timestamp 1:05:08] Mr. Bowen noted that the driveway at the back was close to the abutting property and that there was a vegetated swale to the left. He asked if the applicant proposed to put a culvert where the swale was and then put a driveway on top of it. Mr. Fiedler said they would move the existing driveway to the other side of the swale. He noted that both property owners asked that the driveway be realigned, and he said it was better to put the driveway on top of the new sewer line. Mr. Bowen asked if there would be any diminution of the wetland due to the swale. Mr. Fiedler said there would be no impact to the wetland because the work would be done in the wetland buffer and it was a topographical feature that they would bridge with a pipe.

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Chair Chellman asked if the cross-country pipe would be left in place, and Mr. Fiedler said it would depend. Mr. Samonas asked if the two developments would coincide. Mr. Fiedler said the City would get their work done first.

Chair Chellman opened the public hearing.

SPEAKING TO, FOR, OR AGAINST THE PETITION

No one spoke, and Chair Chellman closed the public hearing.

DECISION OF THE BOARD

1) *Vice-Chair Coviello moved that the Board find that the Conditional Use Permit Application meets the requirements set forth in Section 10.1017.650 of the Ordinance and adopt the findings of fact as presented. Ms. Wolff seconded. The motion **passed** with all in favor.*

2.) *Vice-Chair Coviello moved that the Board **grant** the Conditional Use Permit as presented. Ms. Wolff seconded. The motion **passed** with all in favor.*

V. CITY COUNCIL REFERRALS

A. Frenchman's Lane

[Timestamp 1:11:16] Chair Chellman said both the gray and orange sections of Frenchman's Lane as depicted on the map were maintained by the City but there was a question as to whether DOT owned the orange section and might own the gray section. City Deputy Attorney Trevor McCourt was present and said there was a distinction between the gray and orange areas because the Button Factory and surrounding lot was owned by the State of NH at one time, but then the State conveyed land at various times to various people but did not do so in a clean manner, so a lot of the deeds did not describe what was conveyed out. He said it seemed that the orange portion was never conveyed out, and the gray portion was less clear. He said in resulted in the title being complicated, which made things difficult to get Federal or State grants or to convey land in exchange for consideration. After further discussion, he recommended that the road get conditioned by an easement so that the right-of-way and maintenance were clear.

[Timestamp 1:16:38] Councilor Moreau asked what the benefit was to the neighboring property owner that brought the issue forward. Attorney McCourt said they wanted access in the rear of the parcel for underground parking but would lose a lot of the existing parking spaces and would have to encroach into the lane. Councilor Moreau said she did not think that the City wanted the liability or upkeep of ownership and asked what the City should do if they did end up with the property. Attorney McCourt said the City could either maintain it as a public right-of-way or offer it to the three abutting property owners. Chair Chellman suggested a two-step recommendation, 1) that the City Council seek a quick claim deed from the State for both sections of Frenchman's Lane and 2) the landowners work with the Legal Department to find a way to cover the joint liability for the use and maintenance of the road. It was further discussed.

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DECISION OF THE BOARD

Councilor Moreau moved that the Board recommend that the City Council obtain the rights to both sections of Frenchman's Lane by whatever means. Ms. Wolff seconded. The motion ***passed*** *with all in favor.*

VI. OTHER BUSINESS

A. Zoning Amendments [Timestamp 1:35:46]

Mr. Stith discussed three zoning amendments. Regarding the first one, he said the Board previously recommended removing a section on mechanical units because applicants were often requesting and receiving variances. Councilor Moreau said the Board did not consider mechanicals as part of building coverage, and the section that was removed indicated mechanical systems that were less than 36 inches above ground level with mounting pads not exceeded 10 sf. She said even though it was struck from the ordinance, it showed up in other places in the ordinance. She said the intent was to have mechanical systems be exempt. The Board agreed that 36 inches might be too small and suggested that the requirements for mounting pad square footage over a certain size could be removed. It was noted that the term 'Etc.' in a certain part of the documentation was not necessary. Residential mechanical systems were discussed, and it was decided that the Board did not have the technical knowledge to write the language that would address the concerns and that a mechanical engineer was needed. Mr. Stith agreed and said City Staff could help. He said the topic would be brought back at a future meeting.

The second zoning amendment was the building footprint. Mr. Stith explained that most city blocks downtown had buildings that were connected, which was the definition of a building footprint in the ordinance. He said if an addition were put on one end of the block, the building footprint would be nonconforming and would trigger a Conditional Use Permit, and that whole block should be counted as the footprint. He said it would only be for existing buildings in the Downtown Overlay, CD4 and CD5 districts and that the buildings could be redeveloped as long as they did not cover privately-owned public places. He said an addition up to 10,000 sf could be added and that it would still have to meet the modulations and entrance spacing but would be exempt from the building footprint. It was further discussed. Chair Chellman noted that Portwalk was a private street between the buildings and that sometimes those buildings got connected, which covered the street and made a tunnel. He said amending the zoning would preclude that unless a variance was received.

Mr. Stith then discussed solar panels. He said Solar Smart reviewed the solar ordinance and developed language for ground-mounted solar as a principle use. He said the term "roof mounted" was added as a definition for existing roofs and that sections were added that pertained to inside and outside of the Historic District for roof-mounted solar. He said the ordinance had a provision that it would only be 33 percent of the roof's edge in the Historic District and that it would not apply outside of the Historic District. He said they also added a category in the Use Tables for ground mounted solar energy systems in certain districts using a Conditional Use Permit because those districts had larger lots. Councilor Moreau said she was concerned about someone having a ground mounted solar array bigger than their house. Mr. Stith said the

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definition of the setback for a ground mounted system with a height less than or equal to 100 percent of the footprint of the principle structure needed to be changed because the height would be the highest point of the ground mounted system. Mr. Almeida asked if the language in the section about roof appurtenances and other rooftop features applied to the Historic District. Mr. Stith said it should say "inside the HDC, roof mounted shall be subject to". He said Staff level exemption for roof mounted solar could be exempt if it was not located on a roof surface that faces or is visible from a public way, does not exceed 27 cubic feet, and does not extend more than three feet above the roof plane. He said there was also a section on roof mounted energy systems and associated conduits. Vice-Chair Coviello said the City was trying to find language related to a street address and the view, and the issue of a solar system changing a view was not being approved, so he thought it should be further addressed. Mr. Stith said another change was the definition of ground mounted solar stating that "the setback requirement shall be the highest point of the ground mounted solar system". The Board discussed what the highest point should be. Mr. Logan said it should be clarified that a carport solar array was ground mounted and was not a structure with solar on it or a roof mounted array. Mr. Almeida said the term "shall" or "shall not" should also be applied to a section where it said "identical language". Chair Chellman said the solar panels could be further addressed at the August meeting.

DECISION OF THE BOARD

Mr. Giuliano moved that the Board recommend that the City Council hold first reading on the proposed zoning amendments for building footprint as presented. Ms. Wolff seconded. The motion ***passed*** *with all in favor.*

B. Chairman Updates and Discussion Items

Chair Chellman said he wanted a consultant to do a presentation about the Master Plan in front of the Board. Mr. Stith suggested that the Board meet an hour earlier at the August 21 meeting to hear the presentation. After further discussion, it was tentatively decided that the August 21 meeting would begin at 6 PM so that the consultant could do the presentation.

C. Board Discussion of Regulatory Amendments and Other Matters

There was no discussion.

VII. ADJOURNMENT

The meeting adjourned at 9:24 p.m.

Submitted,

Joann Breault
Planning Board Meeting Minutes Taker

DRAFT

From: Kimberli Kienia
To: Kimberli Kienia
Subject: FW: LU-25-50 400 Spaulding Tpke
Date: Monday, August 4, 2025 8:30:54 AM

-----Original Message-----
From: Stefanie Tetreault <STetreault@tighebond.com>
Sent: Saturday, August 2, 2025 3:18 PM
To: Peter M. Stith <pmstith@portsmouthnh.gov>
Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Friend, Ashley C <ashley.friend@eversource.com>
Subject: RE: LU-25-50 400 Spaulding Tpke

Hi Peter,

We'd like to request a continuance to the September meeting, on the matter of LU-25-50. I hope to be able to set up a call with Planning Staff prior to the August 27th submission deadline.

Thank you,
Stefanie

Stefanie M. Tetreault, CWS, PWS
Project Manager

m. 603.231.9918

177 Corporate Drive, Portsmouth, NH, 03801
w: tighebond.com | halvorsondesign.com

-----Original Message-----
From: Stefanie Tetreault
Sent: Thursday, June 26, 2025 9:43 AM
To: Peter M. Stith <pmstith@portsmouthnh.gov>
Subject: RE: LU-25-50 400 Spaulding Tpke

Thank you, Peter.

We may want to meet with Planning staff prior to the August meeting too. I have a call set up with Eversource early next week to talk about next steps, so I'll follow up after that.

Have a nice day,

Stefanie

Stefanie M. Tetreault, CWS, PWS
Project Manager
m. 603.231.9918
177 Corporate Drive, Portsmouth, NH, 03801
w: tighebond.com | halvorsondesign.com

-----Original Message-----
From: Peter M. Stith <pmstith@portsmouthnh.gov>
Sent: Thursday, June 26, 2025 9:39 AM
To: Stefanie Tetreault <STetreault@tighebond.com>
Cc: Friend, Ashley C <ashley.friend@eversource.com>
Subject: RE: LU-25-50 400 Spaulding Tpke

[Caution - External Sender]

Stefanie,

Certainly. Thank you,

Peter Stith, AICP
Planning Manager
Planning & Sustainability Department
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801
603.610.4188
https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fwww.portsmouthnh.gov&c=E,1,5kwKpaivyQcLWGwHFpSufTlkZYAjtOyz4izoJACdImHO9qf4XkcEWGouRnmsabsXjGpPfw9NJWYwJmu3teJ8ELtOIP1WDBA5o0_G_cTa0pR9576Qww4ZdEYnt_o,&typo=1

-----Original Message-----
From: Stefanie Tetreault <STetreault@tighebond.com>
Sent: Thursday, June 26, 2025 9:34 AM
To: Peter M. Stith <pmstith@portsmouthnh.gov>
Cc: Friend, Ashley C <ashley.friend@eversource.com>
Subject: LU-25-50 400 Spaulding Tpke

Good morning, Peter -

May we please request a continuance to the August 21, 2025 Planning Board meeting to provide additional time to respond to the Board's June 25, 2025 Letter of Decision?

Thank you,

Stefanie

Stefanie M. Tetreault, CWS, PWS

Project Manager

m. 603.231.9918

177 Corporate Drive, Portsmouth, NH, 03801

w: https://linkprotect.cudasvc.com/url?a=https%3a%2f%2ftighebond.com&c=E,1,hS2ZzFVjc_LuCuTg-iXNC2GAzGugECCt9hvI5jzfwuzxSkjpyslMmE1vd3WFUzomEvUHcBpV2NGiSAgEDNqejuz47DlRDqB52wXGHUsu3FoJefLSlH61PFM,&typo=1 <https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fwww.tighebond.com%2f&c=E,1,sA9a4jEgsDXzg3doXt5yZx2OG0ZEeosY5xE7adMDSBcRXmSadDg710aDTiYydsREs0kSg1JB8_LiVxRo8N9WRG77KU2Lc7jNM3062_dBaTWNC9spUg,,&typo=1> | https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fhalvorsondesign.com&c=E,1,pGe4ZE_HpdzsukRd4R5ekeLjveeystQgAa505xyBa8wHRNSTmr_Xh3Svy5yp90pQWOSC3sSibzBN_0li0ktXWULSQpfT2tvA8rn1L1uMpy2GFprzu7tiCsEbbWg,&typo=1 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fwww.halvorsondesign.com%2f&c=E,1,NHVqgzVErYaAyGm1hNgkLh1nJzpfwnUFlNzwOacH4vtH_oIG79Q51s1cWu3blsCj4nlJ7cw9b64OH3o0AKQ4O7csRcf7Ua5XTd4tSCaA7hmg-i24QVa8gila&typo=1>

<https://www.linkedin.com/company/tighe-&-bond/> <https://www.facebook.com/TigheBond/> <https://twitter.com/tighebond>

Notice: Email Address Change

Our email domain has changed. Please use @https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fportsmouthnh.gov&c=E,1,HvpksZaGK-VWnlR8ITskjsJTiGVBAO2SJOwVUf0_LMDjDoz0xnNQBYLvs79Cr87OhbuiOGic1EpkdeqskroE5GinXOwaDReBwqsibI6_SDJ1m6s74b_JWnsXLXk,&typo=1 instead of @https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fcityofportsmouth.com&c=E,1,3tIffVKcTDUWpuRc3yb9Pxskuo_X4VVWWuEyAQiWl-bZVGqMadNl53epc7At-DEobUxYCdZeT0aw3tvLvZXkpESoCUDgSdZaa8ma7Ll0W4jwCZQioec,&typo=1 for future communications. Thank you for your attention!

Findings of Fact | Wetland Conditional Use Permit
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 137 Walker Bungalow
Application #: LU-25-81
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of all conditions necessary to obtain final approval.

In order to grant Wetland Conditional Use permit approval the Planning Board shall find the application satisfies criteria set forth in the Section 10.1017.50 (Criteria for Approval) of the Zoning Ordinance.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	**Finding** (Meets Criteria for Approval)	**Supporting Information**
1	*1. The land is reasonably suited to the use activity or alteration.*	**Meets** **Does Not Meet**	The property previously had the same size deck in place. The impact from the new deck will be from the soil disturbance created to rebuild the deck and pour new footings.
2	*2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*	**Meets** **Does Not Meet**	The egress already existed within this location of the home and stairs or a deck were needed to access the doorway. This location is reasonable as there was a deck here and the new deck will be the same size.
3	*3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.*	**Meets** **Does Not Meet**	The applicant is proposing to help offset impacts from the new build with crushed stone placed below the deck and plantings within the yard to increase the vegetation within the buffer.

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	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	Finding (Meets Criteria for Approval)	Supporting Information
4	*4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.*	**Meets** **Does Not Meet**	This project was rebuilt in an already disturbed area and the applicant is proposing the installation of new plantings to bolster the vegetative state of the buffer.
5	*5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.*	**Meets** **Does Not Meet**	This rebuild appears to be almost entirely within the existing impacted area where the previous deck was located. Impacts to the wetland resource were offset with the removal of the existing sump pump drainage and removal of the septic system as noted by the applicant. In addition, the introduction of new plantings will help to offset impacts and the crushed stone placement should slow stormwater that is entering the wetland buffer.
6	*6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.*	**Meets** **Does Not Meet**	This project proposes no impact to the 50' vegetated buffer strip. Applicant proposes new plantings within this area.
7	**<u>Other Board Findings:</u>**		

DRAFT

RECEIVED
JUL 28 2025
By 3:05 pm

June 18th 2025

Planning Department
Conservation Commission
1 Junkins Ave
Portsmouth NH 03801

Richard Chellman,

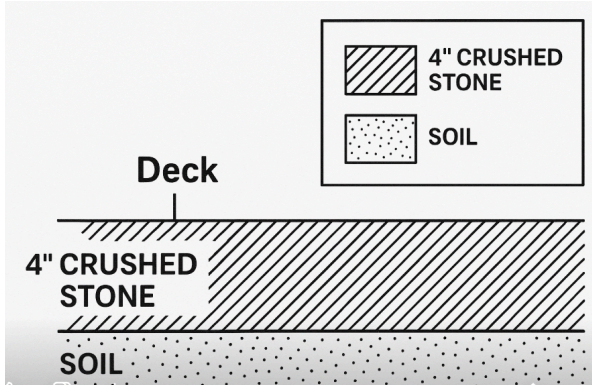
We are proposing a replacement deck at the location of 137 Walker Bungalow Road, Portsmouth NH. The new deck will be the same size (12' X 6') as the deck we plan to replace. The proposed deck is approximately 90 feet from two different vernal pools. The work will be completed by the homeowner. The deck is roughly four feet off the ground and is needed to exit the back of the house through a sliding glass door. The deck was structurally compromised and needed to be replaced. 4" of crushed stone will be placed under the deck.

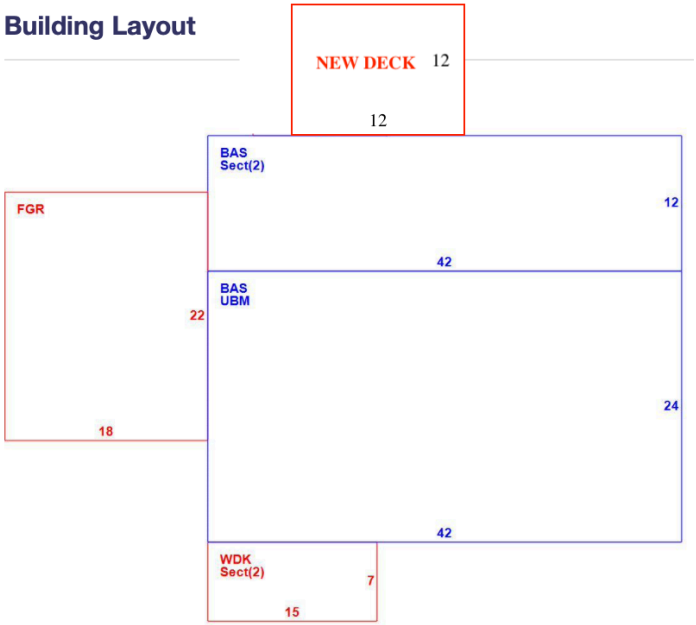
We will plant 5 Highland blueberry bushes in order to re-naturalize the corner of the yard, and any area between the plants and the wetland will be within the 'no mow' area as we agreed upon in the meeting and is reflected in the plans. We'll also place two signs between the bushes to signal the beginning of the no mow, protected area as signified in the plan as well.

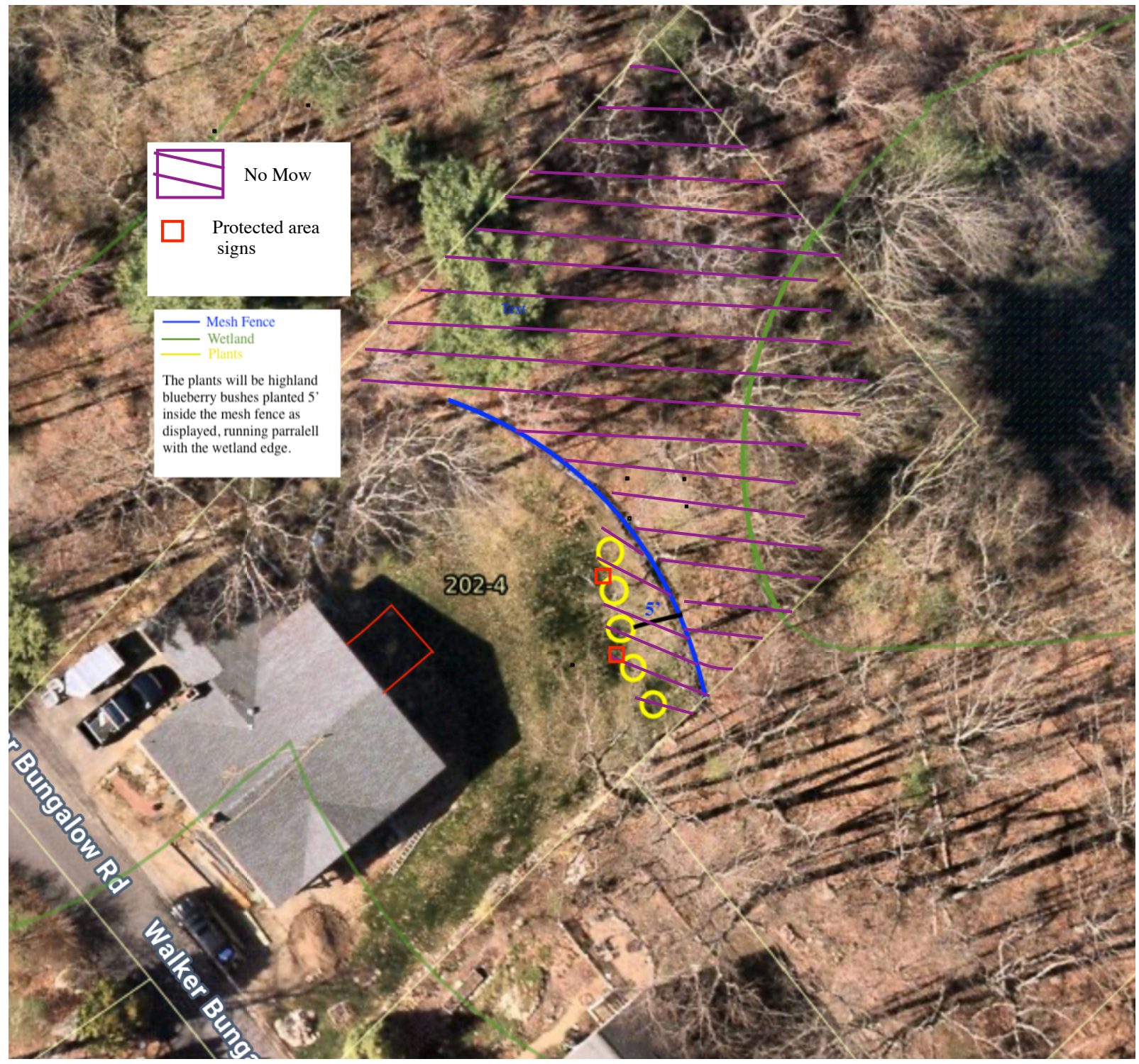
We feel we have substantially improved the health and ecosystem of the connected vernal pools by eliminating a failed septic system and connecting to the new sewer system. We also stoped the washing machine from pumping into the sump pump and discharging to the back yard.

Eric Leibundgut
137 Walker Bungalow Road
Portsmouth NH 03801

The Deck will have 4” of crushed stone (.75”-1”) allowing rainwater to perforate into the soil underneath






No Mow
Protected area signs
Mesh Fence
Wetland
Plants
The plants will be highland blueberry bushes planted 5' inside the mesh fence as displayed, running parralell with the wetland edge.
202-4
5'
Bungalow Rd
Walker Bunga

Findings of Fact | Site Plan Review
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 361 Hanover Street
Application #: LU-24-196
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Site Plan Regulations Section 2.9 Evaluation Criteria - in order to grant site plan review approval, the TAC and the Planning Board shall find that the application satisfies evaluation criteria pursuant to NH State Law and listed herein. In making a finding, the TAC and the Planning Board shall consider all standards provided in Articles 3 through 11 of these regulations.

	Site Plan Review Regulations Section 2.9 Evaluation Criteria	**Finding (Meets Standard/Criteria)**	**Supporting Information**
1	Compliance with all City Ordinances and Codes and these regulations. Applicable standards:	**Meets** **Does Not Meet**	Applicable standards: In our opinion the Project complies with the intent and language of the Ordinance requirements; see the Sheet C3 Table for details. Items that vary from codes have received Variances from the ZBA.
2	Provision for the safe development, change or expansion of use of the site.	**Meets** **Does Not Meet**	Safety plans and construction routes will be developed in the CMMP process.
3	Adequate erosion control and stormwater management practices and other mitigative measures, if needed, to prevent adverse effects on downstream water quality and flooding of the property or that of another.	**Meets** **Does Not Meet**	The project proposes providing additional drainage structures interior to the project as well as directing run-off in the current directions. The site is becoming LESS impervious. The plans show the procedures that will be utilized to provide erosion control during construction.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
4	Adequate protection for the quality of groundwater.	**Meets** **Does Not Meet**	Runoff is captured in city collection system. No groundwater withdrawal (water supply is city). No nearby production wells.
5	Adequate and reliable water supply sources.	**Meets** **Does Not Meet**	Water supply is Public -City. Supply confirmed by TAC review. All plumbing fixtures will be water conserving.
6	Adequate and reliable sewage disposal facilities, lines, and connections.	**Meets** **Does Not Meet**	Sewer connection is Public - City. Connection(s) reviewed by TAC.
7	Absence of undesirable and preventable elements of pollution such as smoke, soot, particulates, odor, wastewater, stormwater, sedimentation or any other discharge into the environment which might prove harmful to persons, structures, or adjacent properties.	**Meets** **Does Not Meet**	The residential use will not contribute the types of pollutants listed. Stormwater collection reviewed and approved by TAC.
8	Adequate provision for fire safety, prevention and control.	**Meets** **Does Not Meet**	Project will use sprinkler systems. Building access reviewed by Portsmouth FD at TAC and plans revised to meet expectations.
9	Adequate protection of natural features such as, but not limited to, wetlands.	**Meets** **Does Not Meet**	Urban site, no wetlands or buffers. Excavation materials will be reviewed as needed prior to removal from site.
10	Adequate protection of historical features on the site.	**Meets** **Does Not Meet**	The existing building will be preserved.
11	Adequate management of the volume and flow of traffic on the site and adequate traffic controls to protect public safety and prevent traffic congestion.	**Meets** **Does Not Meet**	See the Traffic Impact Analysis submission indicating no significant impact. The team has worked with TAC to address the concerns expressed.
12	Adequate traffic controls and traffic management measures to prevent an unacceptable increase in safety hazards and traffic congestion off-site.	**Meets** **Does Not Meet**	TAC review required changes to address comments from the public and from the City's Traffic Engineer.
13	Adequate insulation from external noise sources.	**Meets** **Does Not Meet**	Construction to match the required building requirements for the location.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
14	Existing municipal solid waste disposal, police, emergency medical, and other municipal services and facilities adequate to handle any new demands on infrastructure or services created by the project.	**Meets** **Does Not Meet**	Trash collection will be internal in the buildings. TAC Review included Fire and Police Departments; all concerns addressed in design.
15	Provision of usable and functional open spaces of adequate proportions, including needed recreational facilities that can reasonably be provided on the site	**Meets** **Does Not Meet**	Site development utilizes ordinance allowable open space – calculations provided. Improvements include off-site landscape improvements to public spaces. Recreational facilities nearby.
16	Adequate layout and coordination of on-site accessways and sidewalks in relationship to off-site existing or planned streets, accessways, bicycle paths, and sidewalks.	**Meets** **Does Not Meet**	Adequate access for the site development is provided from Hanover Street
17	Demonstration that the land indicated on plans submitted with the application shall be of such character that it can be used for building purposes without danger to health.	**Meets** **Does Not Meet**	Land is suitable for the intended purpose, currently used as an urban building site and attached parking lot. Plans follow ordinance and guidelines; see TAC approval.
18	Adequate quantities, type or arrangement of landscaping and open space for the provision of visual, noise and air pollution buffers.	**Meets** **Does Not Meet**	Significant Landscaping improvements proposed, meeting open space requirements and improving the property.
19	Compliance with applicable City approved design standards.	**Meets** **Does Not Meet**	See ZBA and TAC approvals.
	Other Board Findings:		

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Findings of Fact | Subdivision Rules and Regulations
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 361 Hanover Street
Application #: LU-24-196
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:
Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

	Subdivision Review Criteria	Finding (Meets Standards/ Requirements)	Supporting Information
1	Subdivision Rules and Regulations III. D. 1 The Board shall act to deny any application which is not in compliance with Section IV or V as appropriate. **SECTION IV - REQUIREMENTS FOR PRELIMINARY PLAT**	**Meets** **Does Not Meet**	The submission requirements for the Preliminary Plat have been met.
2	**SECTION V - REQUIREMENTS FOR FINAL PLAT**	**Meets** **Does Not Meet**	The submission requirements for the Final Plat have been met.
3	**SECTION VI - GENERAL REQUIREMENTS**	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee (TAC) for conformance with the General Requirements. • The Plan meets the general requirements. The application was recommended for approval on July 1, 2025, at the Technical Advisory Committee Meeting.
4	**SECTION VII - DESIGN STANDARDS**	**Meets**	The application has been

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	Subdivision Review Criteria	Finding (Meets Standards/ Requirements)	Supporting Information
		Does Not Meet	reviewed by the Technical Advisory Committee (TAC) for conformance with these minimum requirements. • The Plan meets the design standards requirements. The application was recommended for approval on July 1, 2025, at the Technical Advisory Committee Meeting.
5	**<u>Other Board Findings:</u>**		

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HALEY WARD

30 July 2025

Rick Chellman, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for Site Plan Approval at 361 Hanover Street, Commercial and Residential Mixed-Use Development

Dear Mr. Chellman and Planning Board Members:

On behalf of 361 Hanover Steam Factory, LLC, we are pleased to submit the attached plan set for **Site Plan Approval** for the above-mentioned project and request that we be placed on the agenda for your **August 21, 2025,** Planning Board Meeting. The project consists of the **addition and renovation of the existing building and the construction of four new structures** at 361 Hanover Street, with the associated and required site improvements. The new structures will be entirely residential to add much needed housing stock in a desirable location where significant walkable amenities are in proximity. The project was submitted for **Design Review** as required under Section 2.4.2 of the Site Plan Regulations on March 5, 2025, and a Public Hearing was held at the April 17, 2025, Planning Board meeting. The result of that submission was to vest the project for a period of one year from that date to the current Zoning Ordinance requirements.

The applicant submitted a request to the Portsmouth Zoning Board to vary some site elements to the current zoning, and at their February 18, 2025, meeting the Zoning Board granted the following Variances:

- Variance from Section 10.642 to allow residential principal use on the ground floor of the buildings;
- Variance from Section 10.5A41 - Figure 10.5A41.10D to a) allow for "Apartment", "Rowhouse" and "Duplex" building types where they are not permitted; and b) allow a ground floor height of 10.5 feet where 12 feet is required.

Project Overview

The project is a re-purposing of the existing structure on the site, known as the Heinemann Building, shown on Tax Map 138 – Lot 63. The project is in the online portal as Land Use Application (LU) – 24-196. The property will be subdivided with the smaller building, known as the Last Chance Garage, placed on a separate lot. The site plan proposal is re-developing the larger lot with the Heinemann Building into entirely residential use by additions to the existing building, and four proposed new buildings, according to the attached site plans. The project received some zoning relief as described above but otherwise is fully compliant with the Portsmouth Zoning Ordinance.

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Subdivision

The applicant is proposing to subdivide the existing parcel into two conforming parcels, each with one of the existing buildings contained thereon. The Subdivision Plan details the proposed property division. The plan shows the configuration of the existing lot. The Property has a long history of Industrial and Commercial land use. Built in the late 19th century as a 5-story brick and heavy timber structure with a flat roof and slab at first floor level, the Heinemann Building was originally owned and occupied by the Portsmouth Steam Factory. In the late 19th century, a fire impacted the building, reducing the building to a two-story building. In the 1950s, the building was occupied with an auto dealership and later, in the 1970s, with JSA, an architectural design firm. In the 21st Century, the building was occupied by Heinemann, an international publishing company. A single story "modern" block addition with a shed roof was added mid-century toward the rear facing Foundry Place, which was used as a loading dock for shipping and receiving. The existing condition shows a paved parking area behind the Heinemann Building and a bump out of the property lines. The area to the northeast of the Heinemann Building, towards what is now Foundry Place and the Foundry Place Garage, previously housed the Portsmouth Department of Public Works (DPW) Rock Street facility. Between that facility and the Heinemann Building there was a parking area which had been leased to the Heinemann Building and used for parking. That lease has expired and there is no intention to renew it. The property is currently in Condominium ownership. The Condominium will be dissolved, and the unit owners will become fee simple owners of the individual lots. The plans show access and utility easements, as necessary to continue to serve the new individual lots.

Site Plan Submission

The submission requirements of the City of Portsmouth Site Plan Regulations have been reviewed. The submission herein complies with the requirements. The project was reviewed by the city's Technical Advisory Committee (TAC) and approval is recommended. Plans are drawn in accordance with scale and size requirements, with dates, titles, north orientation, Map and Lot, Zoning, revision blocks, and Legends. The proposed uses and square footage of use are shown on the architectural plans. The professional's seals with license numbers are on the submitted plans. The Existing Conditions plan shows the site topography, building location with floor elevation, feature locations, and driveway access / egress and current parking configuration. Available utility information is shown. Subsequent plans show the proposed development with the associated site improvements and construction details.

Site Zoning

Consistent with other properties along Foundry Place and Hill Street, the property is zoned Character District 5 (CD5). The CD5 District is an urban zoning district that allows for a wide array of higher density commercial and residential uses. The Property is also subject to several Overlay Districts. The northern half of the property is located within the North End Incentive Overlay District (NEIOD) and the entire property is also located within the Downtown Overlay District (DOD).

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The goals and objectives of the North End Vision Plan are focused on generating buildings, land uses, and site designs that support economic development while being respectful and sensitive to the surrounding context. Buildings are intended to step up or down in transitional areas, such as the property at 361 Hanover Street, in response to the surrounding land use pattern. This stepping element is why the North End Incentive Overlay District, and its encouragement of larger buildings, does not carry over to the parking lot portion of the property along Hanover Street. Additionally, the North End Vision Plan encourages ground-floor commercial uses to activate the sidewalk and enhance the pedestrian experience. Thus, the Downtown Overlay District was extended into much of the North End. Although the Downtown Overlay District includes 361 Hanover Street, it is important to acknowledge that no other parcel spans the area between Foundry Place and Hanover Street, and as a result of the Downtown Overlay District following the property lines of the entire development parcel, there are no other properties fronting on Hanover Street that are included in the Downtown Overlay District (DOD).

The DOD required ground-floor commercial uses have been eliminated in this site redevelopment, with an application and approval by the Portsmouth Zoning Board, at great expense to the applicant. Since this site is sufficiently immersed in the residential section of the neighborhood, this adjustment was warranted. This will allow the entire property to go to residential use. There has been recent activity to revise the zoning designations in the vicinity. Please refer to Sheet O1, Site Orthophoto Plan, which includes a table showing developed properties in the neighborhood and key factors such as Lot Area Per Dwelling Unit, Building Coverage, Building Height, and Open Space. The table highlights the non-conforming and conforming properties, and shows 361 Hanover is in compliance with existing zoning.

The project Site Plan C3 details information regarding the proposed uses, including building size and parking counts. The required parking under the Portsmouth Zoning Ordinance (PZO) is as follows:

2 Units between 500-750 SF = 2 Spaces Required
38 Units over 750 SF = 50 Spaces Required
Visitor Spaces – 1 per 5 units = 8 Spaces Required
DOD Overlay Space Reduction (Section 10.1115.23) = 4 Spaces Deducted
Total Required Spaces = 56
Total Spaces Provided = 66 Spaces

We submit that the 4-space DOD reduction is part of the visitor parking requirement, and should be viewed in that light. There are two exterior guest parking spaces, and there will be 2 parking spaces in Building A for guests who are at the invitation of the unit owners with garage door access code. We submit for board consideration that the other 4 visitor spaces will be supplied by adjacent street parking. As required the stacked parking spaces, 12 in Building A and three in Building E, will be assigned to a specific unit within those Buildings. Interior parking spaces are detailed on the Parking Plan C-8.

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The proposed building uses, all conforming under the property variance, are listed on Site Plan C3. Information regarding other Zoning Development Standards are detailed in the Table in the upper left-hand corner of Site Plan C3. Ordinance conforming bike racks will be provided. Site Plan C3 shows the proposed open space non-impervious areas in green color. The proposed project reduces the impervious surface total for the project and brings it closer to conformance with the 5% open space (coverage) requirement with landscaping space alone. Some of the narrower planting areas are not 5 feet in width, which excludes them from the open space calculation. The open space by definition includes walkways and terraces as long as the area is predominately permeable, so a sidewalk with adjacent landscaping space which in total is greater than 5 feet in width and is 51% landscaping is counted as open space. Open Space calculations are included in the attached Open Space Exhibit.

Vehicular and Pedestrian Circulation

The application package includes an updated (*July 11, 2025*) technical Memorandum prepared by Vanesse & Associates, Inc. (VAi), the project Traffic Consultant, calculating site Trip Generation utilizing Institute of Traffic Engineers (ITE) Trip Generation Calculations. The Memorandum details the changes in traffic generation due to the project and the potential impact on the adjacent roadway network. The project will not impact traffic operations on the adjacent roadway network. The report recommendations are as follows:

Project Access

Access to the Project site will be provided by way of a driveway that will intersect the north side of Hanover Street opposite Pearl Street at the approximate location of the existing driveway that serves the Project site. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulations, many of which are reflected on the site plans:

- *The Project site driveway will be 24 feet in width and will be designed to accommodate the turning and maneuvering requirements of moving vans, trash/recycling vehicles, and the largest anticipated responding emergency vehicle.* ***The plans reflect this recommendation.***
- *Vehicles exiting the Project site to Hanover Street should be placed under STOP-sign control.* ***The plans reflect this recommendation.***
- *All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD); Federal Highway Administration; Washington, D.C.; 2009.* ***The plans reflect this recommendation.***
- *Sidewalks have been provided within the Project site that link the existing and proposed buildings to the existing sidewalks along Hanover Street, Rock Street, and Foundry Place, and crosswalks for crossing Rock Street (two locations), at the Hanover Street/Rock Street intersection, and across Pearl Street.* ***These crosswalks are all in place, though some need to***

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be re-painted. The developer will repaint crosswalks not in prime condition at the conclusion of the construction, prior to the 20th Certificate of Occupancy. This is detailed on Sheet C3 as Note 11.

- *ADA-compliant wheelchair ramps should be provided at all pedestrian crossings to be constructed or modified in conjunction with the Project, including for crossing the Project site driveway, or the driveway should be designed so that the sidewalk crosses the driveway (i.e., pan-type drive).* ***The plans reflect this recommendation (the driveway is not pan-type).***

- *Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas (see attached plan) should be designed and maintained so as not to restrict lines of sight.* ***The landscaping plans reflect this recommendation.***

- *Snow accumulations (windrows) within sight triangle areas should be promptly removed where such accumulations would impede sightlines.* ***This will be a part of the operations at the condominium.***

- *Consideration should be given to providing electric vehicle charging stations for use by residents of the Project.* ***This will be considered.***

Transportation Demand Management

In an effort to encourage the use of alternative modes of transportation to single-occupant vehicles (SOVs), the following Transportation Demand Management (TDM) measures should be implemented as part of the Project:

- *A transportation coordinator should be assigned for the Project, who may also have other duties and responsibilities to coordinate the TDM program;*

- *A "welcome packet" should be provided to residents detailing available public transportation services, bicycle and walking alternatives, and other commuting options;*

- *A central maildrop should be provided within each building; and*

- *Secure bicycle parking should be provided at an appropriate location within the Project site, including exterior bicycle racks and interior weather-protected bicycle parking.* ***The plans reflect these recommendations, and the developer will provide the TDM program requirement as a part of the Condominium Documents and Operation.***

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site, and the Project can be accommodated within the confines of the existing transportation system.

The full study is a part of this submission.

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Screening and Landscaping

The site currently is only landscaped with two trees at the existing building corners, which will have to be removed. The proposed landscaping improvements expand the site landscaping along the Rock Street and Hanover Street frontages, as well as within the site. The space in front of buildings D and E at the street line is landscaped, and some more robust street trees are proposed along the Rock Street frontage. There are two Ash trees to be removed; the removal requires Portsmouth Tress and Greenery Committee (T&GC) approval, which was granted. Tree species proposed to be planted on city property also have T&GC approval. Landscaping is detailed on Landscape Plans L1 – L3.

Water and Sewage Systems

The site is served by municipal water and sewer. The development proposes appropriate connections to the water and sewer infrastructure on Hanover Street. The plan shows the subsequent Mill and Pave operation to restore the street surface with the appropriate notes. The utility demand generated by the additions and renovations are not expected to exceed the capacity of the existing infrastructure. Utilities are detailed on the Utility Plan C4.

Stormwater Management

The proposed site stormwater infrastructure is shown on Grading and Drainage Plan C5. The proposed drainage system has been designed to capture site runoff and deliver it to the adjacent city closed pipe system in the manner which the site currently flows. The roof drain filters provide post-development runoff treatment for a majority of the site. Erosion and sediment control practices will be implemented for both the temporary condition during construction, and for final stabilization after construction. Infiltration of guttered roof run-off is also shown on the plans and detailed on the Roof Drainage Plan C6. Therefore, and as a result of these measures, there are no negative impacts to downstream receptors or adjacent properties anticipated as a result of this project.

Site Lighting

The re-development will introduce adequate lighting of the driveway and pedestrian corridors to provide a welcoming and safe pedestrian and vehicular experience. The lighting will all be building mounted. The lighting intensities are detailed on the Lighting Plan C7, and the proposed fixture cut sheets are included in the Supplemental Material submission.

Site Signage

The site will be served by building mounted street number identification signage, the final locations will be determined with city GIS / 911 input. The project will be a condominium development, so a general identification sign will be proposed. The only other signage is required traffic, delivery, and parking controls, such as the ADA signage.

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Site Utilities and Solid Waste

Site utilities include natural gas, underground electric and communications services. The existing services will be adjusted and new conduits constructed as needed. Proposed service locations are detailed on the Utility Plan C4.

Solid Waste for Building A will be collected in an interior trash room, with access for trash haulers to pick up the trash on a regular schedule. Solid Waste for Buildings B, C, D, and E will be inside storge in the garage spaces, also with private pickup.

The project Subdivision and Site Plan applications were reviewed at the July 1, 2025 TAC meeting, and the project was recommended for Planning Board approval, subject to the following conditions, repeated below with our response in **bold** text:

1. The proposed electrical service must come off of a pole that is not within the City sidewalk. **The utility design has been adjusted to this condition.**

2. The radii of the curb in the entrance driveway needs to be five feet. **The site design has been adjusted to this condition, although the east side entrance needs to stay as previously designed to maintain street parking.**

3. The back corner of Building E needs to be chamfered or relocate last garage door. **The garage doors have been relocated. Also, the design reflects garage openings to facilitate viewing at the corner.**

4. The final grade needs to be shown on the plans, and it cannot inhibit vehicular access across the property. **The plan has been adjusted to show additional spot grades.**

5. The final proposed connections to the water and sewer system needs to be approved by DPW. **The utility design has been adjusted based on TAC comments, and submitted to the Department.**

6. Applicant will be required to obtain a stormwater connection permit. **The online permit has been submitted, and the condition should be revised to "stormwater connection permit approval".**

7. An updated traffic study is needed and shall be reviewed by DPW. **The traffic study has been updated and submitted to DPW.**

8. The proposed sidewalks on Hanover Street will be reconstructed to City standards. **The site plan has been adjusted to this condition with the addition of Note 9 on Sheet C3.**

9. Proposed disturbed areas on Hanover Street will be milled and paved as approved by DPW. **The site plan has been adjusted to this condition with the addition of Note 10 on Sheet C3**

10. A CMMP is required. **This condition should be carried forward as this will not be completed until just prior to construction.**

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The following plans are included in our submission:

- Cover Sheet – Shows the Development Team, Legend, Site Location, and Site Zoning.
- Subdivision Plan – This plan shows the division of the existing parcel into two conforming lots.
- Easement Plan – This plan shows the required property easements.
- Orthophoto Plan – This plan shows the site's relationship to the surrounding properties.
- Existing Conditions Plan C1 – This plan shows the existing site conditions in detail.
- Demolition Plan C2 – This plan shows proposed site demolition prior to construction.
- Site Plan C3 – This plan shows the site development layout with the associated zoning information and notations.
- Landscape Plans L1 to L3 - These plans show proposed landscaping and details.
- Utility Plan C4 – This plan shows site utilities.
- Grading Plan C5 - This plan shows project site grading, structure locations and elevations.
- Roof Drainage Plan C6 - This plan show the proposed roof types and drainage connections.
- Lighting Plan C7 – This plan show proposed project lighting.
- Parking Plan C8 - This plan shows the interior parking spaces.
- Fire Truck Turning Template T2 – This plans show turning movements for Portsmouth Fire apparatus.
- Architectural Plans – These plans show building first floor plans and elevations.
- Detail Sheets D1 to D5: These plans show the associated construction details.

Also attached to this submission is additional material to aid in the review of the application:

- ✓ Site Plan Application Checklist
- ✓ BOA Approval Document
- ✓ Planning Board Design Review Document
- ✓ Neighborhood Context
- ✓ Stormwater Inspection and Maintenance Plan
- ✓ Green Building Statement
- ✓ Lighting Specifications
- ✓ Site Photographs
- ✓ Traffic Memorandum Summary and Recommendations
- ✓ Open Space Exhibit
- ✓ Zoning Development Standards Table
- ✓ Average Grade Plane
- ✓ Abutting Property Condo Plan

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We look forward to Planning Board review of this submission and look forward to an in-person presentation at your meeting. We hereby request approval of the project.

Sincerely,



John R. Chagnon, PE

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City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: 361 Hanover Steam Factory LLC Date Submitted: 6/13/2025

Application # (in City's online permitting): LU 24-196

Site Address: 361 Hanover Street Map: 138 Lot: 63

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☐	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Online	N/A
☐	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	Online	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Online	
☐	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Architectural Plans	N/A
☐	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	C1 Existing Conditions Plan	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Cover	N/A
☐	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Subdivision Plan	N/A
☐	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover	N/A
☐	List of reference plans. **(2.5.3.1H)**	Subdivision Plan	N/A
☐	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	Cover	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☐	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☐	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Sheet C1 Existing	N/A
☐	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☐	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	N/A	N/A
☐	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Cover	N/A
☐	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All Sheets	N/A
☐	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☐	Source and date of data displayed on the plan. **(2.5.4.2D)**	Property Survey	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	C1 Existing Conditions Plan	
☐	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Architectural Plans	
☐	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Sheet C3 Site Plan	
☐	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Sheet C8 Parking Plan	
☐	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Sheet C4 Utility	
☐	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Sheet C4 Utility	

☐	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Sheet C4 Utility	
☐	**8. Solid Waste Facilities: (2.5.4.3H)**	Architectural Plans	
	• The size, type and location of solid waste facilities.		
☐	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Sheet C5 Grading & Drainage Plan Sheet C6 Roof Drainage Plan	
☐	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Sheet C7 Lighting Plan	
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Sheet C7 Lighting Plan	
☐	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Sheet L1-L3 Landscape Plans	
☐	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Sheet C5 Grading & Drainage Plan	
☐	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	Open Space Exhibit	
☐	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Easement Plan	
☐	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	Sheet C3 Site Plan	
☐	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	Online	
☐	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	Detail Sheets	
☐	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☐	Stormwater Management and Erosion Control Plan. **(7.4)**	Detail Sheet D1 & D4	
☐	Inspection and Maintenance Plan **(7.6.5)**	Online	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Cover Sheet	
☐	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Supplemental Materials	
☐	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	TBD	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	Cover Sheet	
☐	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Cover Sheet	N/A
☐	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☐	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Sheet C3 Site Plan	N/A

Applicant's Signature:  **Date:** 6/12/2025

CITY OF PORTSMOUTH
Planning & Sustainability
Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

ZONING BOARD OF ADJUSTMENT

February 24, 2025

361 Hanover Steam Factory LLC
361 Hanover Street
Portsmouth, New Hampshire 03801

RE: **Board Of Adjustment Request for Property Located at 361 Hanover Street, Portsmouth, NH (LU-24-196)**

Dear Property Owner:

The Zoning Board of Adjustment, at its regularly scheduled meeting of **Wednesday, February 19, 2025**, considered your application for expanding and renovating the existing commercial building and converting it to multi-family residential and to construct three new multi-family residential buildings which requires the following: 1) Variance from Section 10.642 to allow residential principal uses on the ground floor of the buildings; 2) Variance from Section 10.5A41 - Figure 10.5A41.10D to a) allow for "Apartment", "Rowhouse" and "Duplex" building types where they are not permitted; and b) allow a ground floor height of 10.5 feet where 12 feet is required. Said property is shown on Assessor Map 138 Lot 63 and lies within the Character District 5 (CD5) and Downtown Overlay District. As a result of said consideration, the Board voted to **grant** the request with the following **condition**:

1) The design and location of the buildings may change as a result of Planning Board review and approval.

The Board's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Board's decision during this appeal period shall be at the applicant's risk. Please contact the Planning & Sustainability Department for more details about the appeals process.

Approvals may also be required from other City Commissions or Boards. Once all required approvals have been received, applicant is responsible for applying for and securing a building permit from the Inspection Department prior to starting any project work.

This approval shall expire unless a building permit is issued within a period of two (2) years from the date granted unless an extension is granted in accordance with Section 10.236 of the Zoning Ordinance.

The Findings of Fact associated with this decision are available: attached here or as an attachment in the Viewpoint project record associated with this application and on the Planning Board Meeting website:

https://www.cityofportsmouth.com/planportsmouth/zoning-board-adjustment/zoning-board-adjustment-archived-meetings-and-material

The minutes and audio recording of this meeting are available by contacting the Planning & Sustainability Department.

Very truly yours,



Beth Margeson, Vice Chair of the Zoning Board of Adjustment

cc: Shanti Wolph, Chief Building Inspector

Rosann Maurice-Lentz, City Assessor
John Bosen, DTC Law
John Chagnon, Ambit Engineering, Inc.

CITY OF PORTSMOUTH
Planning & Sustainability Department
1 Junkins Avenue
Portsmouth, New Hampshire
03801
(603) 610-7216

PLANNING BOARD

April 21, 2025

361 Hanover Steam Factory, LLC
41 Industrial Drive, Unit 20
Exeter, NH 03833

RE: Request for Design Review for Property Located at 361 Hanover Street in Portsmouth, New Hampshire (LUPD-25-2)

Dear Property Owner:

The Planning Board, at its meeting on Thursday, April 17, 2025 considered your application requesting Design Review for the construction of new residential buildings along Hanover Street and the renovation of the existing building with associated site improvements. Said property is located on Assessor Map 138 Lot 63 and lies within the Character District 5 (CD5), Downtown Overlay District (DOD), and North End Incentive Overlay District (NEIOD). As a result of said consideration, the Board voted to find the design review process complete.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Rick Chellman, Chairman of the Planning Board

cc: Shanti Wolph, Chief Building Inspector

Rosann Maurice-Lentz, City Assessor
Peter H. Rice, Director of Public Works

John Chagnon, Ambit Engineering
John Bosen, DTC Law

Neighborhood Context Table

No.	Address	Zoning District	Lot Area (SF +/-)	Lot Area / Dwelling Unit (SF +/-)	Building Coverage (% +/-)	Building Height (FT +/-)	Open Space (% +/-)
1	89 Foundry Place	CD5	22,651	427	79.9%	60	11.9%
2	100 Foundry Place	M	114,998	NA	32.6%	60	23.9%
3	165 Deer Street	CD5	26,571	NA	86.6%	60	8.5%
4	126 Bridge Street	CD5	26,571	NA	73.8%	14	8.1%
5	349 Hanover Street	CD4-L1	5,227	871	51.8%	40	11.1%
6	181 Hill Street	CD4-L1	16,117	1,343	43.1%	24	4.0%
7	45 Pearl Street	CD4-L1	3,485	1,743	80.1%	40	4.3%
8	51 Islington Street	CD4-L2	30,869	1,470	38.9%	58	10.0%
9	63 Islington Street	CD4-L2	16,183	NA	94.6%	11	3.1%
10	133 Islington Street	CD4-L2	16,552	1,505	52.0%	33	14.5%
11	44 Rock Street	GRC	3,049	3,049	33.1%	22	54.1%
12	394 Hanover Street	GRC	1,742	1,742	53.2%	26	15.8%
13	48 Pearl Street	GRC	3,920	1,960	42.3%	28	37.0%
14	407 Hanover Street	GRC	3,750	1,743	26.5%	24	59.5%
15	361 Hanover Street	CD5	38,528	963	69.8%	40	6.4%

Non-Conforming

Conforming

STORMWATER INSPECTION & MAINTENANCE PLAN

FOR

361 Hanover Street
Portsmouth, NH

Introduction

The intent of this plan is to provide 361 Hanover Street (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the drainage structures for this development.

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly. These measures will also help minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functionality of the drainage structures and maximize their ability to drain the site effectively from stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the City of Portsmouth Public Works Department.

Inspection & Maintenance Checklist/Log

The following pages contain a Stormwater Management System Inspection & Maintenance Checklist and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

DRAINAGE STRUCTURE COMPONENTS

Non-Structural BMP's

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to: temporary and permanent mulching, temporary and permanent grass cover, trees, shrubs and ground covers, miscellaneous landscape plantings, dust control, tree protection, topsoiling, sediment barriers, and a stabilized construction entrance.

Structural BMP's

Structural BMP's are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to storm drain catch basins, roof drains and pipes.

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Landscaped areas:** After each rain event of 0.5" or more during a 24-hour period, inspect landscaped areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and adjust the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection. Clean up dead leaves yearly to avoid drainage issues.
3. **Storm Drain Catch Basins and Pipes:** Monitor drain inlets and outlets during construction. Monitor sediment levels in catch basin sumps and remove as necessary.
4. **Roof Drains:** Maintain roof drains and review periodically for clogs. Roof drain filters will be installed within the buildings. Follow the Maintenance Specification as Detailed in the Plan Set.

Stormwater Management System

Inspection & Maintenance Checklist for Post Construction Condition—for 361 Hanover Street, Portsmouth, NH

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Closed Drainage System			
Drainage Pipes and Roof Drains	Yearly	*Check for sediment clogging, or soiled runoff.*	Clean entire drainage system and remove all sediments if discovered in piping.
Catch Basins	Bi-Annually	*Check for excessive accumulation of sediment in sump*	Remove sediment as necessary
Annual Report	Yearly	*Prepare Annual Report, including all Inspection & Maintenance Logs. Provide to City (if required).*	N/A

Stormwater Management System Maintenance Summary

Inspection & Maintenance Log—for 361 Hanover Street, Portsmouth, NH

BMP/System Component	Date Inspected	Inspector	Problems Noted, Required Maintenance *(List Items/Comments)*	Date of Maintenance	Performed By

Data Sheets

SCOTT M BROWN

ESTD | ARCHITECTS | 2007

MEMORANDUM

DATE:	March 14, 2025
TO:	City of Portsmouth Planning Board
PROJECT:	Redevelopment Plan at 361 Hanover Street Portsmouth, NH 03801
REGARDING:	Green Building/Energy Compliance Statement

Building energy compliance/performance will be measured by The Home Energy Rating System (HERS) Index. This is the industry standard by which a home's energy efficiency is measured. It's also the nationally recognized system for inspecting and calculating a home's energy performance. The target rating will be HERS 50 or less which far exceeds the 2018 IECC requirement of HERS 61 for Climate Zone 5.

Proposed buildings will exceed most of the requirements of the 2018 Energy Conservation Code including the following features:

Building Shell Features:

- Slab Insulation – R-10.0 Edge, R-10.0 Under
- Windows – U-Value: .280, SHGC: .4
- Exposed Floor – R-30.0
- Walls – R-20 plus R-5 cont. insulation
- Roof - R-49
- Infiltration Rate – 3.0 ACH50 (Blower Door Test)

Mechanical System Features:

- Building Load Calculations - Performed in accordance with ASHRAE 140
- Air Source Heat Pump – Electric Heating 10.0 HPSF, Cooling 18.0 SEER
- Water Heating – Conventional Electric, .92 EF, 40.0 Gal.
- Ventilation System – Balanced ERV, 150 CFM, 75.0 Watts, Compliance with ASHRAE 62
- Programmable Thermostats- Heating/Cooling
- Plumbing Fixtures - Fixture flow rates to comply with the International Green Construction Code (IgCC). Showers, Sinks and lavatories with flows of

2.0/1.8/1.5gpm respectively.
- Toilets - Dual-flush tank-type toilets with flows of 0.9/1.28gal per flush

Lights and Appliance Features:

- Interior Lighting – 100% LED most being Energy Star and/or DLC (Design Lighting Consortium) rated.
- Exterior Lighting - 100% LED, to include auto daylight shutoffs.
- Lighting Controls - Use of Dimmers, Daylighting Control Sensors and Photoelectric Sensors which further enhance energy savings and meet energy codes.
- Refrigerator – <600 kWh/yr
- Dishwasher – <270 kWh/yr
- Range/Oven Fuel – Natural Gas, Electric Induction Cooktop Option
- Clothes Dryer Fuel - Electric

Building Features:

- Wiring for Electric Vehicle Ready Spaces – 1 per Unit
- Solar ready roof zones on roof pitches of 3/12 or less (oriented between 110° and 270° of true north) and capped roof penetration sleeves for future solar to be provided.

CLRv3 Select

Commercial Recessed LED Downlight

Project

Catalog

Type

Date

Product Description

Designed for both new construction and retrofit applications, the CLR Select series can be installed directly into drywall, a ceiling grid or an existing 4", 6" or 8" mounting frame using spring loaded retention tabs. The CCT and output selectable design allows for easy adjustment to 3000, 3500, 4000, or 5000K and standard, medium or high output. With Standard and Low Output models available, the lighting can be easily tailored to match the space or meet rebate levels. With accessory trims in black and offering a full range of dimming via 1-10 volts, the CLR Select is adaptable to most any environment. The versatility of this light source is perfect for commercial applications, such as educational, governmental, retail and grocery, office or hospitality lighting.

Construction
- Spun aluminum trim
- Plastic driver housing
- 3' flexible metal conduit (FMC) whip
- Matte white powder coat
- Black faceplates available

Optical System
- Precision engineered polystyrene diffuser provides high uniformity, and reduced glare
- No visible diodes, hot-spots, or shadows
- 4 CCT selection (3000K, 3500K, 4000K, 5000K) via switch on driver cover

Electrical
- 5 Wire whip - 3 Input (L,N,G) and 2 controls (DIM+, DIM-)
- Universal range input 120 - 277 VAC, 60Hz
- 3 wattage selection (Standard, Medium, High) via switch on driver cover
- Default Setting of 4000K and Standard output
- 2 models of output - Standard and Low

Controls
- Dimming via 1-10VDC controls
- Available Bluetooth Wireless Controls Accessory. See: www.nicorlighting.com/network-lighting-controls

Mounting and Installation
- Adjustable, spring loaded retention tabs ensure secure fixture retention on ceilings up to 1 ½" thick
- Easy installation into most 4", 6" or 8" incandescent or fluorescent frames
- Frame not needed for new construction installation
- NON-IC Operating temperature of 0°F to 104°F (-18°C to 40°C)
- IC Operating temperature of 0°F to 77°F (-18° to 25°C)
- Metal rough-in templates and frames available
- For installations where power surge may be possible, NICOR recommends installing additional surge protection at the fixture or electrical distribution panel

Listings
- cULus 1598 Listed for wet locations
- Certified for direct contact with insulation - 4" model only
- Meets ASTM E283 airtight requirements
- TAA compliant
- RoHS compliant
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- TM-21 Reported L70(9k) life >72,000 hours
- LM-79, LM-80 testing performed in accordance with IESNA standards

Warranty
- 5-year limited system warranty standard
- Warranty does not cover product failure due to an overvoltage event (power surge)



CLRv3

Commercial LED Downlight

4", 6", 8" Diameters

Selectable Wattage & CCT

1) 4" only

CLRv3 Select

Commercial Recessed LED Downlight

Ordering

Ordering Information							*Example: CLR63SUS9WH*
Series	**Diameter**	**Version**	**Wattage**	**Voltage**	**CCT**	**CRI**	**Color**
CLR	☐ **4** (4 inch)	**3** (Version 3.0)	◯ **S** (Selectable)	**U** (120-277V)	**S** (Selectable)	**9** (90 CRI)	**WH** (White)
	◯ **6** (6 inch)		◯ **SL** (Selectable Low Lumen)				
	◯ **8** (8 inch)						

Specifications and dimensions subject to change without notice.

Recommended Dimmers*

Lutron NTSTV-DV-WH

Lutron DVSTV

Cooper SF10P

Legrand RH4FBL3PW

Accessories	*Accessories sold separately*
Black 4" Trim	CLR43-TR-BK
Black 6" Trim	CLR63-TR-BK
Black 8" Trim	CLR83-TR-BK
3" , 4" , 6" Rough In Flat Template	ROUGHIN-TEMPLATE-346
8" Rough in Template	ROUGHIN-TEMPLATE-8
4" Rough In Frame	DLE4-ROUGHIN-FRAME
6" Rough In Frame	DLE6-ROUGHIN-FRAME
3", 4", 6" Rough In Frame	MULTIFRAME-346-1
Emergency Battery Backup	EMI200-1-UNV
Bluetooth Wireless Controls	NLCDOWN1

CLRv3 Select

Commercial Recessed LED Downlight

Performance Data			Standard Output			Low Output		
Model Number	Output Setting	Nominal CCT	Light Output (lm)	Power Draw (W)	Efficiency (Lm/W)	Light Output (lm)	Power Draw (W)	Efficiency (Lm/W)
CLR43SUS9WH CLR43SLUS9WH	Standard	3000	806	7.0	115.2	594	6.9	86.5
		3500	818		116.9	615	6.7	91.6
		4000	829		118.4	622	6.6	93.9
		5000	830		118.6	600	6.8	88.4
	Medium	3000	1137	9.9	114.8	686	7.8	87.4
		3500	1164		117.6	710	7.7	92.6
		4000	1183		119.5	718	7.6	94.9
		5000	1174		118.6	693	7.8	89.3
	High	3000	1269	10.8	117.5	768	8.8	87.0
		3500	1300		120.4	795	8.6	92.2
		4000	1322		122.4	804	8.5	94.4
		5000	1309		121.2	776	8.7	88.9
CLR63SUS9WH CLR63SLUS9WH	Standard	3000	1238	12.8	96.7	639	6.9	92.1
		3500	1288		100.6	685	6.7	102.5
		4000	1314		102.7	703	6.7	105.5
		5000	1319		103.0	681	6.9	98.8
	Medium	3000	1654	17.5	94.5	798	8.9	89.6
		3500	1737		99.3	857	8.6	99.6
		4000	1782		101.8	879	8.6	102.6
		5000	1767		101.0	852	8.9	96.0
	High	3000	2119	24.0	88.3	1011	10.9	92.8
		3500	2132		88.8	1085	10.5	103.2
		4000	2250		93.8	1113	10.5	106.3
		5000	2273		94.7	1079	10.8	99.5
CLR83SUS9WH CLR83SLUS9WH	Standard	3000	2602	24.9	104.5	1017	11.6	87.3
		3500	2750		110.4	1042	11.4	91.1
		4000	2802		112.5	1044	11.5	91.0
		5000	2764		111.0	1026	11.6	88.4
	Medium	3000	2988	29.3	102.0	1525	15.5	98.3
		3500	3194		109.0	1564	15.3	102.5
		4000	3257		111.2	1566	15.3	102.4
		5000	3192		109.0	1539	15.5	99.5
	High	3000	3480	34.9	99.7	2135	21.3	100.0
		3500	3521		100.9	2189	21.0	104.4
		4000	3668		105.1	2193	21.0	104.2
		5000	3692		105.8	2154	21.3	101.3

CLRv3 Select

Commercial Recessed LED Downlight

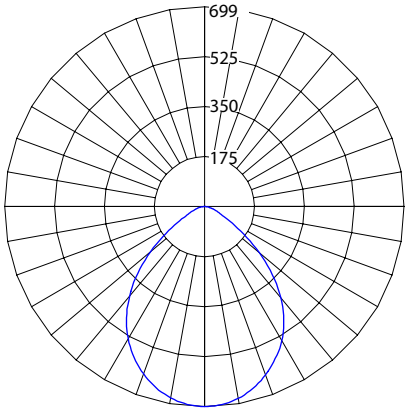
Photometric Data - Standard Output

CLR4 11W, 3000K

Input Voltage (VAC)	120-277
System Level Power (W)	10.8
Delivered Lumens (Lm)	1269
System Efficacy (Lm/W)	117.5
Correlated Color Temp (K)	3048
Color Rendering Index (CRI)	95 R9=64
Beam Angle	83.6
Spacing Criteria	1.16

Data Multiplier

	30K	35K	40K	50K
Low	0.635	0.645	0.653	0.654
Med	0.896	0.918	0.932	0.925
High	1.000	1.028	1.046	1.035



Intensity Summary (Candle Power)

Angle	Mean CP
0	699
5	696
15	663
25	594
35	480
45	312
55	150
65	73
75	37
85	10
90	0

Cone of Light Tabulation

Mounted height (Inches)	Footcandles Beam Center	Diameter (Feet)
4	43.7	7.2
6	19.4	10.7
8	10.9	14.3
10	7.0	17.9
12	4.8	21.5
14	3.5	25.0
16	2.7	28.6

Zonal Lumen Summary

Zone	Lumens	% of Luminaire
0-30	519	40.9%
0-40	806	63.6%
0-60	1156	91.1%
0-90	1269	100%
90-180	0	0%
0-180	1269	100%

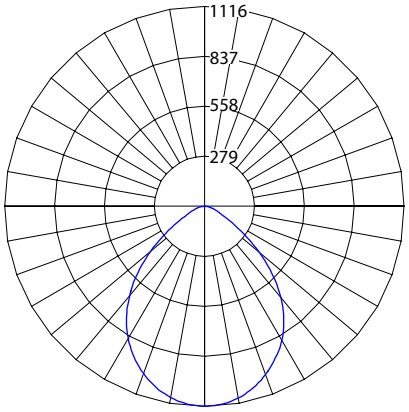
Data Multiplier applies to Lumens, Candle Power, Cone of Light, and Zonal Lumen Summary. See Performance Table for Lm, Watts and LPW values.

CLR6 24W, 3000K

Input Voltage (VAC)	120-277
System Level Power (W)	24.0
Delivered Lumens (Lm)	2119
System Efficacy (Lm/W)	88.3
Correlated Color Temp (K)	3000
Color Rendering Index (CRI)	93 R9=61
Beam Angle	87.9
Spacing Criteria	1.16

Data Multiplier

	30K	35K	40K	50K
Low	0.548	0.608	0.620	0.622
Med	0.780	0.820	0.841	0.834
High	1.000	1.006	1.062	1.073



Intensity Summary (Candle Power)

Angle	Mean CP
0	1116
5	1108
15	1045
25	930
35	759
45	525
55	260
65	99
75	45
85	11
90	0

Cone of Light Tabulation

Mounted height (Inches)	Footcandles Beam Center	Diameter (Feet)
4	69.7	7.7
6	30.9	11.6
8	17.4	15.4
10	11.1	19.3
12	7.7	23.1
14	5.6	27.0
16	4.3	30.8

Zonal Lumen Summary

Zone	Lumens	% of Luminaire
0-30	829	39.1%
0-40	1305	61.6%
0-60	1953	92.2%
0-90	2119	100%
90-180	0	0%
0-180	2119	100%

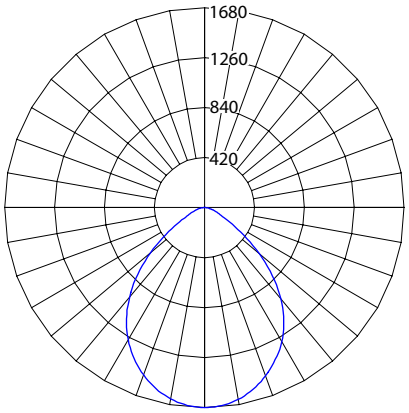
Data Multiplier applies to Lumens, Candle Power, Cone of Light, and Zonal Lumen Summary. See Performance Table for Lm, Watts and LPW values.

CLR8 34W, 3000K

Input Voltage (VAC)	120-277
System Level Power (W)	34.9
Delivered Lumens (Lm)	3480
System Efficacy (Lm/W)	99.7
Correlated Color Temp (K)	3065
Color Rendering Index (CRI)	93 R9=62
Beam Angle	93.8
Spacing Criteria	1.18

Data Multiplier

	30K	35K	40K	50K
Low	0.748	0.790	0.805	0.794
Med	0.859	0.918	0.936	0.917
High	1.000	1.012	1.054	1.061



Intensity Summary (Candle Power)

Angle	Mean CP
0	1678
5	1665
15	1574
25	1408
35	1183
45	895
55	551
65	208
75	61
85	15
90	0

Cone of Light Tabulation

Mounted height (Inches)	Footcandles Beam Center	Diameter (Feet)
4	104.9	8.5
6	46.6	12.8
8	26.1	17.1
10	16.7	21.4
12	11.6	25.6
14	8.5	29.9
16	6.5	34.2

Zonal Lumen Summary

Zone	Lumens	% of Luminaire
0-30	1252	36%
0-40	1992	57.2%
0-60	3178	91.3%
0-90	3480	100%
90-180	0	0%
0-180	3480	100%

Data Multiplier applies to Lumens, Candle Power, Cone of Light, and Zonal Lumen Summary. See Performance Table for Lm, Watts and LPW values.

CLRv3 Select

Commercial Recessed LED Downlight

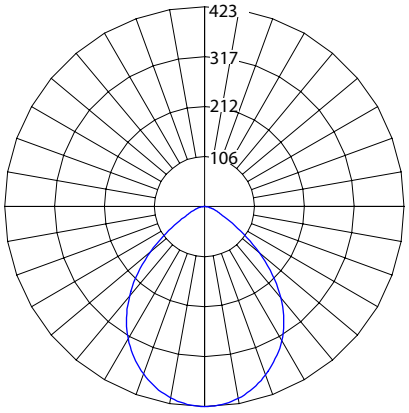
Photometric Data - Low Output

CLR4 9W, 3000K

Input Voltage (VAC)	120-277
System Level Power (W)	8.8
Delivered Lumens (Lm)	768
System Efficacy (Lm/W)	87.0
Correlated Color Temp (K)	3048
Color Rendering Index (CRI)	95 R9=64
Beam Angle	80.1
Spacing Criteria	1.16

Data Multiplier

	30K	35K	40K	50K
Low	0.773	0.801	0.810	0.781
Med	0.893	0.924	0.935	0.902
High	1.000	1.035	1.047	1.010



Intensity Summary (Candle Power)

Angle	Mean CP
0	423
5	421
15	401
25	359
35	290
45	189
55	91
65	44
75	22
85	6
90	0

Cone of Light Tabulation

Mounted height (Inches)	Footcandles Beam Center	Diameter (Feet)
4	26.4	12.8
6	11.7	19.2
8	6.6	25.6
10	4.2	32.0
12	2.9	38.4
14	2.1	44.8
16	1.6	51.2

Zonal Lumen Summary

Zone	Lumens	% of Luminaire
0-30	314	40.9%
0-40	488	63.6%
0-60	699	91.1%
0-90	768	100%
90-180	0	0%
0-180	768	100%

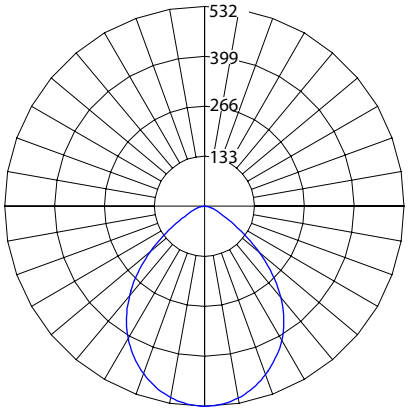
Data Multiplier applies to Lumens, Candle Power, Cone of Light, and Zonal Lumen Summary. See Performance Table for Lm, Watts and LPW values.

CLR6 11W, 3000K

Input Voltage (VAC)	120-277
System Level Power (W)	10.9
Delivered Lumens (Lm)	1011
System Efficacy (Lm/W)	92.8
Correlated Color Temp (K)	3022
Color Rendering Index (CRI)	93 R9=61
Beam Angle	89.0
Spacing Criteria	1.16

Data Multiplier

	30K	35K	40K	50K
Low	0.632	0.678	0.695	0.674
Med	0.789	0.848	0.869	0.843
High	1.000	1.073	1.101	1.067



Intensity Summary (Candle Power)

Angle	Mean CP
0	532
5	528
15	499
25	444
35	362
45	250
55	124
65	47
75	22
85	5
90	0

Cone of Light Tabulation

Mounted height (Inches)	Footcandles Beam Center	Diameter (Feet)
4	33.3	7.7
6	14.8	11.6
8	8.3	15.4
10	5.3	19.3
12	3.7	23.1
14	2.7	27.0
16	2.0	30.8

Zonal Lumen Summary

Zone	Lumens	% of Luminaire
0-30	395	39.1%
0-40	623	61.6%
0-60	932	92.2%
0-90	1011	100%
90-180	0	0%
0-180	1011	100%

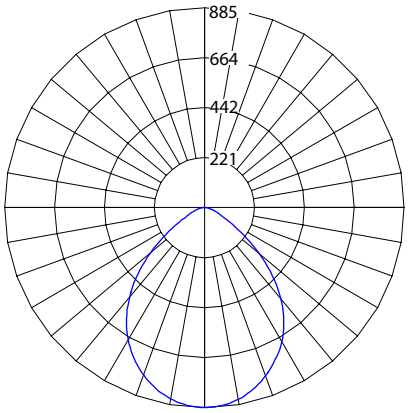
Data Multiplier applies to Lumens, Candle Power, Cone of Light, and Zonal Lumen Summary. See Performance Table for Lm, Watts and LPW values.

CLR8 22W, 3000K

Input Voltage (VAC)	120-277
System Level Power (W)	21.3
Delivered Lumens (Lm)	2154
System Efficacy (Lm/W)	101.3
Correlated Color Temp (K)	3065
Color Rendering Index (CRI)	93 R9=62
Beam Angle	91.3
Spacing Criteria	1.18

Data Multiplier

	30K	35K	40K	50K
Low	0.476	0.488	0.489	0.481
Med	0.714	0.733	0.733	0.721
High	1.000	1.025	1.027	1.009



Intensity Summary (Candle Power)

Angle	Mean CP
0	884
5	877
15	829
25	742
35	623
45	472
55	290
65	110
75	32
85	8
90	0

Cone of Light Tabulation

Mounted height (Inches)	Footcandles Beam Center	Diameter (Feet)
4	55.3	8.5
6	24.5	12.8
8	13.8	17.1
10	8.8	21.4
12	6.1	25.6
14	4.5	29.9
16	3.4	34.2

Zonal Lumen Summary

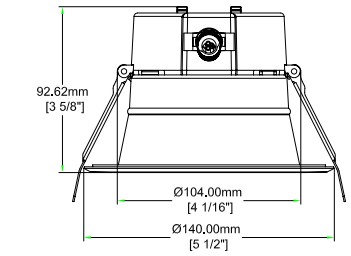
Zone	Lumens	% of Luminaire
0-30	659	36%
0-40	1049	57.2%
0-60	1674	91.3%
0-90	1833	100%
90-180	0	0%
0-180	1833	100%

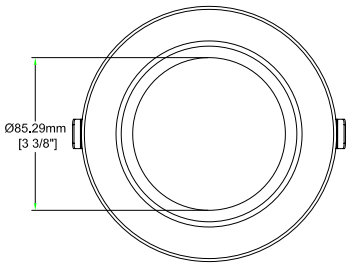
Data Multiplier applies to Lumens, Candle Power, Cone of Light, and Zonal Lumen Summary. See Performance Table for Lm, Watts and LPW values.

CLRv3 Select

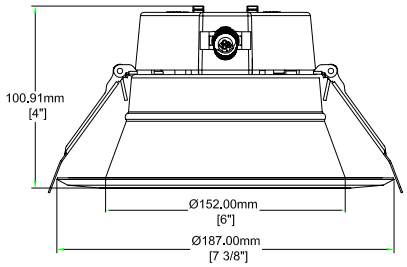
Commercial Recessed LED Downlight

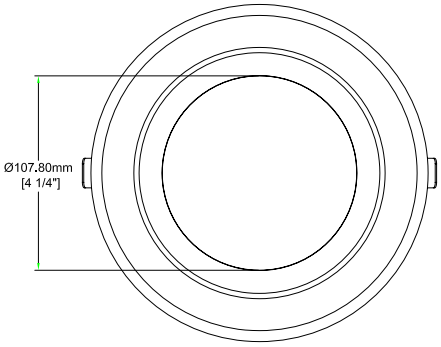
Dimensions



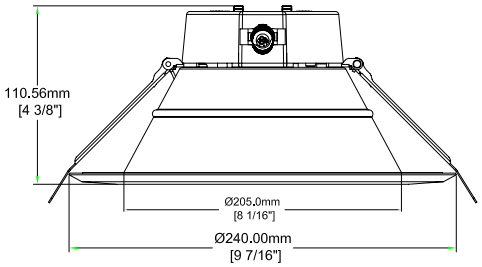


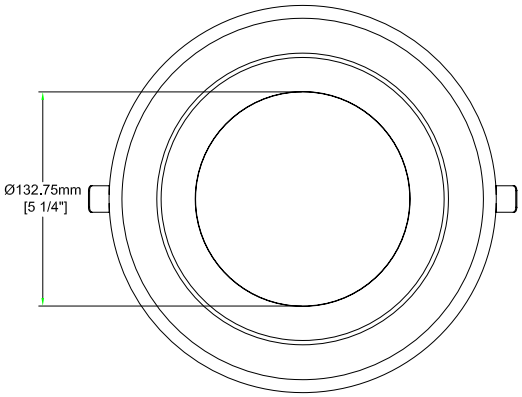
CLR4v3





CLR6v3





CLR8v3

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

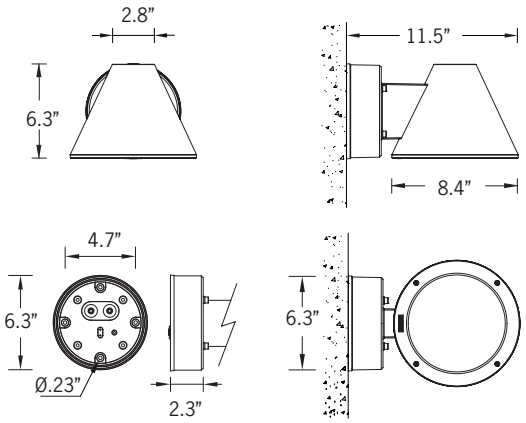
NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

UCI-30131

Cinati Type I, II, III & IV Surface



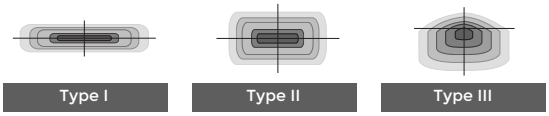
18w LED 2309 Lumens | 30w LED 3848 Lumens
21w COB 1984 Lumens
IP65 • Suitable For Wet Locations
IK08 • Impact Resistant (Vandal Resistant)
Weight 8 lbs



Mounting Detail

microVOS TECHNOLOGY

Ligman’s micro Variable Optical System provides the ability to interchange, mix & rotate optics to provide specific light distributions for optimized spacing and uniformity.

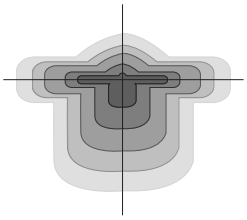


Type I | Type II | Type III



Type IV | Type V

The variable optic system allows for the designer to create hybrid distributions for precise lighting requirements.



HYBRID
TYPE I & TYPE IV

Construction

Aluminum
Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength , clean detailed product lines and excellent heat dissipation.

Pre paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket
Provided with special injection molded “fit for purpose” long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management
LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

BUG Rating
B2 - U0 - G0

Finishing
All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint
UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes
The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it’s almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process
After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits
• Resistance to salt-acid room, accelerated aging
• Boiling water, lime and condensed water resistant
• Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
• Super durable (UV restant)
• TGIC free (non-toxic)

Hardware
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens
Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED
Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life
L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

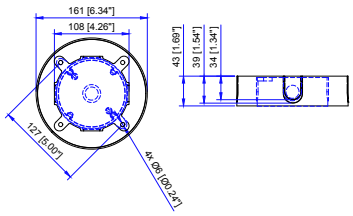
Cone-shaped wall-mounted downlight fixtures. Simple clean form hiding multiple high-performance glare free optic choices.

A cone shaped wall wash luminaire. Suitable for outdoor up, or down light applications. This luminaire is provided with precision optics and high powered LEDs, to provide narrow, medium, wide and very wide distributions. The vandal resistant tempered glass is available in clear or lightly frosted versions.

This product is suitable for commercial, as well as residential applications and with the selection of optics available can provide an excellent lighting solution. Integral electronic driver. Fixture is mounted over a 3” octagonal junction box.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected and luminaire fix mounted (+/- 15˚ allowable to permit leveling).

Additional Options (Consult Factory For Pricing)



SCBT
Surface Conduit Box Trim

NOTE: This trim covers a shallow single gang, surface mount junction box [Provided by contractor]
Example: Hubbell: - 5322-0 - 1-Gang Weatherproof Box, Five 1/2” in. Threaded Outlets - or - 5332-0 - 1-Gang Weatherproof Box, Five 3/4 in. Threaded Outlets



Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

UCI-30131

Cinati Type I, II, III & IV Surface

microVOS TECHNOLOGY

LIGMAN LIGHTING USA

PROJECT		DATE	
QUANTITY		TYPE		NOTE	

ORDERING EXAMPLE || UCI - 30131 - 18w - T2 - W30 - 02 - 120/277v - Options

UCI-30131	LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE
	18w LED 2309 Lumens	**For 18w and 30w LED Only** T1 - Type I Distribution T2 - Type II Distribution	W27 - 2700K W30 - 3000K W35 - 3500K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003	120/277v Other - Specify
	30w LED 3848 Lumens	T3 - Type III Distribution T4 - Type IV Distribution	W40 - 4000K	04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	
	21w COB 1984 Lumens	**For 21w COB Only** N - Narrow 8˚ M - Medium 16˚ W - Wide 36˚ VW - Very Wide 70˚			

INSPIRED BY NATURE FINISHES

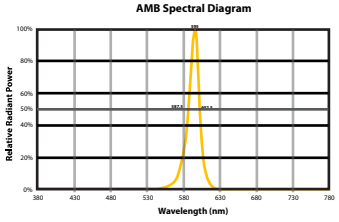
- SW01 - OAK FINISH
- SW02 - WALNUT FINISH
- SW03- PINE FINISH
- DF - DOUGLAS FIR FINISH
- CW - CHERRY WOOD FINISH
- NW - NATIONAL WALNUT FINISH
- SU01 - CONCRETE FINISH
- SU02 - SOFTSCAPE FINISH
- SU03 - STONE FINISH
- SU04 - CORTEN FINISH

THERE IS AN ADDITIONAL COST FOR THESE FINISHES

ADDITIONAL OPTIONS

NAT - Natatorium Rated
DIM - 0-10v Dimming
SCBT - Surface Conduit Box Trim
F - Frosted Lens
AMB - Turtle Friendly Amber LED

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT



Narrow-Spectrum Amber LEDs
Peak wavelength between 585 & 595 nanometers and a full width of 50% power no greater than 15 nanometers.

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times





Example: Inspired by Nature Finish

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

Intertek

Cinati Product Family



Cinati 1

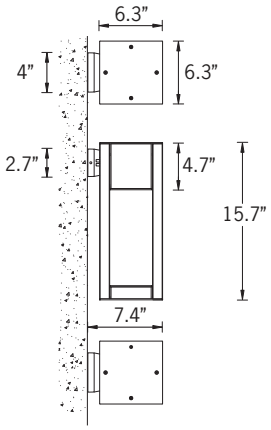
- UCI-30131-21w-1984lm
- UCI-30131-18w-2309lm
- UCI-30131-30w-3848lm

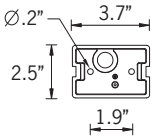
UVA-30001
Vancouver 24 Surface

LIGMAN LIGHTING USA



8w COB 331 Lumens
IP65 • Suitable For Wet Locations
IK08 • Impact Resistant
Weight 13.6 lbs





Mounting Detail



Construction

Aluminum
Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength , clean detailed product lines and excellent heat dissipation.

Pre paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket
Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management
LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

BUG Rating
Contact Factory

Finishing
All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint
UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes
The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process
After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits
• Resistance to salt-acid room, accelerated aging
• Boiling water, lime and condensed water resistant
• Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
• Super durable (UV resistant)
• TGIC free (non-toxic)

Hardware
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens
Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED
Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life
L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

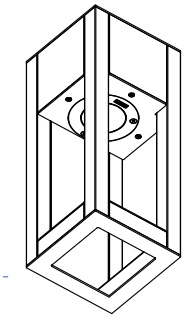
Contemporary urban lighting furniture.
Open-sided, three lattice pattern options or your bespoke design.

A stylish Dark Sky Compliant square high performance wall mounted luminaire with downward light distribution using LED lamps. This light column offers optimal visual comfort through glare control by utilizing a controlled optics designed by Ligman. These luminaires have a square design providing a unique wide light distribution, offering an architecturally appealing shadow pattern on the mounted surface. The internal sides of the supporting pillars are accented by light from the LED.

Color temperature 2700K, 3000K, 3500K and 4000K. The minimalistic shape provides distinctive lighting effects by night and decorative urban effect during the day. Suitable for pedestrian areas, precincts, building surrounds, shopping centers, squares and parks. The Vancouver comes standard with a unique waterproof internal driver housing compartment that is situated at the top of the pole to stop water and dust from entering the electrical components. This fixture is supplied completely wired with powercord and waterproof gland from the driver enclosure to the base of the column to ensure quick trouble-free installation.

Custom heights are available, please specify in options. Designed to complement the Vancouver Light Column and bollard.

Additional Options (Consult Factory For Pricing)



OB
Open Bottom

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

UVA-30001

Vancouver 24 Surface

LIGMAN LIGHTING USA

PROJECT		DATE	
QUANTITY		TYPE		NOTE	

ORDERING EXAMPLE || UVA - 30001 - 8w - W30 - 02 - 120/277v - Options

UVA-30001

LAMP
8w COB
331 Lumens

LED COLOR
W27 - 2700K
W30 - 3000K
W35 - 3500K
W40 - 4000K

FINISH COLOR
01 - BLACK RAL 9011
02 - DARK GREY RAL 7043
03 - WHITE RAL 9003
04 - METALLIC SILVER RAL 9006
05 - MATTE SILVER RAL 9006
06 - LIGMAN BRONZE
07 - CUSTOM RAL

VOLTAGE
120/277v
Other - Specify

ADDITIONAL OPTIONS
NAT - Natatorium Rated
F - Frosted Lens
OB - Open Bottom
HGT - Custom Height [Specify]

INSPIRED BY NATURE FINISHES
SW01 - OAK FINISH
SW02 - WALNUT FINISH
SW03- PINE FINISH
DF - DOUGLAS FIR FINISH
CW - CHERRY WOOD FINISH
NW - NATIONAL WALNUT FINISH
SU01 - CONCRETE FINISH
SU02 - SOFTSCAPE FINISH
SU03 - STONE FINISH
SU04 - CORTEN FINISH

THERE IS AN ADDITIONAL COST FOR THESE FINISHES

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times

Oak
Cherry
Beech
Carbon
Walnut
Chestnut
Bamboo
Galvanized
Pine
Mahogany
Birch
Steel

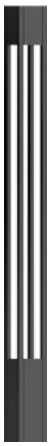


Example: Inspired by Nature Finish

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

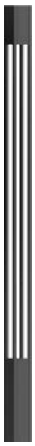
Intertek

Vancouver Product Family



Vancouver 1

- UVA-20001-40w-2969lm [9.4"x9.4"-14.7']



Vancouver 2

- UVA-20011-20w-1414lm [6.3"x6.3"-9.8']



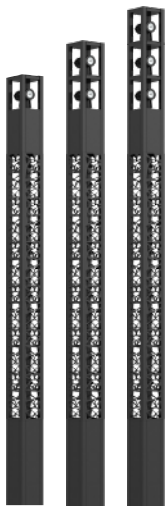
Vancouver 3

- UVA-10001-21w-1270lm [9.4"x9.4"-39.3"]



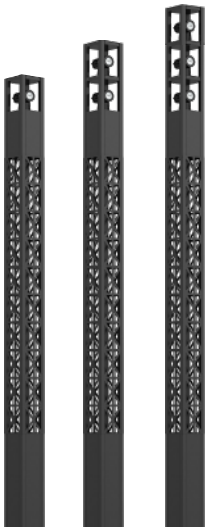
Vancouver 4

- UVA-10011-15w-837lm [6.3"x6.3"-39.3"]



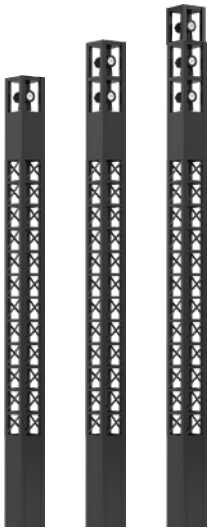
Vancouver 5

- UVA-20021-39/21w-1336/1673lm [9.4"x9.4"-13.3']
- UVA-20022-39/2x21w-1336/2x1673lm [9.4"x9.4"-14.5']
- UVA-20023-39/3x21w-1336/3x1673lm [9.4"x9.4"-15.7']



Vancouver 6

- UVA-20031-39/21w-1167/1673lm [9.4"x9.4"-13.3']
- UVA-20032-39/2x21w-1167/2x1673lm [9.4"x9.4"-14.5']
- UVA-20033-39/3x21w-1167/3x1673lm [9.4"x9.4"-15.7']



Vancouver 7

- UVA-20041-39/21w-1670/1673lm [9.4"x9.4"-13.3']
- UVA-20042-39/2x21w-1670/2x1673lm [9.4"x9.4"-14.5']
- UVA-20043-39/3x21w-1670/3x1673lm [9.4"x9.4"-15.7']



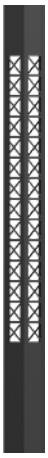
Vancouver 8

- UVA-20051-40w-1336lm [9.4"x9.4"-12.1']



Vancouver 9

- UVA-20061-40w-1167lm [9.4"x9.4"-12.1']



Vancouver 10

- UVA-20071-40w-1670lm [9.4"x9.4"-12.1']



Vancouver 11

- UVA-10021-21w-570lm [9.4"x9.4"-39.3']



Vancouver 12

- UVA-10031-21w-490lm [9.4"x9.4"-39.3']



Vancouver 13

- UVA-10041-21w-704lm [9.4"x9.4"-39.3']



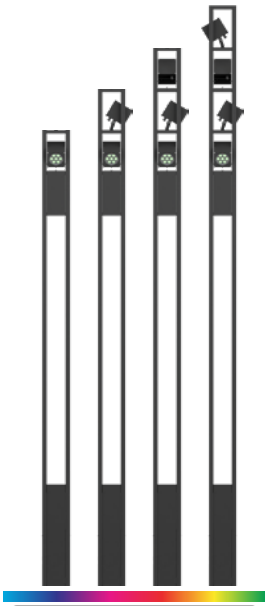
Vancouver 14

- UVA-70001-8w-331lm [6.3"x6.3"-15.7"]



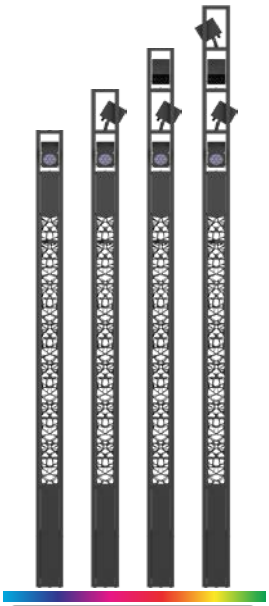
Vancouver 15

- UVA-70011-21w-815lm [9.4"x9.4"-15.7"]



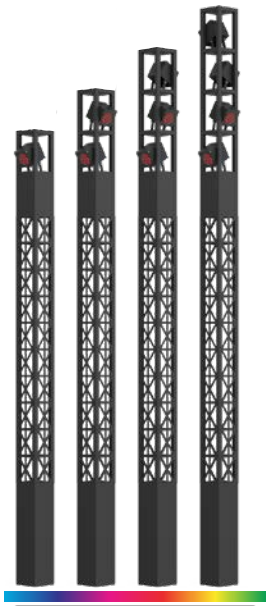
Vancouver 16

- UVA-20111-33w-1429lm [9.4"x9.4"-13.3']
- UVA-20112-66w-4287lm [9.4"x9.4"-14.5']
- UVA-20113-99w-5716lm [9.4"x9.4"-15.7']
- UVA-20114-132w-7145lm [9.4"x9.4"-17']



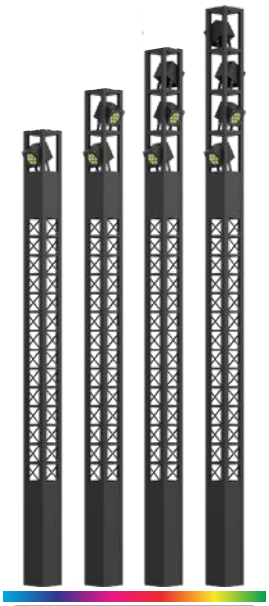
Vancouver 17

- UVA-20121-33w-2858 lm [9.4"x9.4"-13.3']
- UVA-20122-66w-4287lm [9.4"x9.4"-14.5']
- UVA-20123-99w-5716lm [9.4"x9.4"-15.7']
- UVA-20124-132w-7145lm [9.4"x9.4"-17']



Vancouver 18

- UVA-20131-33w-2858lm [9.4"x9.4"-13.3']
- UVA-201312-66w-4287lm [9.4"x9.4"-14.5']
- UVA-20133-99w-5716lm [9.4"x9.4"-15.7']
- UVA-20134-132w-7145lm [9.4"x9.4"-17']



Vancouver 19

- UVA-20141-33w-2858lm [9.4"x9.4"-13.3']
- UVA-20142-66w-4287lm [9.4"x9.4"-14.5']
- UVA-20143-99w-5716lm [9.4"x9.4"-15.7']
- UVA-20144-132w-7145lm [9.4"x9.4"-17']



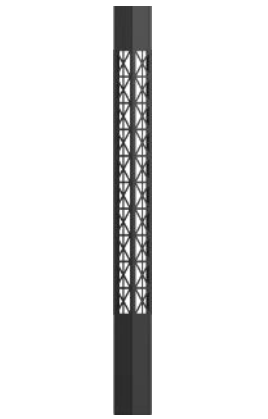
Vancouver 20

- UVA-20151-33w-1429lm [9.4"x9.4"-12.1']



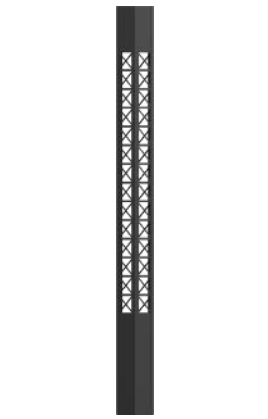
Vancouver 21

- UVA-20161-33w-1429lm [9.4"x9.4"-12.1']



Vancouver 22

- UVA-20171-33w-1429lm [9.4"x9.4"-12.1']



Vancouver 23

- UVA-20181-33w-1429lm [9.4"x9.4"-12.1']



Vancouver 24

- UVA-30001-8w-331lm [6.3"x6.3"-15.7"]



Vancouver 25

- UVA-30011-21w-570lm [6.3"x6.3"-23.6"]



Vancouver 26

- UVA-30012-21w-490lm [6.3"x6.3"-23.6"]



Vancouver 27

- UVA-30013-21w-740lm [6.3"x6.3"-23.6"]



Vancouver 28

- UVA-30021-39w-1336lm [9.4"x9.4"-39.3"]
- UVA-30031-33w RGBW-429lm [9.4"x9.4"-39.3"]



Vancouver 29

- UVA-30022-39w-1167lm [9.4"x9.4"-39.3"]
- UVA-30032-33w RGBW-1158lm [9.4"x9.4"-39.3"]



Vancouver 30

- UVA-30023-39w-1670lm [9.4"x9.4"-39.3"]
- UVA-30033-33w RGBW-439lm [9.4"x9.4"-39.3"]



Vancouver 31

• UVA-10101-7w-200lm [4.7" x 4.7" - 23.6"]



Vancouver 33

• UVA-10051-15w-1083lm [6.3" x 6.3" - 39.3"]



Vancouver 34

• UVA-10061-21w-1571lm [9.4" x 9.4" - 39.3"]



Vancouver 35

• UVA-10071-21w-1571lm [9.4" x 9.4" - 39.3"]



Vancouver 36

• UVA-10072-21w-1571lm [9.4" x 9.4" - 39.3"]



Vancouver 37

• UVA-10073-21w-1571lm [9.4" x 9.4" - 39.3"]



Vancouver 38

• UVA-10141-8w-95lm [4.7" x 4.7" - 23.6"]



Vancouver 39

• UVA-10151-15w-418lm [6.3" x 6.3" - 39.3"]



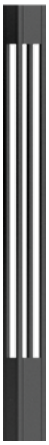
Vancouver 40

• UVA-10161-21w-635lm [9.4" x 9.4" - 39.3"]



Vancouver 41

• UVA-20191-20w-1326lm [6.3" x 6.3" - 9.8']



Vancouver 42

• UVA-20201-40w-2969 lm [9.4" x 9.4" - 14.7']



Vancouver 43

• UVA-20211-39/21w-2781/1688lm [9.4"x9.4"-13.3']



Vancouver 44

• UVA-20212-39/2x21w-2781/2x1688lm [9.4"x9.4"-14.5']



Vancouver 45

• UVA-20213-39/3x21w-2781/3x1688lm [9.4"x9.4"-15.7']



Vancouver 46

• UVA-20221-39/21w-4469/1688lm [9.4"x9.4"-13.3']



Vancouver 47

• UVA-20221-39/2x21w-4469/2x1688lm [9.4"x9.4"-14.5']



Vancouver 48

• UVA-20223-39/3x21w-4469/3x1688lm [9.4"x9.4"-15.7']



Vancouver 49

• UVA-20231-39/21w-2781/1688lm [9.4"x9.4"-13.3']



Vancouver 50

• UVA-20232-39/2x21w-2781/2x1688lm [9.4"x9.4"-14.5']



Vancouver 51

• UVA-20233-39/2x21w-2781/2x1688lm [9.4"x9.4"-15.7']



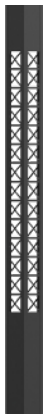
Vancouver 52

• UVA-20241-40w-2781lm [9.4"x9.4"-12']



Vancouver 53

• UVA-20242-40w-2781lm [9.4"x9.4"-12']



Vancouver 54

• UVA-20243-40w-2781lm [9.4"x9.4"-12']



Vancouver 55

• UVA-20251-21w-710lm [6.3"x6.3"-9.8']



Vancouver 56

• UVA-20261-40w-1485lm [9.4"x9.4"-14.7']



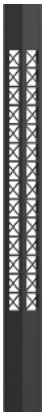
Vancouver 60

• UVA-20281-76w-4140lm [9.4"x9.4"-12']



Vancouver 61

• UVA-20282-76w-4140lm [9.4"x9.4"-12']



Vancouver 62

• UVA-20283-76w-4140lm [9.4"x9.4"-12']



Vancouver 63

• UVA-70021-13w-437lm [6.3"x6.3"-15.7"]



Vancouver 64

• UVA-70031-20w-1362lm [9.4"x9.4"-15.7"]



Vancouver 65

- UVA-70041-8w-165lm [6.3"x6.3"-15.7"]



Vancouver 66

- UVA-70051-21w-410lm [9.4"x9.4"-15.7"]



Vancouver 67

- UVA-30041-20w-1326lm [6.3."x6.3"-23.6"]



Vancouver 68

- UVA-30042-20w-1326lm [6.3."x6.3"-23.6"]



Vancouver 69

- UVA-30043-20w-1326lm [6.3."x6.3"-23.6"]



Vancouver 70

- UVA-30051-40w-2781lm [9.4"x9.4"-39.3"]



Vancouver 71

- UVA-30052-40w-2781lm [9.4"x9.4"-39.3"]



Vancouver 72

- UVA-30053-40w-2781lm [9.4"x9.4"-39.3"]

361 Hanover Photo Page












Muster
Point
191
HILL
STREET
Portsmouth
NH

MEMORANDUM

TO: 361 Hanover Steam Factory, LLC
c/o Mr. Shayne Forsley
Hampshire Development Corp.
41 Industrial Drive #20
Exeter, NH 03833

FROM: Mr. Jeffrey S. Dirk, P.E.*, PTOE, FITE
Managing Partner *and*
Mr. Zachary Besse
Transportation Engineer
Vanasse & Associates, Inc.
35 New England Business Center Drive
Suite 140
Andover, MA 01810-1066
(978) 269-6830
jdirk@rdva.com
**Professional Engineer in CT, MA, ME, NH, RI and VA*

DATE: March 7, 2025
Updated August 7, 2025

RE: 10068

SUBJECT: Traffic Impact Study
Kearsarge Mill Residential Development – 361 Hanover Street
Portsmouth, New Hampshire

Vanasse & Associates, Inc. (VAI) has conducted a Traffic Impact Study (TIS) in order to determine the potential impacts on the transportation infrastructure associated with the proposed redevelopment of the Kearsarge Mill located at 361 Hanover Street in Portsmouth, New Hampshire, to accommodate a multifamily residential development (hereafter referred to as the "Project"). This study has been completed in accordance with the New Hampshire Department of Transportation (NHDOT) guidelines for the preparation of a TIS as defined in the Driveway Permit Policy and evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Hanover Street and Bridge Street. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineer (ITE),[1] the Project is expected to generate approximately 332 vehicle trips on an average weekday (two-way, 24-hour volume), with approximately 35 vehicle trips expected during the weekday morning peak-hour and 38 vehicle trips expected during the weekday evening peak-hour;

2. The Project will not have a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with no (0) changes in level of service (LOS) and all movements at the study area intersections shown to continue to operate at LOS D or better, where an LOS "D" or better is defined as "acceptable" operating conditions. Project-related impacts were generally defined as an increase in average motorist delay of less than a second that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle, but in most scenarios, no increased queuing;

[1] *Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.

3. Under 2026 Opening-Year Build and 2036 Build conditions, all movements exiting the Project site driveway to Hanover Street were shown to operate at LOS A with negligible vehicle queuing. All movements along Hanover Street approaching the Project site driveway were shown to operate at LOS A, also with negligible vehicle queuing; and

4. Lines of sight at the intersection of the Project site driveway with Hanover Street were found to exceed the recommended minimum distance for the intersection to operate in a safe manner based on the appropriate speed.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations defined herein.

The following details our assessment of the Project.

PROJECT DESCRIPTION

The Project will entail the renovation and expansion of the Kearsarge Mill building located at 361 Hanover Street in Portsmouth, New Hampshire, and the construction of four new multifamily residential buildings that will front along Hanover Street. When complete, up to 40 residential units will be provided and dispersed between five buildings as follows: the existing four-story Kearsarge Mill building (Building "A") will be renovated and expanded to accommodate 26 residential units; three new three-story buildings (Buildings "B", "C", and "D") that will accommodate two (2) residential units each; and one new three-story building (Building "E") that will accommodate eight (8) residential units. The Project site encompasses approximately 1.0± acre of land bounded by Foundry Place to the north; Hanover Street to the south; residential properties to the east; and Rock Street and the Rock Street Park to the west. The Project site is currently improved with the Kearsarge Mill building and supporting parking and appurtenances. Figure 1 depicts the Project site location in relation to the existing roadway network.

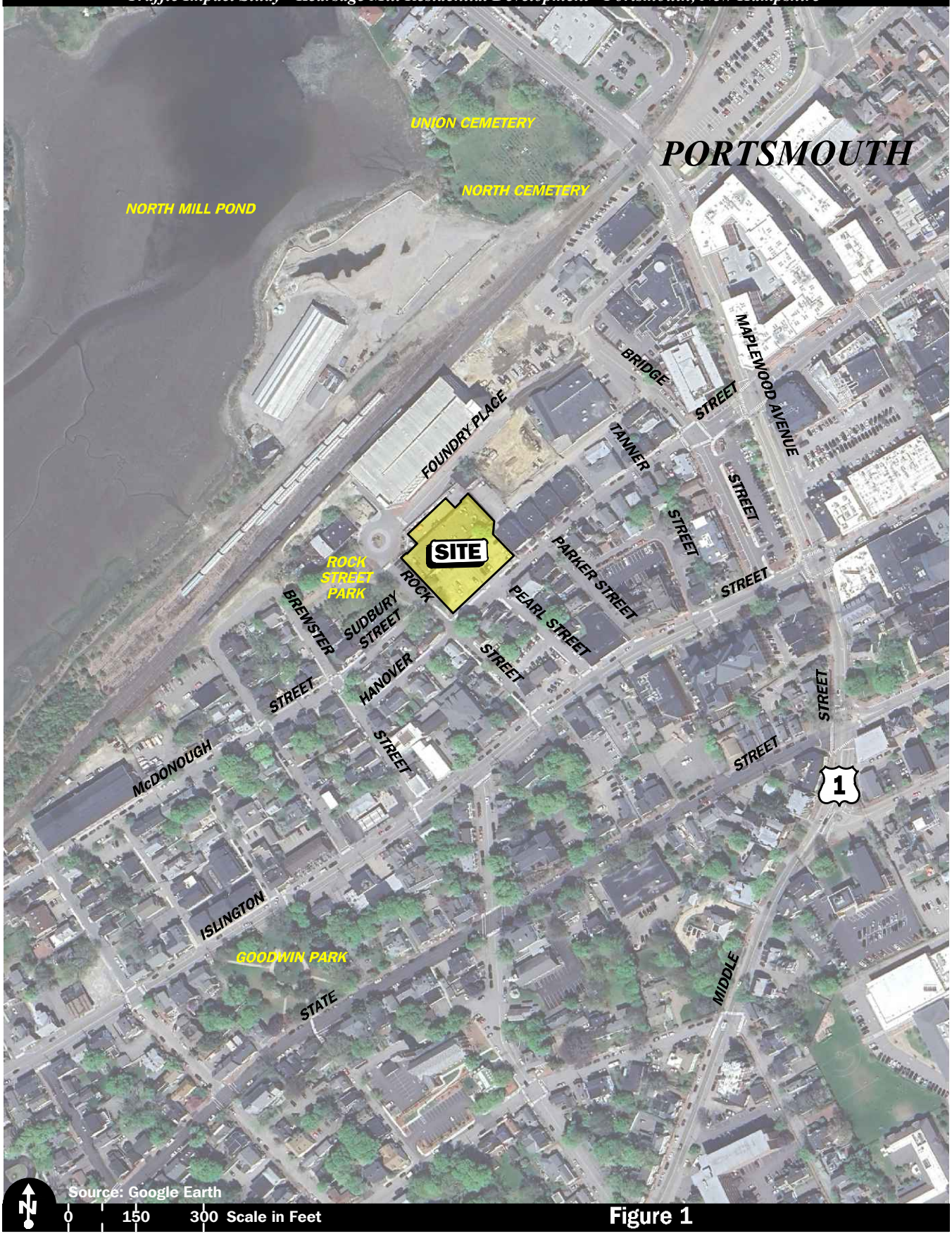
Access to the Project site will be provided by way of a driveway that will intersect the north side of Hanover Street opposite Pearl Street at the approximate location of the existing driveway that serves the Project site. On-site parking will be provided for 66 vehicles, consisting of covered parking that is integrated into the existing and proposed buildings.

STUDY METHODOLOGY

This study was prepared in consultation with the City of Portsmouth and NHDOT; was performed in accordance with the NHDOT guidelines for the preparation of TISs as defined in the Driveway Permit Policy and the standards of the Traffic Engineering and Transportation Planning Professions for the preparation of such reports, and is responsive to the comments from the City of Portsmouth Site Plan Review Technical Advisory Committee (TAC); and was conducted in three distinct stages.

The first stage of the study involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics, pedestrian and bicycle facilities, and public transportation services; observations of traffic flow; and the collection of daily and peak-period traffic counts.

In the second stage of the study, future conditions on the transportation system were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future demands on the transportation system that are expected due to growth independent of the Project. In accordance with



Source: Google Earth

Figure 1

Site Location Map

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NHDOT guidelines for the preparation of TISs, four future conditions were evaluated: 1) 2026 No-Build conditions *without* the Project; 2) 2026 Opening-Year Build conditions *with* the Project; 3) 2036 No-Build conditions *without* the Project; and 4) 2036 Build conditions (ten-year projection from opening-year) *with* the Project. The analyses conducted in stage two of the study identify existing or projected future roadway capacity and traffic safety issues.

The third stage of the study presents and evaluates measures to address roadway and intersection capacity issues and safety concerns, if any, identified in stages one and two of the study.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in August 2024. The field investigation consisted of an inventory of existing roadway geometrics, pedestrian and bicycle facilities, public transportation services, traffic volumes, and operating characteristics, as well as posted speed limits and land use information within the study area. The study area that was assessed for the Project consisted of Hanover Street, Rock Street, Pearl Street, Bridge Street, and Foundry Place, and the following intersections: Hanover Street at Rock Street, Hanover Street at Pearl Street, Hanover Street at Bridge Street, and Bridge Street at Foundry Place. The following describes the study area roadways and intersections.

Roadways

Hanover Street

Hanover Street is a Tier 5, Class 5, local roadway that is under City jurisdiction and traverses the study area in a general west-east direction, conveying traffic in a one-way eastbound direction between Pearl Street and Bridge Street and one-way westbound between Rock Street and Brewster Street, with two-way traffic between Pearl Street and Rock Street. The one-way roadway segments vary from 30 feet in width with on-street parking along both sides to 18 feet with on-street parking along one side. The two-way segment is approximately 27 feet in width with on-street parking along one side. A posted speed limit is not provided, and, as such, the statutory speed limit pursuant to RSA 265:60 is 30 miles per hour (mph) in a residential district.[2] Sidewalks are provided along both sides of the roadway within the study area. Illumination is provided by way of streetlights mounted on wooden poles. Land use along Hanover Street in the vicinity of the Project site consists of residential and commercial properties.

Rock Street

Rock Street is a Tier 5, Class 5, local roadway under City jurisdiction that traverses the study area in a general northwest-southeast direction, conveying one-way northbound traffic between Islington Street and Hanover Street and two-way traffic between Hanover Street and Sudbury Street. The one-way roadway segment of roadway between Islington Street and Hanover Street is approximately 18 feet in width with on-street parking along one side, with the two-way segment north of Hanover Street varying from 16 to 20 feet in width. A posted speed limit is not provided, and, as such, the statutory speed limit pursuant to RSA 265:60 is 30 mph in a residential district. Sidewalks are provided along both sides of the roadway.

[2]RSA 265:60 defines the "reasonable and prudent standard" as follows: "No person shall drive a vehicle on a way at a speed greater than is reasonable and prudent under the conditions and having regard to the actual and potential hazards then existing. In every event speed shall be so controlled as may be necessary to avoid colliding with any person, vehicle, or other conveyance on or entering the way in compliance with the legal requirements and the duty of all persons to use due care."

Illumination is provided by way of streetlights mounted on wooden poles. Land use along Rock Street in the vicinity of the Project site consists of residential and commercial properties, as well as Rock Street Park.

Pearl Street

Pearl Street is a Tier 5, Class 5, local roadway under City jurisdiction that traverses the study area in a general northwest-southeast direction and accommodates two-way travel between Islington Street and Hanover Street. Within the study area, Pearl Street provides an approximately 28-foot wide traveled-way with parking along one side and a faded double-yellow centerline approaching Hanover Street. A posted speed limit is not provided, and, as such, the statutory speed limit pursuant to RSA 265:60 is 30 mph in a residential district. Sidewalks are provided along both sides of the roadway. Illumination is provided by way of streetlights mounted on wooden poles. Land use along Pearl Street in the vicinity of the Project site consists of residential and commercial properties.

Bridge Street

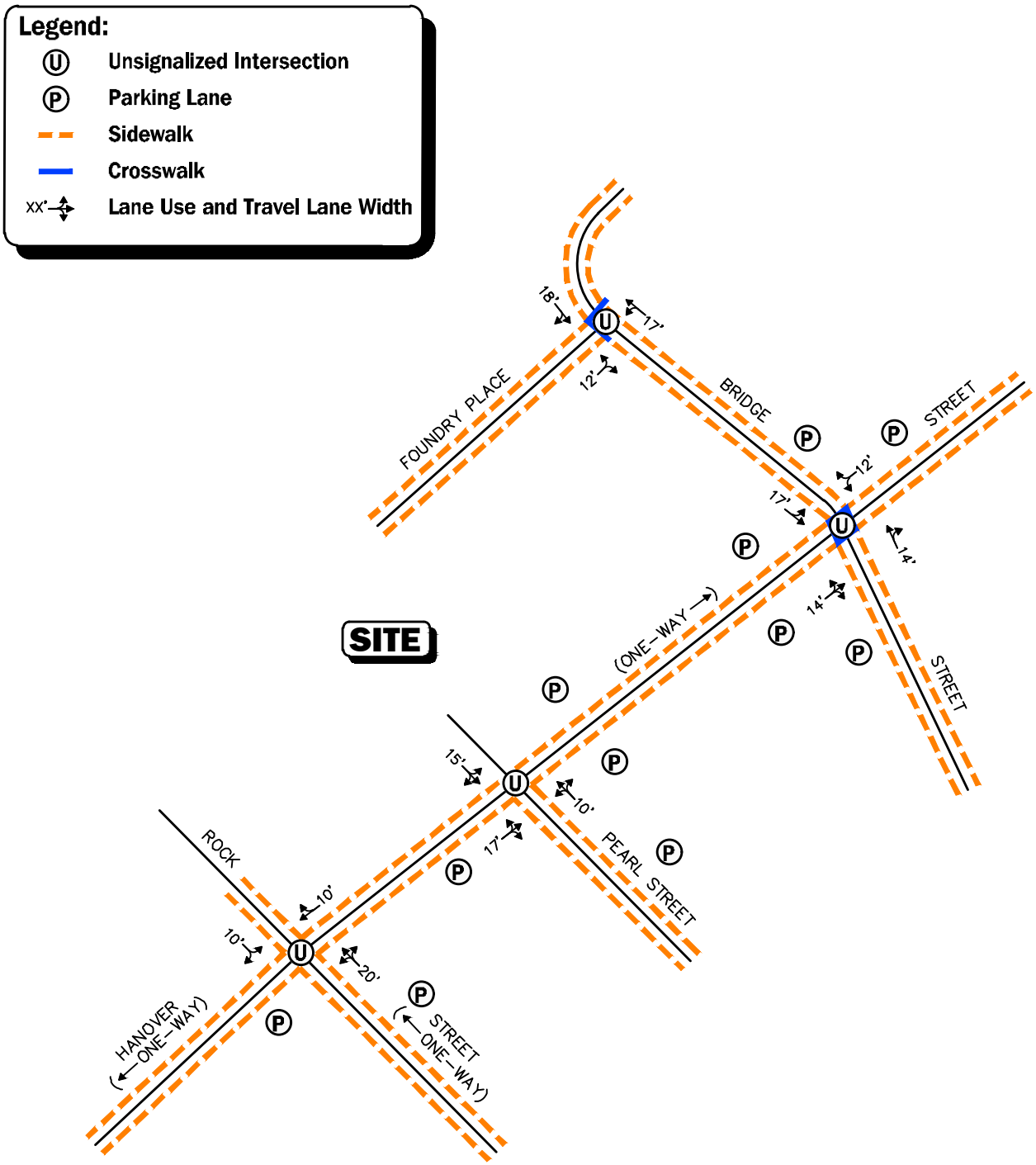
Bridge Street is a Tier 5, Class 5, local roadway under City jurisdiction that traverses the study area in a general northwest-southeast direction and conveys two-way traffic between Islington Street and Maplewood Avenue. Within the study area, Bridge Street provides two 10- to 19-foot-wide travel lanes separated by a double-yellow centerline with no marked shoulders and on-street parking along one or both sides of the roadway, as defined by pavement markings. A posted speed limit is not provided, and, as such, the statutory speed limit pursuant to RSA 265:60 is 30 mph in a residential district. Sidewalks are provided along both sides of the road within the study area. Illumination is provided by way of streetlights mounted on wooden poles, steel poles, and ornamental lighting fixtures. Land use along Bridge Street in the vicinity of the Project site consists of residential and commercial properties.

Foundry Place

Foundry Place is a Tier 5, Class 5, local roadway under City jurisdiction that traverses the study area in a general northeast-southwest direction and conveys two-way traffic between Bridge Street and its terminus in a cul-de-sac approximately 600 feet southwest of Bridge Street. Within the study area, Foundry Place provides two 12-foot-wide travel lanes separated by a double-yellow centerline with no marked shoulders. A posted speed limit is not provided, and, as such, the statutory speed limit pursuant to RSA 265:60 is 30 mph in a residential district. A sidewalk is provided along the north side of the roadway within the study area. Illumination is provided by ornamental lighting fixtures. Land use along Foundry Place in the vicinity of the Project site consists of residential and commercial properties, Rock Street Park, and the Foundry Place garage. Direct access to the Project will not be provided from Foundry Place.

Intersections

Table 1 and Figure 2 summarize existing lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersections as observed in August 2024.



Not To Scale

Figure 2

Existing Intersection Lane Use, Travel Lane Width, and Pedestrian Facilities

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Table 1
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type[a]	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Hanover St./ Rock St.	S	1 general-purpose lane provided on Hanover St. westbound and Rock St. southbound; Hanover St. west leg is one-way westbound; Rock St. south leg is one-way northbound; on-street parking along one or both sides of Hanover St. and Rock St. south leg	No	Yes; sidewalks along both sides of the intersecting roadways	Yes; shared traveled-way[b]
Hanover St./ Pearl St	S	1 general-purpose lane provided on Hanover St. west leg and on Pearl St.; Hanover St. east leg is one-way eastbound; on-street parking along one or both sides of Hanover St. and Pearl St.	No	Yes; sidewalks along both sides of the intersecting roadways	Yes; shared traveled-way on Hanover St.
Hanover St./ Bridge St	S	1 general-purpose lane provided on Bridge St. and Hanover St. east leg; Hanover St. west leg is one-way eastbound; on-street parking along one or both sides of Hanover St. and Bridge St.	No	Yes; sidewalks along both sides of the intersecting roadways; crosswalks across all legs	Yes; shared traveled-way
Bridge St./ Foundry Pl.	S	1 general-purpose travel lane on all approaches	No	Yes; sidewalks along both sides of the intersecting roadways; crosswalks provided across Foundry Pl. and the Bridge St. north leg	Yes; shared traveled-way

[a]S = stop signal control.
[b]Combined shoulder and travel lane width equal to or exceeding 14 feet.

Existing Traffic Volumes

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, turning movement counts (TMCs), and vehicle classification counts were completed in August 2024. The ATR counts were conducted on August 6th through 7th, 2024 (Tuesday through Wednesday, inclusive) on Hanover Street east of Rock Street in order to record weekday daily traffic conditions over an extended period, with weekday morning (7:00 to 9:00 AM) and evening (3:00 to 6:00 PM) peak-period TMCs performed at the study area intersections on Tuesday, August 6, 2024. These time periods were selected for analysis purposes as they are representative of the peak-traffic-volume hours for both the Project and the adjacent roadway network.

Traffic Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, 2019 peak-hour and average daily traffic count data were reviewed for NHDOT Continuous Count Station No. 02125001, which is located on Dover Point Road in Strafford, were reviewed. Based on a review of this data, it was determined that traffic volumes for the month of August are approximately 1.0 percent below peak-month (June) conditions. As such, the August traffic volumes were adjusted upward by 1.0 percent in order to be representative of peak-month conditions in accordance with NHDOT standards.

In order to account for the impact on the traffic volume and trip patterns resulting from the COVID-19 pandemic, traffic-volume data collected at NHDOT Continuous Count No. 02125001 was reviewed. Traffic-volume data for August 2024 was compared to data collected at the same location in August 2019. The following summarizes the comparison between the August 2024 and August 2019 traffic volumes:

- Average Daily Traffic Volumes: -0.3%
- Weekday Morning Peak-Hour Traffic Volumes: -3.0%
- Weekday Evening Peak-Hour Traffic Volumes: +2.4%

As such, the average weekday traffic volumes were adjusted upward by 0.3 percent (multiplied by 1.003) and the weekday morning peak-hour traffic volumes were adjusted upward by 3.0 percent (multiplied by 1.03); no adjustment was required to the weekday evening peak-hour traffic volumes as the August 2024 traffic volumes were found to be 2.4 percent higher than the traffic volumes in August 2019.

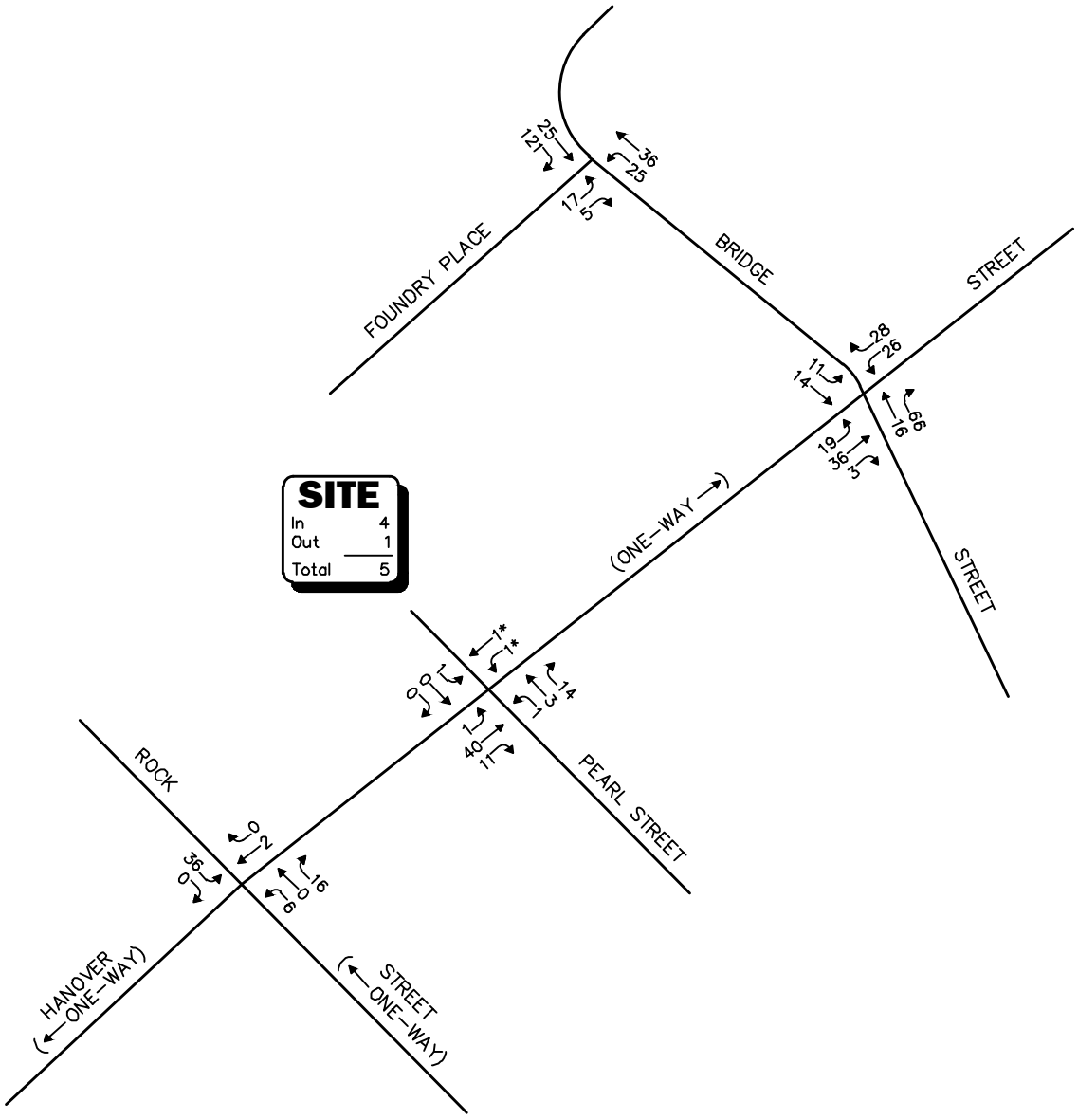
The 2024 Existing peak-month traffic volumes are summarized in Table 2, with the weekday morning and evening peak-month, peak-hour traffic volumes graphically depicted on Figures 3 and 4, respectively. Note that the peak-hour traffic volumes that are presented in Table 2 were obtained from the aforementioned figures.

Table 2
2024 EXISTING PEAK-MONTH TRAFFIC VOLUMES

Location/Peak Hour	AWT[a]	VPH[b]	K Factor[c]	Directional Distribution[d]
Hanover Street, east of Rock Street:	510	--	--	--
Weekday Morning (8:00 – 9:00 AM)	--	54	10.6	96.3% EB
Weekday Evening (3:45 – 4:45 PM)	--	42	8.2	90.5% EB

[a]Average weekday traffic in vehicles per day.
[b]Vehicles per hour.
[c]Percent of daily traffic occurring during the peak hour.
[d]Percent traveling in peak direction.
EB = eastbound.

As can be seen in Table 2, Hanover Street east of Rock Street was found to accommodate approximately 510 vehicles on an average weekday (two-way, 24-hour volume) under peak-month conditions, with approximately 54 vehicles per hour (vph) during the weekday morning peak-hour and 42 vph during the weekday evening peak-hour.



*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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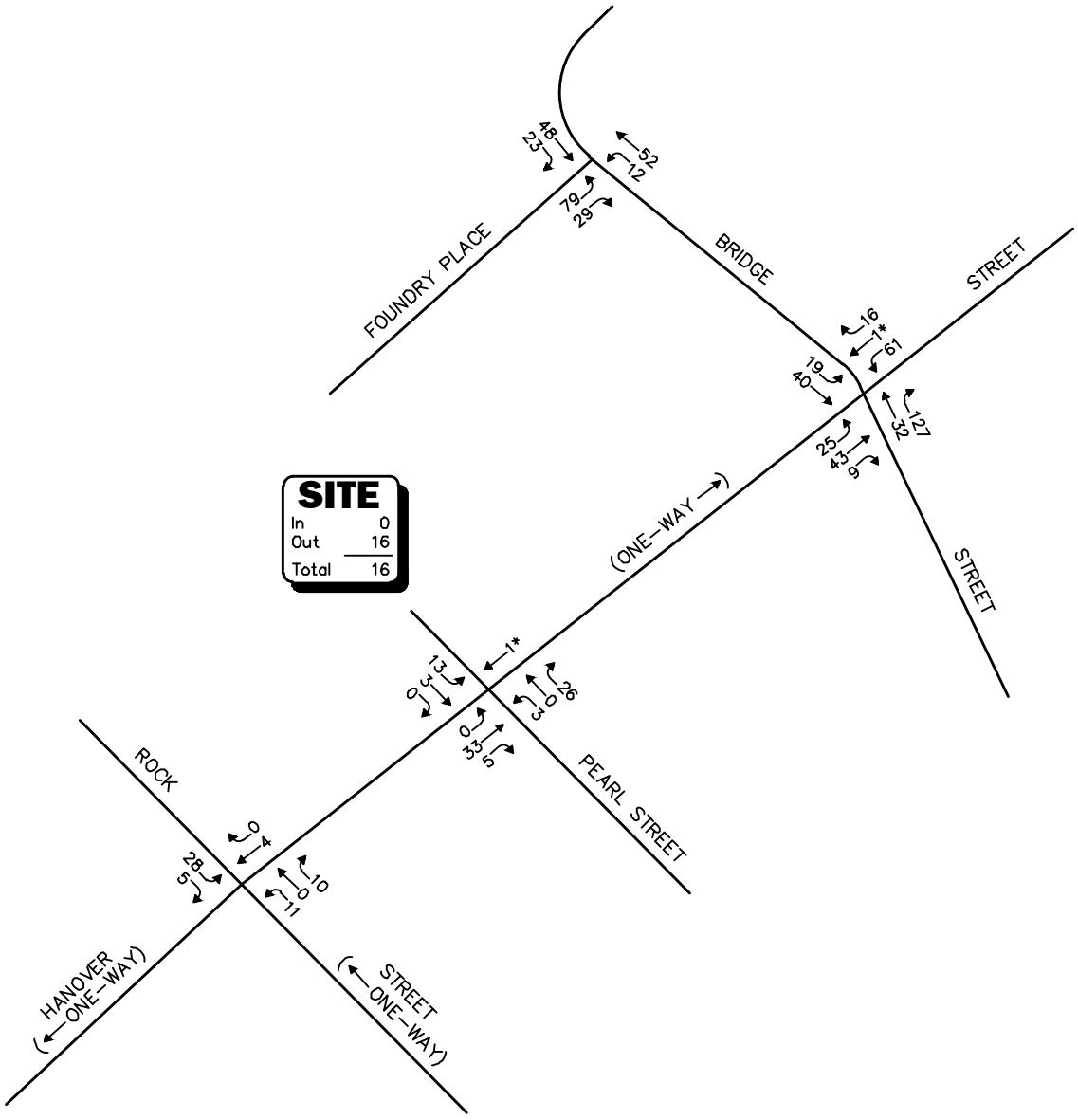
Figure 3

**2024 Existing
Peak-Month
Weekday Morning
Peak-Hour Traffic Volumes**

Vanasse & Associates inc

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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Figure 4

**2024 Existing
Peak-Month
Weekday Evening
Peak-Hour Traffic Volumes**

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Spot Speed Measurements

Vehicle travel speed measurements were performed on Hanover Street in the vicinity of the Project site in conjunction with the ATR counts, the results of which are summarized in Table 3.

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Hanover Street	
	Eastbound	Westbound
Mean Travel Speed (mph)	13	11
85th Percentile Speed (mph)	14	13
Statutory Speed Limit (mph)	30	30

mph = miles per hour.

As can be seen in Table 3, the mean vehicle travel speed along Hanover Street in the vicinity of the Project site was found to be 13 mph in the eastbound direction and 11 mph westbound. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 14 mph in the eastbound direction and 13 mph westbound, which is 16 to 17 mph below the statutory speed limit (30 mph) in the vicinity of the Project site. The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances and is often used in establishing posted speed limits.

Pedestrian and Bicycle Facilities

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in August 2024. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways, as well as the location of existing and planned future bicycle facilities. Sidewalks are provided along both sides of the study area roadways, with marked crosswalks provided at the Bridge Street/Hanover Street and Bridge Street/Foundry Place intersections. Formal bicycle facilities are not provided within the study area; however, the study area roadways generally provide sufficient width to accommodate bicycle travel in a shared-traveled-way configuration.[3]

Public Transportation

Regularly scheduled public transportation services are not provided within the study area; however, east of the Project site, the Cooperative Alliance for Seacoast Transportation (COAST) provides fixed-route bus services by way of the following routes:

- *Route 13:* Dover/Portsmouth
- *Route 40:* Islington/Borthwick Trolley
- *Route 41:* Lafayette Trolley

[3] A minimum combined travel lane and paved shoulder width of 14 feet is required to support bicycle travel in a shared-traveled-way condition.

- *Route 42:* Pease Shuttle
- *Route 43:* Newington/Portsmouth
- *Route 44:* Portsmouth City Hall/Kittery (PNSY Gate 1)

All six bus routes include a stop at Hanover Station, which is 0.3 miles to the northeast of the Project site, or an approximate 7-minute walking distance. Route 40 has a stop located at the Islington Street/ Tenner Street intersection, which is located 0.1 miles to the southeast of the Project site, or an approximate 3-minute walking distance. In addition to fixed-route bus services, COAST provides paratransit services for eligible persons who are unable to use fixed-route transit at all or some of the time due to a physical, cognitive, or mental disability, in compliance with the Americans with Disabilities Act (ADA).

The public transportation schedules and fare information are attached.

Motor Vehicle Crash Data

Motor vehicle crash data for the study area intersections has been requested from the Portsmouth Police Department in order to examine motor vehicle crash trends occurring within the study area. The data will be summarized in a supplement to this TIS once the data is received.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the years 2026 and 2036, which reflect the anticipated opening year of the Project and a ten-year planning horizon from the opening year, respectively, consistent with NHDOT TIS guidelines. The future condition traffic-volume projections incorporate identified specific development projects by others, as well as general background traffic growth as a result of development external to the study area and presently unforeseen projects. Anticipated Project-generated traffic volumes superimposed upon the 2026 and 2036 No-Build traffic volumes reflect the Build conditions with the Project.

Future Traffic Growth

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic; however, potential population growth and development external to the study area would not be accounted for in the resulting traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

Specific Development by Others

The City of Portsmouth Planning Department was contacted in order to determine if any projects were planned within the City that would have an impact on future traffic volumes within the study area. Based on this consultation, the following projects were identified for review in conjunction with this assessment:

- ***Proposed Lot 5, Deer Street Development, 70 Maplewood Avenue, Portsmouth, New Hampshire.*** This project entails the construction of a mixed-use development to be located at 70 Maplewood Avenue, east of the Project site. This project will consist of a four-story mixed-use building with retail, office, hotel, and commercial space.

- ***Proposed Lot 2 Community Space, Foundry Place, Portsmouth, New Hampshire.*** This project entails the construction of a community space to be located at Foundry Place, east of the Foundry Place garage. The community space will consist of an 8,521 sf open space plaza.

- ***Proposed Lot 3, Deer Street Development, Deer Street, Portsmouth, New Hampshire.*** This project entails the construction of a mixed-use development to be located at 165 Deer Street, northeast of the Project site. This project will consist of a five-story hotel with a rooftop restaurant and bar.

- ***Proposed Lot 4, Deer Street Development, Deer Street, Portsmouth, New Hampshire.*** This project entails the construction of a mixed-use development to be located at 163 Deer Street, northeast of the Project site. This project will consist of a four-story commercial and office building with a restaurant on the first floor.

- ***Proposed Lot 6, Deer Street Development, Deer Street, Portsmouth, New Hampshire.*** This project entails the construction of a mixed-use development to be located at 89 and 99 Foundry Place, east of the Project site. This project will consist of a four-story multifamily residential building with ground floor commercial space.

Traffic volumes associated with identified specific development projects by others were obtained from information filed with the City, and using trip-generation data published by the ITE[4] for similar land uses as those identified. No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

General Background Traffic Growth

Traffic-volume data compiled by NHDOT from count station No. 02125001 was reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated over the 10-year period between 2009 and 2019, with the average traffic growth rate found to be approximately 0.04 percent. In order to provide a prudent planning condition from which to assess the potential impact of the Project on the transportation infrastructure, a higher 1.0 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

[4]Institute of Transportation Engineers, op. cit. 1.

Roadway Improvement Projects

The City of Portsmouth and NHDOT were contacted in order to determine if there were any planned roadway improvement projects expected to be completed within the study area. Based on these discussions, no roadway improvement projects are currently scheduled within the study area beyond routine maintenance activities.

No-Build Traffic Volumes

The 2026 and 2036 No-Build peak-month, peak-hour traffic volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2024 Existing peak-month, peak-hour traffic volumes and then adding the peak-hour traffic volumes associated with the identified specific development projects by others. The resulting 2026 No-Build weekday morning and evening peak-month, peak-hour traffic volumes are shown on Figures 5 and 6, respectively, with the corresponding 2036 No-Build peak-month, peak-hour traffic volumes shown on Figures 7 and 8.

PROJECT-GENERATED TRAFFIC

As proposed, the Project will entail the construction of 40 multifamily residential housing units. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE[5] for a similar land use as that proposed was used. ITE Land Use Code (LUC) 220, *Multifamily Housing (Low Rise)*, was used to develop the anticipated traffic characteristics of the Project, the results of which are summarized in Table 4.

Table 4
TRIP-GENERATION SUMMARY

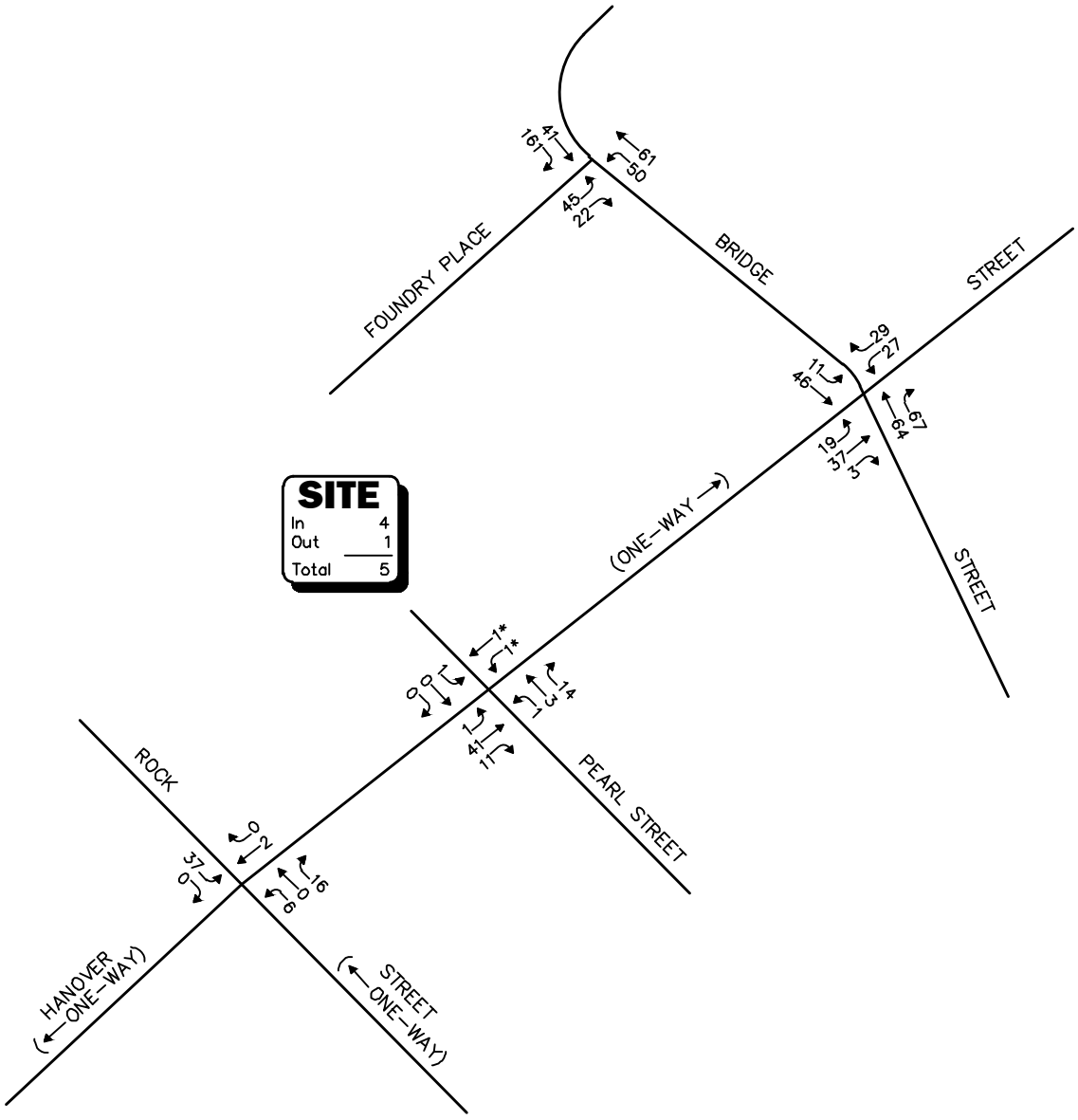
Time Period	Vehicle Trips[a]		
	Entering	Exiting	Total
Average Weekday	166	166	332
Weekday Morning Peak-Hour	8	27	35
Weekday Evening Peak-Hour	24	14	38

[a]Based on ITE LUC 220, *Multifamily Housing (Low Rise)*; 40 units.

Project-Generated Traffic-Volume Summary

As can be seen in Table 4, the Project is predicted to generate approximately 332 vehicle trips on an average weekday (two-way, 24-hour volume, or 166 vehicles entering and 166 exiting) and approximately 35 vehicle trips (8 vehicles entering and 27 exiting) expected during the weekday morning peak-hour and 38 vehicle trips (24 vehicles entering and 14 exiting) expected during the weekday evening peak-hour.

[5]Institute of Transportation Engineers, op. cit. 1.



*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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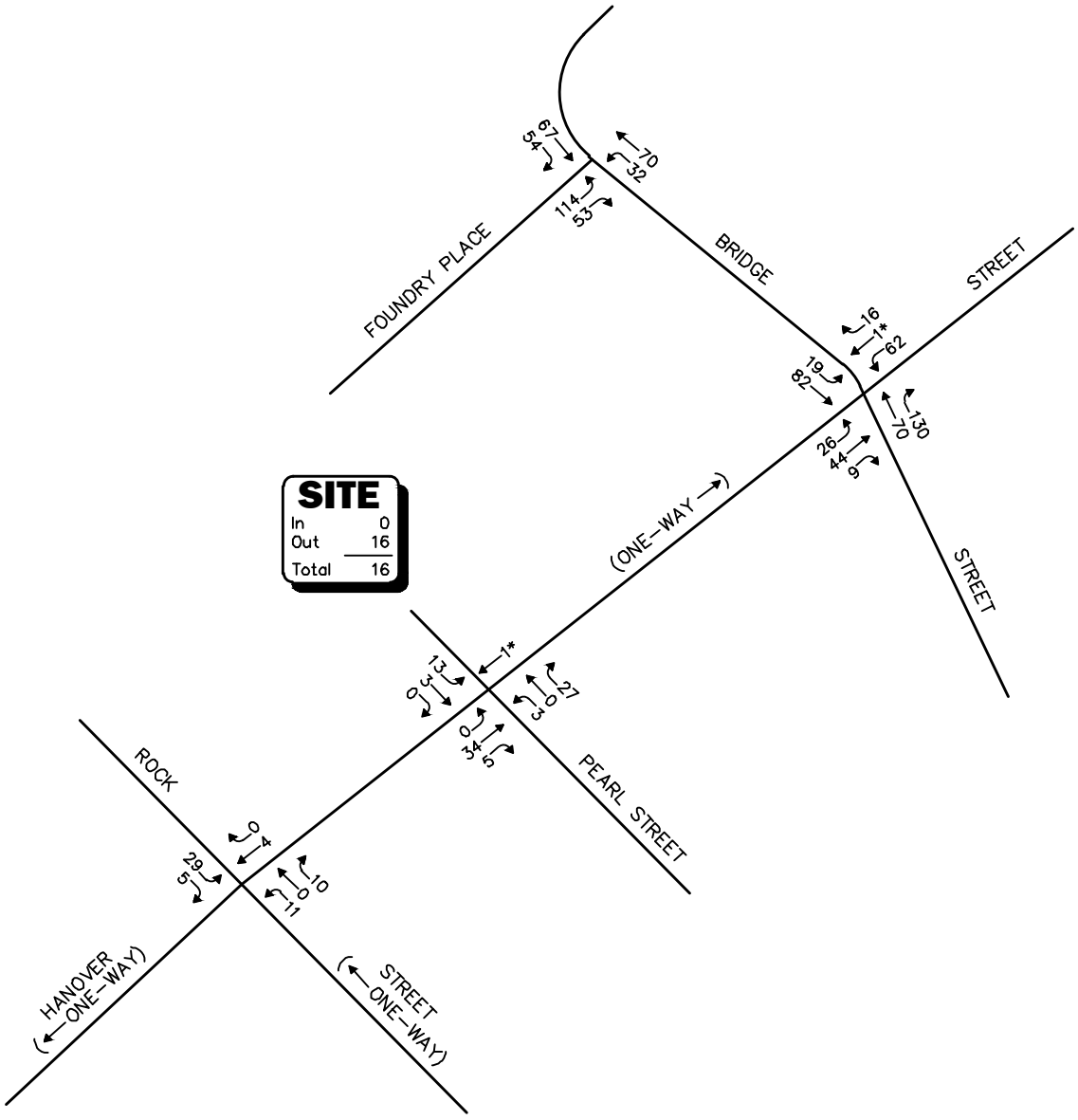
Figure 5

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2026 No-Build
Peak-Month
Weekday Morning
Peak-Hour Traffic Volumes

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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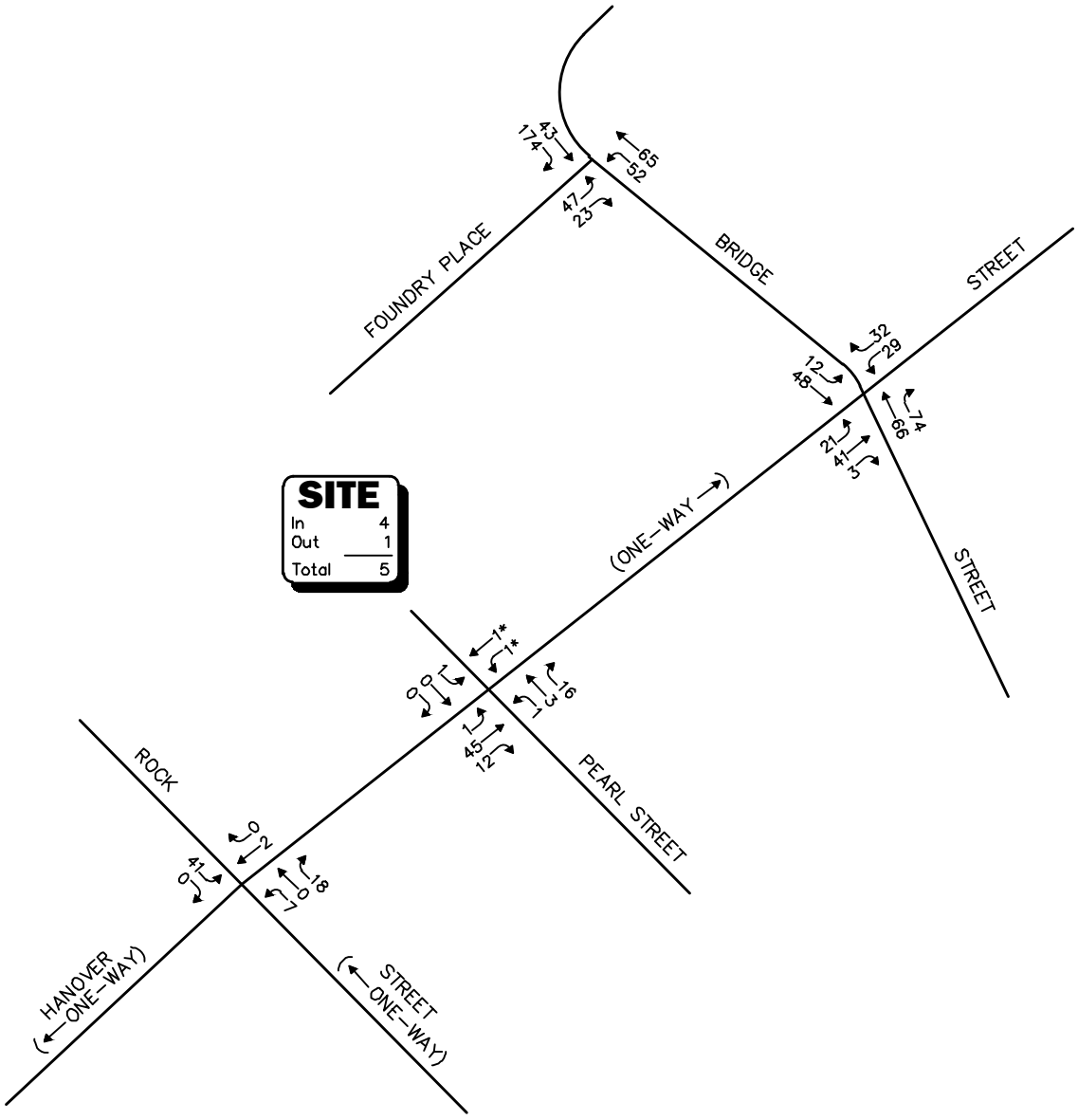
Figure 6

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2026 No-Build
Peak-Month
Weekday Evening
Peak-Hour Traffic Volumes

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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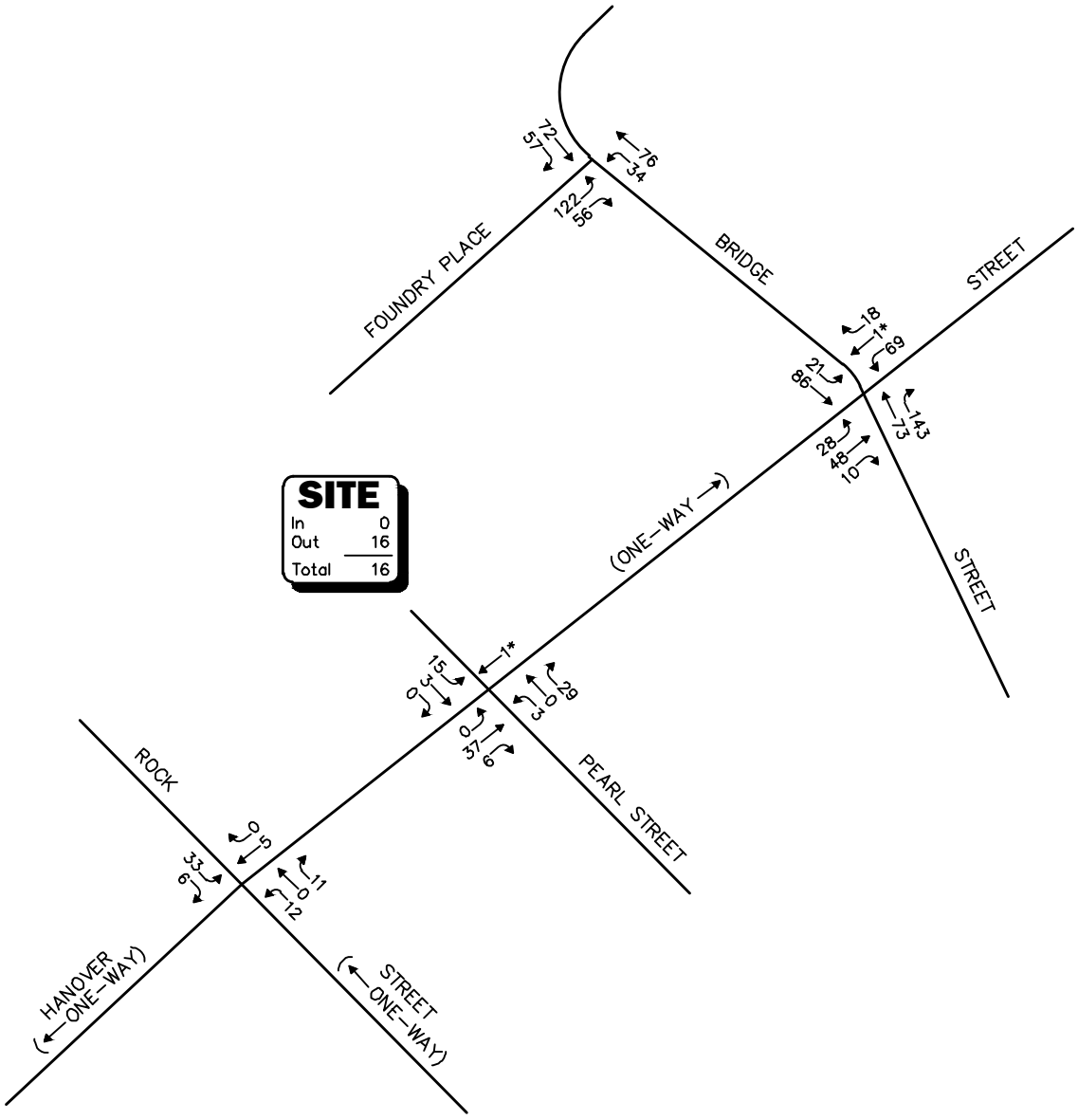
Figure 7

2036 No-Build
Peak-Month
Weekday Morning
Peak-Hour Traffic Volumes

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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Figure 8

2036 No-Build
Peak-Month
Weekday Evening
Peak-Hour Traffic Volumes

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Trip Distribution and Assignment

The directional distribution of generated trips to and from the Project site was determined based on a review of U.S. Census Journey-to-Work data for the City of Portsmouth and then refined based on a review of existing traffic patterns within the study area. The general trip distribution for the Project is graphically depicted on Figure 9, with the additional traffic expected to be generated by the Project assigned onto the study area roadway network as shown on Figures 10 and 11.

Build Traffic Volumes

The 2026 Opening-Year Build and 2036 Build condition traffic volumes were developed by: i) removing the trips generated by the existing uses that occupy the Project site; and ii) adding the peak-hour Project-generated traffic to the corresponding 2026 and 2036 No-Build peak-month, peak-hour traffic volumes. The resulting 2026 Opening-Year Build condition weekday morning and evening peak-hour traffic volumes are graphically depicted on Figures 12 and 13, respectively, with the corresponding 2036 Build condition peak-month, peak-hour traffic volumes depicted on Figures 14 and 15. Networks illustrating the removal of the trips associated with the existing uses that occupy the Project site are attached.

TRAFFIC OPERATIONS ANALYSIS

In order to assess the potential impact of the Project on the roadway network, a detailed traffic operations analysis (motorist delays, vehicle queuing, and level of service) was performed at the study area intersections. Capacity analyses provide an indication of how well transportation facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

In brief, six levels of service are defined for each type of facility. They are given letter designations ranging from A to F, with LOS "A" representing the best operating conditions and LOS "F" representing congested or constrained operations. An LOS of "E" is representative of a transportation facility that is operating at its design capacity, while an LOS of "D" is generally defined as the limit of "acceptable" traffic operations. Since the level of service of a traffic facility is a function of the flows placed upon it, such a facility may operate at a wide range of levels of service depending on the time of day, day of week, or period of the year. The Synchro® 12 intersection capacity analysis software, which is based on the analysis methodologies and procedures presented in the *7th Edition Highway Capacity Manual* (HCM)[6] for unsignalized intersections.

Analysis Results

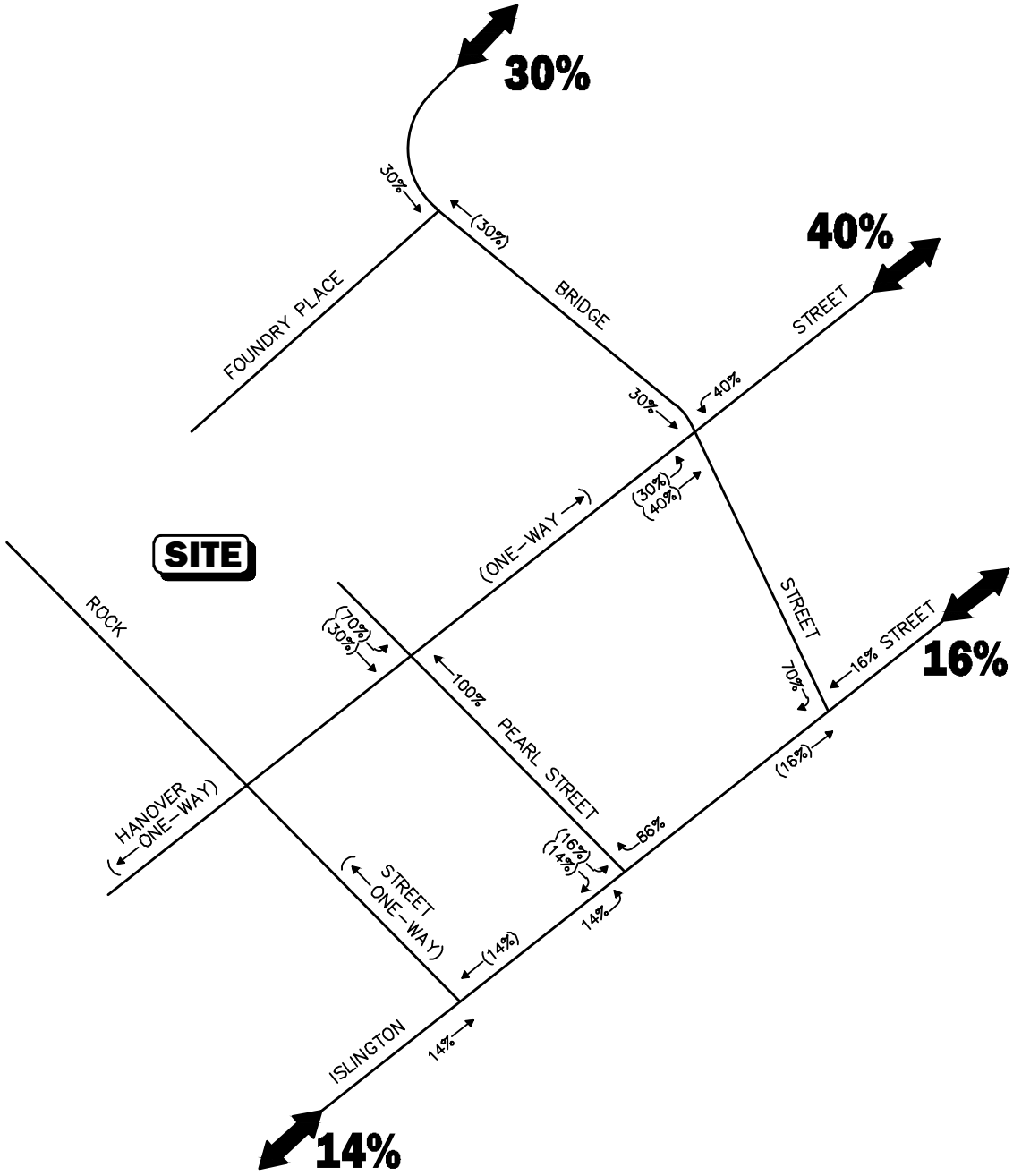
Level-of-service and vehicle queue analyses were conducted for 2024 Existing, 2026 No-Build, 2026 Opening-Year Build, 2036 No-Build, and 2036 Build conditions for the study area intersections and the Project site driveway. The results of the intersection capacity and vehicle queue analyses are summarized in Table 5, with the detailed analysis results presented in the Attachment.

The following is a summary of the level-of-service and vehicle queue analyses for the intersections within the study area. For context, we note that an LOS of "D" or better is generally defined as "acceptable" operating conditions.

[6] *Highway Capacity Manual*, Transportation Research Board; Washington, DC; 2022.

Legend:

XX	Entering Trips
(XX)	Exiting Trips



Not To Scale

Figure 9

Trip Distribution Map

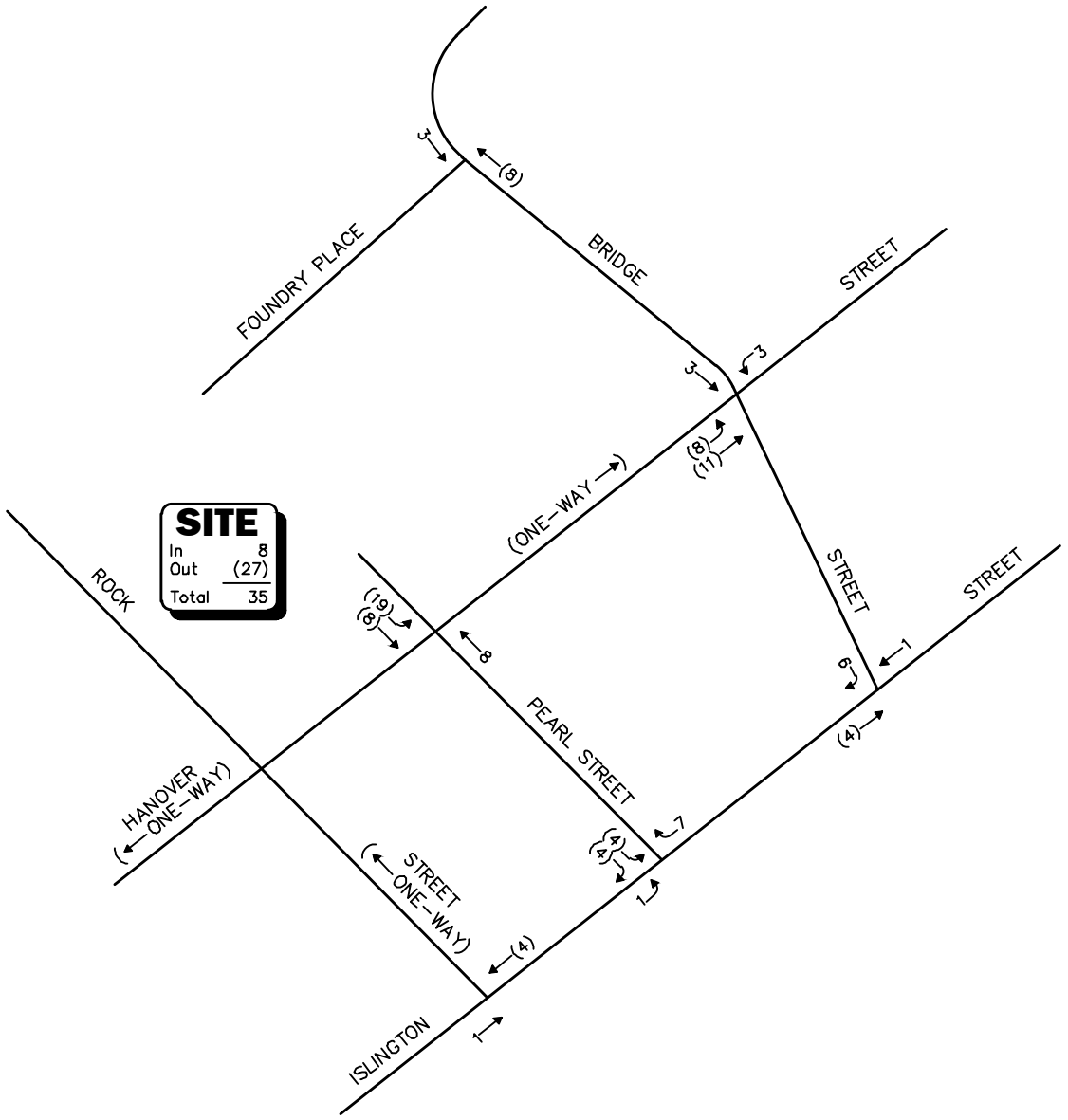
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Legend:

XX	Entering Trips
(XX)	Exiting Trips



Not To Scale

Figure 10

Project-Generated Peak-Month Weekday Morning Peak-Hour Traffic Volumes

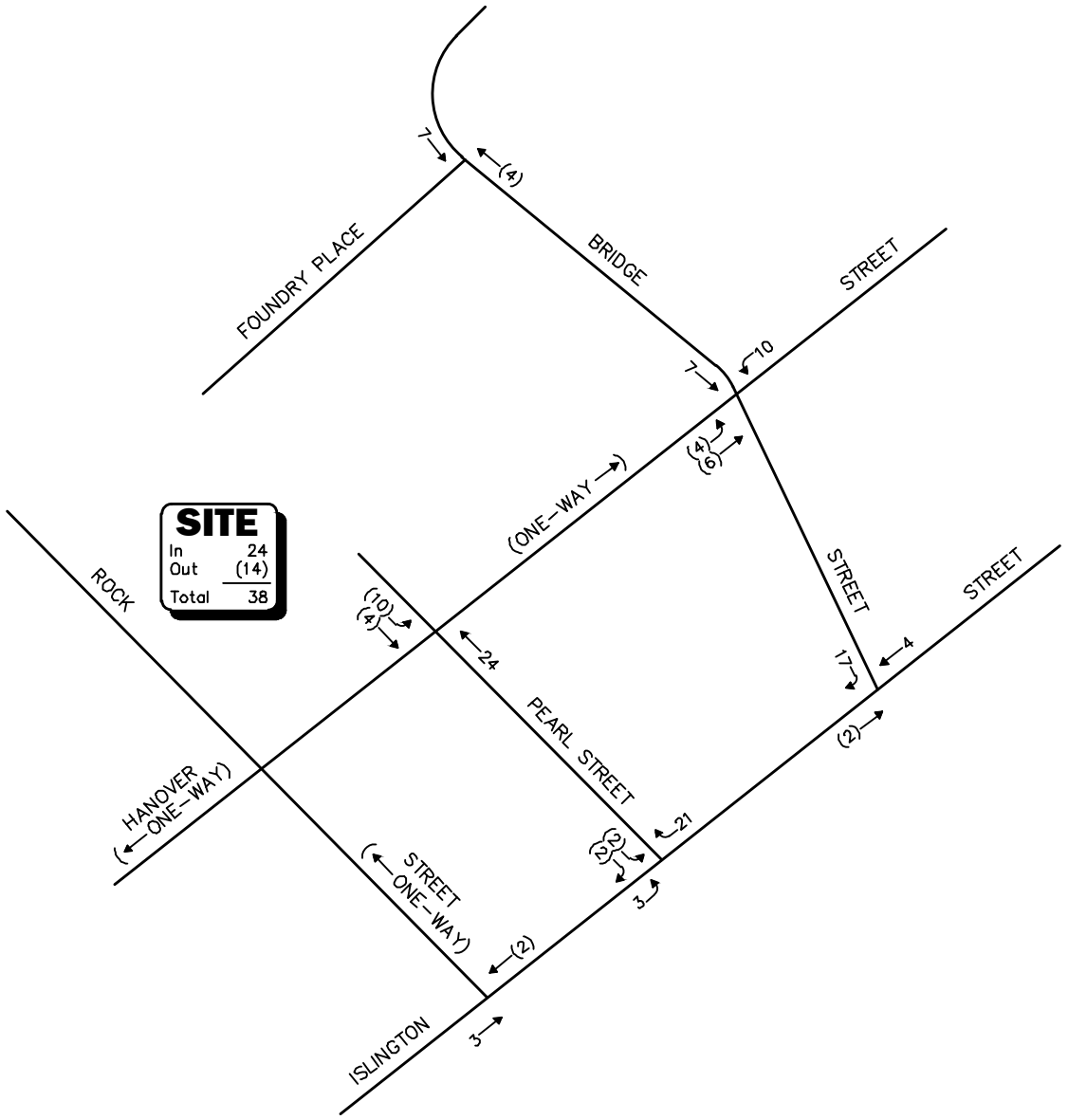
Vanasse & Associates inc

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Legend:

XX	Entering Trips
(XX)	Exiting Trips



Not To Scale

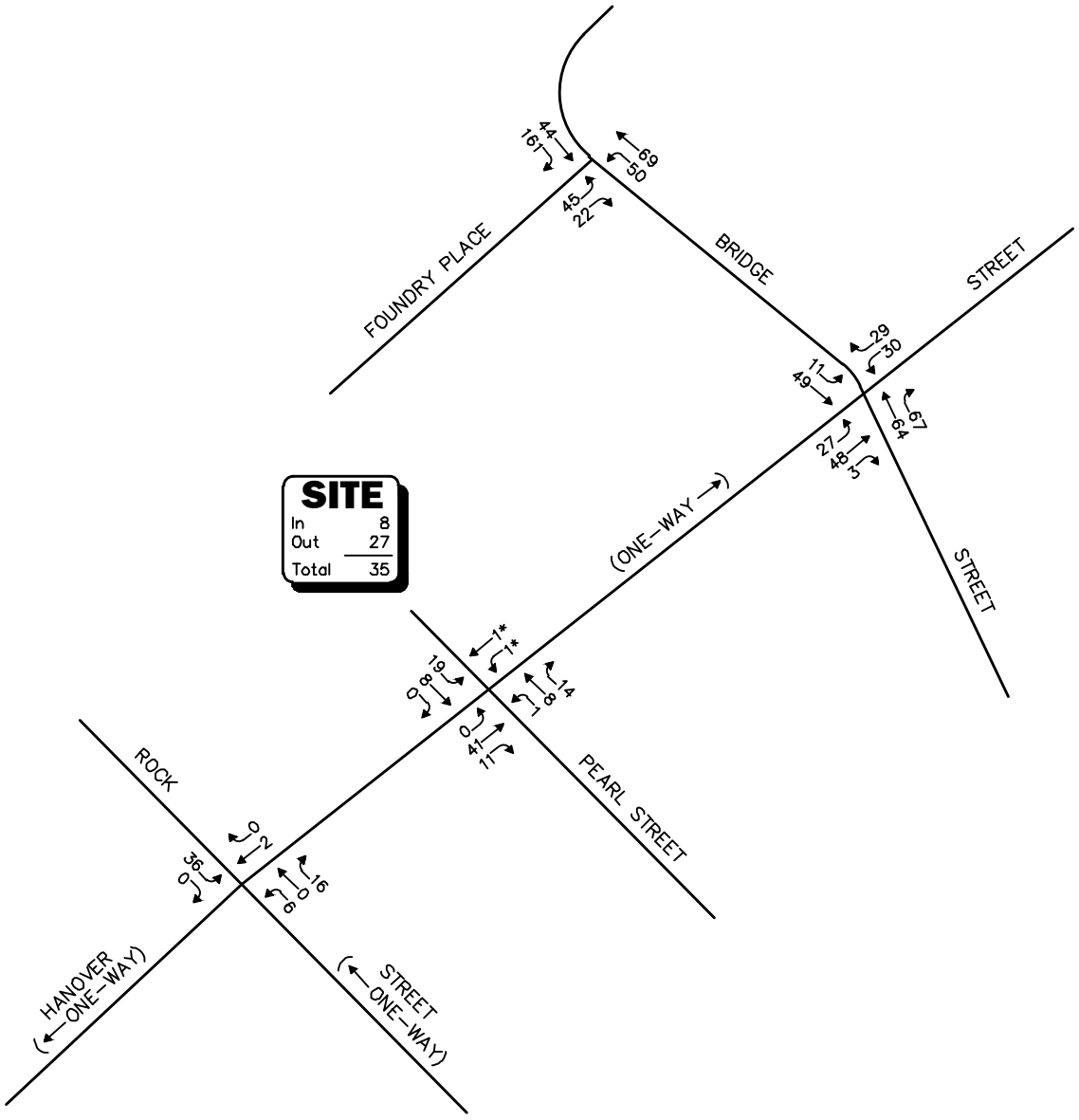
Figure 11

Project-Generated Peak-Month Weekday Evening Peak-Hour Traffic Volumes

Vanasse & Associates inc

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

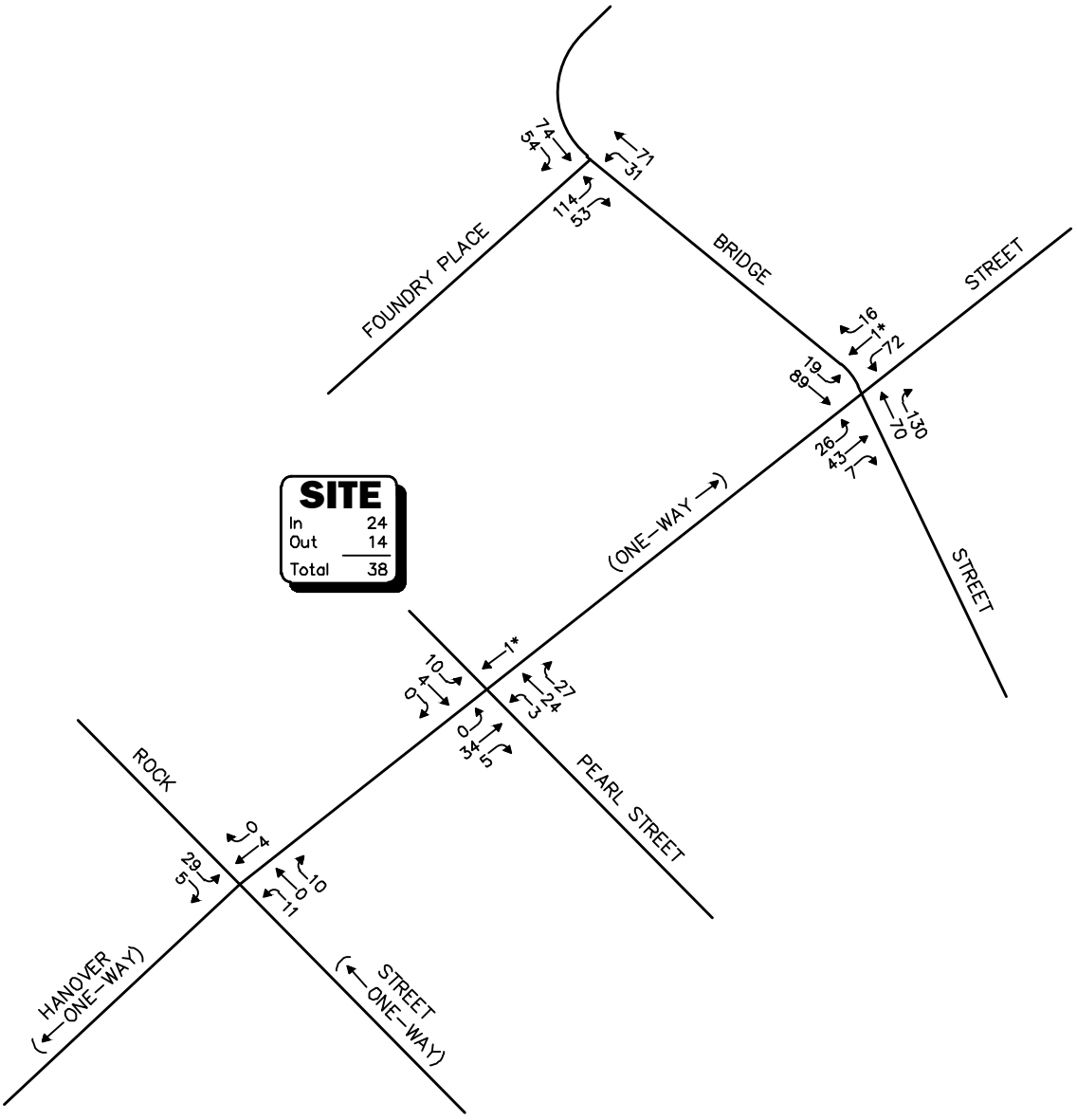
Figure 12

**2026 Opening-Year Build
Peak-Month
Weekday Morning
Peak-Hour Traffic Volumes**

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

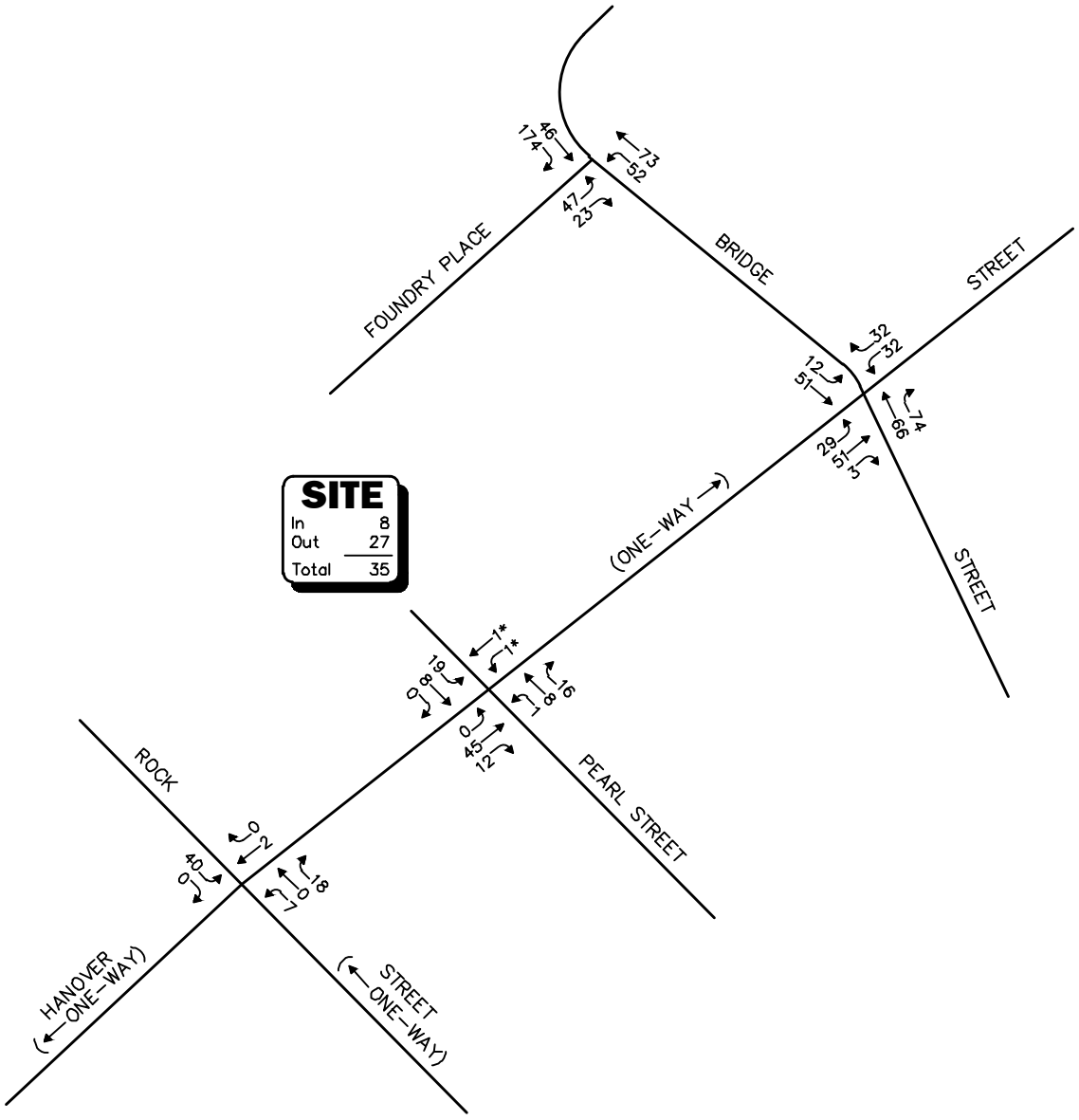
Figure 13

**2026 Opening-Year Build
Peak-Month
Weekday Evening
Peak-Hour Traffic Volumes**

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

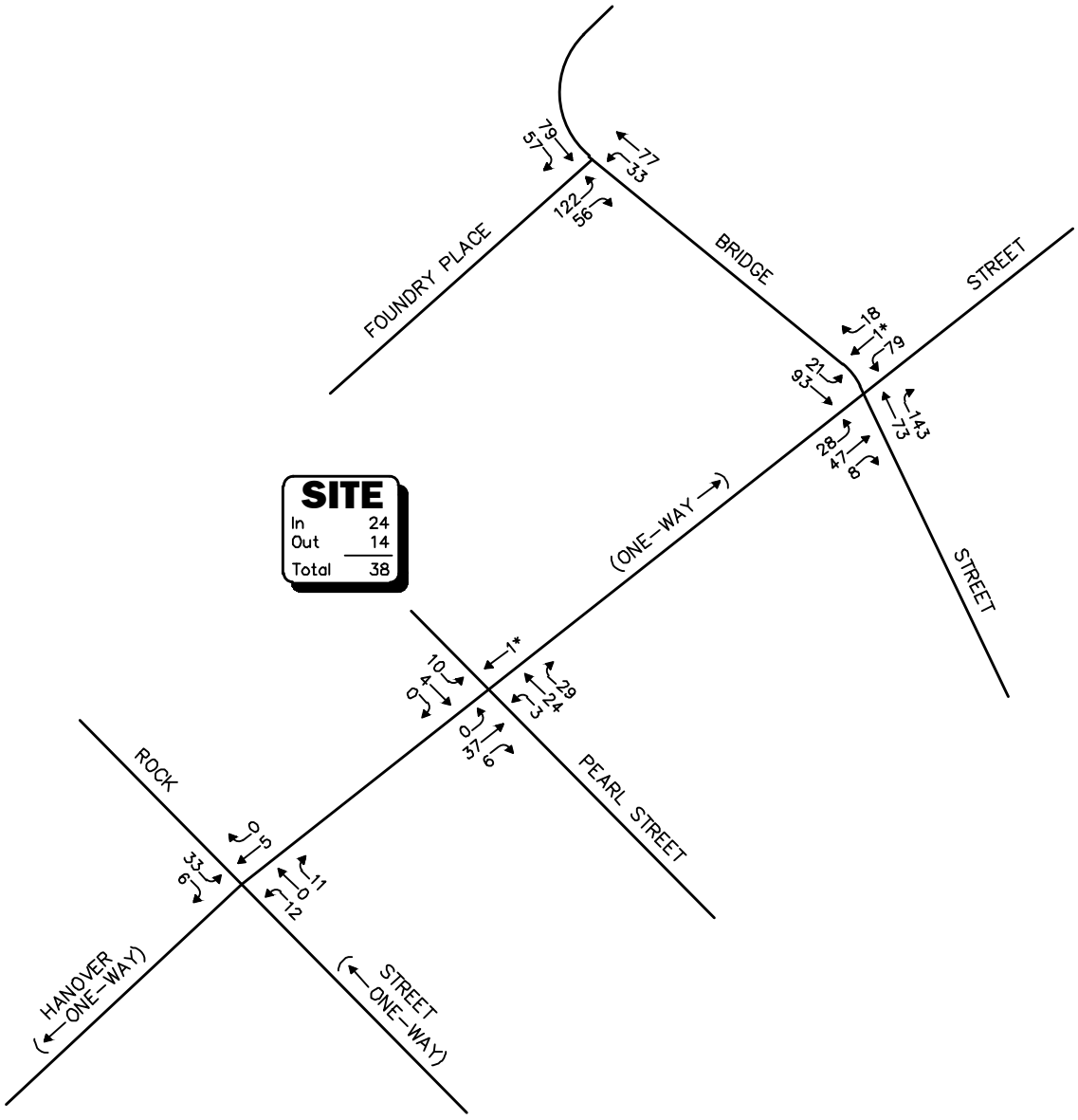
Figure 14

**2036 Build
Peak-Month
Weekday Morning
Peak-Hour Traffic Volumes**

Vanasse & Associates inc

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*Illegal movement.
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 15

2036 Build
Peak-Month
Weekday Evening
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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Hanover Street at Rock Street

Under 2026 Opening-Year and 2036 Build peak-month conditions, no changes in level of service or vehicle queuing were shown to occur over No-Build conditions as a result of the addition of Project-related traffic, with all movements continuing to operate at LOS A with negligible vehicle queueing. The Project is not excepted to result in a material increase in traffic at this intersection.

Hanover Street at Pearl Street and Project Site Driveway

Under 2026 Opening-Year and 2036 Build peak-month conditions, no changes in level of service were shown to occur over No-Build conditions, with all movements at the intersection shown to continue to operate at LOS A. Project-related impacts were generally defined as an increase in an average motorist delay of less than 1.0 seconds that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle.

Hanover Street at Bridge Street

Under 2026 Opening-Year and 2036 Build peak-month conditions, no changes in level of service or vehicle queuing were shown to occur over No-Build conditions as a result of the addition of Project-related traffic, with all movements continuing to operate at LOS A with vehicle queues of up to one (1) vehicle.

Bridge Street at Foundry Place

Under 2026 Opening-Year and 2036 Build peak-month conditions, no changes in level of service or vehicle queuing were shown to occur over No-Build conditions as a result of the addition of Project-related traffic, with all movements continuing to operate at LOS B or better with vehicle queues of up two (2) vehicles.

Table 5
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

	2024 Existing				2026 No-Build				2026 Opening-Year Build				2036 No-Build				2036 Build			
Unsignalized Intersection/Peak Hour/Movement	Demand[a]	Delay[b]	LOS[c]	Queue 95th[d]	Demand	Delay	LOS	Queue 95th	Demand	Delay	LOS	Queue 95th	Demand	Delay	LOS	Queue 95th	Demand	Delay	LOS	Queue 95th
Hanover Street at Rock Street																				
Weekday Morning:																				
Hanover Street WB TH/RT	2	7.1	A	0	2	7.1	A	0	2	7.1	A	0	2	7.1	A	0	2	7.1	A	0
Rock Street NB LT/TH/RT	22	6.7	A	0	22	6.7	A	0	22	6.7	A	0	25	6.7	A	0	25	6.7	A	0
Rock Street SB LT/RT	36	7.4	A	0	37	7.4	A	0	36	7.4	A	0	41	7.4	A	0	40	7.4	A	0
Weekday Evening:																				
Hanover Street WB TH/RT	4	7.1	A	0	4	7.1	A	0	4	7.1	A	0	5	7.2	A	0	5	7.2	A	0
Rock Street NB LT/TH/RT	21	6.9	A	0	21	6.9	A	0	21	6.9	A	0	23	7.0	A	0	23	7.0	A	0
Rock Street SB LT/RT	33	7.2	A	0	34	7.3	A	0	34	7.3	A	0	39	7.3	A	0	39	7.3	A	0
Hanover Street at Pearl Street and Site Driveway																				
Weekday Morning:																				
Hanover Street EB LT/TH/RT	52	0.1	A	0	53	0.1	A	0	52	0.0	A	0	58	0.1	A	0	57	0.0	A	0
Hanover Street WB LT/TH	2	3.7	A	0	2	3.7	A	0	2	3.7	A	0	2	3.7	A	0	2	3.7	A	0
Pearl Street NB LT/TH/RT	18	8.8	A	0	18	8.8	A	0	23	9.0	A	0	20	8.8	A	0	25	9.0	A	0
Site Driveway SB LT/TH/RT	1	8.3	A	0	1	9.0	A	0	27	9.3	A	0	1	9.0	A	0	27	9.3	A	0
Weekday Evening:																				
Hanover Street EB LT/TH/RT	38	0.0	A	0	38	0.0	A	0	39	0.0	A	0	43	0.0	A	0	43	0.0	A	0
Hanover Street WB TH	1	0.0	A	0	1	0.0	A	0	1	0.0	A	0	1	0.0	A	0	1	0.0	A	0
Pearl Street NB LT/TH/RT	29	8.8	A	0	29	8.8	A	0	54	9.3	A	1	32	8.9	A	0	56	9.3	A	1
Site Driveway SB LT/TH/RT	16	8.6	A	0	16	9.1	A	0	14	9.3	A	0	18	9.2	A	0	16	9.3	A	0
Hanover Street at Bridge Street																				
Weekday Morning:																				
Hanover Street EB LT/TH/RT	58	7.6	A	1	59	8.0	A	1	78	8.2	A	1	65	8.1	A	1	83	8.3	A	1
Hanover Street WB LT/RT	54	7.3	A	0	56	7.7	A	1	59	7.8	A	1	61	7.7	A	1	64	7.8	A	1
Bridge Street NB TH/RT	82	7.2	A	1	131	8.0	A	1	131	8.1	A	1	140	8.1	A	1	140	8.2	A	1
Bridge Street SB LT/TH	25	7.1	A	0	57	7.9	A	1	60	8.0	A	1	60	8.0	A	1	63	8.1	A	1
Weekday Evening:																				
Hanover Street EB LT/TH/RT	77	8.2	A	1	79	8.5	A	1	76	8.6	A	1	86	8.8	A	1	83	8.8	A	1
Hanover Street WB LT/TH/RT	78	8.2	A	1	79	8.6	A	1	89	8.7	A	1	88	8.7	A	1	98	8.9	A	1
Bridge Street NB TH/RT	159	7.9	A	1	200	8.6	A	1	200	8.6	A	1	215	8.8	A	1	216	8.9	A	1
Bridge Street SB LT/TH	59	8.1	A	1	101	8.6	A	1	108	8.7	A	1	107	8.8	A	1	114	8.9	A	1
Bridge Street at Foundry Place																				
Weekday Morning:																				
Foundry Place EB LT/RT	22	10.1	B	0	67	11.7	B	1	67	11.8	B	1	70	12.0	B	1	70	12.1	B	1
Bridge Street NB LT/TH	61	3.2	A	0	111	3.6	A	0	119	3.4	A	0	117	3.6	A	0	125	3.3	A	0
Bridge Street SB TH/RT	146	0.0	A	0	202	0.0	A	0	205	0.0	A	0	217	0.0	A	0	220	0.0	A	0
Weekday Evening:																				
Foundry Place EB LT/RT	108	10.6	B	1	167	12.8	B	2	167	12.9	B	2	178	13.4	B	2	178	13.5	B	2
Bridge Street NB LT/TH	64	1.4	A	0	102	2.4	A	0	102	2.3	A	0	110	2.4	A	0	110	2.3	A	0
Bridge Street SB TH/RT	71	0.0	A	0	121	0.0	A	0	128	0.0	A	0	129	0.0	A	0	136	0.0	A	0

[a]Demand in vehicles per hour.
[b]Average control delay per vehicle (in seconds).
[c]Level of service.
[d]Queue length in vehicles.
NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

SIGHT DISTANCE MEASUREMENTS

Sight distance measurements were performed at the Project site driveway intersection with Hanover Street in accordance with the American Association of State Highway and Transportation Officials (AASHTO)[7] requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an oncoming vehicle and safely complete a turning or crossing maneuver with oncoming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 6 presents the measured SSD and ISD at the subject intersection.

Table 6
SIGHT DISTANCE MEASUREMENTS[a]

	Feet		
Intersection/Sight Distance Measurement	Required Minimum (SSD)	Desirable (ISD)[b]	Measured
Hanover Street at the Project Site Driveway			
Stopping Sight Distance:			
Hanover Street approaching from the west	115	--	150+[c]
Intersection Sight Distance:			
Looking to the west from the Project Driveway	115	225	150[c]

[a]Recommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on a 20-mph approach speed along Hanover Street.
[b]Values shown are the intersection sight distance for a vehicle turning right or left exiting a roadway under STOP control, such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.
[c]Clear line of sight is provided to/from Rock Street.

As can be seen in Table 6, the available lines of sight to and from the Project site driveway intersection with Hanover Street exceed the recommended minimum sight distance to function in a safe manner (SSD) based on a 20-mph approach speed which is slightly higher than the measured 85th percentile vehicle travel speed (13/16 mph). Signs, landscaping and other features located within the sight triangle area of the Project site driveway should not exceed 2.5 feet as measured from the surface elevation of the Project site driveway.

[7] *A Policy on Geometric Design of Highway and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

SUMMARY

VAI has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed redevelopment of the Kearsarge Mill located at 361 Hanover Street in Portsmouth, New Hampshire, to accommodate a multifamily residential development. This study has been completed in accordance with the NHDOT guidelines for the preparation of a TIS as defined in the Driveway Permit Policy and has evaluated the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE),[8] the Project is expected to generate approximately 332 vehicle trips on an average weekday (two-way, 24-hour volume), with approximately 35 vehicle trips expected during the weekday morning peak-hour and 38 vehicle trips expected during the weekday evening peak-hour;

2. The Project will not have a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with no (0) changes in level of service and all movements at the study area intersections shown to continue to operate at LOS D or better, where an LOS "D" or better is defined as "acceptable" operating conditions. Project-related impacts were generally defined as an increase in average motorist delay of less than a second that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle, but in most scenarios, no increased queuing;

3. Under 2026 Opening-Year Build and 2036 Build conditions, all movements exiting the Project site driveway to Hanover Street were shown to operate at LOS A with negligible vehicle queuing. All movements along Hanover Street approaching the Project site driveway were shown to operate at LOS A, also with negligible vehicle queuing; and

4. Lines of sight at the intersection of the Project site driveway with Hanover Street were found to exceed the recommended minimum distance for the intersection to operate in a safe manner based on the appropriate speed.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with the implementation of the recommendations that follow.

RECOMMENDATIONS

Project Access

Access to the Project site will be provided by way of a driveway that will intersect the north side of Hanover Street opposite Pearl Street at the approximate location of the existing driveway that serves the Project site. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulations, many of which are reflected on the site plans:

[8] *Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.

- The Project site driveway will be 24 feet in width and will be designed to accommodate the turning and maneuvering requirements of moving vans, trash/recycling vehicles, and the largest anticipated responding emergency vehicle.

- Vehicles exiting the Project site to Hanover Street should be placed under STOP-sign control.

- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).[9]

- Sidewalks have been provided within the Project site that link the existing and proposed buildings to the existing sidewalks along Hanover Street, Rock Street, and Foundry Place, and crosswalks are proposed for crossing Rock Street (two locations), at the Hanover Street/Rock Street intersection, and across Pearl Street.

- ADA-compliant wheelchair ramps should be provided at all pedestrian crossings to be constructed or modified in conjunction with the Project, including for crossing the Project site driveway, or the driveway should be designed so that the sidewalk crosses the driveway (i.e., pan-type drive).

- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas should be designed and maintained so as not to restrict lines of sight.

- Snow accumulations (windrows) within sight triangle areas should be promptly removed where such accumulations would impede sightlines.

- Consideration should be given to providing electric vehicle charging stations for use by residents of the Project.

Transportation Demand Management

In an effort to encourage the use of alternative modes of transportation to single-occupant vehicles (SOVs), the following Transportation Demand Management (TDM) measures should be implemented as part of the Project:

- A transportation coordinator should be assigned for the Project, who may also have other duties and responsibilities, to coordinate the TDM program;

- A "welcome packet" should be provided to residents detailing available public transportation services, bicycle and walking alternatives, and other commuting options;

- A central maildrop should be provided within each building; and

- Secure bicycle parking should be provided at an appropriate location within the Project site, including exterior bicycle racks and interior weather-protected bicycle parking.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site, and the Project can be accommodated within the confines of the existing transportation system.

[9] *Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

ATTACHMENTS

PROJECT SITE PLAN
MANUAL TURNING MOVEMENT COUNT DATA
AUTOMATIC TRAFFIC RECORDER COUNT DATA
SEASONAL ADJUSTMENT DATA
COVID-19 ADJUSTMENT DATA
VEHICLE TRAVEL SPEED DATA
GENERAL BACKGROUND TRAFFIC GROWTH
BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS
TRIP-DISTRIBUTION
TRIP-GENERATION CALCULATIONS
CAPACITY ANALYSIS WORKSHEETS

PROJECT SITE PLAN

ZONING DEVELOPMENT STANDARD

CDS: CHARACTER DISTRICT 5, DOD: DOWNTOWN OVERLAY DISTRICT

	REQUIRED	EXISTING	PROPOSED - Building A	PROPOSED - Building B	PROPOSED - Building C	PROPOSED - Building D	PROPOSED - Building E
Height	2-3 stories 40'	2 Stories/ 18' +/-	3 stories with attic/ 40'	3 stories / 36'	3 stories / 36'	3 stories / 36'	3 stories with attic/ 40'
Penthouses	may exceed bldg height by 2'	N/A	N/A	N/A	N/A	N/A	N/A
Roof appurtenance	may exceed bldg height by 10'	<10'	<10'	No	<10'	No	<10'
Façade Types		N/A	N/A	N/A	N/A	N/A	N/A
Building Types	commercial, live-work, mixed use, flex space & community.	Commerical	Apartment	Duplex	Duplex	Duplex	Apartment
Front (principle) max S/B	5	99'	99'	0'	52'	5'	5'
Front (secondary) max S/B	5	0'	0'	N/A	N/A	N/A	N/A
Side S/B	NR	NR	NR	NR	NR	NR	NR
Rear yard S/B	5'	N/A	N/A	>5'	>5'	>5'	>5'
Front lotline buildout	80% min	100%	N/A	N/A	80%	80%	80%
Lot area (sf)	NR	N/A	N/A	N/A	N/A	N/A	N/A
LOT area per dwelling	NR	N/A	N/A	N/A	N/A	N/A	N/A
Building coverage, maximum	95%	38%	46.9%	4.1%	6.2%	4.1%	8.0%
Maximum building footprint	20,000	14,808	18,082	1,600	2,394	1,600	3,100
Ground floor area per use, max	15,000	14,808	<15,000	916	1,660	880	1,300
Open space, minimum	5%	>5%	>5%	>5%	>5%	>5%	>5%
Permitted uses		Commercial	Residential	Residential	Residential	Residential	Residential
Block length, max (ft)	225	205'	205'	N/A	57'	40'	50'
Façade modulation length, max (ft)	100	205	65	N/A	24'	40'	50'
Entrance spacing, max (ft)	50	>50'	50	N/A	20'	17'	20'
Floor height above sidewalk, max	36"	0'	N/A	N/A	24"	15"	18"
Ground story height, min	12'	10'	10.5'	12'	12'	12'	12'
Second story height, min	10'	10'	10.5'	11'	11'	11'	11'
Glazing, shopfront, min	70%	N/A	N/A	N/A	N/A	N/A	N/A
Glazing, other	20%-50%	>20%	>20%	>20%	>20%	>20%	>20%
Roof types	flat, gable, hip, gambrel, mansard	Flat	Mansard	Hip	Mansard	Hip	Mansard

IMPERVIOUS SURFACE AREAS
(TO PROPERTY LINE)

STRUCTURE	PRE-CONSTRUCTION IMPERVIOUS (S.F.)	POST-CONSTRUCTION IMPERVIOUS (S.F.)
MAIN STRUCTURES	14615	23291
PAVEMENT	22,623	10,731
CONCRETE	656	105
WALKWAYS, COBBLES	117	1,640
STEPS/STOOPS	0	78
CURBING	31	0
TOTAL	38042	35845
LOT SIZE	38,528	38,528
% LOT COVERAGE	98.7%	93.0%

PROPOSED OPEN SPACE ON PROPOSED LOT 1: 356 S.F./7.5%
PROPOSED LOT 1 BUILDING COVERAGE 1,448 S.F./4,717 S.F.=30.7%
PROPOSED OPEN SPACE LOT 2: SEE OPEN SPACE EXHIBIT ON FILE

PARKING CALCULATIONS:
361 HANOVER STREET (DEVELOPMENT SITE):

PROPOSED USE:
BUILDING A: 26 UNITS
BUILDING B: 2 UNITS
BUILDING C: 2 UNITS
BUILDING D: 2 UNITS
BUILDING E: 8 UNITS
TOTAL: 40 UNITS

PARKING SPACES PROVIDED:
BUILDING A: 42 SPACES
BUILDING B: 4 SPACES
BUILDING C: 4 SPACES
BUILDING D: 4 SPACES
BUILDING E: 10 SPACES
GUEST: 2 SPACES
TOTAL: 66 SPACES

191 HILL STREET (SUBDIVIDED LOT):

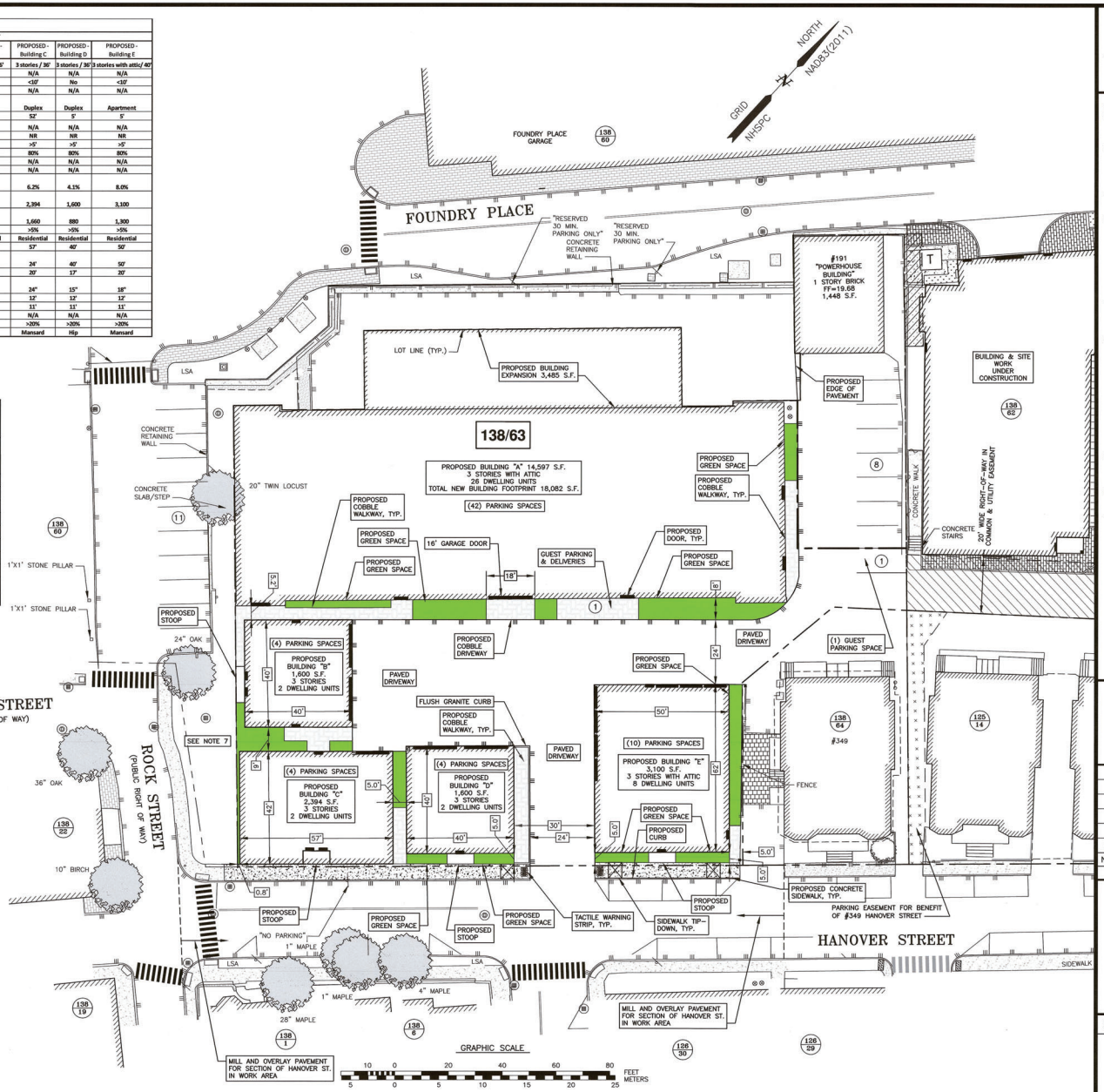
EXISTING USE: 1,500 S.F. TRADE
7.20-7.40 TRADE SERVICES
1 SPACE/400 S.F. GFA
1500/400= 4 SPACES REQUIRED
8 SPACES PROVIDED

THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____



HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd, Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:
1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63.
2. APPLICANT:
   361 HANOVER STEAM FACTORY, LLC
   41 INDUSTRIAL DRIVE UNIT 20
   EXETER, N.H. 03833
3. PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F. JANUARY 29 2021.

PROPOSED LOT AREAS:
LOT 138/63
38,528 S.F.±
0.8845 AC

LOT 138/63-1
4,717 S.F.
0.1083 AC

4. PARCEL IS LOCATED IN CHARACTER DISTRICT 5 (CD5), NORTH END INCENTIVE OVERLAY, AND DOWNTOWN OVERLAY DISTRICT.

DIMENSIONAL REQUIREMENTS:
*SEE PORTSMOUTH ZONING ORDINANCE AND TABLE.

MINIMUM LOT AREA: NR
SETBACKS:
FRONT: 5 FEET (MAXIMUM)
SIDE: NR
REAR: 5 FEET
MAXIMUM BUILDING COVERAGE: 95%
MINIMUM OPEN SPACE: 5%

5. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE DEVELOPMENT ON ASSESSOR'S MAP 138 LOT 63.
6. VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.
7. DEVELOPER/CONDOMINIUM OWNERS WILL APPLY TO THE PORTSMOUTH DPW TO MAINTAIN THE LANDSCAPING IN THE "ADOPT A SPOT" PROGRAM.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

STATE OF NEW HAMPSHIRE — No. 738 — JOHN R. CHAGNON — SIGNATURE — LICENSED LAND SURVEYOR

SCALE: 1"=20' JANUARY 2024

SITE PLAN

C3

FB 444 & PG 1

5010135.2977.01

MANUAL TURNING MOVEMENT COUNT DATA

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 1

Groups Printed- Cars - Trucks

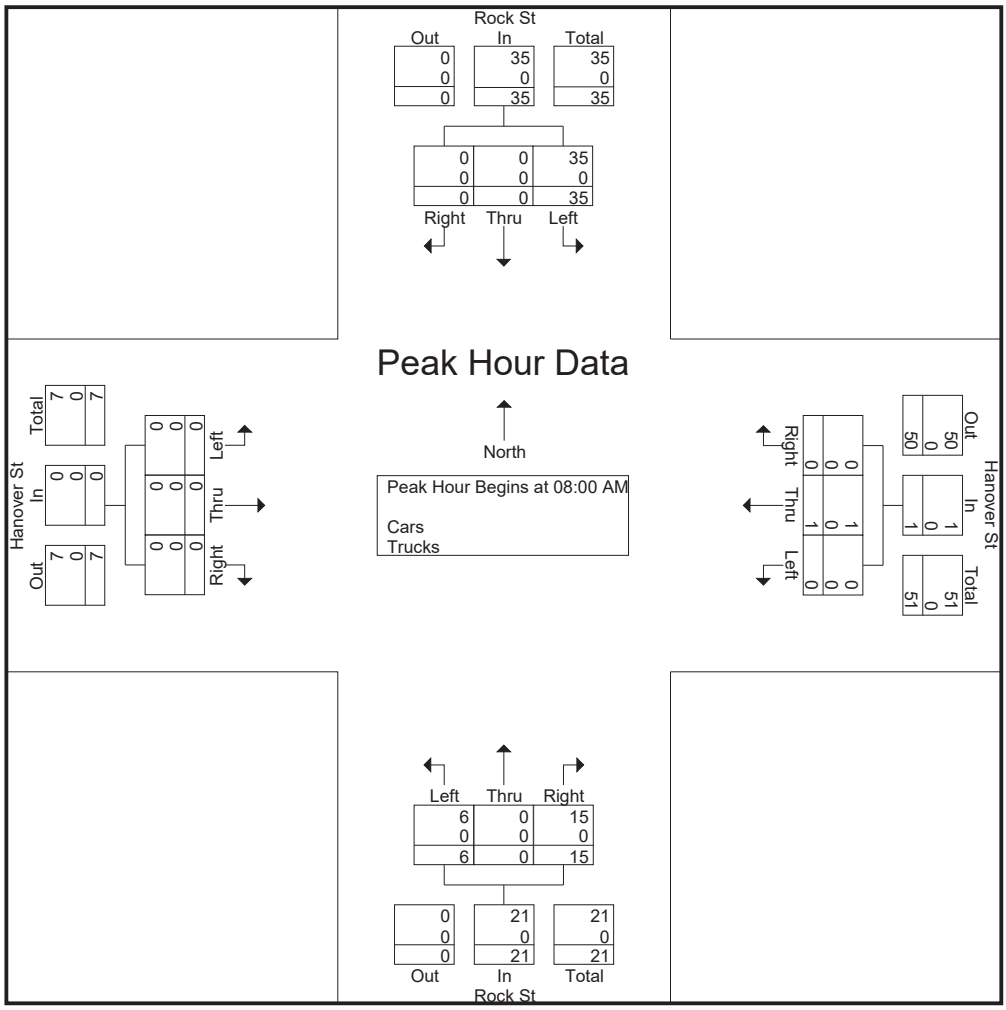
	Rock St From North			Hanover St From East			Rock St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	3	0	0	0	0	0	0	0	1	0	0	0	4
07:15 AM	4	0	0	0	0	0	1	0	2	0	0	0	7
07:30 AM	6	0	0	0	0	0	0	0	1	0	0	0	7
07:45 AM	6	0	2	0	0	1	2	0	2	0	0	0	13
Total	19	0	2	0	0	1	3	0	6	0	0	0	31
08:00 AM	5	0	0	0	0	0	1	0	3	0	0	0	9
08:15 AM	8	0	0	0	0	0	2	0	3	0	0	0	13
08:30 AM	12	0	0	0	0	0	2	0	4	0	0	0	18
08:45 AM	10	0	0	0	1	0	1	0	5	0	0	0	17
Total	35	0	0	0	1	0	6	0	15	0	0	0	57
Grand Total	54	0	2	0	1	1	9	0	21	0	0	0	88
Apprch %	96.4	0	3.6	0	50	50	30	0	70	0	0	0	
Total %	61.4	0	2.3	0	1.1	1.1	10.2	0	23.9	0	0	0	
Cars	54	0	2	0	1	1	9	0	21	0	0	0	88
% Cars	100	0	100	0	100	100	100	0	100	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	5	0	0	5	0	0	0	0	1	0	3	4	0	0	0	0	9
08:15 AM	8	0	0	8	0	0	0	0	**2**	0	3	5	0	0	0	0	13
08:30 AM	**12**	0	0	**12**	0	0	0	0	2	0	4	**6**	0	0	0	0	**18**
08:45 AM	10	0	0	10	0	**1**	0	**1**	1	0	**5**	6	0	0	0	0	17
Total Volume	35	0	0	35	0	1	0	1	6	0	15	21	0	0	0	0	57
% App. Total	100	0	0		0	100	0		28.6	0	71.4		0	0	0		
PHF	.729	.000	.000	.729	.000	.250	.000	.250	.750	.000	.750	.875	.000	.000	.000	.000	.792
Cars	35	0	0	35	0	1	0	1	6	0	15	21	0	0	0	0	57
% Cars	100	0	0	100	0	100	0	100	100	0	100	100	0	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

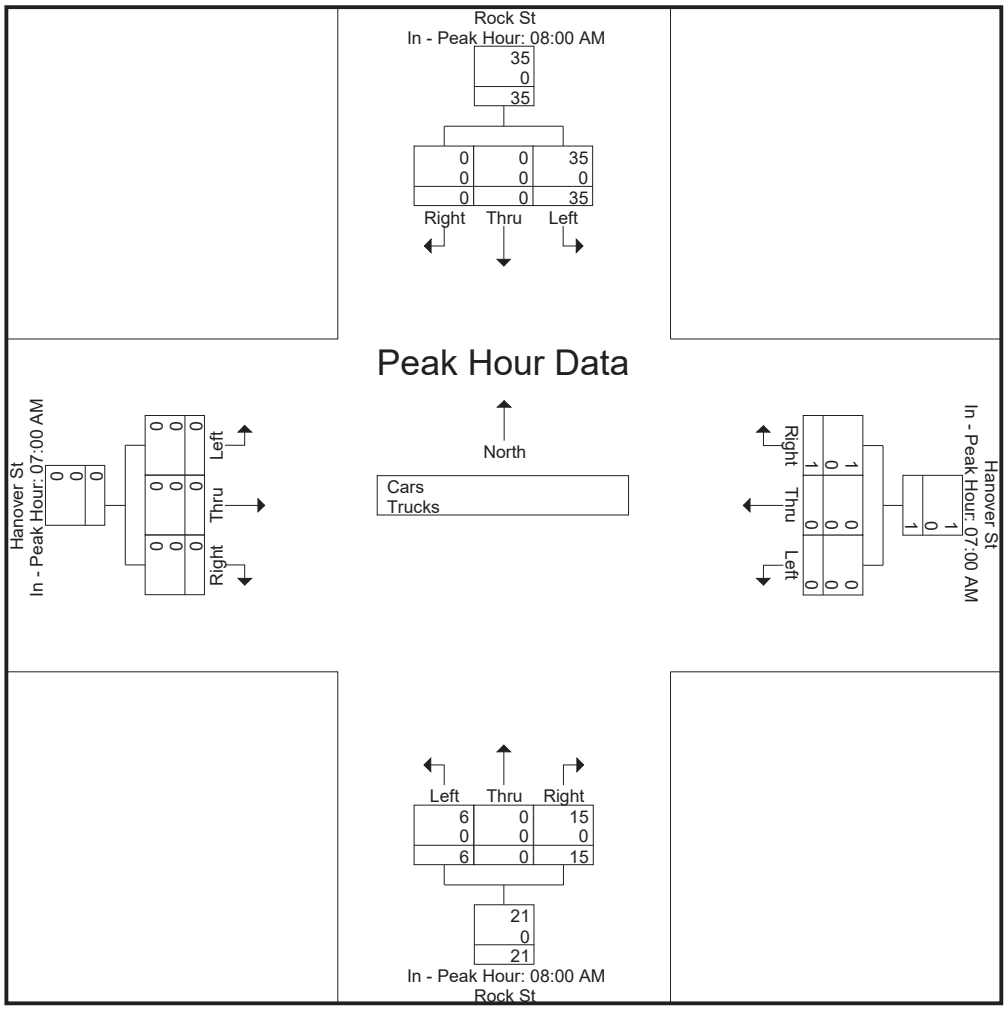
	08:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	5	0	0	5	0	0	0	0	1	0	3	4	0	0	0	0
+15 mins.	8	0	0	8	0	0	0	0	**2**	0	3	5	0	0	0	0
+30 mins.	**12**	0	0	**12**	0	0	0	0	2	0	4	**6**	0	0	0	0
+45 mins.	10	0	0	10	0	0	**1**	**1**	1	0	**5**	6	0	0	0	0
Total Volume	35	0	0	35	0	0	1	1	6	0	15	21	0	0	0	0
% App. Total	100	0	0		0	0	100		28.6	0	71.4		0	0	0	
PHF	.729	.000	.000	.729	.000	.000	.250	.250	.750	.000	.750	.875	.000	.000	.000	.000
Cars	35	0	0	35	0	0	1	1	6	0	15	21	0	0	0	0
% Cars	100	0	0	100	0	0	100	100	100	0	100	100	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 4

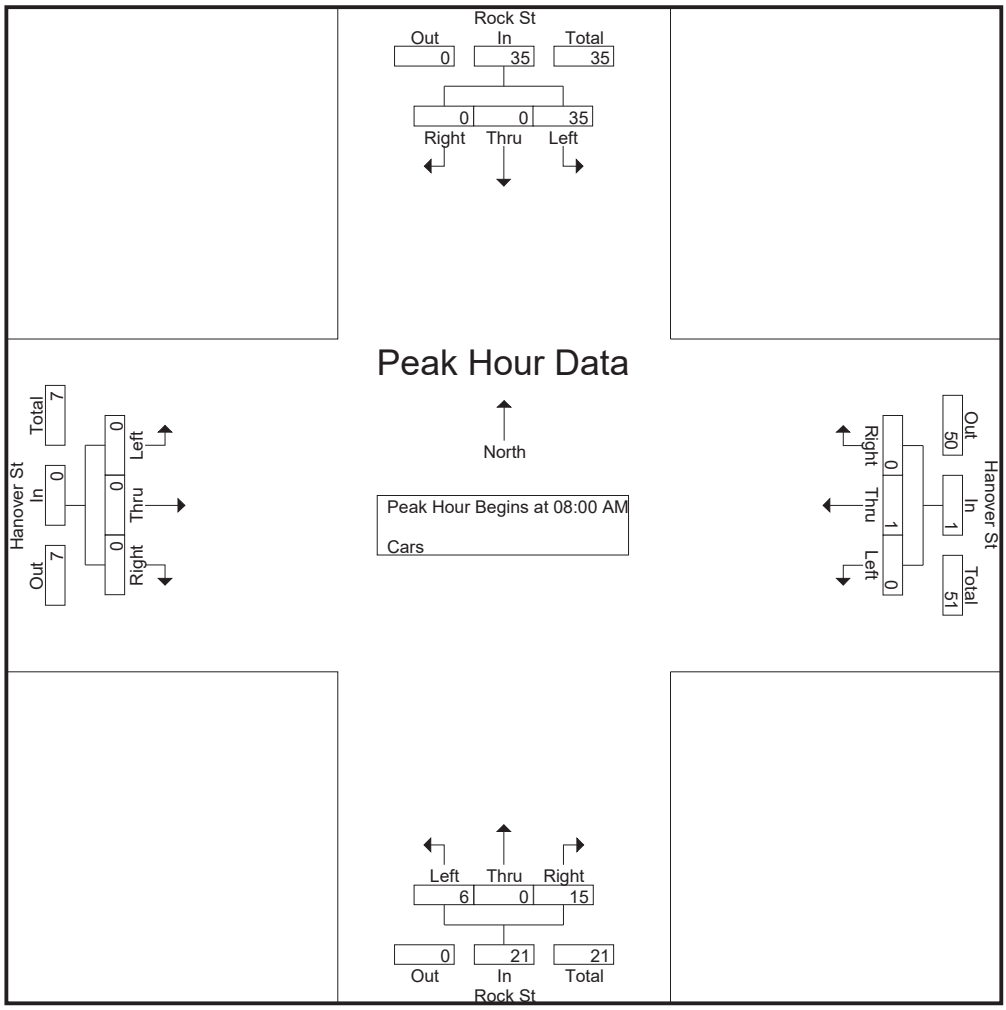
Groups Printed- Cars

	Rock St From North			Hanover St From East			Rock St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	3	0	0	0	0	0	0	0	1	0	0	0	4
07:15 AM	4	0	0	0	0	0	1	0	2	0	0	0	7
07:30 AM	6	0	0	0	0	0	0	0	1	0	0	0	7
07:45 AM	6	0	2	0	0	1	2	0	2	0	0	0	13
Total	19	0	2	0	0	1	3	0	6	0	0	0	31
08:00 AM	5	0	0	0	0	0	1	0	3	0	0	0	9
08:15 AM	8	0	0	0	0	0	2	0	3	0	0	0	13
08:30 AM	12	0	0	0	0	0	2	0	4	0	0	0	18
08:45 AM	10	0	0	0	1	0	1	0	5	0	0	0	17
Total	35	0	0	0	1	0	6	0	15	0	0	0	57
Grand Total	54	0	2	0	1	1	9	0	21	0	0	0	88
Apprch %	96.4	0	3.6	0	50	50	30	0	70	0	0	0	
Total %	61.4	0	2.3	0	1.1	1.1	10.2	0	23.9	0	0	0	

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	5	0	0	5	0	0	0	0	1	0	3	4	0	0	0	0	9
08:15 AM	8	0	0	8	0	0	0	0	**2**	0	3	5	0	0	0	0	13
08:30 AM	**12**	0	0	**12**	0	0	0	0	2	0	4	**6**	0	0	0	0	**18**
08:45 AM	10	0	0	10	0	**1**	0	**1**	1	0	**5**	6	0	0	0	0	17
Total Volume	35	0	0	35	0	1	0	1	6	0	15	21	0	0	0	0	57
% App. Total	100	0	0		0	100	0		28.6	0	71.4		0	0	0		
PHF	.729	.000	.000	.729	.000	.250	.000	.250	.750	.000	.750	.875	.000	.000	.000	.000	.792

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 5



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

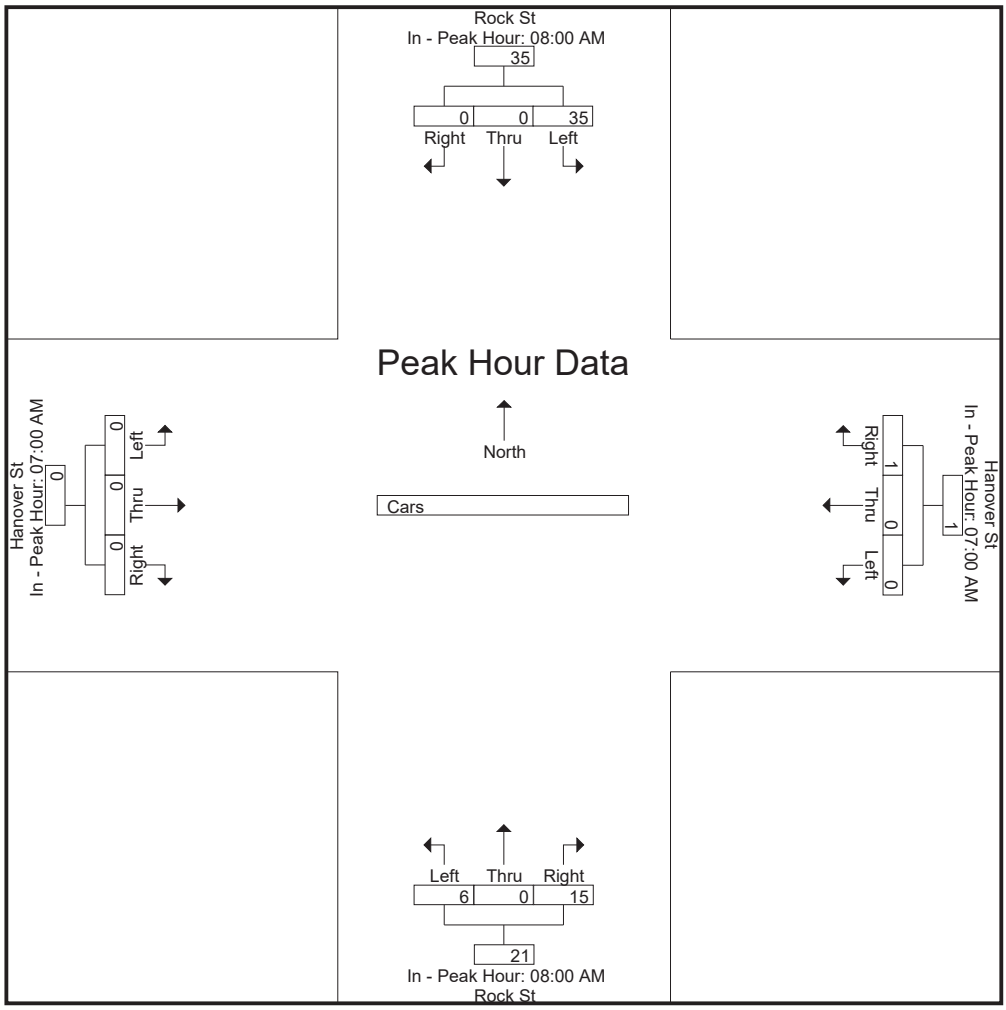
	08:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	5	0	0	5	0	0	0	0	1	0	3	4	0	0	0	0
+15 mins.	8	0	0	8	0	0	0	0	**2**	0	3	5	0	0	0	0
+30 mins.	**12**	0	0	**12**	0	0	0	0	2	0	4	**6**	0	0	0	0
+45 mins.	10	0	0	10	0	0	**1**	**1**	1	0	**5**	6	0	0	0	0
Total Volume	35	0	0	35	0	0	1	1	6	0	15	21	0	0	0	0
% App. Total	100	0	0		0	0	100		28.6	0	71.4		0	0	0	
PHF	.729	.000	.000	.729	.000	.000	.250	.250	.750	.000	.750	.875	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 7

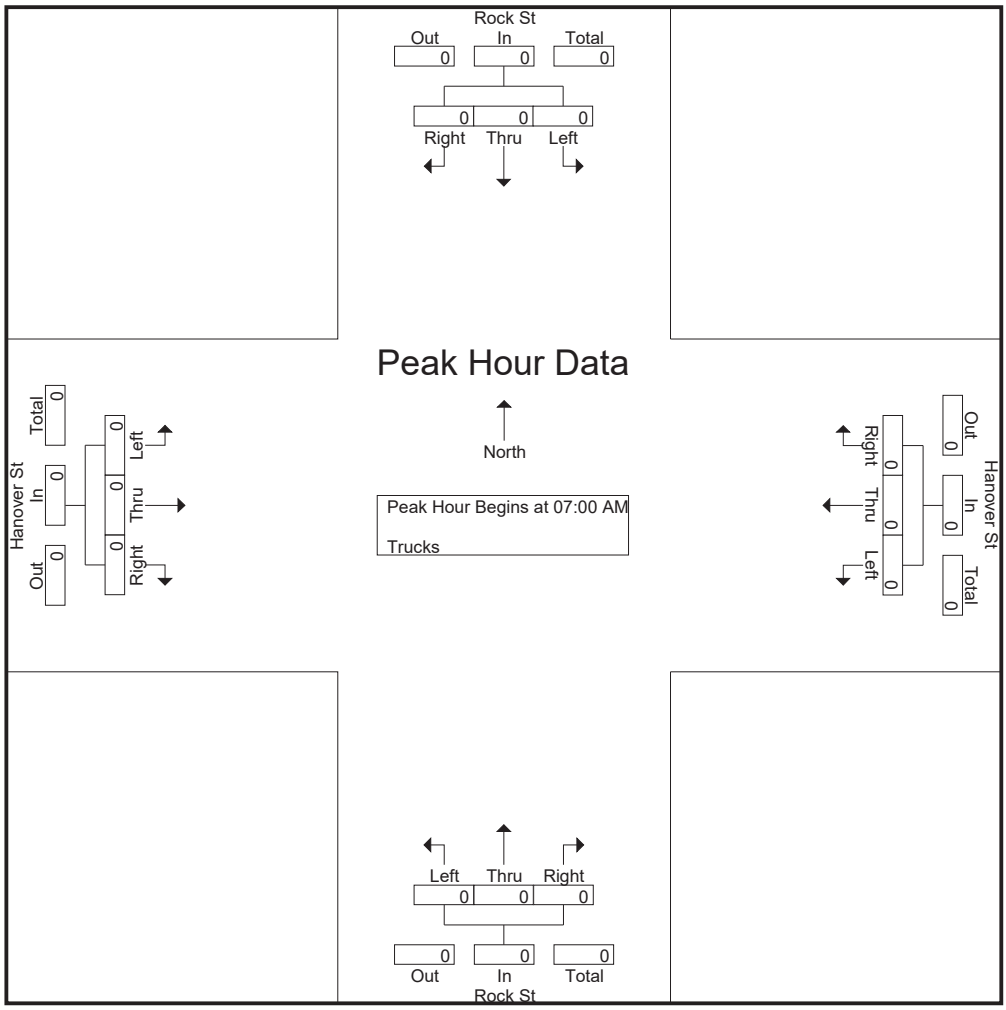
Groups Printed- Trucks

	Rock St From North			Hanover St From East			Rock St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	
Total %													

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 8



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

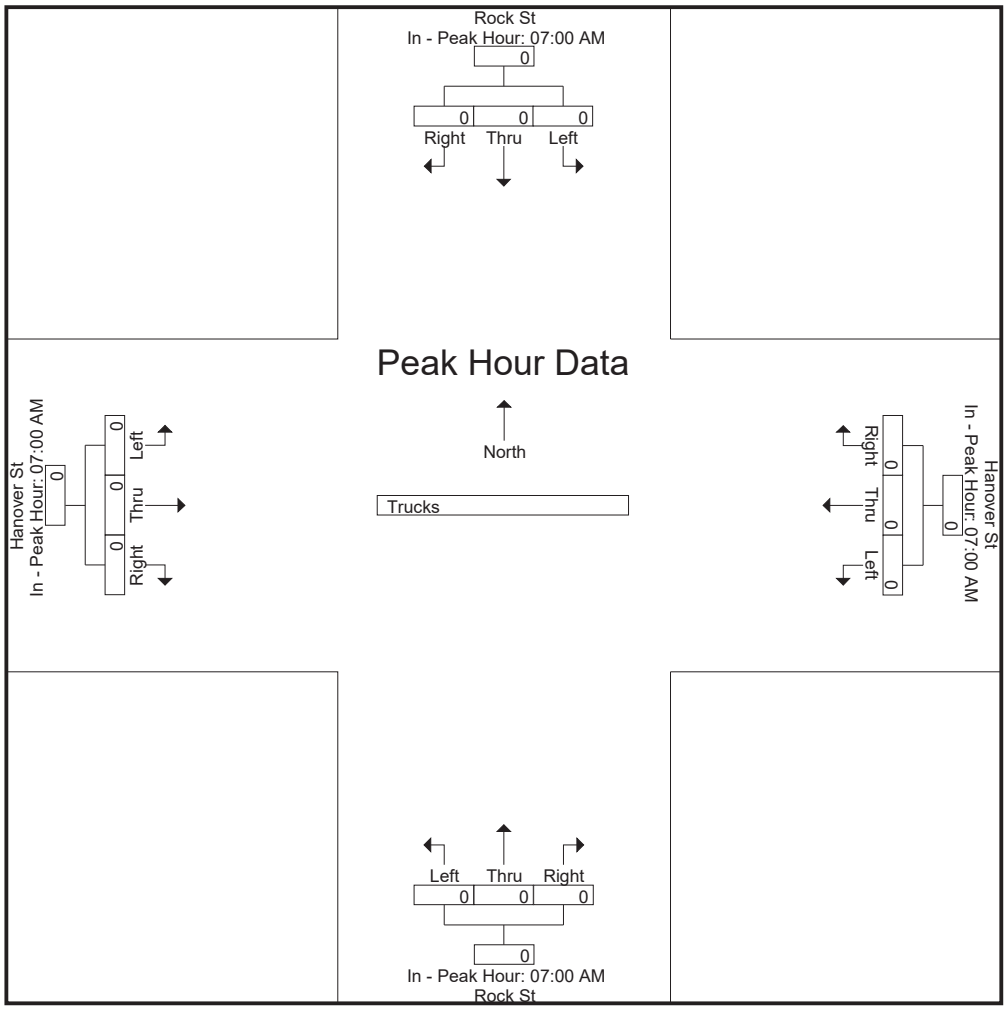
	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 10

Groups Printed- Bikes Peds

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	6	0	6
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	2	8	0	8
08:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	2
08:15 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	3	0	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	1	10	0	10
08:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	2
Total	0	0	0	1	0	1	0	3	0	0	0	10	0	0	0	2	16	1	17
Grand Total	0	0	0	4	0	1	0	3	0	0	0	13	0	0	0	4	24	1	25
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		96	4	

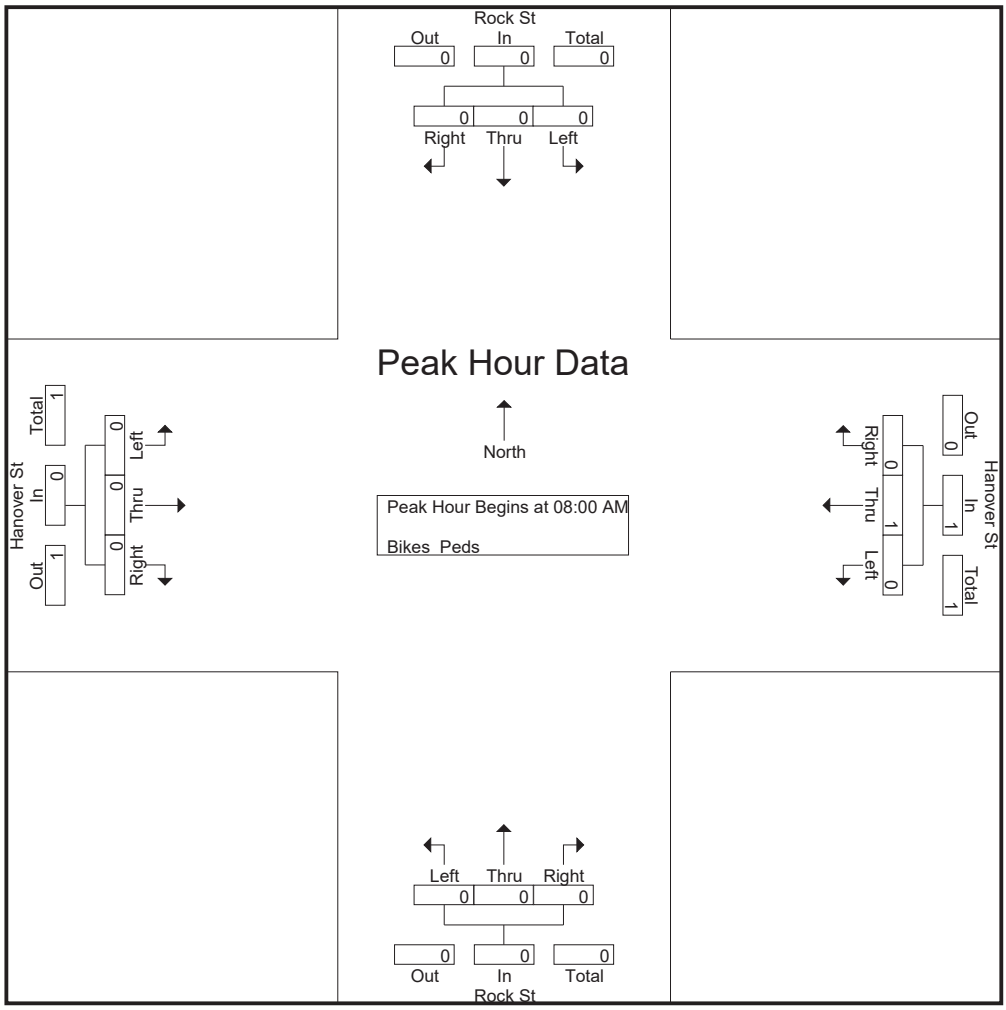
	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 11



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

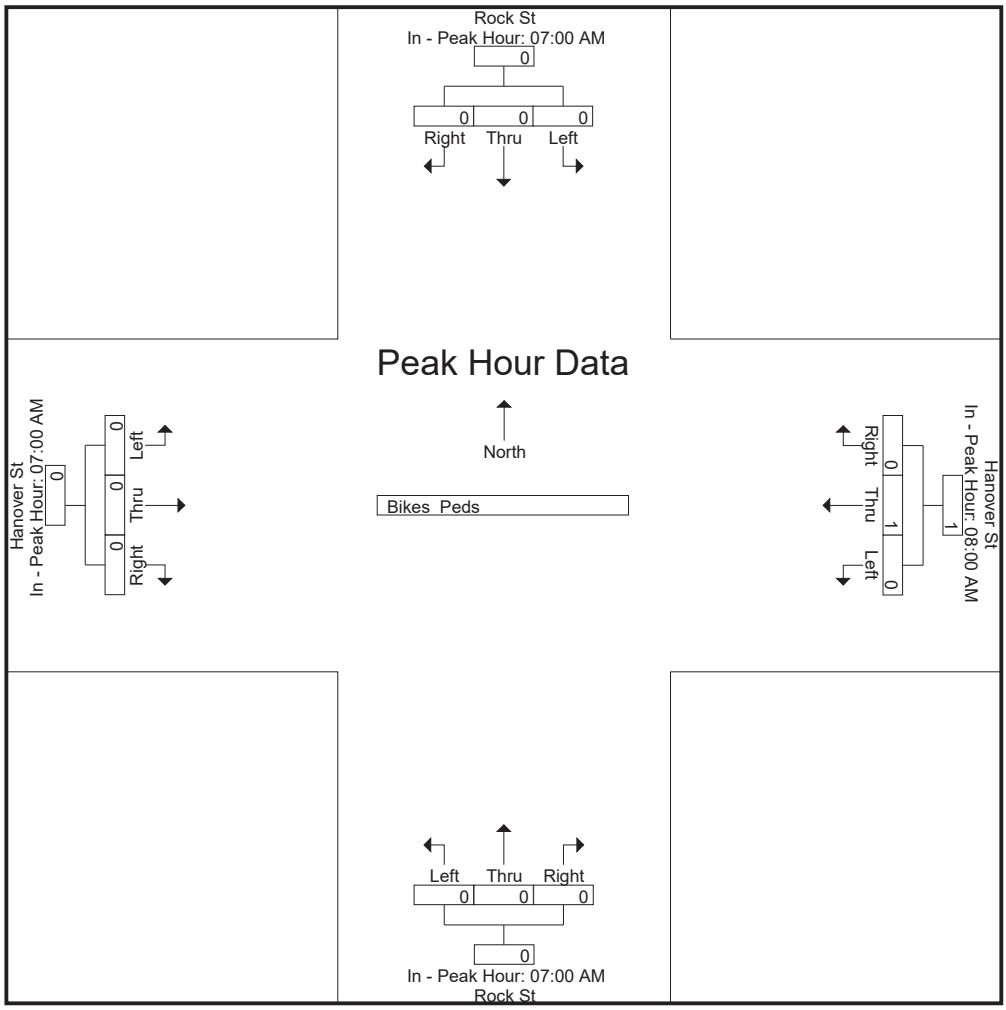
	07:00 AM				08:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 1

Groups Printed- Cars - Trucks

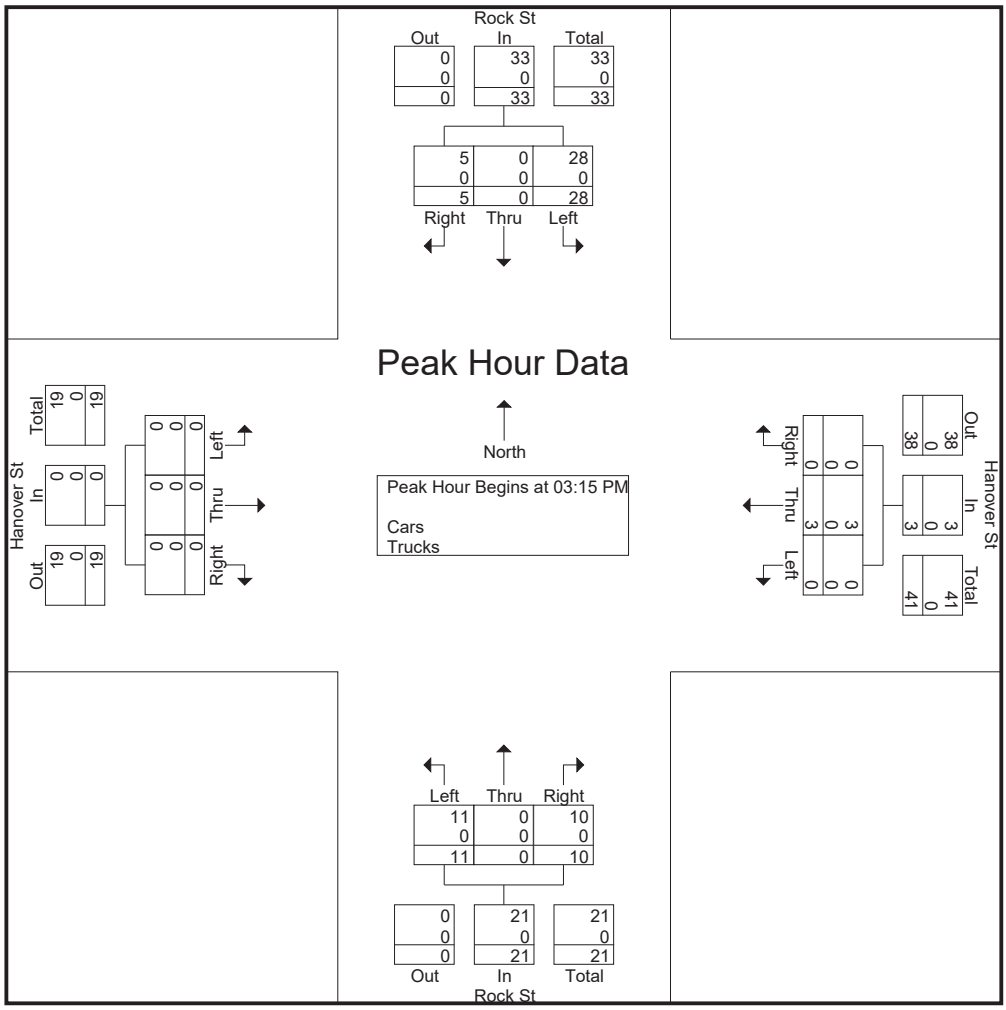
	Rock St From North			Hanover St From East			Rock St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	8	0	0	0	1	0	1	0	1	0	0	0	11
03:15 PM	9	0	2	0	1	0	6	0	3	0	0	0	21
03:30 PM	3	0	1	0	0	0	1	0	1	0	0	0	6
03:45 PM	9	0	0	0	2	0	1	0	3	0	0	0	15
Total	29	0	3	0	4	0	9	0	8	0	0	0	53
04:00 PM	7	0	2	0	0	0	3	0	3	0	0	0	15
04:15 PM	12	0	0	1	0	0	0	1	1	0	0	0	15
04:30 PM	5	0	0	0	0	0	1	1	3	0	0	0	10
04:45 PM	6	0	1	0	2	1	2	1	1	0	0	0	14
Total	30	0	3	1	2	1	6	3	8	0	0	0	54
05:00 PM	10	0	0	0	0	0	2	0	1	0	0	0	13
05:15 PM	4	0	0	0	0	0	0	1	0	0	0	0	5
05:30 PM	5	0	0	0	0	1	3	1	1	0	0	0	11
05:45 PM	6	0	0	0	3	0	1	0	1	0	0	0	11
Total	25	0	0	0	3	1	6	2	3	0	0	0	40
Grand Total	84	0	6	1	9	2	21	5	19	0	0	0	147
Apprch %	93.3	0	6.7	8.3	75	16.7	46.7	11.1	42.2	0	0	0	
Total %	57.1	0	4.1	0.7	6.1	1.4	14.3	3.4	12.9	0	0	0	
Cars	84	0	6	1	9	2	21	5	19	0	0	0	147
% Cars	100	0	100	100	100	100	100	100	100	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	**9**	0	**2**	**11**	0	1	0	1	**6**	0	**3**	**9**	0	0	0	0	**21**
03:30 PM	3	0	1	4	0	0	0	0	1	0	1	2	0	0	0	0	6
03:45 PM	9	0	0	9	0	**2**	0	**2**	1	0	3	4	0	0	0	0	15
04:00 PM	7	0	2	9	0	0	0	0	3	0	3	6	0	0	0	0	15
Total Volume	28	0	5	33	0	3	0	3	11	0	10	21	0	0	0	0	57
% App. Total	84.8	0	15.2		0	100	0		52.4	0	47.6		0	0	0		
PHF	.778	.000	.625	.750	.000	.375	.000	.375	.458	.000	.833	.583	.000	.000	.000	.000	.679
Cars	28	0	5	33	0	3	0	3	11	0	10	21	0	0	0	0	57
% Cars	100	0	100	100	0	100	0	100	100	0	100	100	0	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 2



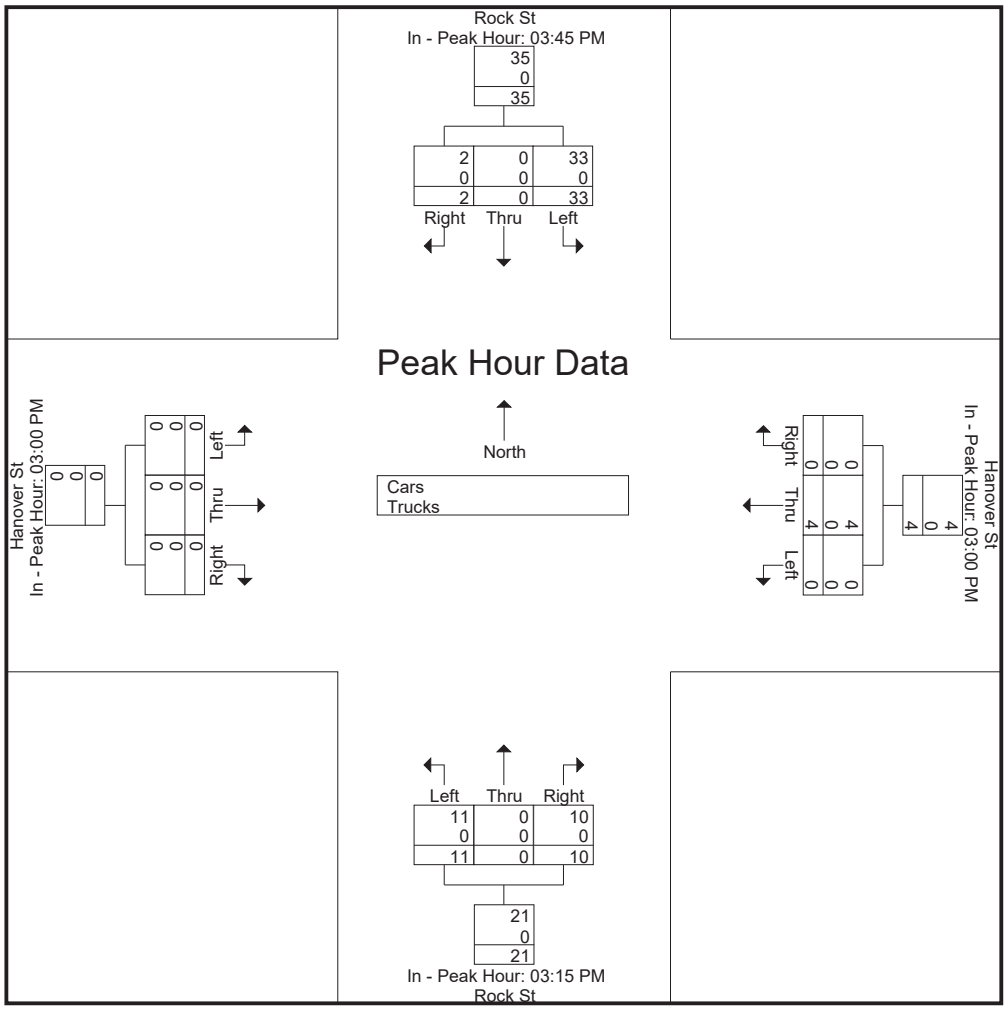
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:45 PM				03:00 PM				03:15 PM				03:00 PM			
+0 mins.	9	0	0	9	0	1	0	1	**6**	0	**3**	**9**	0	0	0	0
+15 mins.	7	0	**2**	9	0	1	0	1	1	0	1	2	0	0	0	0
+30 mins.	**12**	0	0	**12**	0	0	0	0	1	0	3	4	0	0	0	0
+45 mins.	5	0	0	5	0	**2**	0	**2**	3	0	3	6	0	0	0	0
Total Volume	33	0	2	35	0	4	0	4	11	0	10	21	0	0	0	0
% App. Total	94.3	0	5.7		0	100	0		52.4	0	47.6		0	0	0	
PHF	.688	.000	.250	.729	.000	.500	.000	.500	.458	.000	.833	.583	.000	.000	.000	.000
Cars	33	0	2	35	0	4	0	4	11	0	10	21	0	0	0	0
% Cars	100	0	100	100	0	100	0	100	100	0	100	100	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 4

Groups Printed- Cars

	Rock St From North			Hanover St From East			Rock St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	8	0	0	0	1	0	1	0	1	0	0	0	11
03:15 PM	9	0	2	0	1	0	6	0	3	0	0	0	21
03:30 PM	3	0	1	0	0	0	1	0	1	0	0	0	6
03:45 PM	9	0	0	0	2	0	1	0	3	0	0	0	15
Total	29	0	3	0	4	0	9	0	8	0	0	0	53
04:00 PM	7	0	2	0	0	0	3	0	3	0	0	0	15
04:15 PM	12	0	0	1	0	0	0	1	1	0	0	0	15
04:30 PM	5	0	0	0	0	0	1	1	3	0	0	0	10
04:45 PM	6	0	1	0	2	1	2	1	1	0	0	0	14
Total	30	0	3	1	2	1	6	3	8	0	0	0	54
05:00 PM	10	0	0	0	0	0	2	0	1	0	0	0	13
05:15 PM	4	0	0	0	0	0	0	1	0	0	0	0	5
05:30 PM	5	0	0	0	0	1	3	1	1	0	0	0	11
05:45 PM	6	0	0	0	3	0	1	0	1	0	0	0	11
Total	25	0	0	0	3	1	6	2	3	0	0	0	40
Grand Total	84	0	6	1	9	2	21	5	19	0	0	0	147
Apprch %	93.3	0	6.7	8.3	75	16.7	46.7	11.1	42.2	0	0	0	
Total %	57.1	0	4.1	0.7	6.1	1.4	14.3	3.4	12.9	0	0	0	

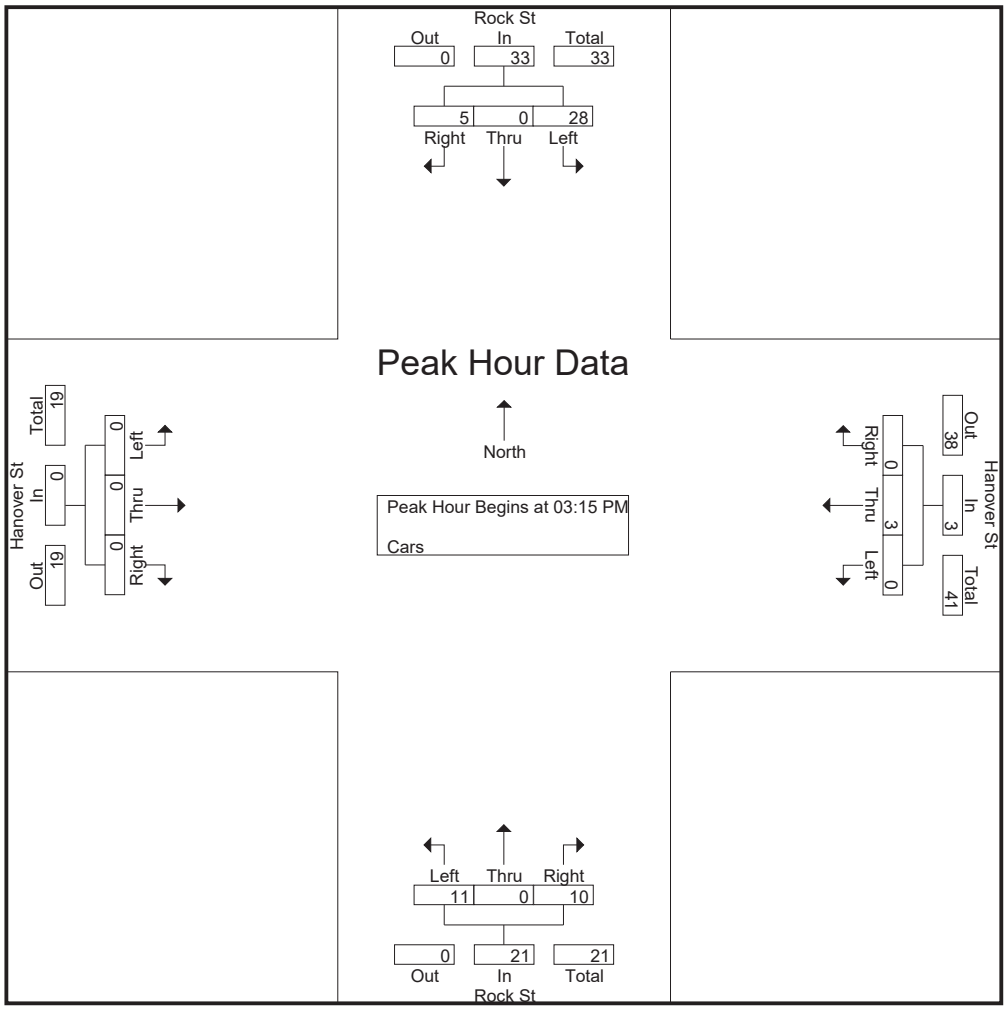
	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	**9**	0	**2**	**11**	0	1	0	1	**6**	0	**3**	**9**	0	0	0	0	**21**
03:30 PM	3	0	1	4	0	0	0	0	1	0	1	2	0	0	0	0	6
03:45 PM	9	0	0	9	0	**2**	0	**2**	1	0	3	4	0	0	0	0	15
04:00 PM	7	0	2	9	0	0	0	0	3	0	3	6	0	0	0	0	15
Total Volume	28	0	5	33	0	3	0	3	11	0	10	21	0	0	0	0	57
% App. Total	84.8	0	15.2		0	100	0		52.4	0	47.6		0	0	0		
PHF	.778	.000	.625	.750	.000	.375	.000	.375	.458	.000	.833	.583	.000	.000	.000	.000	.679

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 5



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

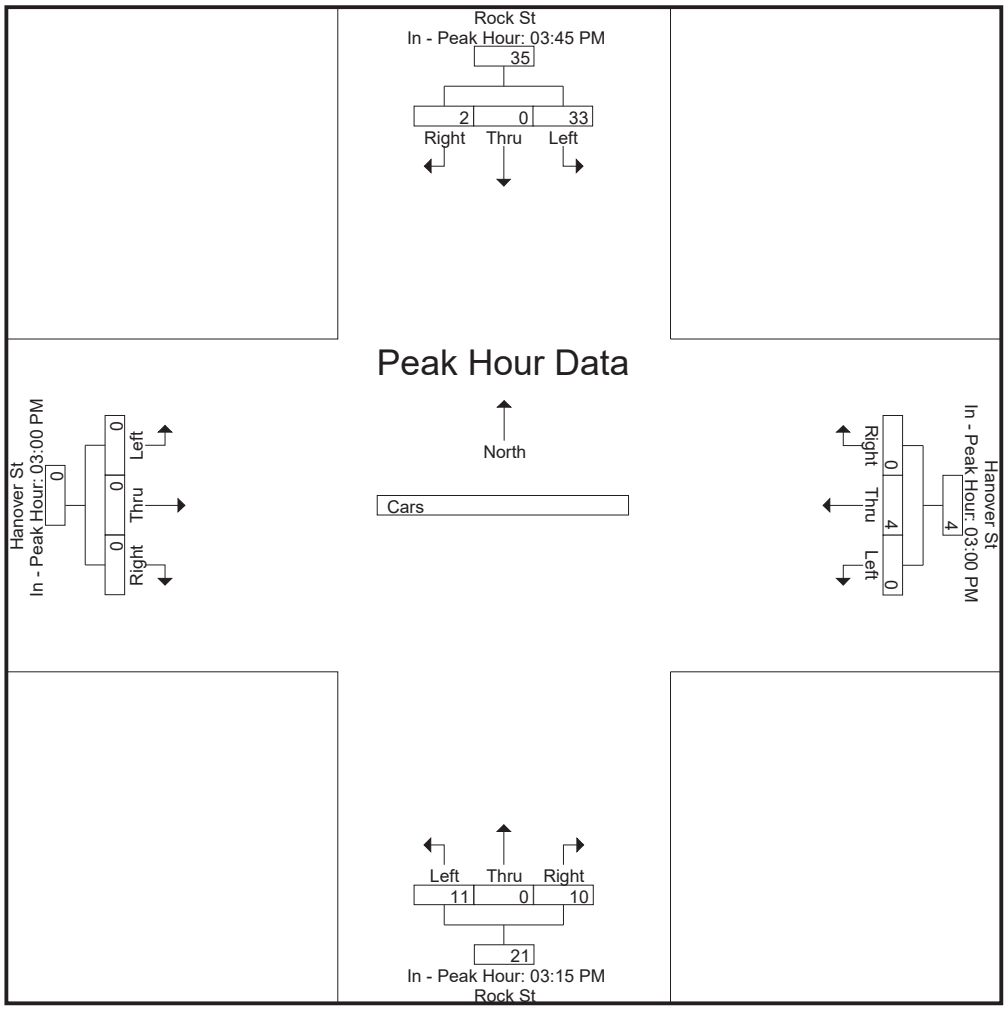
	03:45 PM				03:00 PM				03:15 PM				03:00 PM			
+0 mins.	9	0	0	9	0	1	0	1	**6**	0	**3**	**9**	0	0	0	0
+15 mins.	7	0	**2**	9	0	1	0	1	1	0	1	2	0	0	0	0
+30 mins.	**12**	0	0	**12**	0	0	0	0	1	0	3	4	0	0	0	0
+45 mins.	5	0	0	5	0	**2**	0	**2**	3	0	3	6	0	0	0	0
Total Volume	33	0	2	35	0	4	0	4	11	0	10	21	0	0	0	0
% App. Total	94.3	0	5.7		0	100	0		52.4	0	47.6		0	0	0	
PHF	.688	.000	.250	.729	.000	.500	.000	.500	.458	.000	.833	.583	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 7

Groups Printed- Trucks

	Rock St From North			Hanover St From East			Rock St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	
Total %													

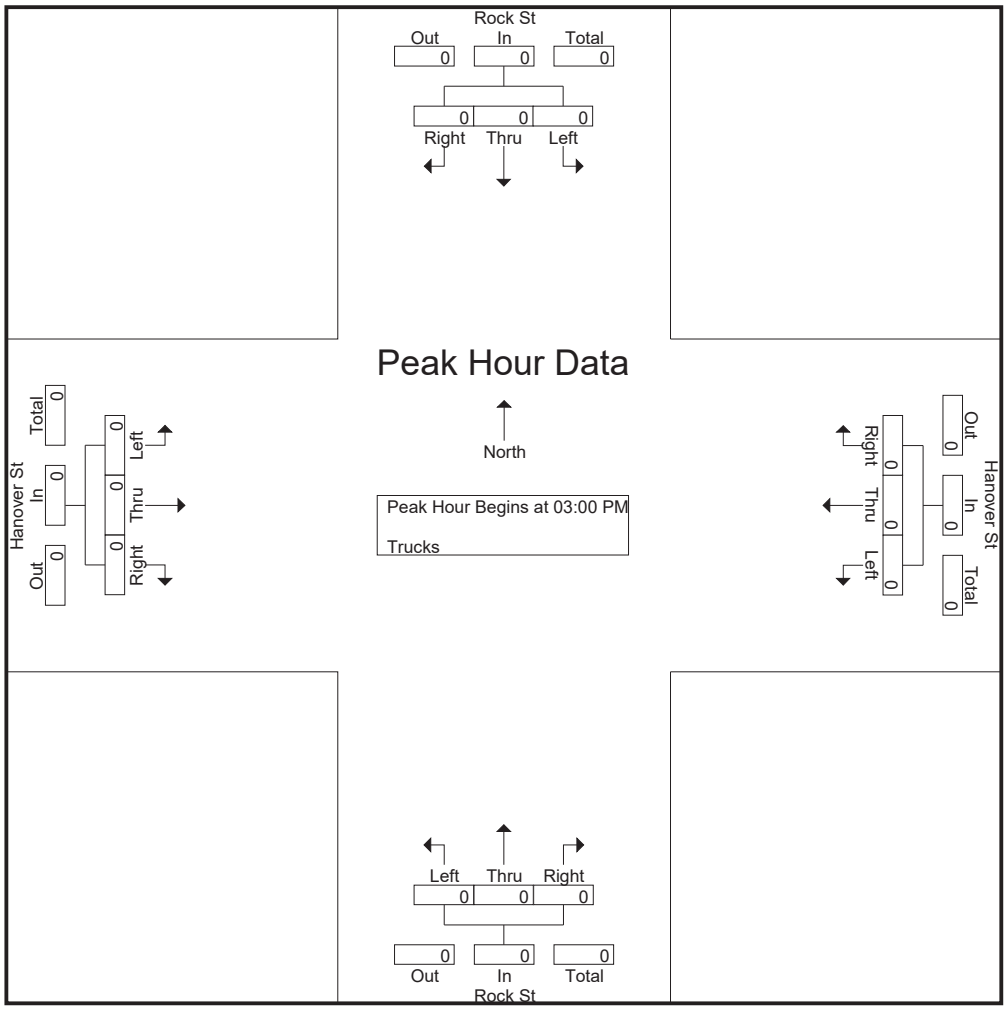
	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 8



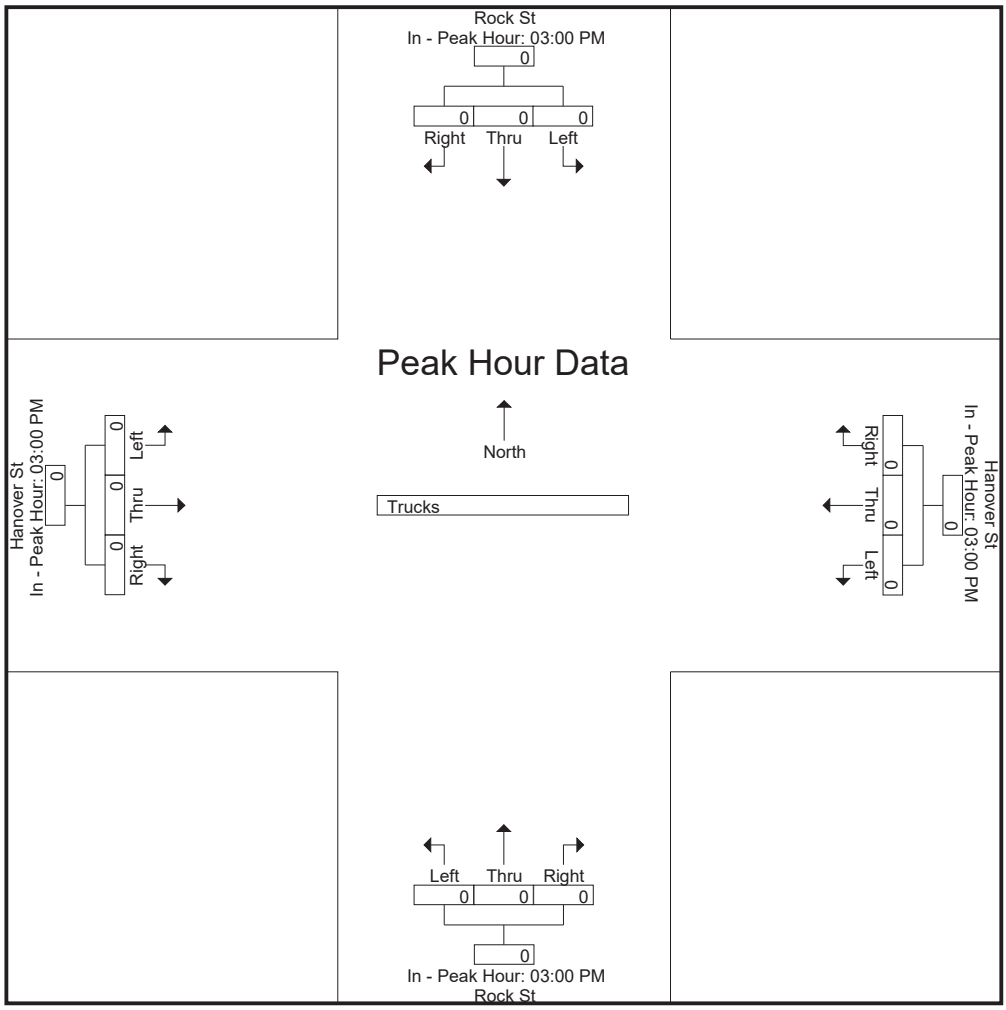
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024

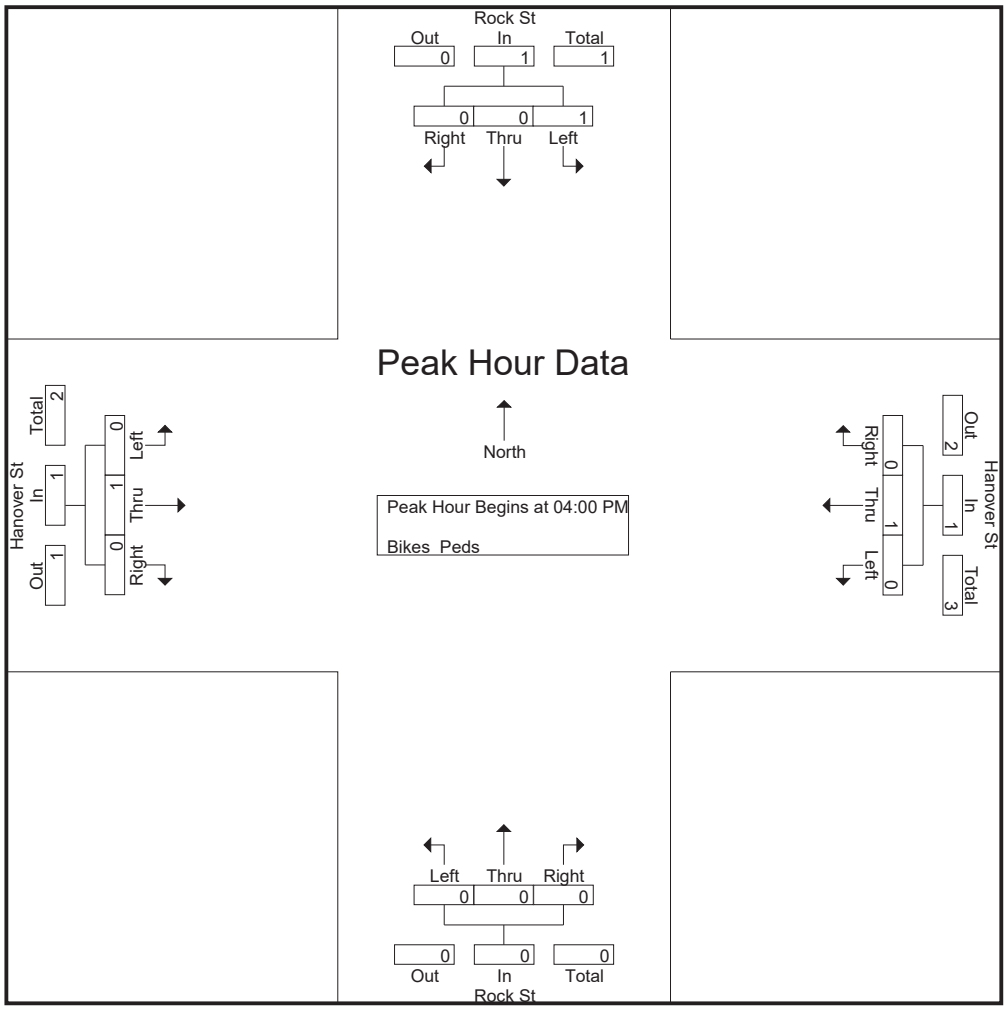
Groups Printed- Bikes Peds

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
03:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	2	6	0	6
03:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
03:45 PM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	7	0	7
Total	0	0	0	4	0	0	0	2	0	1	0	6	0	0	0	5	17	1	18
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	1	3
04:15 PM	1	0	0	1	0	0	0	0	0	0	0	5	0	0	0	4	10	1	11
04:30 PM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	4	0	4
04:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	1	4	1	5
Total	1	0	0	5	0	1	0	2	0	0	0	7	0	1	0	6	20	3	23
05:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	2
05:30 PM	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	5	0	5
05:45 PM	1	0	0	2	0	0	0	2	0	0	0	4	0	0	0	1	9	1	10
Total	1	0	0	4	0	0	0	7	0	0	0	5	0	0	0	2	18	1	19
Grand Total	2	0	0	13	0	1	0	11	0	1	0	18	0	1	0	13	55	5	60
Apprch %	100	0	0		0	100	0		0	100	0		0	100	0				
Total %	40	0	0		0	20	0		0	20	0		0	20	0		91.7	8.3	

	Rock St From North				Hanover St From East				Rock St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
04:15 PM	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
Total Volume	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3
% App. Total	100	0	0		0	100	0		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.750

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 11



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

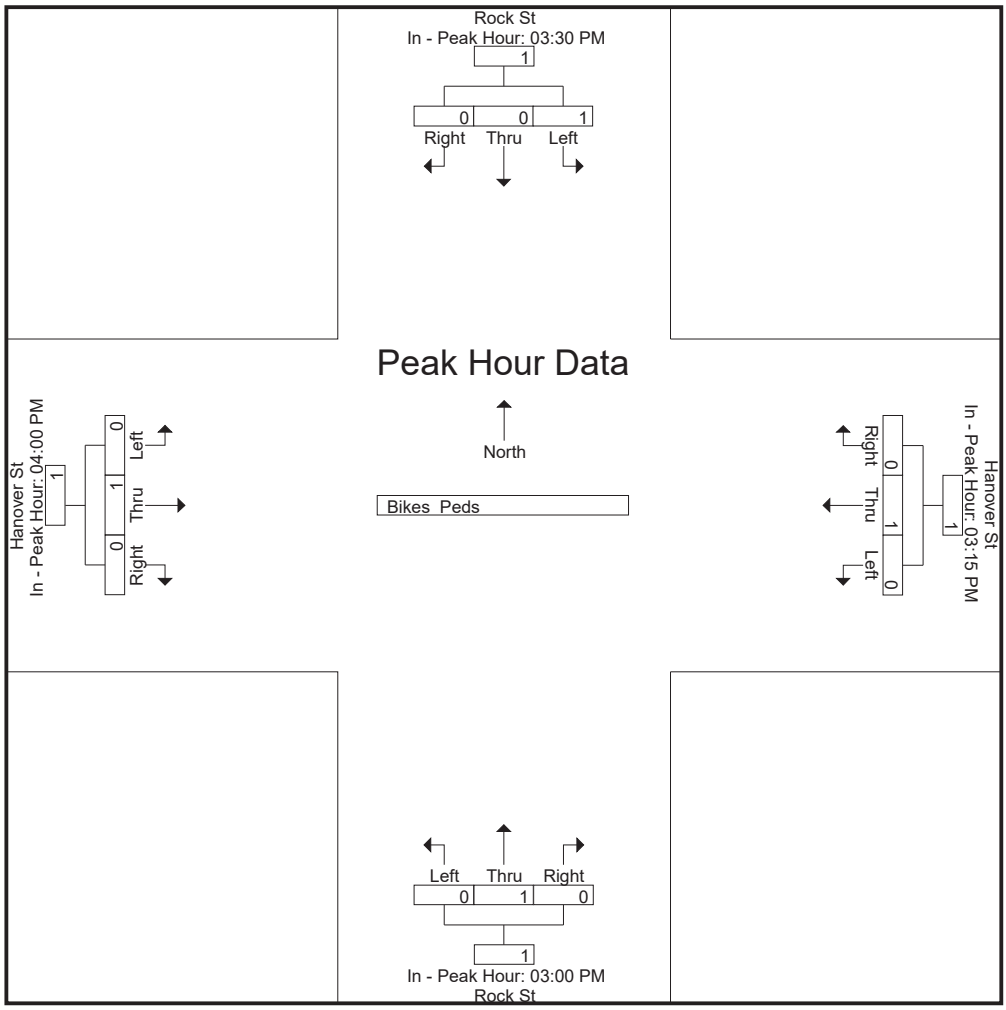
	03:30 PM				03:15 PM				03:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	**1**	0	0	**1**	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**
Total Volume	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
% App. Total	100	0	0		0	100	0		0	100	0		0	100	0	
PHF	.250	.000	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250

Accurate Counts

978-664-2565

N/S Street : Rock Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068001
Site Code : 10068001
Start Date : 8/6/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 1

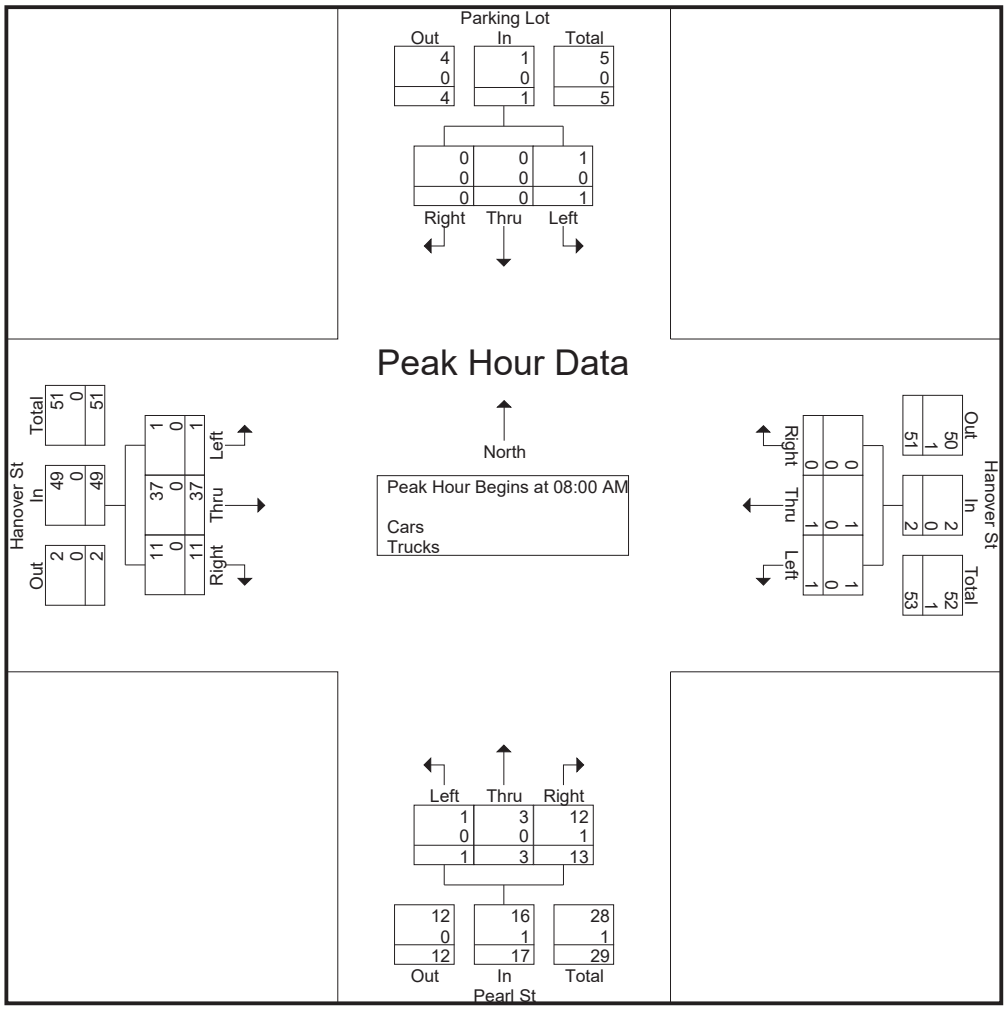
Groups Printed- Cars - Trucks

	Parking Lot From North			Hanover St From East			Pearl St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0	4	0	0	5	0	9
07:15 AM	0	0	0	0	0	0	0	0	2	0	6	0	8
07:30 AM	0	0	0	0	0	0	0	1	2	0	6	1	10
07:45 AM	1	0	0	0	1	0	0	2	3	1	5	2	15
Total	1	0	0	0	1	0	0	7	7	1	22	3	42
08:00 AM	1	0	0	0	0	0	0	0	4	0	4	4	13
08:15 AM	0	0	0	1	0	0	0	1	2	1	10	0	15
08:30 AM	0	0	0	0	0	0	0	1	4	0	11	5	21
08:45 AM	0	0	0	0	1	0	1	1	3	0	12	2	20
Total	1	0	0	1	1	0	1	3	13	1	37	11	69
Grand Total	2	0	0	1	2	0	1	10	20	2	59	14	111
Apprch %	100	0	0	33.3	66.7	0	3.2	32.3	64.5	2.7	78.7	18.7	
Total %	1.8	0	0	0.9	1.8	0	0.9	9	18	1.8	53.2	12.6	
Cars	2	0	0	1	2	0	1	10	19	2	59	14	110
% Cars	100	0	0	100	100	0	100	100	95	100	100	100	99.1
Trucks	0	0	0	0	0	0	0	0	1	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	5	0	0	0	0.9

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**1**	0	0	**1**	0	0	0	0	0	0	**4**	4	0	4	4	8	13
08:15 AM	0	0	0	0	**1**	0	0	**1**	0	**1**	2	3	**1**	10	0	11	15
08:30 AM	0	0	0	0	0	0	0	0	0	1	4	**5**	0	11	**5**	**16**	**21**
08:45 AM	0	0	0	0	0	**1**	0	1	**1**	1	3	5	0	**12**	2	14	20
Total Volume	1	0	0	1	1	1	0	2	1	3	13	17	1	37	11	49	69
% App. Total	100	0	0		50	50	0		5.9	17.6	76.5		2	75.5	22.4		
PHF	.250	.000	.000	.250	.250	.250	.000	.500	.250	.750	.813	.850	.250	.771	.550	.766	.821
Cars	1	0	0	1	1	1	0	2	1	3	12	16	1	37	11	49	68
% Cars	100	0	0	100	100	100	0	100	100	100	92.3	94.1	100	100	100	100	98.6
Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	7.7	5.9	0	0	0	0	1.4

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 2



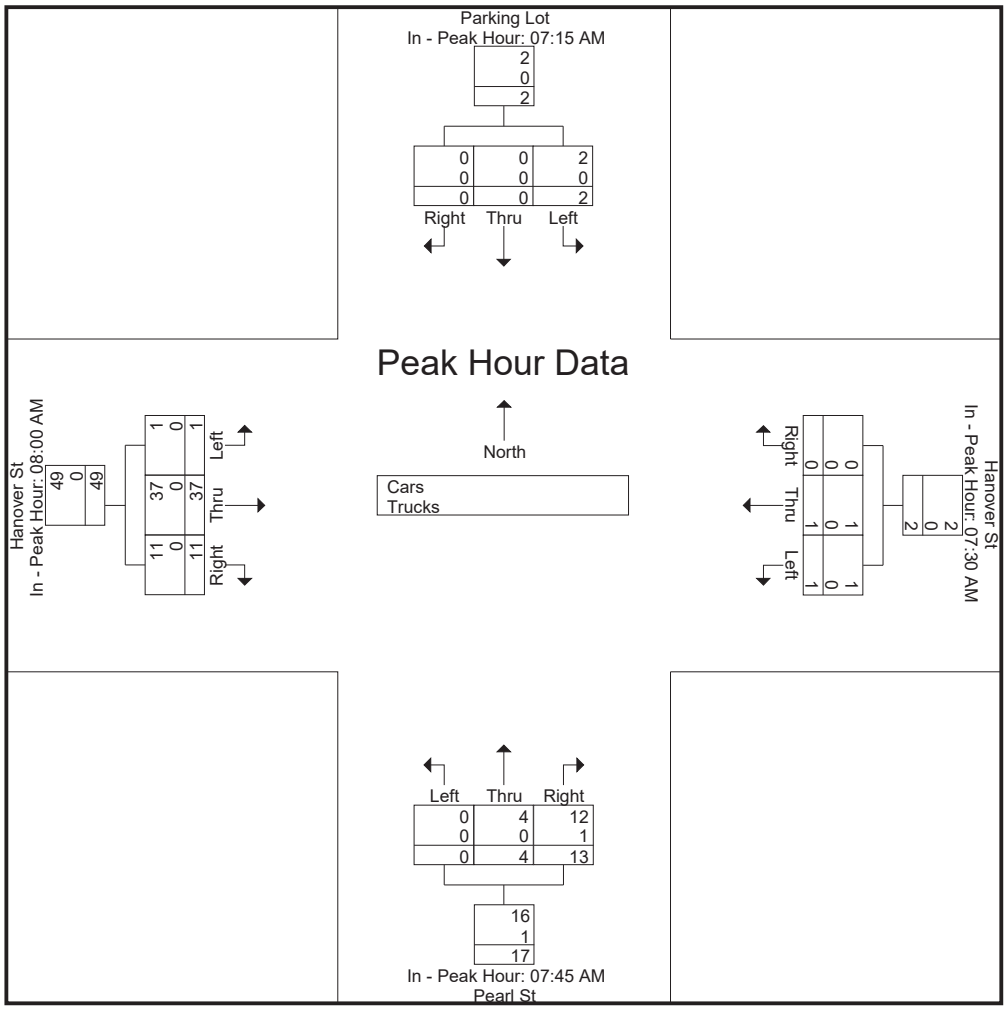
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**2**	3	**5**	0	4	4	8
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	**4**	4	**1**	10	0	11
+30 mins.	**1**	0	0	**1**	0	0	0	0	0	1	2	3	0	11	**5**	**16**
+45 mins.	1	0	0	1	**1**	0	0	1	0	1	4	5	0	**12**	2	14
Total Volume	2	0	0	2	1	1	0	2	0	4	13	17	1	37	11	49
% App. Total	100	0	0		50	50	0		0	23.5	76.5		2	75.5	22.4	
PHF	.500	.000	.000	.500	.250	.250	.000	.500	.000	.500	.813	.850	.250	.771	.550	.766
Cars	2	0	0	2	1	1	0	2	0	4	12	16	1	37	11	49
% Cars	100	0	0	100	100	100	0	100	0	100	92.3	94.1	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	7.7	5.9	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024

Groups Printed- Cars

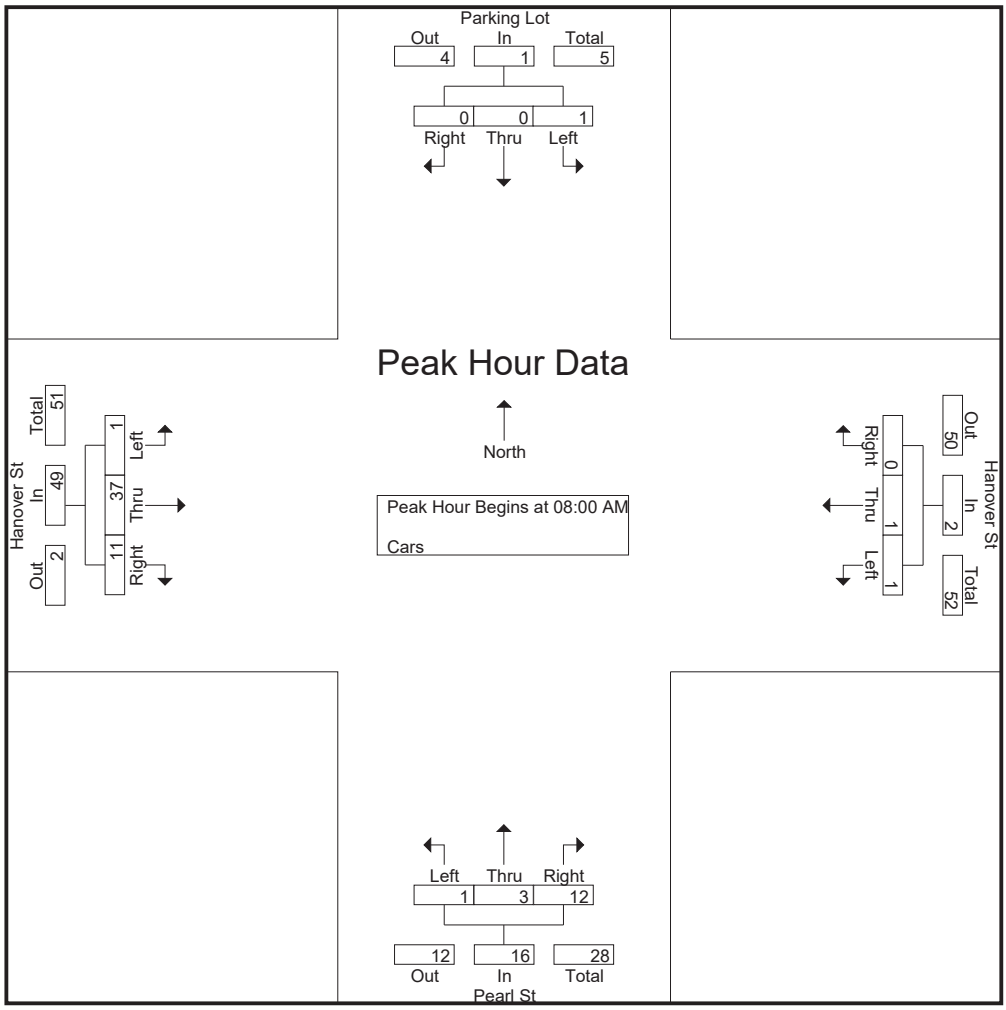
	Parking Lot From North			Hanover St From East			Pearl St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0	4	0	0	5	0	9
07:15 AM	0	0	0	0	0	0	0	0	2	0	6	0	8
07:30 AM	0	0	0	0	0	0	0	1	2	0	6	1	10
07:45 AM	1	0	0	0	1	0	0	2	3	1	5	2	15
Total	1	0	0	0	1	0	0	7	7	1	22	3	42
08:00 AM	1	0	0	0	0	0	0	0	3	0	4	4	12
08:15 AM	0	0	0	1	0	0	0	1	2	1	10	0	15
08:30 AM	0	0	0	0	0	0	0	1	4	0	11	5	21
08:45 AM	0	0	0	0	1	0	1	1	3	0	12	2	20
Total	1	0	0	1	1	0	1	3	12	1	37	11	68
Grand Total	2	0	0	1	2	0	1	10	19	2	59	14	110
Apprch %	100	0	0	33.3	66.7	0	3.3	33.3	63.3	2.7	78.7	18.7	
Total %	1.8	0	0	0.9	1.8	0	0.9	9.1	17.3	1.8	53.6	12.7	

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**1**	0	0	**1**	0	0	0	0	0	0	3	3	0	4	4	8	12
08:15 AM	0	0	0	0	**1**	0	0	**1**	0	**1**	2	3	**1**	10	0	11	15
08:30 AM	0	0	0	0	0	0	0	0	0	1	**4**	**5**	0	11	**5**	**16**	**21**
08:45 AM	0	0	0	0	0	**1**	0	1	**1**	1	3	5	0	**12**	2	14	20
Total Volume	1	0	0	1	1	1	0	2	1	3	12	16	1	37	11	49	68
% App. Total	100	0	0		50	50	0		6.2	18.8	75		2	75.5	22.4		
PHF	.250	.000	.000	.250	.250	.250	.000	.500	.250	.750	.750	.800	.250	.771	.550	.766	.810

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
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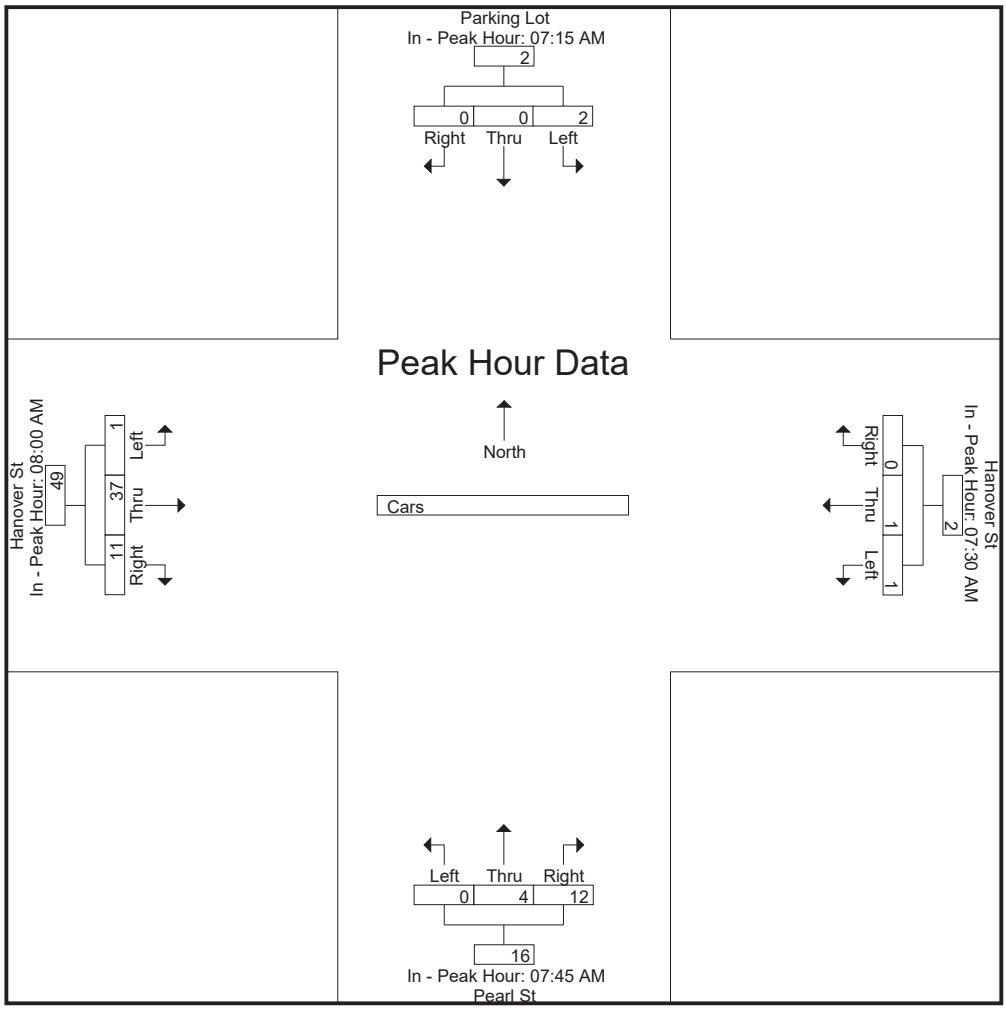
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**2**	3	**5**	0	4	4	8
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	3	3	**1**	10	0	11
+30 mins.	**1**	0	0	**1**	0	0	0	0	0	1	2	3	0	11	**5**	**16**
+45 mins.	1	0	0	1	**1**	0	0	1	0	1	**4**	5	0	**12**	2	14
Total Volume	2	0	0	2	1	1	0	2	0	4	12	16	1	37	11	49
% App. Total	100	0	0		50	50	0		0	25	75		2	75.5	22.4	
PHF	.500	.000	.000	.500	.250	.250	.000	.500	.000	.500	.750	.800	.250	.771	.550	.766

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
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Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 7

Groups Printed- Trucks

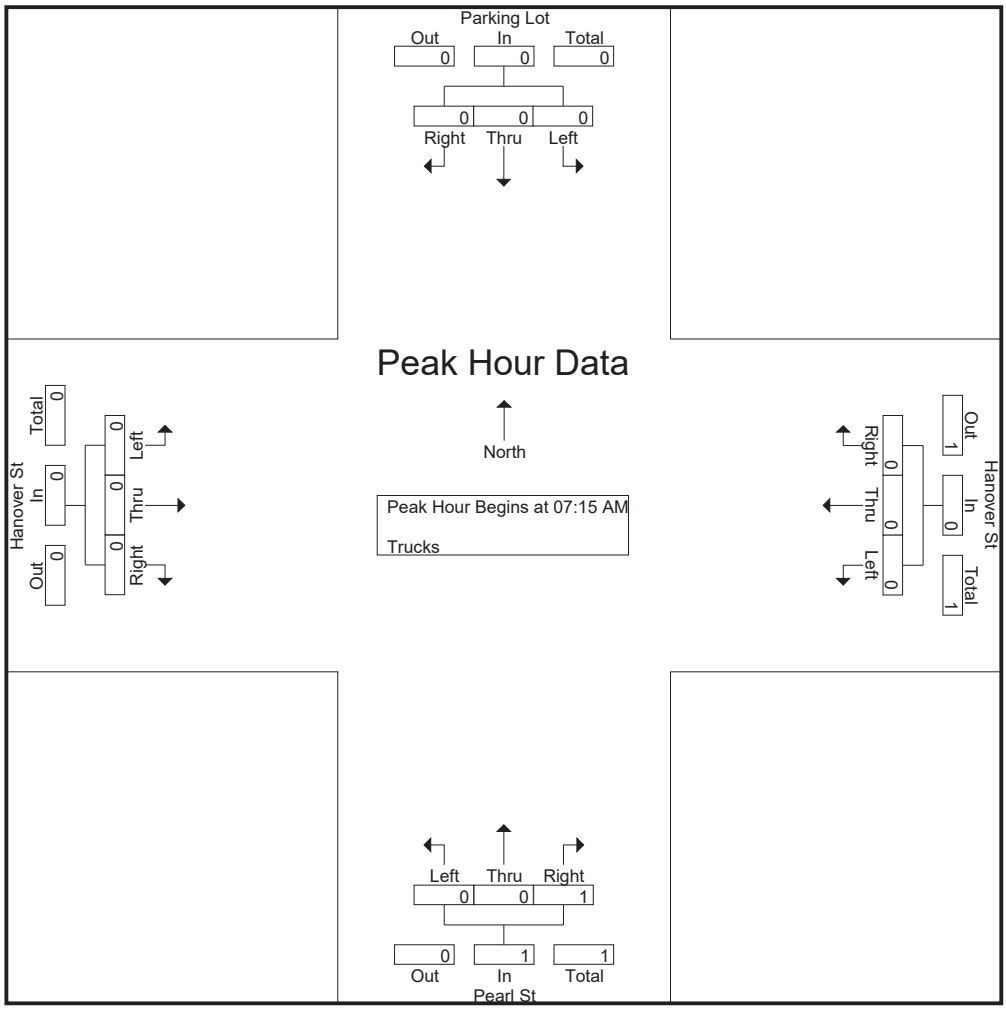
	Parking Lot From North			Hanover St From East			Pearl St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	1	0	0	0	1
Apprch %	0	0	0	0	0	0	0	0	100	0	0	0	
Total %	0	0	0	0	0	0	0	0	100	0	0	0	

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 8



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

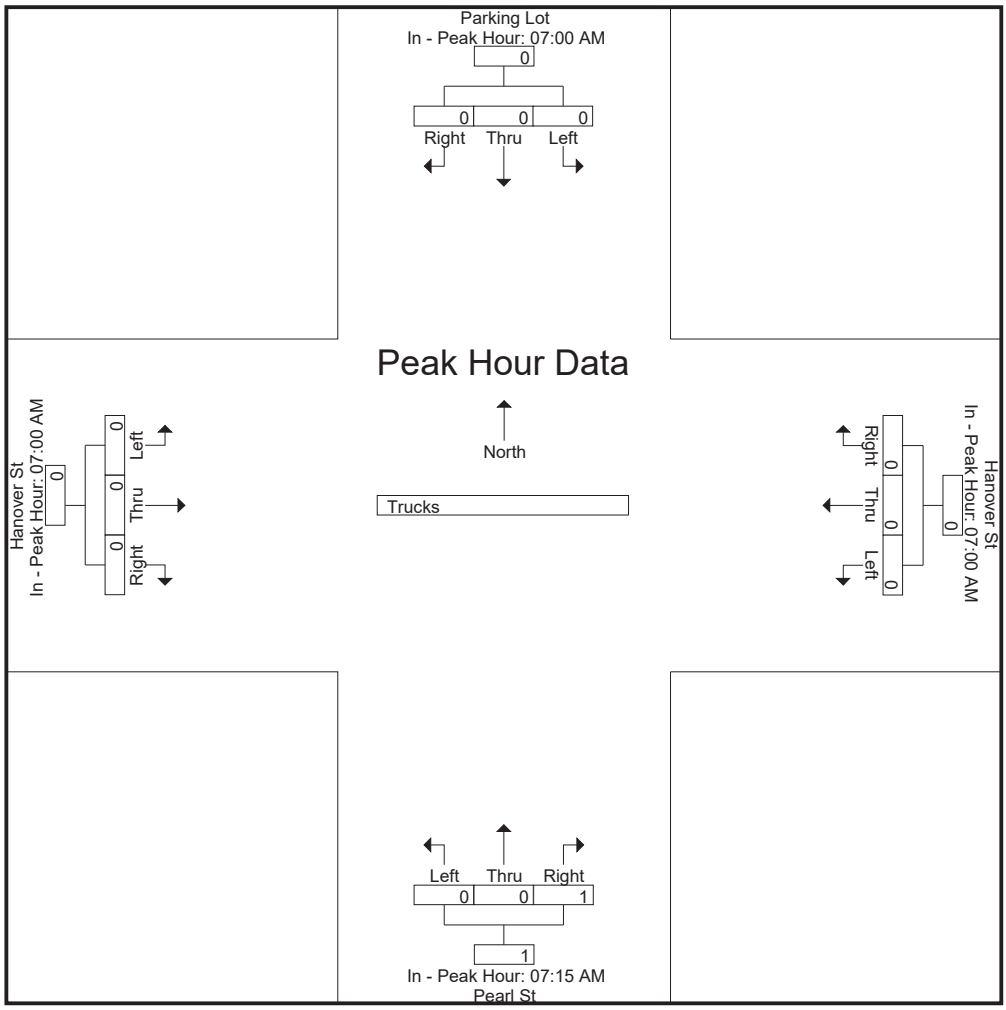
	07:00 AM				07:00 AM				07:15 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
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Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024

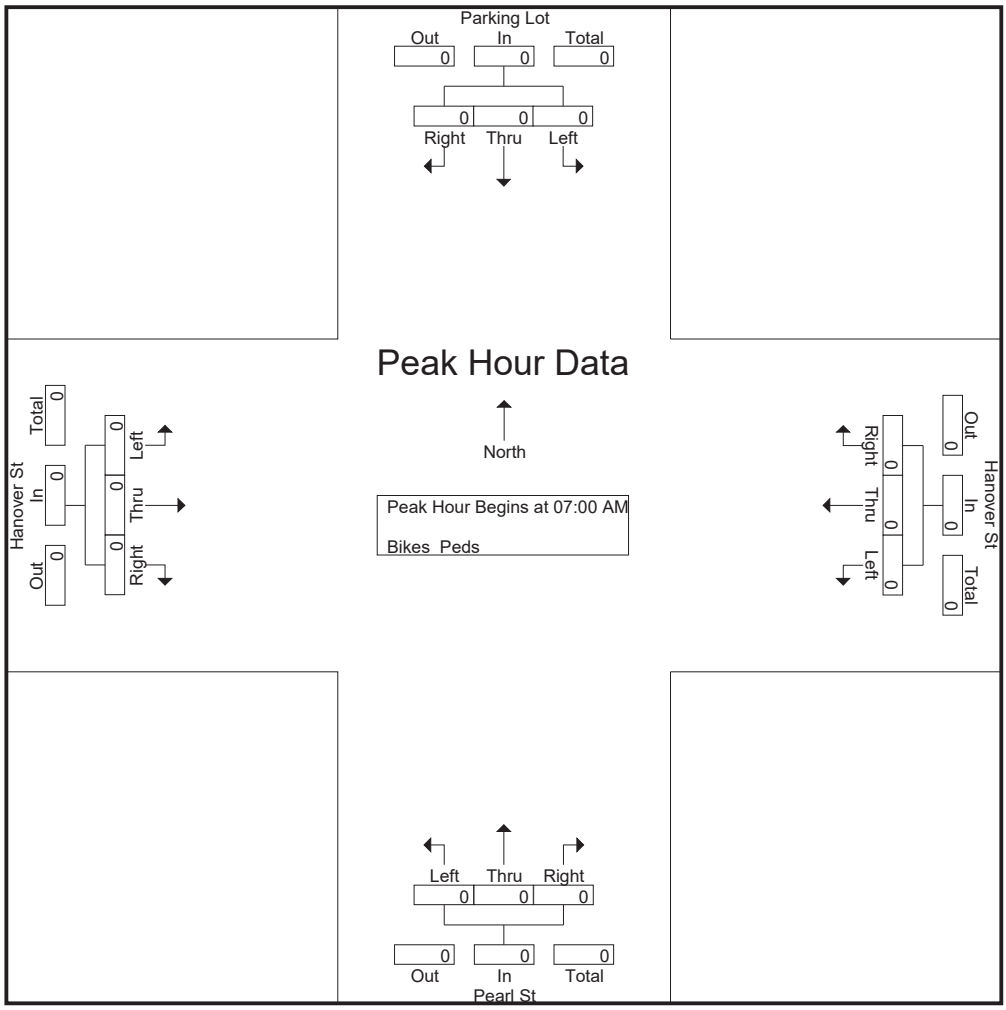
Groups Printed- Bikes Peds

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	4	0	0	0	0	0	0	0	4	0	0	0	1	9	0	9
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	3
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2
07:45 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	3	0	3
Total	0	0	0	6	0	0	0	1	0	0	0	9	0	0	0	1	17	0	17
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:15 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3	0	3
08:30 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	3	0	3
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0	2
Total	0	0	0	4	0	0	0	1	0	0	0	4	0	0	0	0	9	0	9
Grand Total	0	0	0	10	0	0	0	2	0	0	0	13	0	0	0	1	26	0	26
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
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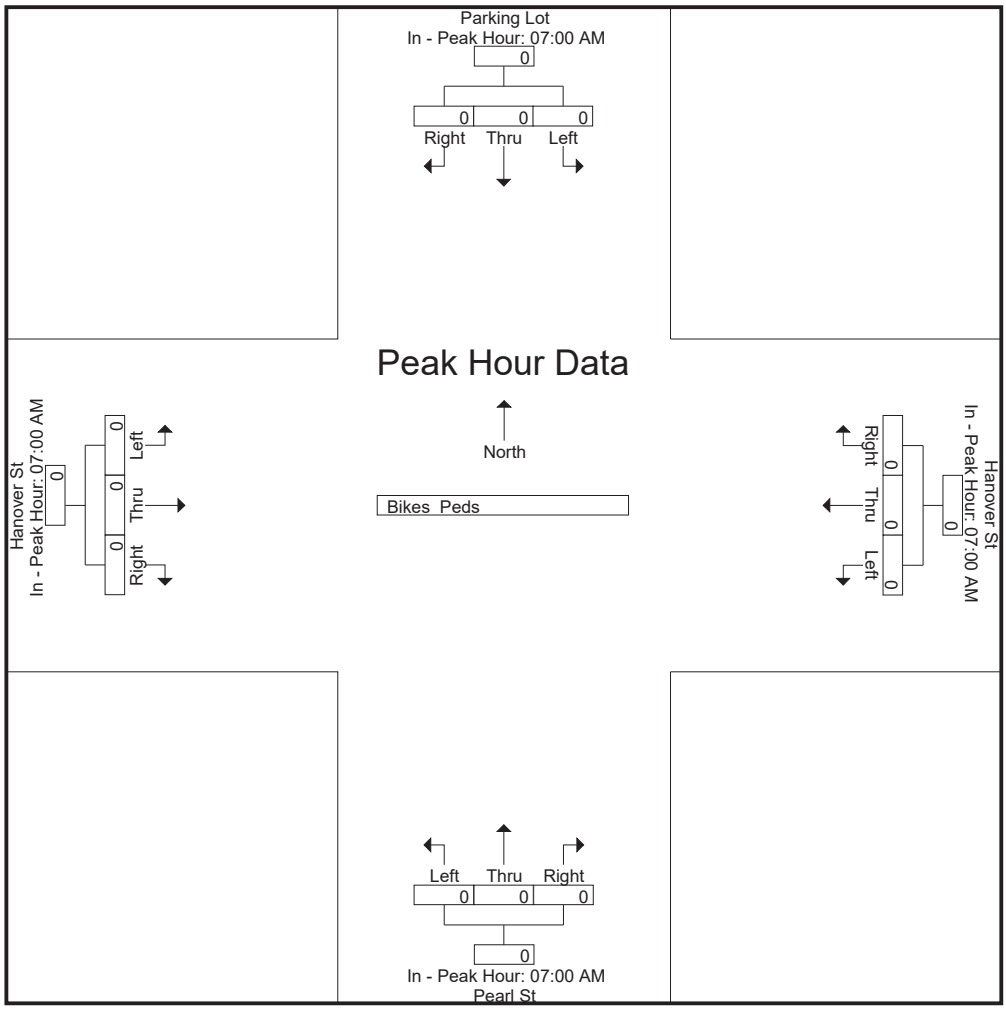


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 1

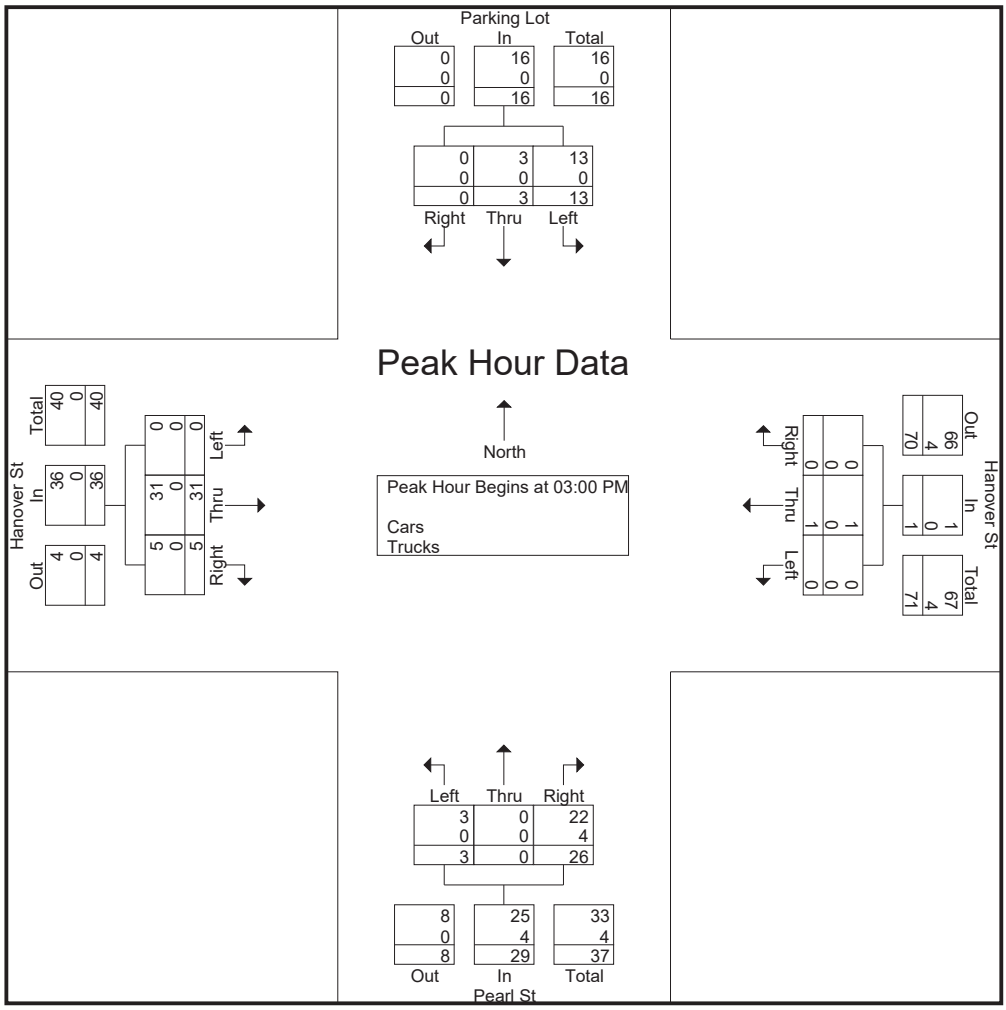
Groups Printed- Cars - Trucks

	Parking Lot From North			Hanover St From East			Pearl St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	1	0	0	0	1	0	0	0	7	0	10	0	19
03:15 PM	2	2	0	0	0	0	1	0	5	0	10	1	21
03:30 PM	8	0	0	0	0	0	0	0	6	0	3	1	18
03:45 PM	2	1	0	0	0	0	2	0	8	0	8	3	24
Total	13	3	0	0	1	0	3	0	26	0	31	5	82
04:00 PM	1	0	0	0	0	0	0	0	6	0	9	1	17
04:15 PM	0	1	1	0	0	0	0	0	1	0	6	6	15
04:30 PM	2	0	0	0	0	0	0	1	5	0	6	1	15
04:45 PM	1	0	1	0	1	0	1	0	4	0	6	3	17
Total	4	1	2	0	1	0	1	1	16	0	27	11	64
05:00 PM	0	0	0	0	0	0	0	0	2	0	8	3	13
05:15 PM	1	0	0	0	0	0	0	0	3	0	4	2	10
05:30 PM	0	0	0	0	0	0	1	0	2	0	3	2	8
05:45 PM	0	1	1	0	0	0	2	0	1	0	4	3	12
Total	1	1	1	0	0	0	3	0	8	0	19	10	43
Grand Total	18	5	3	0	2	0	7	1	50	0	77	26	189
Apprch %	69.2	19.2	11.5	0	100	0	12.1	1.7	86.2	0	74.8	25.2	
Total %	9.5	2.6	1.6	0	1.1	0	3.7	0.5	26.5	0	40.7	13.8	
Cars	18	5	3	0	2	0	7	1	45	0	77	26	184
% Cars	100	100	100	0	100	0	100	100	90	0	100	100	97.4
Trucks	0	0	0	0	0	0	0	0	5	0	0	0	5
% Trucks	0	0	0	0	0	0	0	0	10	0	0	0	2.6

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	1	0	0	1	0	**1**	0	**1**	0	0	7	7	0	**10**	0	10	19
03:15 PM	2	**2**	0	4	0	0	0	0	1	0	5	6	0	10	1	**11**	21
03:30 PM	**8**	0	0	**8**	0	0	0	0	0	0	6	6	0	3	1	4	18
03:45 PM	2	1	0	3	0	0	0	0	**2**	0	**8**	**10**	0	8	**3**	11	**24**
Total Volume	13	3	0	16	0	1	0	1	3	0	26	29	0	31	5	36	82
% App. Total	81.2	18.8	0		0	100	0		10.3	0	89.7		0	86.1	13.9		
PHF	.406	.375	.000	.500	.000	.250	.000	.250	.375	.000	.813	.725	.000	.775	.417	.818	.854
Cars	13	3	0	16	0	1	0	1	3	0	22	25	0	31	5	36	78
% Cars	100	100	0	100	0	100	0	100	100	0	84.6	86.2	0	100	100	100	95.1
Trucks	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4
% Trucks	0	0	0	0	0	0	0	0	0	0	15.4	13.8	0	0	0	0	4.9

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 2

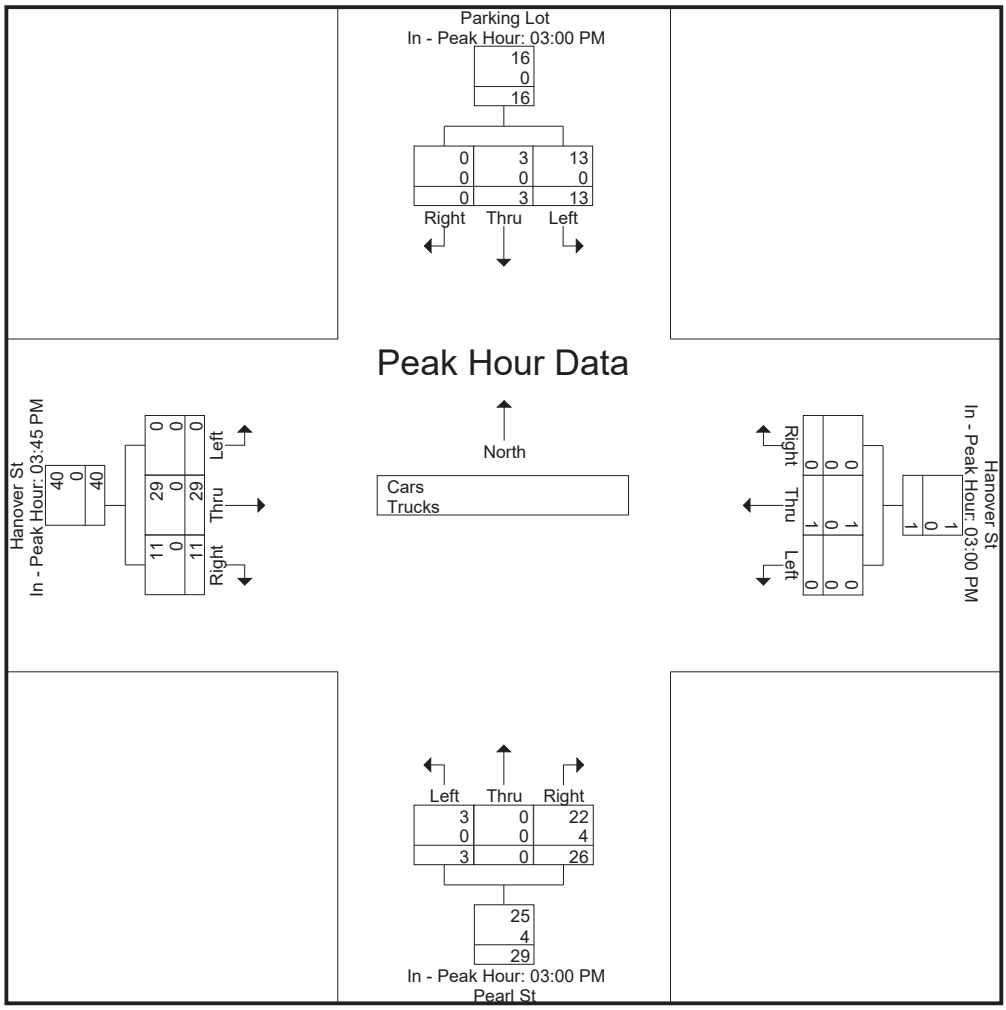


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:45 PM			
+0 mins.	1	0	0	1	0	**1**	0	**1**	0	0	7	7	0	8	3	11
+15 mins.	2	**2**	0	4	0	0	0	0	1	0	5	6	0	**9**	1	10
+30 mins.	**8**	0	0	**8**	0	0	0	0	0	0	6	6	0	6	**6**	**12**
+45 mins.	2	1	0	3	0	0	0	0	**2**	0	**8**	**10**	0	6	1	7
Total Volume	13	3	0	16	0	1	0	1	3	0	26	29	0	29	11	40
% App. Total	81.2	18.8	0		0	100	0		10.3	0	89.7		0	72.5	27.5	
PHF	.406	.375	.000	.500	.000	.250	.000	.250	.375	.000	.813	.725	.000	.806	.458	.833
Cars	13	3	0	16	0	1	0	1	3	0	22	25	0	29	11	40
% Cars	100	100	0	100	0	100	0	100	100	0	84.6	86.2	0	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	15.4	13.8	0	0	0	0

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024

Groups Printed- Cars

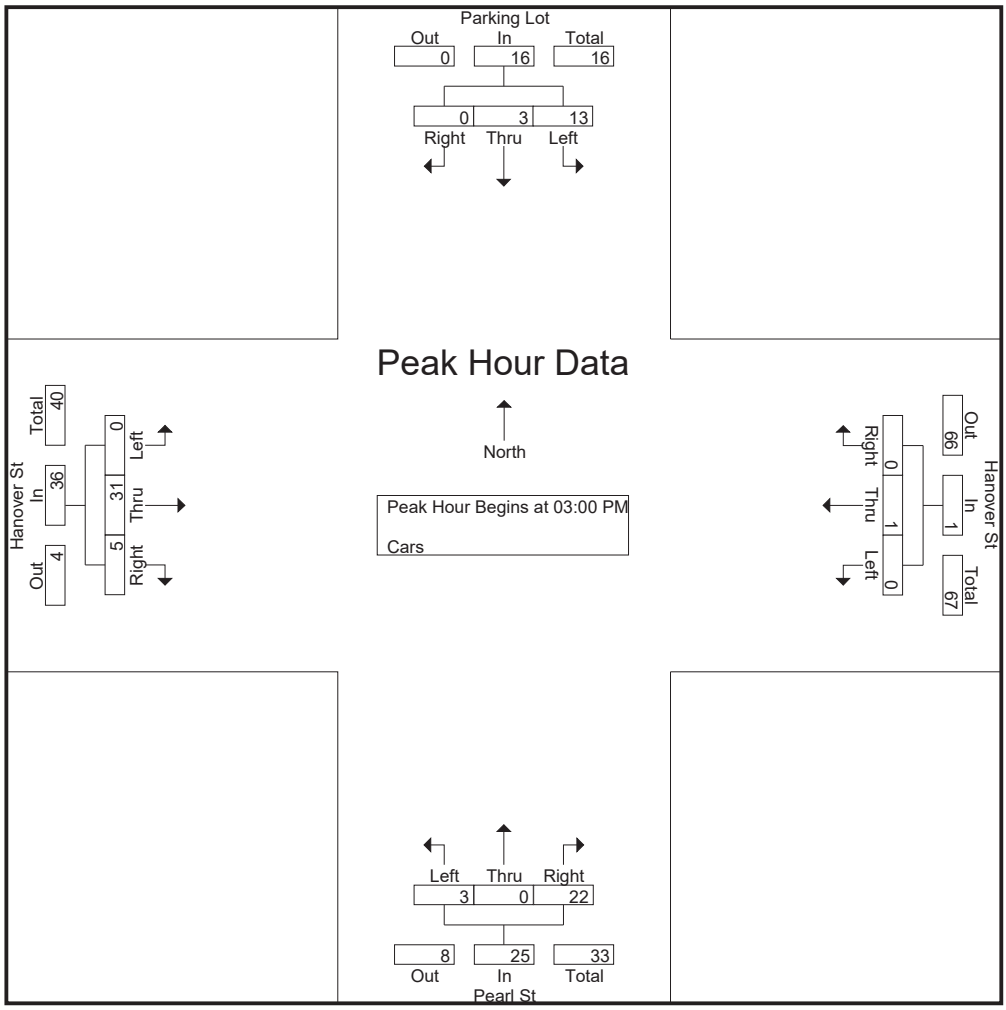
	Parking Lot From North			Hanover St From East			Pearl St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	1	0	0	0	1	0	0	0	6	0	10	0	18
03:15 PM	2	2	0	0	0	0	1	0	4	0	10	1	20
03:30 PM	8	0	0	0	0	0	0	0	5	0	3	1	17
03:45 PM	2	1	0	0	0	0	2	0	7	0	8	3	23
Total	13	3	0	0	1	0	3	0	22	0	31	5	78
04:00 PM	1	0	0	0	0	0	0	0	5	0	9	1	16
04:15 PM	0	1	1	0	0	0	0	0	1	0	6	6	15
04:30 PM	2	0	0	0	0	0	0	1	5	0	6	1	15
04:45 PM	1	0	1	0	1	0	1	0	4	0	6	3	17
Total	4	1	2	0	1	0	1	1	15	0	27	11	63
05:00 PM	0	0	0	0	0	0	0	0	2	0	8	3	13
05:15 PM	1	0	0	0	0	0	0	0	3	0	4	2	10
05:30 PM	0	0	0	0	0	0	1	0	2	0	3	2	8
05:45 PM	0	1	1	0	0	0	2	0	1	0	4	3	12
Total	1	1	1	0	0	0	3	0	8	0	19	10	43
Grand Total	18	5	3	0	2	0	7	1	45	0	77	26	184
Apprch %	69.2	19.2	11.5	0	100	0	13.2	1.9	84.9	0	74.8	25.2	
Total %	9.8	2.7	1.6	0	1.1	0	3.8	0.5	24.5	0	41.8	14.1	

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	1	0	0	1	0	**1**	0	**1**	0	0	6	6	0	**10**	0	10	18
03:15 PM	2	**2**	0	4	0	0	0	0	1	0	4	5	0	10	1	**11**	20
03:30 PM	**8**	0	0	**8**	0	0	0	0	0	0	5	5	0	3	1	4	17
03:45 PM	2	1	0	3	0	0	0	0	**2**	0	**7**	**9**	0	8	**3**	11	**23**
Total Volume	13	3	0	16	0	1	0	1	3	0	22	25	0	31	5	36	78
% App. Total	81.2	18.8	0		0	100	0		12	0	88		0	86.1	13.9		
PHF	.406	.375	.000	.500	.000	.250	.000	.250	.375	.000	.786	.694	.000	.775	.417	.818	.848

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 5



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

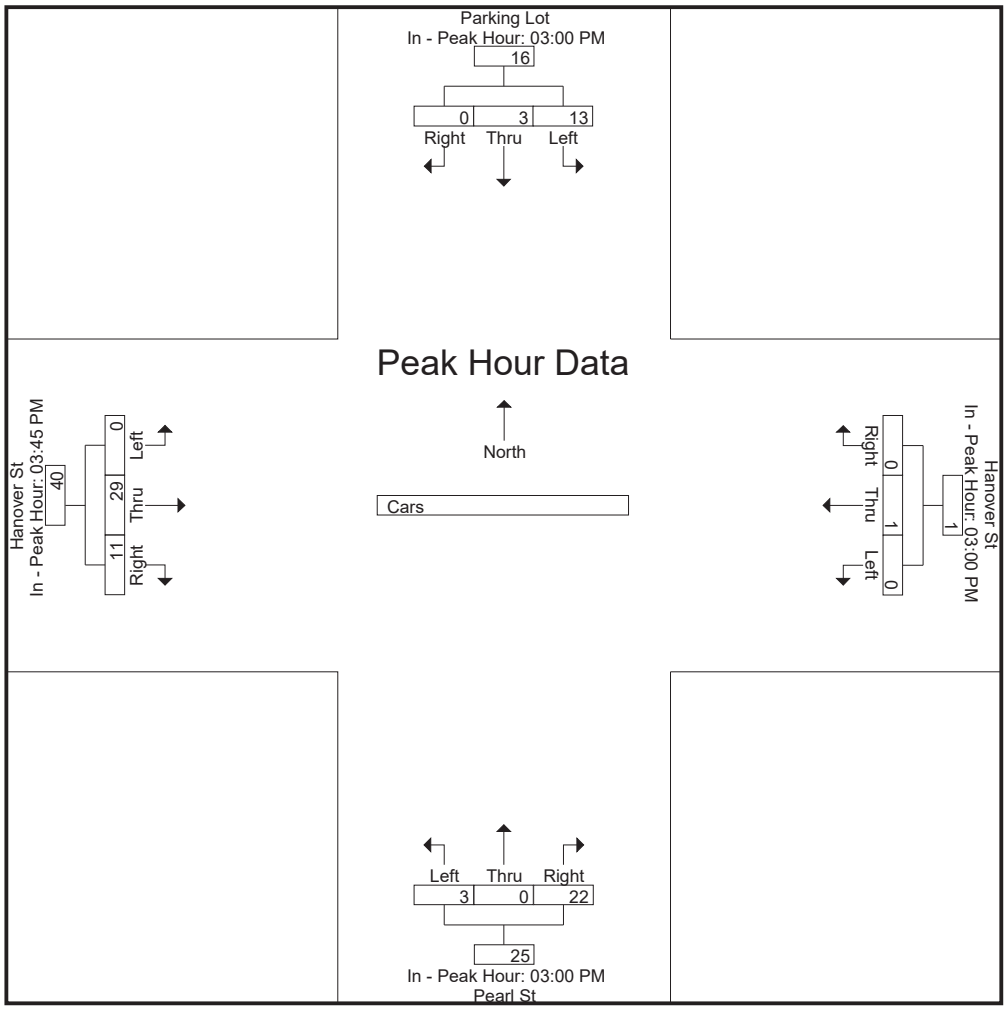
	03:00 PM				03:00 PM				03:00 PM				03:45 PM			
+0 mins.	1	0	0	1	0	**1**	0	**1**	0	0	6	6	0	8	3	11
+15 mins.	2	**2**	0	4	0	0	0	0	1	0	4	5	0	**9**	1	10
+30 mins.	**8**	0	0	**8**	0	0	0	0	0	0	5	5	0	6	**6**	**12**
+45 mins.	2	1	0	3	0	0	0	0	**2**	0	**7**	**9**	0	6	1	7
Total Volume	13	3	0	16	0	1	0	1	3	0	22	25	0	29	11	40
% App. Total	81.2	18.8	0		0	100	0		12	0	88		0	72.5	27.5	
PHF	.406	.375	.000	.500	.000	.250	.000	.250	.375	.000	.786	.694	.000	.806	.458	.833

Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024

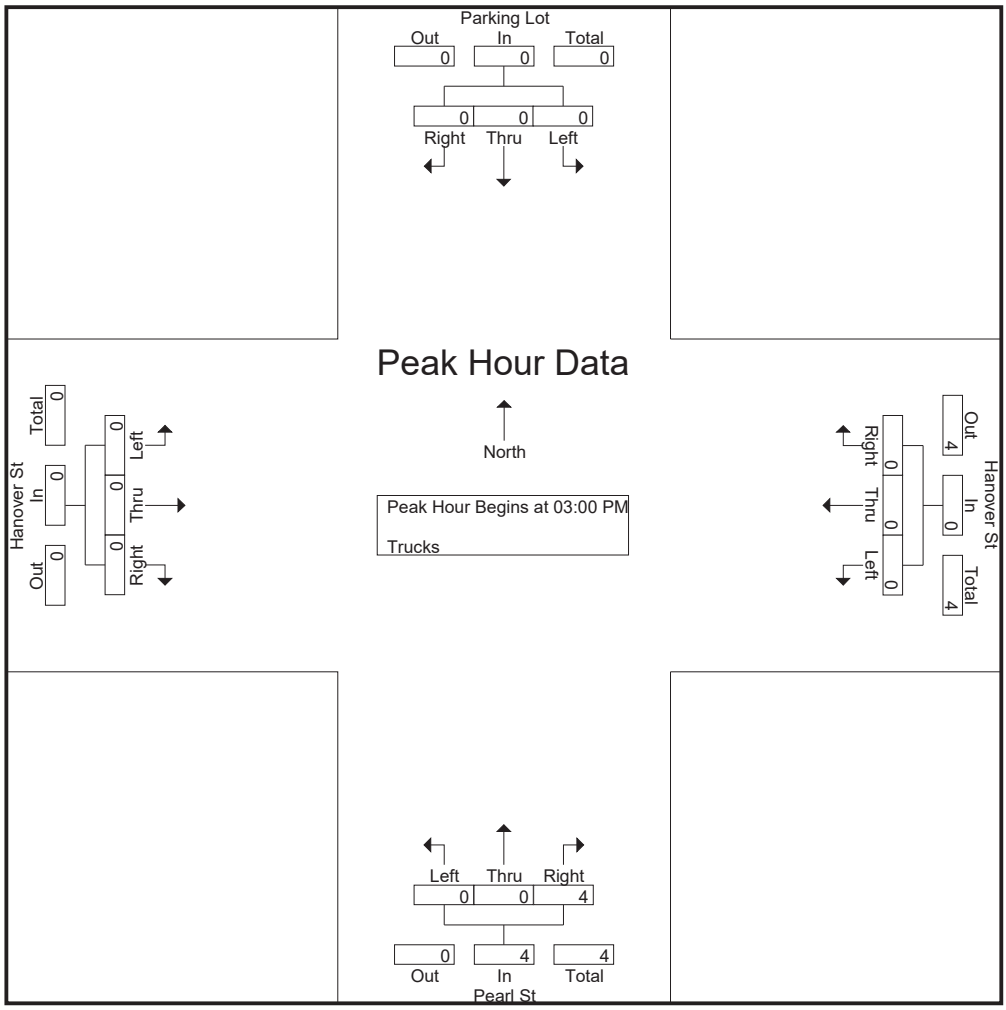
Groups Printed- Trucks

	Parking Lot From North			Hanover St From East			Pearl St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
03:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	0	0	0	0	0	4	0	0	0	4
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	5	0	0	0	5
Apprch %	0	0	0	0	0	0	0	0	100	0	0	0	
Total %	0	0	0	0	0	0	0	0	100	0	0	0	

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	**1**
03:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.00	1.00	.000	.000	.000	.000	1.00

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 8



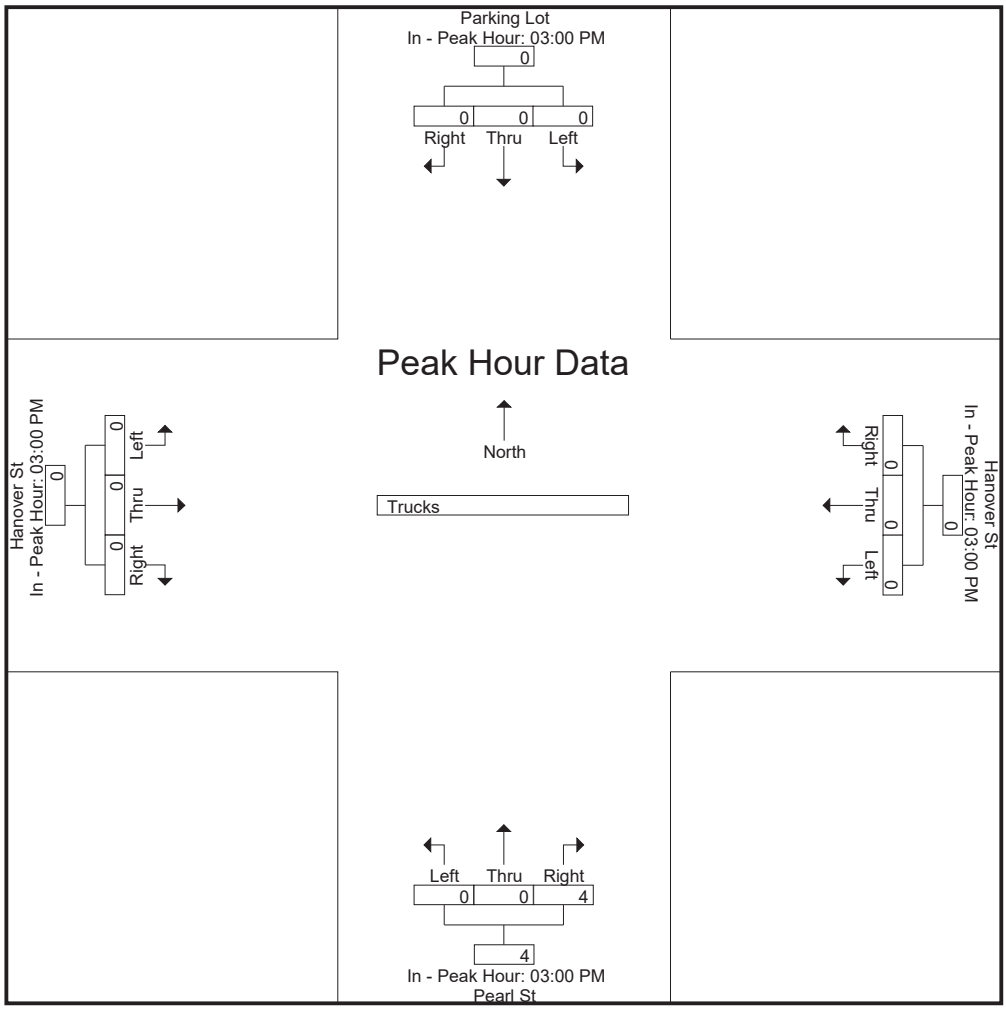
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000	1.000	.000	.000	.000	.000

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024

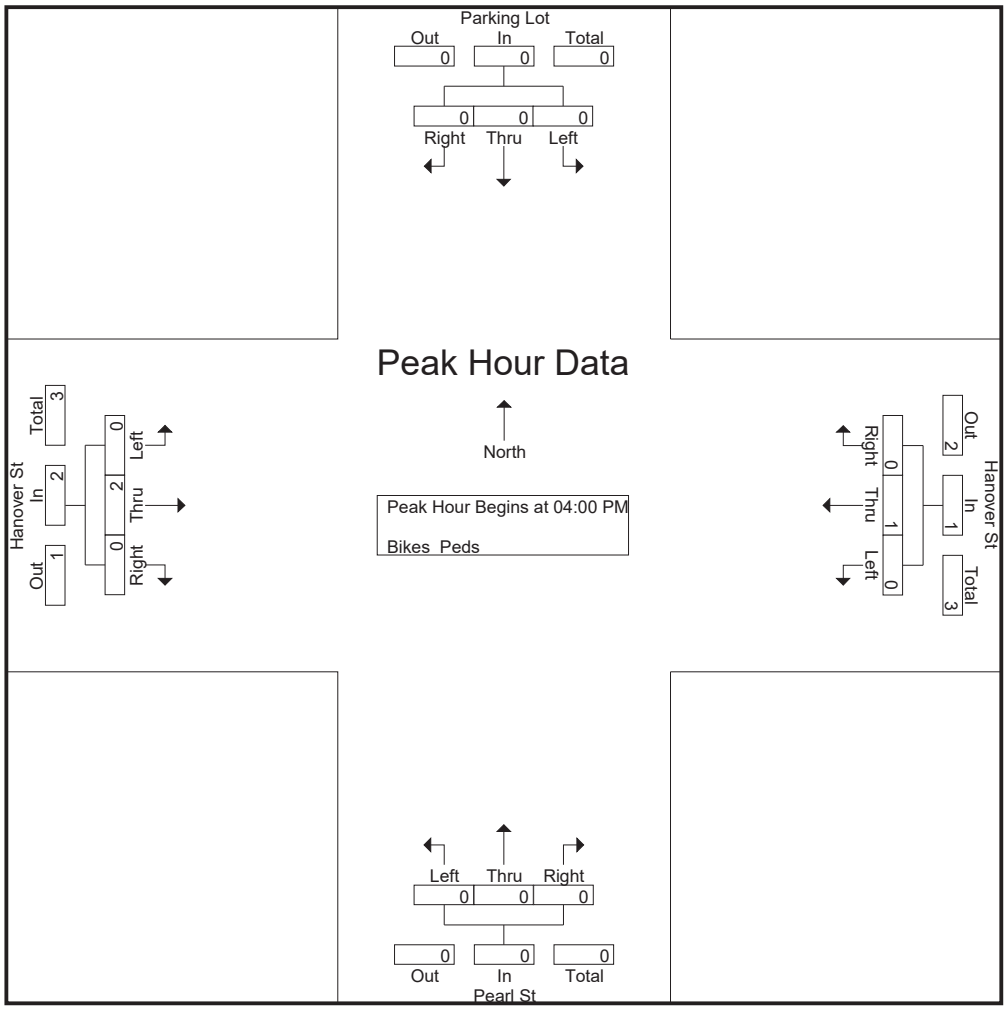
Groups Printed- Bikes Peds

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2
03:15 PM	0	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	8	0	8
03:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
Total	0	0	0	3	0	0	0	2	0	0	0	9	0	0	0	0	14	0	14
04:00 PM	0	0	0	3	0	1	0	0	0	0	0	5	0	0	0	0	8	1	9
04:15 PM	0	0	0	2	0	0	0	0	0	0	0	6	0	1	0	0	8	1	9
04:30 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	3	0	3
04:45 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0	3	1	4
Total	0	0	0	9	0	1	0	1	0	0	0	12	0	2	0	0	22	3	25
05:00 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3	0	3
05:15 PM	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	3	8	0	8
05:30 PM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	4	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	1	4	1	5
Total	0	0	0	8	0	0	0	1	0	0	0	6	1	0	0	4	19	1	20
Grand Total	0	0	0	20	0	1	0	4	0	0	0	27	1	2	0	4	55	4	59
Apprch %	0	0	0		0	100	0		0	0	0		33.3	66.7	0				
Total %	0	0	0		0	25	0		0	0	0		25	50	0		93.2	6.8	

	Parking Lot From North				Hanover St From East				Pearl St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.750

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 11

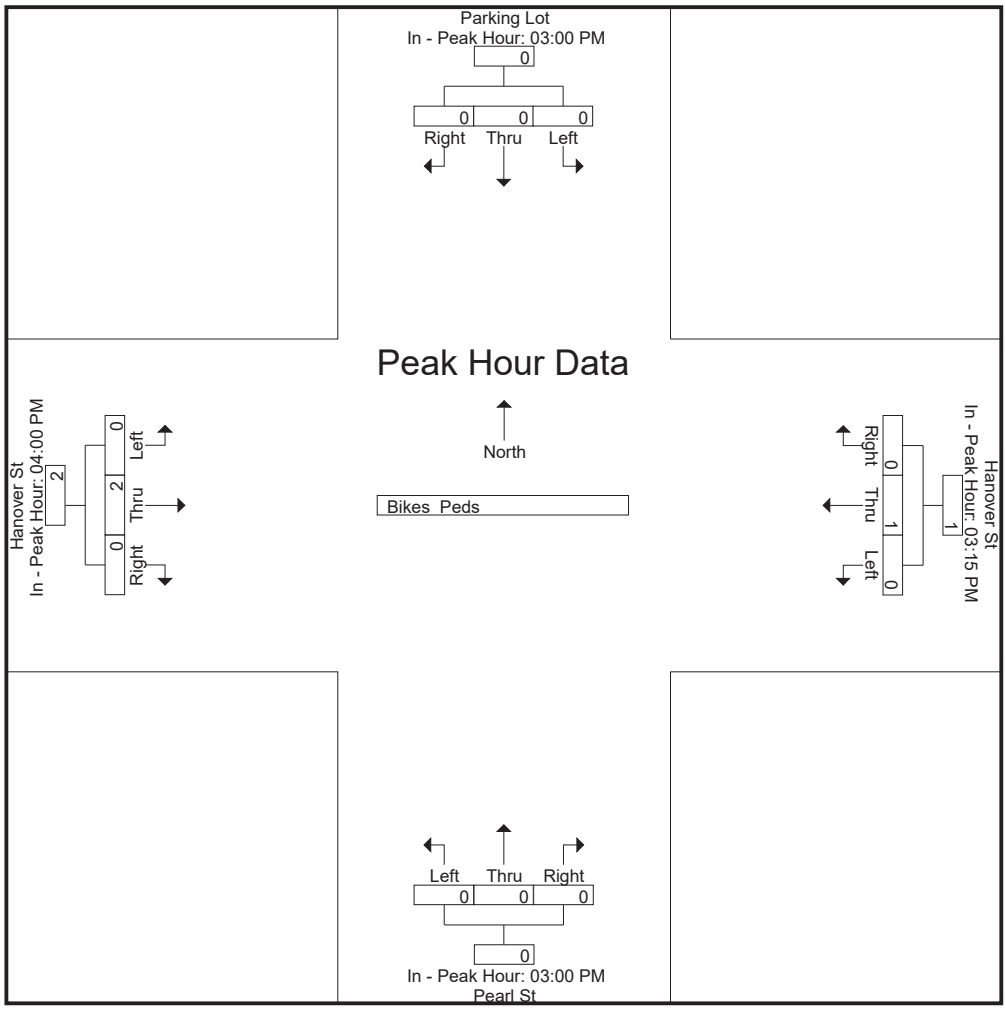


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:15 PM				03:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500

N/S Street : Parking Lot / Pearl St
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068002
Site Code : 10068002
Start Date : 8/6/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 1

Groups Printed- Cars - Trucks

	Bridge St From North			Hanover St From East			Bridge St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	0	0	2	0	3	0	3	9	1	7	0	26
07:15 AM	2	3	0	2	0	2	0	3	14	0	8	1	35
07:30 AM	7	1	0	5	0	6	0	2	17	4	6	2	50
07:45 AM	3	1	0	2	0	5	0	4	15	2	5	2	39
Total	13	5	0	11	0	16	0	12	55	7	26	5	150
08:00 AM	2	3	0	6	0	7	0	3	14	1	9	1	46
08:15 AM	3	3	0	5	0	9	0	3	24	4	9	1	61
08:30 AM	1	4	0	5	0	6	0	3	13	7	9	0	48
08:45 AM	5	3	0	9	0	5	0	6	12	6	8	1	55
Total	11	13	0	25	0	27	0	15	63	18	35	3	210
Grand Total	24	18	0	36	0	43	0	27	118	25	61	8	360
Apprch %	57.1	42.9	0	45.6	0	54.4	0	18.6	81.4	26.6	64.9	8.5	
Total %	6.7	5	0	10	0	11.9	0	7.5	32.8	6.9	16.9	2.2	
Cars	24	18	0	34	0	42	0	27	114	25	61	7	352
% Cars	100	100	0	94.4	0	97.7	0	100	96.6	100	100	87.5	97.8
Trucks	0	0	0	2	0	1	0	0	4	0	0	1	8
% Trucks	0	0	0	5.6	0	2.3	0	0	3.4	0	0	12.5	2.2

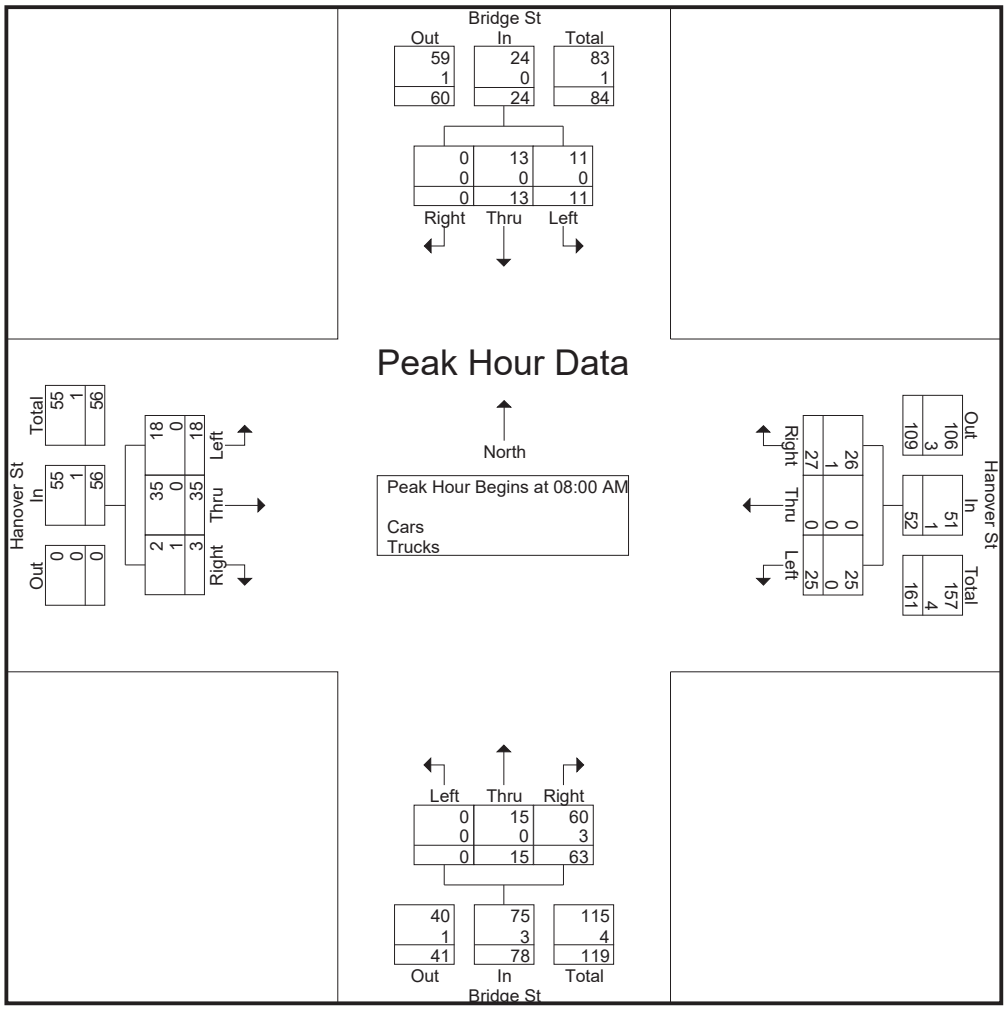
	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	3	0	5	6	0	7	13	0	3	14	17	1	**9**	**1**	11	46
08:15 AM	3	3	0	6	5	0	**9**	**14**	0	3	**24**	**27**	4	9	1	14	**61**
08:30 AM	1	**4**	0	5	5	0	6	11	0	3	13	16	**7**	9	0	**16**	48
08:45 AM	**5**	3	0	**8**	**9**	0	5	14	0	**6**	12	18	6	8	1	15	55
Total Volume	11	13	0	24	25	0	27	52	0	15	63	78	18	35	3	56	210
% App. Total	45.8	54.2	0		48.1	0	51.9		0	19.2	80.8		32.1	62.5	5.4		
PHF	.550	.813	.000	.750	.694	.000	.750	.929	.000	.625	.656	.722	.643	.972	.750	.875	.861
Cars	11	13	0	24	25	0	26	51	0	15	60	75	18	35	2	55	205
% Cars	100	100	0	100	100	0	96.3	98.1	0	100	95.2	96.2	100	100	66.7	98.2	97.6
Trucks	0	0	0	0	0	0	1	1	0	0	3	3	0	0	1	1	5
% Trucks	0	0	0	0	0	0	3.7	1.9	0	0	4.8	3.8	0	0	33.3	1.8	2.4

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

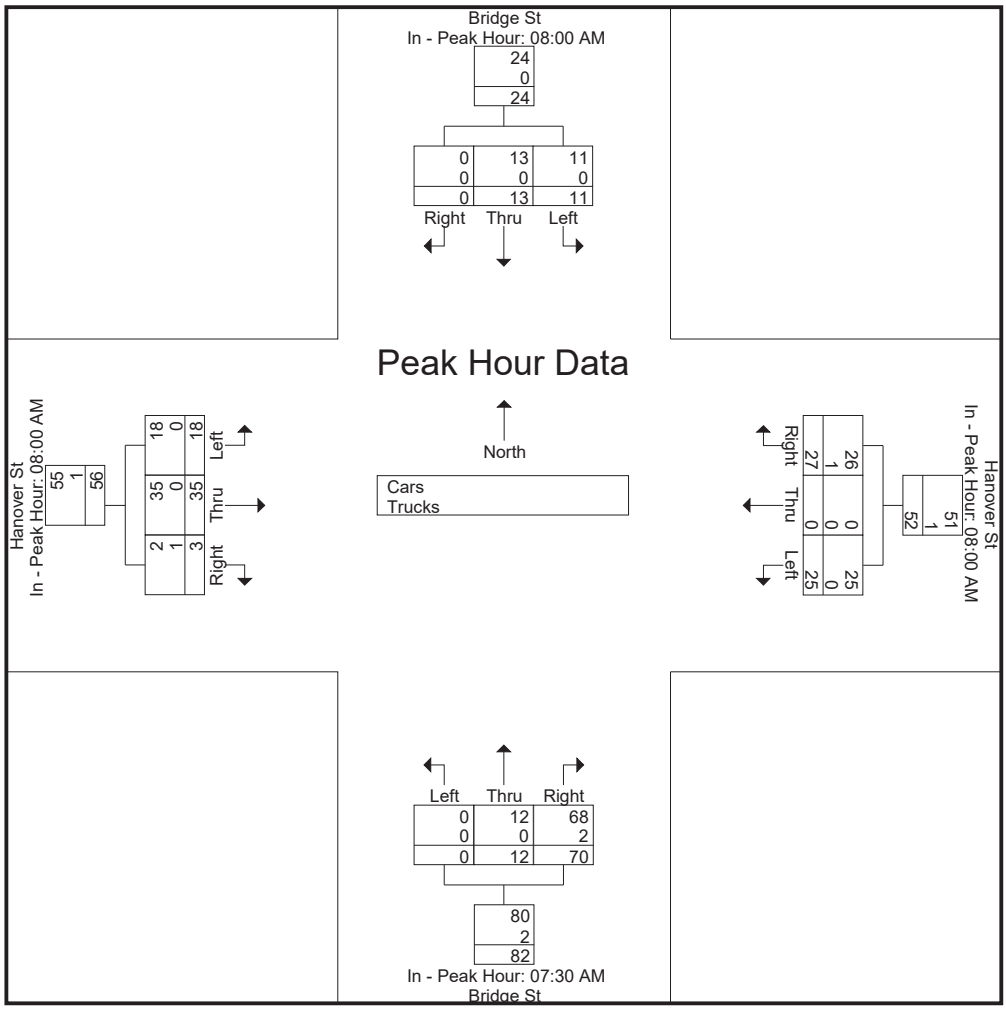
	08:00 AM				08:00 AM				07:30 AM				08:00 AM			
+0 mins.	2	3	0	5	6	0	7	13	0	2	17	19	1	**9**	**1**	11
+15 mins.	3	3	0	6	5	0	**9**	**14**	0	**4**	15	19	4	9	1	14
+30 mins.	1	**4**	0	5	5	0	6	11	0	3	14	17	**7**	9	0	**16**
+45 mins.	**5**	3	0	**8**	**9**	0	5	14	0	3	**24**	**27**	6	8	1	15
Total Volume	11	13	0	24	25	0	27	52	0	12	70	82	18	35	3	56
% App. Total	45.8	54.2	0		48.1	0	51.9		0	14.6	85.4		32.1	62.5	5.4	
PHF	.550	.813	.000	.750	.694	.000	.750	.929	.000	.750	.729	.759	.643	.972	.750	.875
Cars	11	13	0	24	25	0	26	51	0	12	68	80	18	35	2	55
% Cars	100	100	0	100	100	0	96.3	98.1	0	100	97.1	97.6	100	100	66.7	98.2
Trucks	0	0	0	0	0	0	1	1	0	0	2	2	0	0	1	1
% Trucks	0	0	0	0	0	0	3.7	1.9	0	0	2.9	2.4	0	0	33.3	1.8

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 4

Groups Printed- Cars

	Bridge St From North			Hanover St From East			Bridge St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	0	0	2	0	3	0	3	9	1	7	0	26
07:15 AM	2	3	0	2	0	2	0	3	13	0	8	1	34
07:30 AM	7	1	0	4	0	6	0	2	17	4	6	2	49
07:45 AM	3	1	0	1	0	5	0	4	15	2	5	2	38
Total	13	5	0	9	0	16	0	12	54	7	26	5	147
08:00 AM	2	3	0	6	0	7	0	3	13	1	9	0	44
08:15 AM	3	3	0	5	0	9	0	3	23	4	9	1	60
08:30 AM	1	4	0	5	0	6	0	3	13	7	9	0	48
08:45 AM	5	3	0	9	0	4	0	6	11	6	8	1	53
Total	11	13	0	25	0	26	0	15	60	18	35	2	205
Grand Total	24	18	0	34	0	42	0	27	114	25	61	7	352
Apprch %	57.1	42.9	0	44.7	0	55.3	0	19.1	80.9	26.9	65.6	7.5	
Total %	6.8	5.1	0	9.7	0	11.9	0	7.7	32.4	7.1	17.3	2	

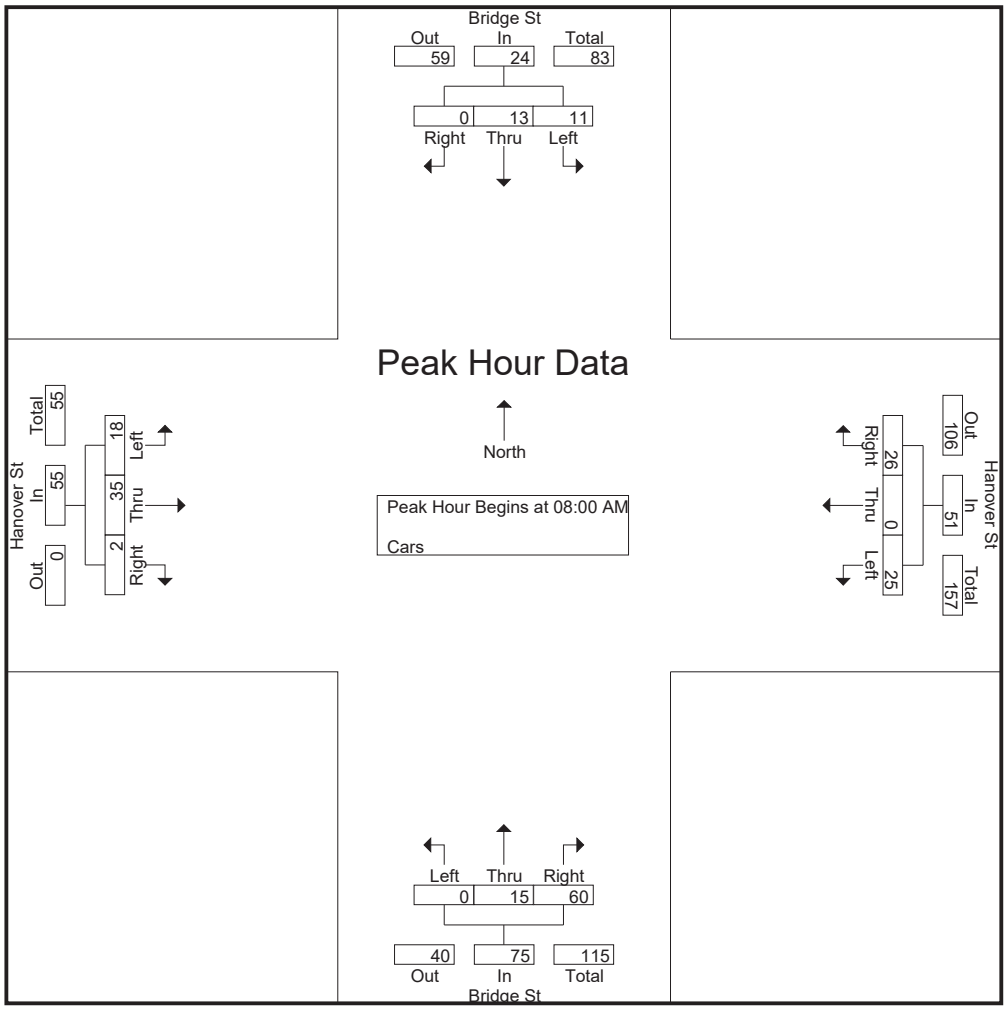
	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	3	0	5	6	0	7	13	0	3	13	16	1	**9**	0	10	44
08:15 AM	3	3	0	6	5	0	**9**	**14**	0	3	**23**	**26**	4	9	**1**	14	**60**
08:30 AM	1	**4**	0	5	5	0	6	11	0	3	13	16	**7**	9	0	**16**	48
08:45 AM	**5**	3	0	**8**	**9**	0	4	13	0	**6**	11	17	6	8	1	15	53
Total Volume	11	13	0	24	25	0	26	51	0	15	60	75	18	35	2	55	205
% App. Total	45.8	54.2	0		49	0	51		0	20	80		32.7	63.6	3.6		
PHF	.550	.813	.000	.750	.694	.000	.722	.911	.000	.625	.652	.721	.643	.972	.500	.859	.854

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 5



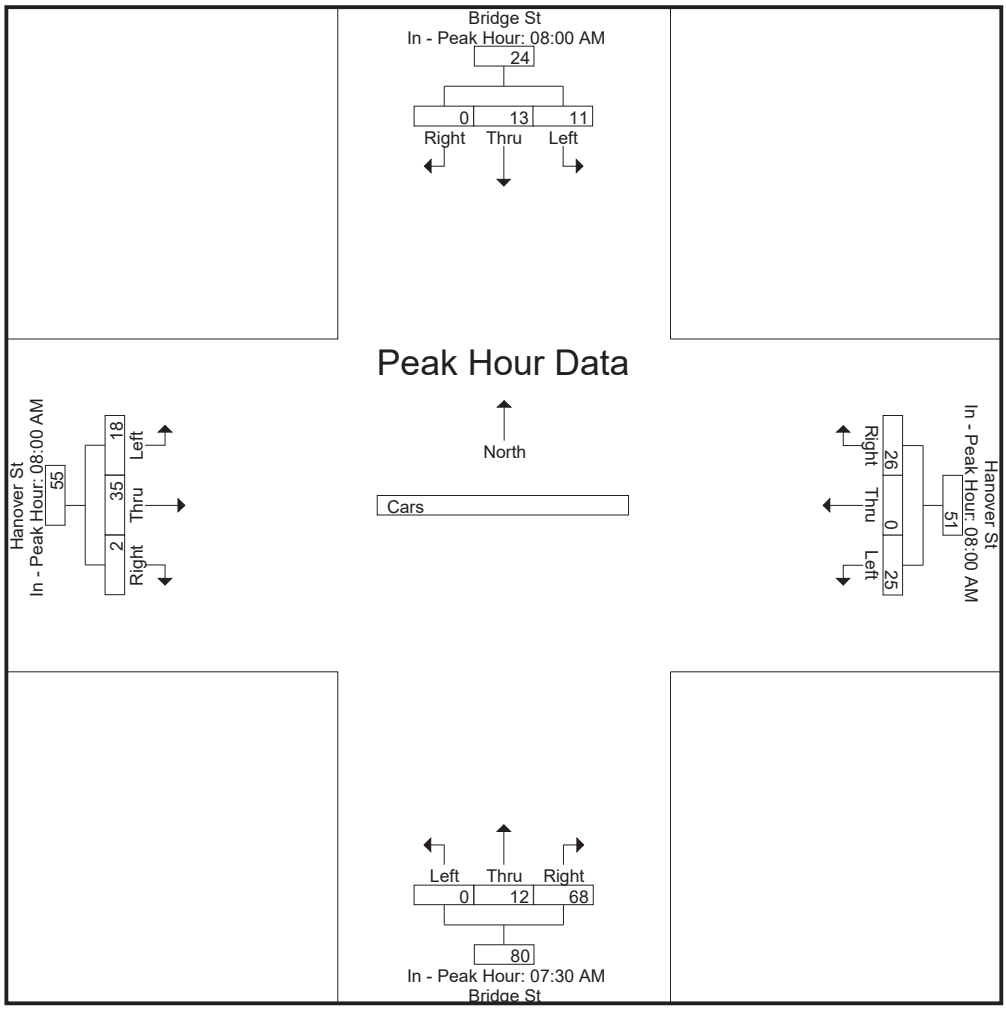
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:30 AM				08:00 AM			
+0 mins.	2	3	0	5	6	0	7	13	0	2	17	19	1	**9**	0	10
+15 mins.	3	3	0	6	5	0	**9**	**14**	0	**4**	15	19	4	9	**1**	14
+30 mins.	1	**4**	0	5	5	0	6	11	0	3	13	16	**7**	9	0	**16**
+45 mins.	**5**	3	0	**8**	**9**	0	4	13	0	3	**23**	**26**	6	8	1	15
Total Volume	11	13	0	24	25	0	26	51	0	12	68	80	18	35	2	55
% App. Total	45.8	54.2	0		49	0	51		0	15	85		32.7	63.6	3.6	
PHF	.550	.813	.000	.750	.694	.000	.722	.911	.000	.750	.739	.769	.643	.972	.500	.859

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 7

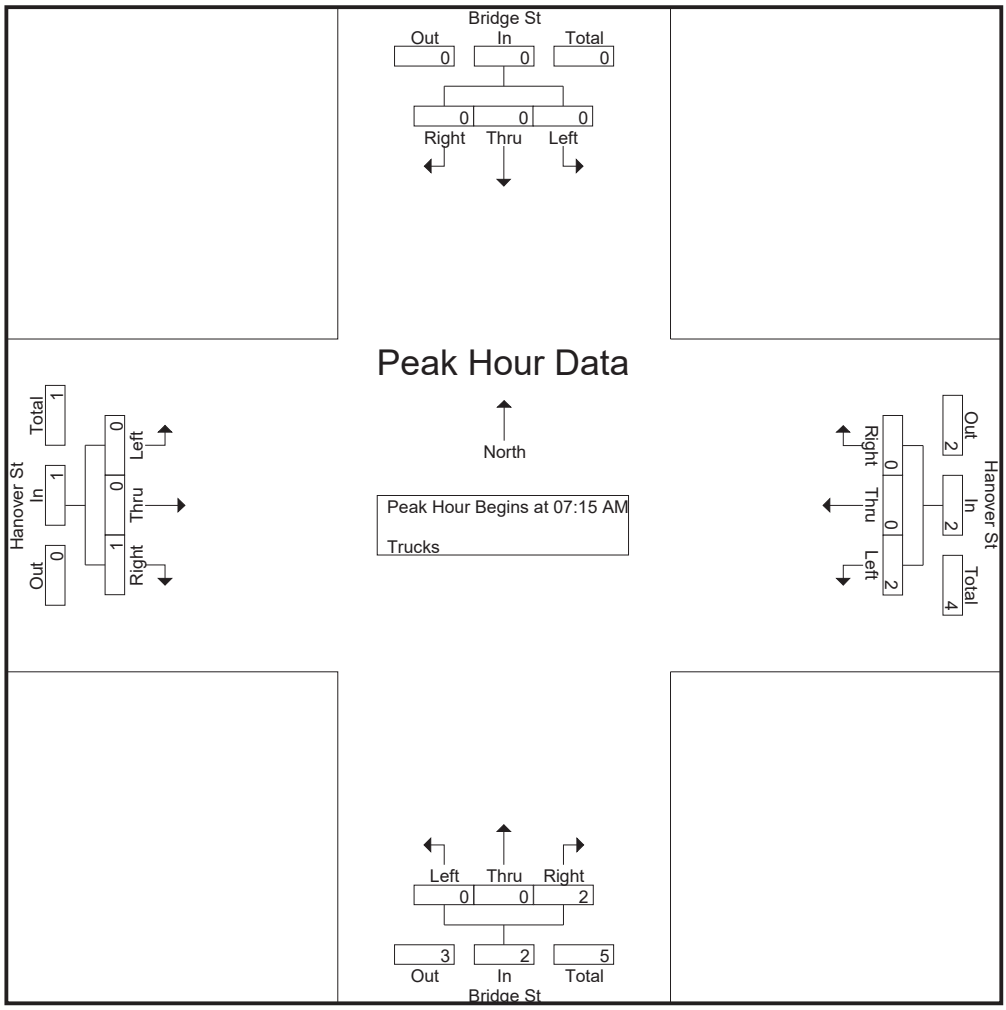
Groups Printed- Trucks

	Bridge St From North			Hanover St From East			Bridge St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	2	0	0	0	0	1	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	2
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	1	0	0	1	0	0	0	2
Total	0	0	0	0	0	1	0	0	3	0	0	1	5
Grand Total	0	0	0	2	0	1	0	0	4	0	0	1	8
Apprch %	0	0	0	66.7	0	33.3	0	0	100	0	0	100	
Total %	0	0	0	25	0	12.5	0	0	50	0	0	12.5	

	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	1
07:30 AM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	**1**	**1**	**2**
Total Volume	0	0	0	0	2	0	0	2	0	0	2	2	0	0	1	1	5
% App. Total	0	0	0		100	0	0		0	0	100		0	0	100		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.500	.500	.000	.000	.250	.250	.625

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 8



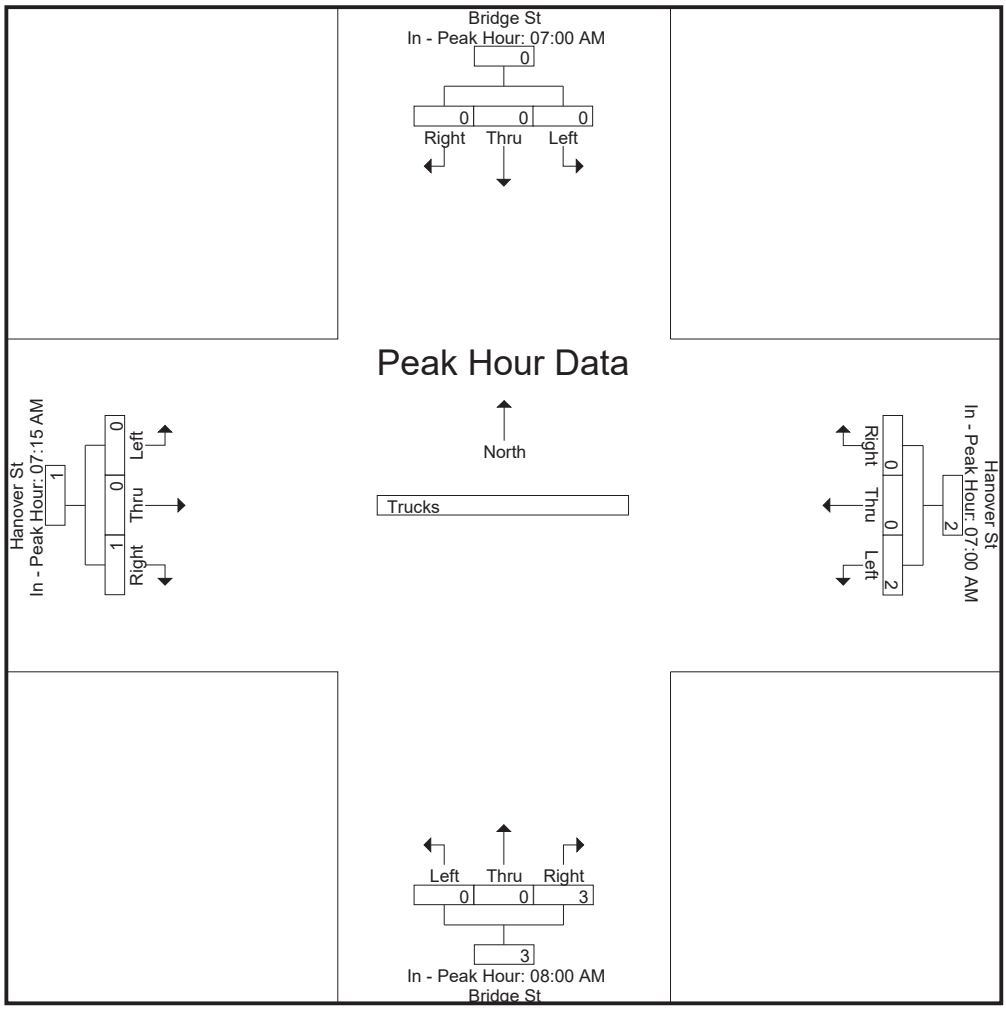
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	**1**	**1**
Total Volume	0	0	0	0	2	0	0	2	0	0	3	3	0	0	1	1
% App. Total	0	0	0		100	0	0		0	0	100		0	0	100	
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.750	.750	.000	.000	.250	.250

Accurate Counts
978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 10

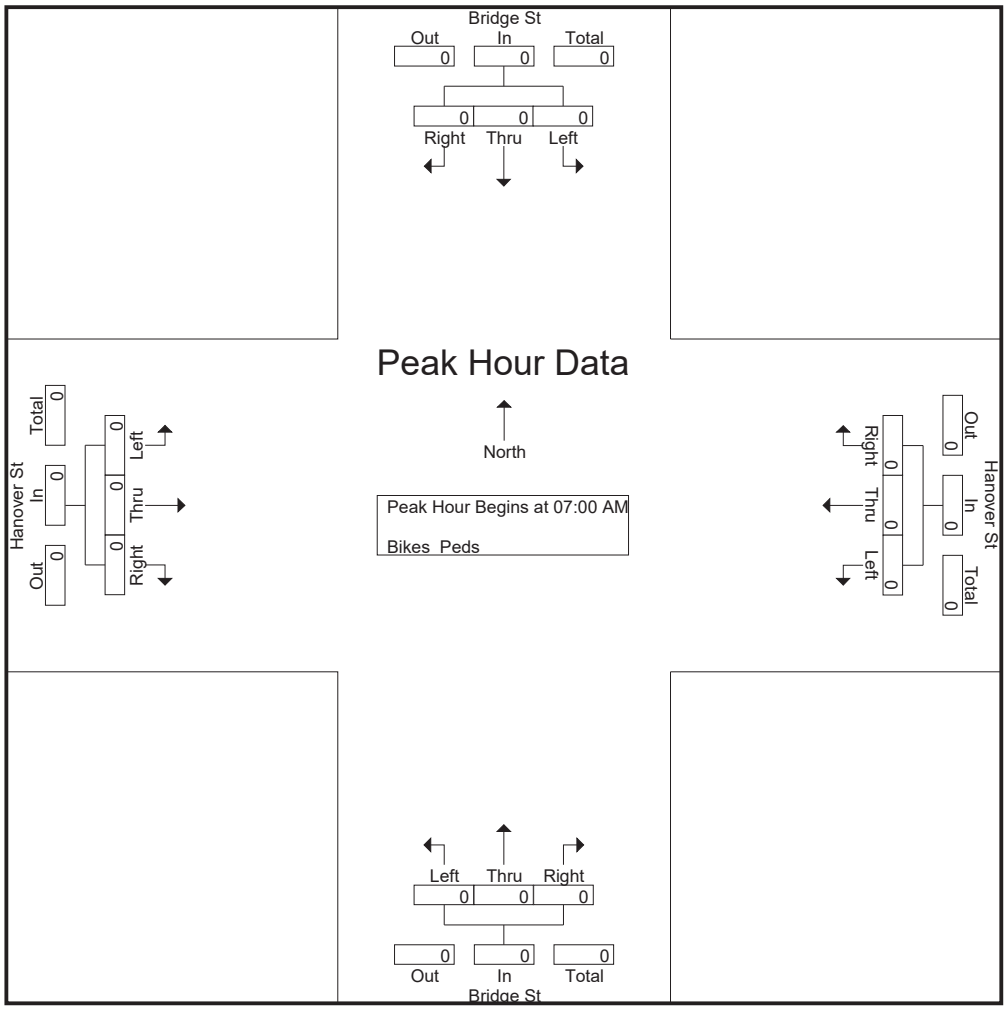
Groups Printed- Bikes Peds

	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	2	0	0	0	3	0	0	0	3	0	0	0	3	11	0	11
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2	4	0	4
07:30 AM	0	0	0	2	0	0	0	2	0	0	0	4	0	0	0	4	12	0	12
07:45 AM	0	0	0	0	0	0	0	2	0	0	0	7	0	0	0	5	14	0	14
Total	0	0	0	5	0	0	0	7	0	0	0	15	0	0	0	14	41	0	41
08:00 AM	0	0	0	1	0	0	0	2	0	0	0	7	0	0	0	7	17	0	17
08:15 AM	0	0	0	3	0	0	0	4	0	0	0	8	0	0	0	8	23	0	23
08:30 AM	0	0	0	3	0	0	0	7	0	0	0	6	0	0	0	9	25	0	25
08:45 AM	0	0	0	2	0	0	0	10	0	0	0	9	0	0	0	4	25	0	25
Total	0	0	0	9	0	0	0	23	0	0	0	30	0	0	0	28	90	0	90
Grand Total	0	0	0	14	0	0	0	30	0	0	0	45	0	0	0	42	131	0	131
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 11



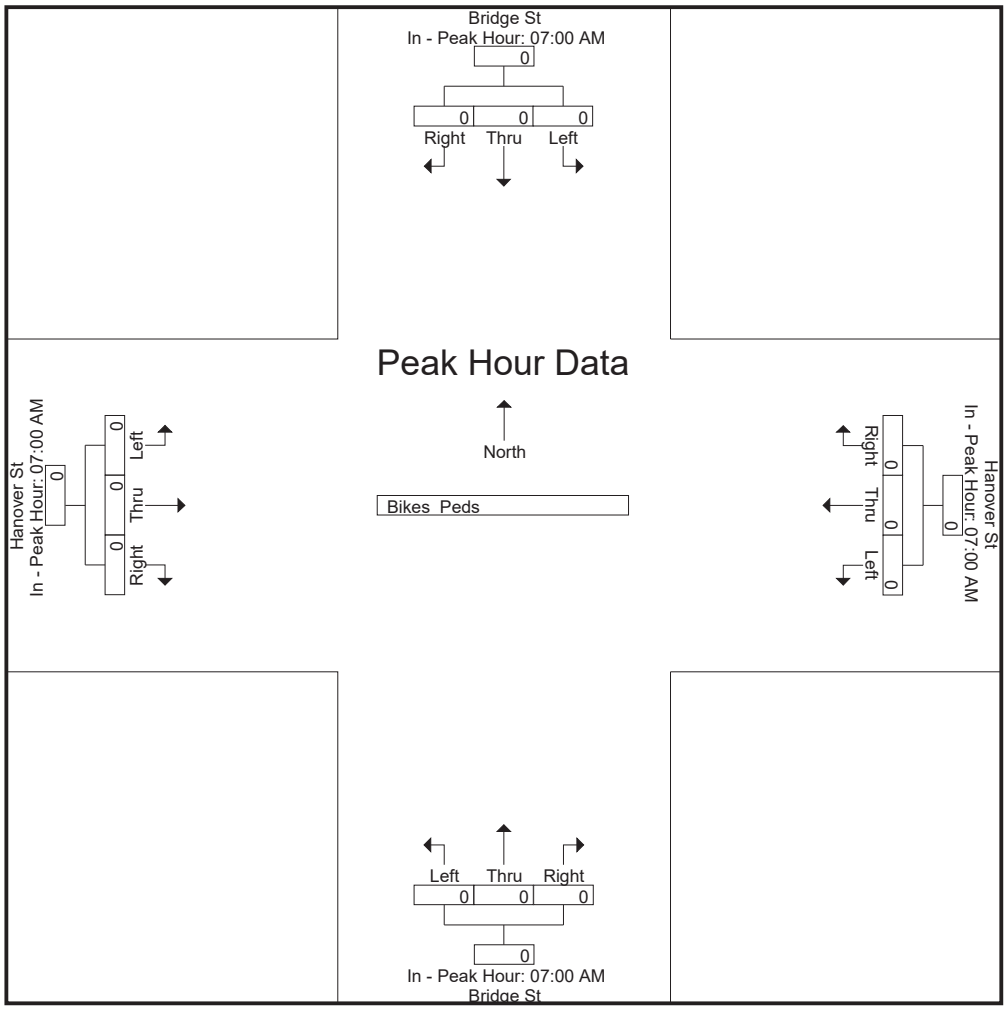
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts
978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 1

Groups Printed- Cars - Trucks

	Bridge St From North			Hanover St From East			Bridge St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	5	6	0	18	0	6	0	6	22	6	10	1	80
03:15 PM	4	12	0	5	0	3	0	4	36	9	7	2	82
03:30 PM	4	7	0	14	0	4	0	6	33	4	11	1	84
03:45 PM	3	7	0	14	0	3	0	3	32	11	7	1	81
Total	16	32	0	51	0	16	0	19	123	30	35	5	327
04:00 PM	9	10	0	14	0	4	0	7	32	6	9	3	94
04:15 PM	2	12	0	16	0	5	0	13	27	3	11	1	90
04:30 PM	5	11	0	16	1	4	0	9	35	5	16	4	106
04:45 PM	3	18	0	2	0	0	0	7	6	4	4	4	48
Total	19	51	0	48	1	13	0	36	100	18	40	12	338
05:00 PM	6	22	0	21	0	4	0	7	8	5	9	3	85
05:15 PM	4	11	0	13	0	3	0	11	10	3	3	2	60
05:30 PM	4	14	0	12	0	3	0	7	14	2	3	3	62
05:45 PM	0	10	0	17	0	5	0	8	13	2	2	3	60
Total	14	57	0	63	0	15	0	33	45	12	17	11	267
Grand Total	49	140	0	162	1	44	0	88	268	60	92	28	932
Apprch %	25.9	74.1	0	78.3	0.5	21.3	0	24.7	75.3	33.3	51.1	15.6	
Total %	5.3	15	0	17.4	0.1	4.7	0	9.4	28.8	6.4	9.9	3	
Cars	49	139	0	160	1	43	0	88	267	60	91	24	922
% Cars	100	99.3	0	98.8	100	97.7	0	100	99.6	100	98.9	85.7	98.9
Trucks	0	1	0	2	0	1	0	0	1	0	1	4	10
% Trucks	0	0.7	0	1.2	0	2.3	0	0	0.4	0	1.1	14.3	1.1

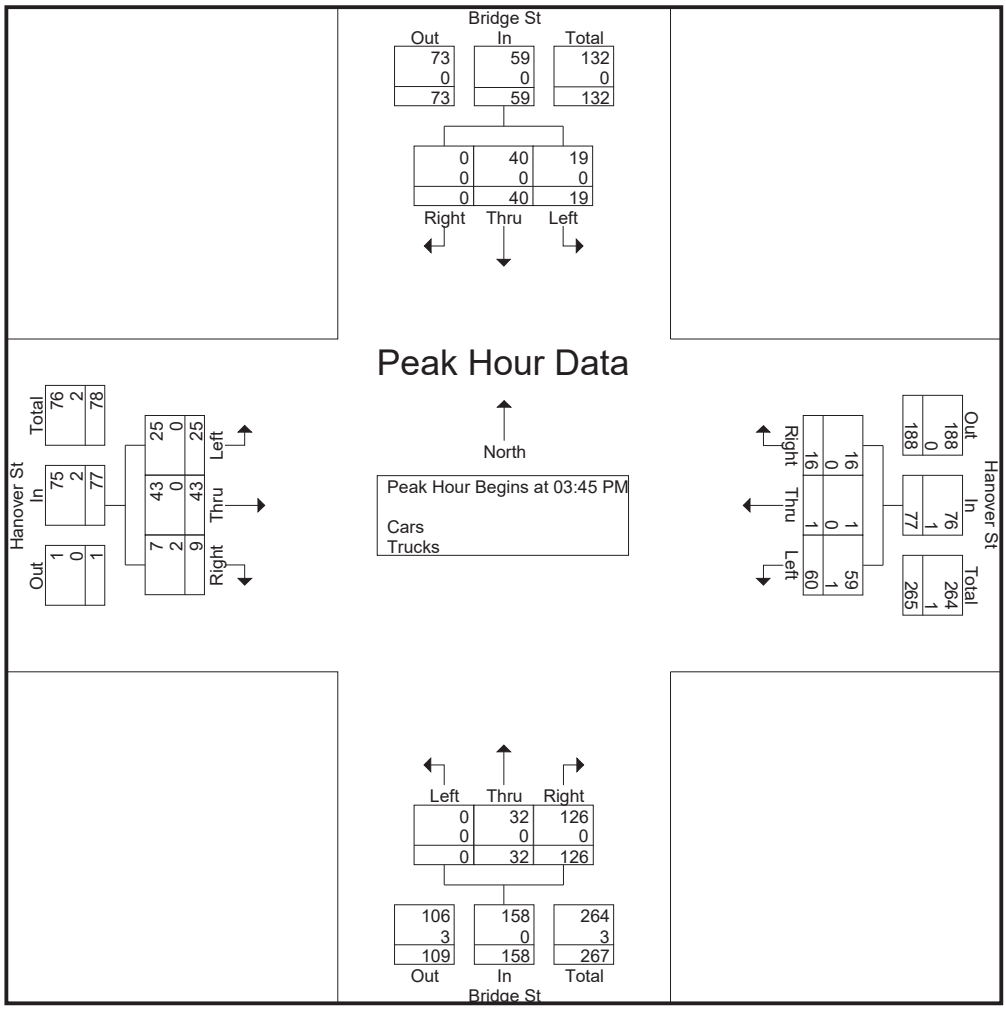
	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	3	7	0	10	14	0	3	17	0	3	32	35	**11**	7	1	19	81
04:00 PM	**9**	10	0	**19**	14	0	4	18	0	7	32	39	6	9	3	18	94
04:15 PM	2	**12**	0	14	**16**	0	**5**	**21**	0	**13**	27	40	3	11	1	15	90
04:30 PM	5	11	0	16	16	**1**	4	21	0	9	**35**	**44**	5	**16**	**4**	**25**	**106**
Total Volume	19	40	0	59	60	1	16	77	0	32	126	158	25	43	9	77	371
% App. Total	32.2	67.8	0		77.9	1.3	20.8		0	20.3	79.7		32.5	55.8	11.7		
PHF	.528	.833	.000	.776	.938	.250	.800	.917	.000	.615	.900	.898	.568	.672	.563	.770	.875
Cars	19	40	0	59	59	1	16	76	0	32	126	158	25	43	7	75	368
% Cars	100	100	0	100	98.3	100	100	98.7	0	100	100	100	100	100	77.8	97.4	99.2
Trucks	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	2	3
% Trucks	0	0	0	0	1.7	0	0	1.3	0	0	0	0	0	0	22.2	2.6	0.8

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 2



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

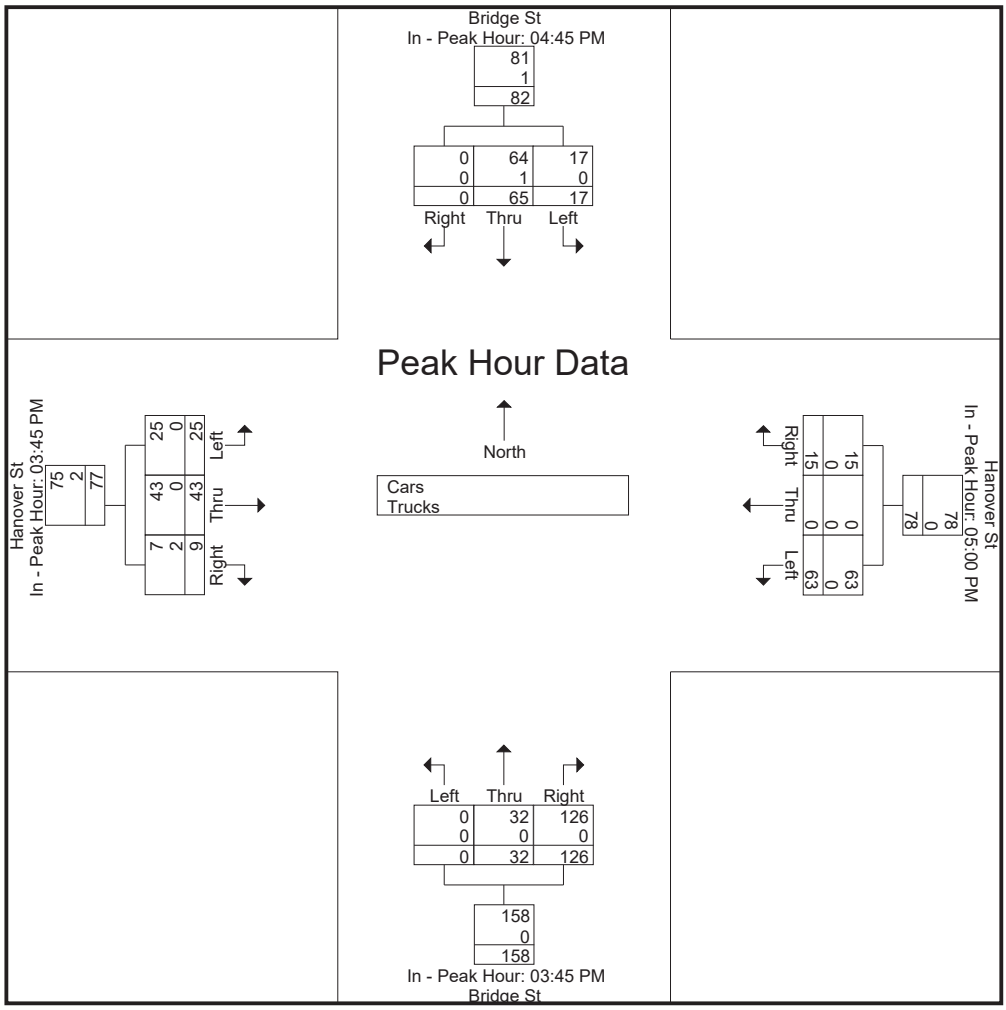
	04:45 PM				05:00 PM				03:45 PM				03:45 PM			
+0 mins.	3	18	0	21	**21**	0	4	**25**	0	3	32	35	**11**	7	1	19
+15 mins.	**6**	**22**	0	**28**	13	0	3	16	0	7	32	39	6	9	3	18
+30 mins.	4	11	0	15	12	0	3	15	0	**13**	27	40	3	11	1	15
+45 mins.	4	14	0	18	17	0	**5**	22	0	9	**35**	**44**	5	**16**	**4**	**25**
Total Volume	17	65	0	82	63	0	15	78	0	32	126	158	25	43	9	77
% App. Total	20.7	79.3	0		80.8	0	19.2		0	20.3	79.7		32.5	55.8	11.7	
PHF	.708	.739	.000	.732	.750	.000	.750	.780	.000	.615	.900	.898	.568	.672	.563	.770
Cars	17	64	0	81	63	0	15	78	0	32	126	158	25	43	7	75
% Cars	100	98.5	0	98.8	100	0	100	100	0	100	100	100	100	100	77.8	97.4
Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	2
% Trucks	0	1.5	0	1.2	0	0	0	0	0	0	0	0	0	0	22.2	2.6

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 4

Groups Printed- Cars

	Bridge St From North			Hanover St From East			Bridge St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	5	6	0	18	0	6	0	6	22	6	9	1	79
03:15 PM	4	12	0	5	0	2	0	4	36	9	7	1	80
03:30 PM	4	7	0	13	0	4	0	6	33	4	11	0	82
03:45 PM	3	7	0	14	0	3	0	3	32	11	7	0	80
Total	16	32	0	50	0	15	0	19	123	30	34	2	321
04:00 PM	9	10	0	13	0	4	0	7	32	6	9	2	92
04:15 PM	2	12	0	16	0	5	0	13	27	3	11	1	90
04:30 PM	5	11	0	16	1	4	0	9	35	5	16	4	106
04:45 PM	3	18	0	2	0	0	0	7	6	4	4	4	48
Total	19	51	0	47	1	13	0	36	100	18	40	11	336
05:00 PM	6	22	0	21	0	4	0	7	7	5	9	3	84
05:15 PM	4	10	0	13	0	3	0	11	10	3	3	2	59
05:30 PM	4	14	0	12	0	3	0	7	14	2	3	3	62
05:45 PM	0	10	0	17	0	5	0	8	13	2	2	3	60
Total	14	56	0	63	0	15	0	33	44	12	17	11	265
Grand Total	49	139	0	160	1	43	0	88	267	60	91	24	922
Apprch %	26.1	73.9	0	78.4	0.5	21.1	0	24.8	75.2	34.3	52	13.7	
Total %	5.3	15.1	0	17.4	0.1	4.7	0	9.5	29	6.5	9.9	2.6	

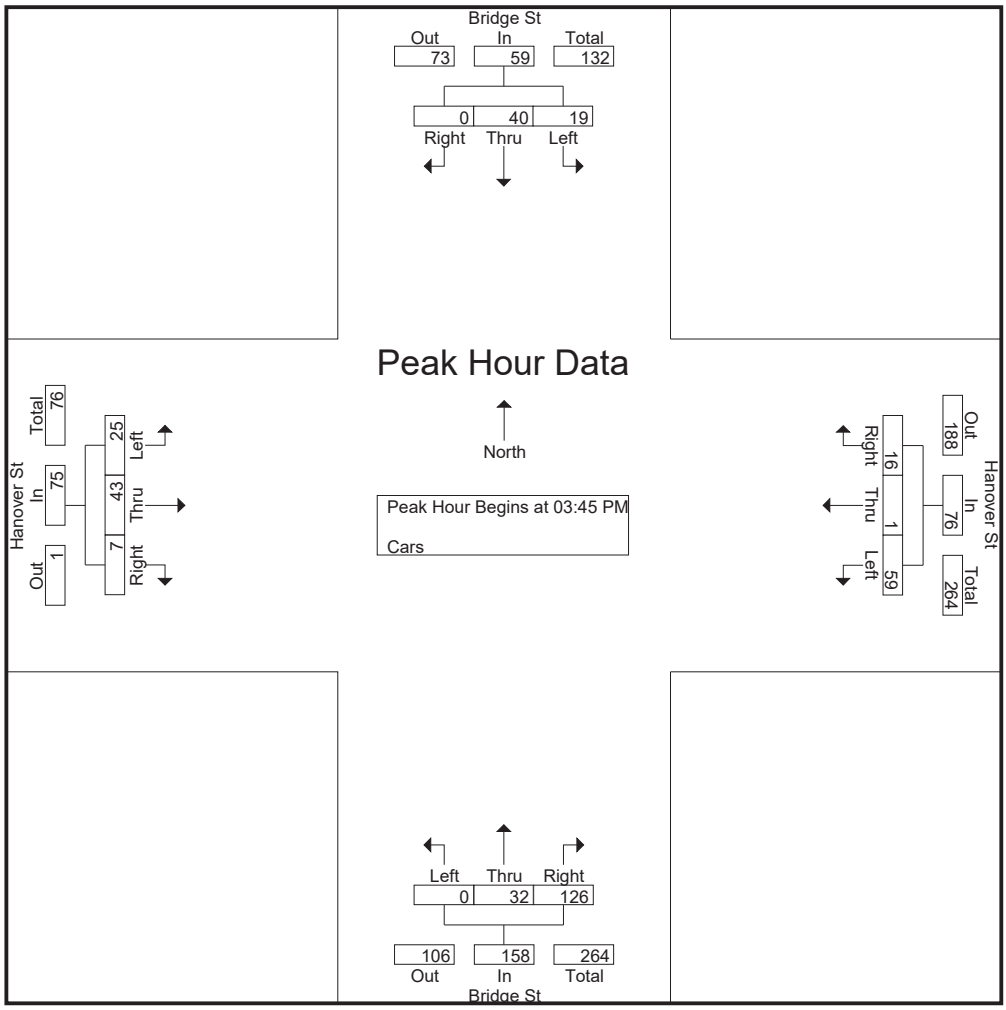
	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	3	7	0	10	14	0	3	17	0	3	32	35	**11**	7	0	18	80
04:00 PM	**9**	10	0	**19**	13	0	4	17	0	7	32	39	6	9	2	17	92
04:15 PM	2	**12**	0	14	**16**	0	**5**	**21**	0	**13**	27	40	3	11	1	15	90
04:30 PM	5	11	0	16	16	**1**	4	21	0	9	**35**	**44**	5	**16**	**4**	**25**	**106**
Total Volume	19	40	0	59	59	1	16	76	0	32	126	158	25	43	7	75	368
% App. Total	32.2	67.8	0		77.6	1.3	21.1		0	20.3	79.7		33.3	57.3	9.3		
PHF	.528	.833	.000	.776	.922	.250	.800	.905	.000	.615	.900	.898	.568	.672	.438	.750	.868

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 5



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

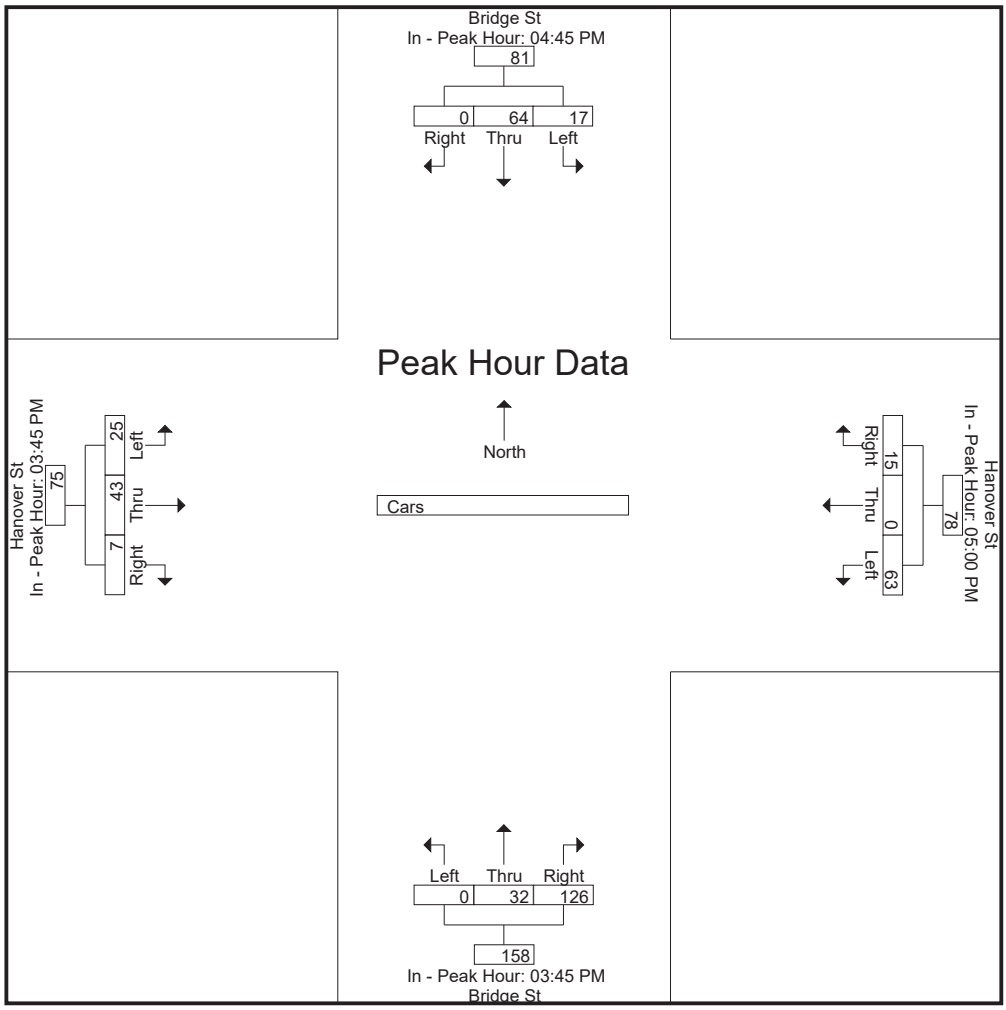
	04:45 PM				05:00 PM				03:45 PM				03:45 PM			
+0 mins.	3	18	0	21	**21**	0	4	**25**	0	3	32	35	**11**	7	0	18
+15 mins.	**6**	**22**	0	**28**	13	0	3	16	0	7	32	39	6	9	2	17
+30 mins.	4	10	0	14	12	0	3	15	0	**13**	27	40	3	11	1	15
+45 mins.	4	14	0	18	17	0	**5**	22	0	9	**35**	**44**	5	**16**	**4**	**25**
Total Volume	17	64	0	81	63	0	15	78	0	32	126	158	25	43	7	75
% App. Total	21	79	0		80.8	0	19.2		0	20.3	79.7		33.3	57.3	9.3	
PHF	.708	.727	.000	.723	.750	.000	.750	.780	.000	.615	.900	.898	.568	.672	.438	.750

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 7

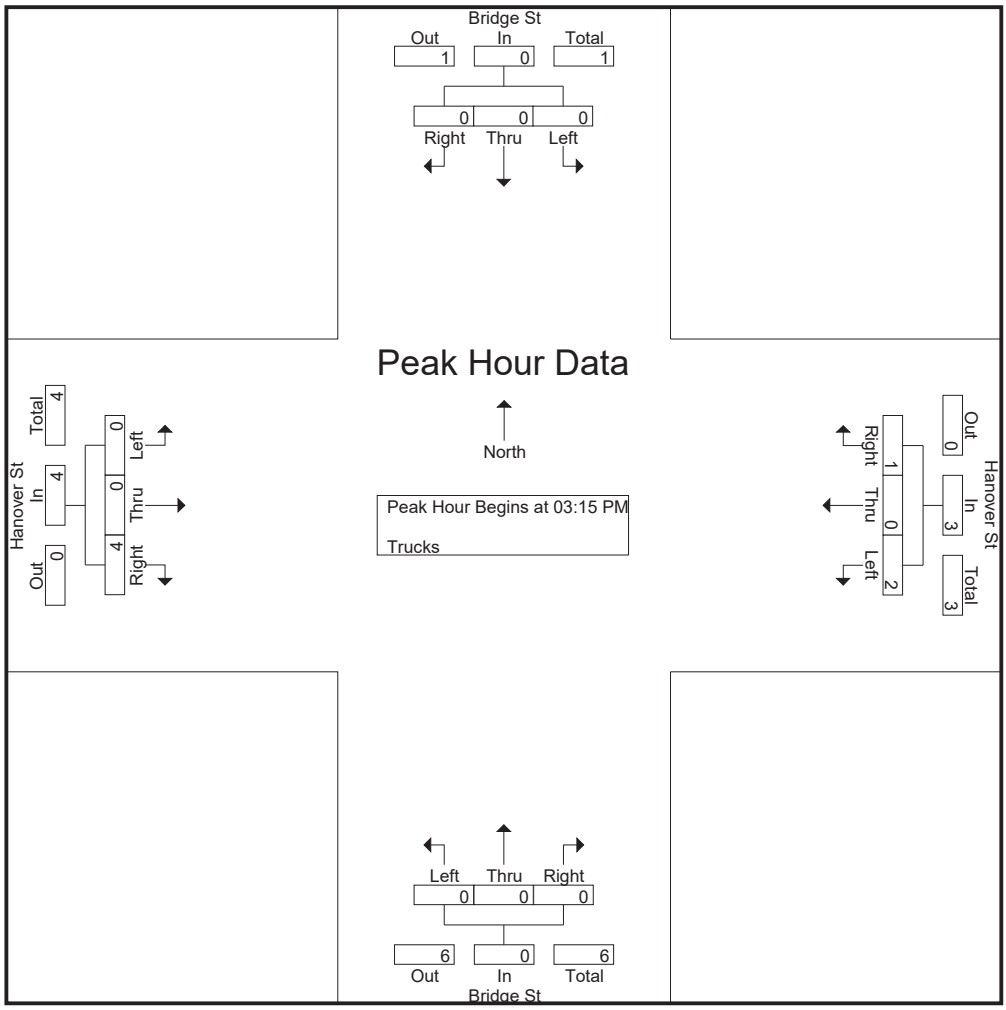
Groups Printed- Trucks

	Bridge St From North			Hanover St From East			Bridge St From South			Hanover St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
03:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	2
03:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	2
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	1	0	1	0	0	0	0	1	3	6
04:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
05:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	1	0	0	0	2
Grand Total	0	1	0	2	0	1	0	0	1	0	1	4	10
Apprch %	0	100	0	66.7	0	33.3	0	0	100	0	20	80	
Total %	0	10	0	20	0	10	0	0	10	0	10	40	

	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	**1**	**1**	**2**
03:30 PM	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	1	1	2
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
Total Volume	0	0	0	0	2	0	1	3	0	0	0	0	0	0	4	4	7
% App. Total	0	0	0		66.7	0	33.3		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.500	.000	.250	.750	.000	.000	.000	.000	.000	.000	1.00	1.00	.875

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 8



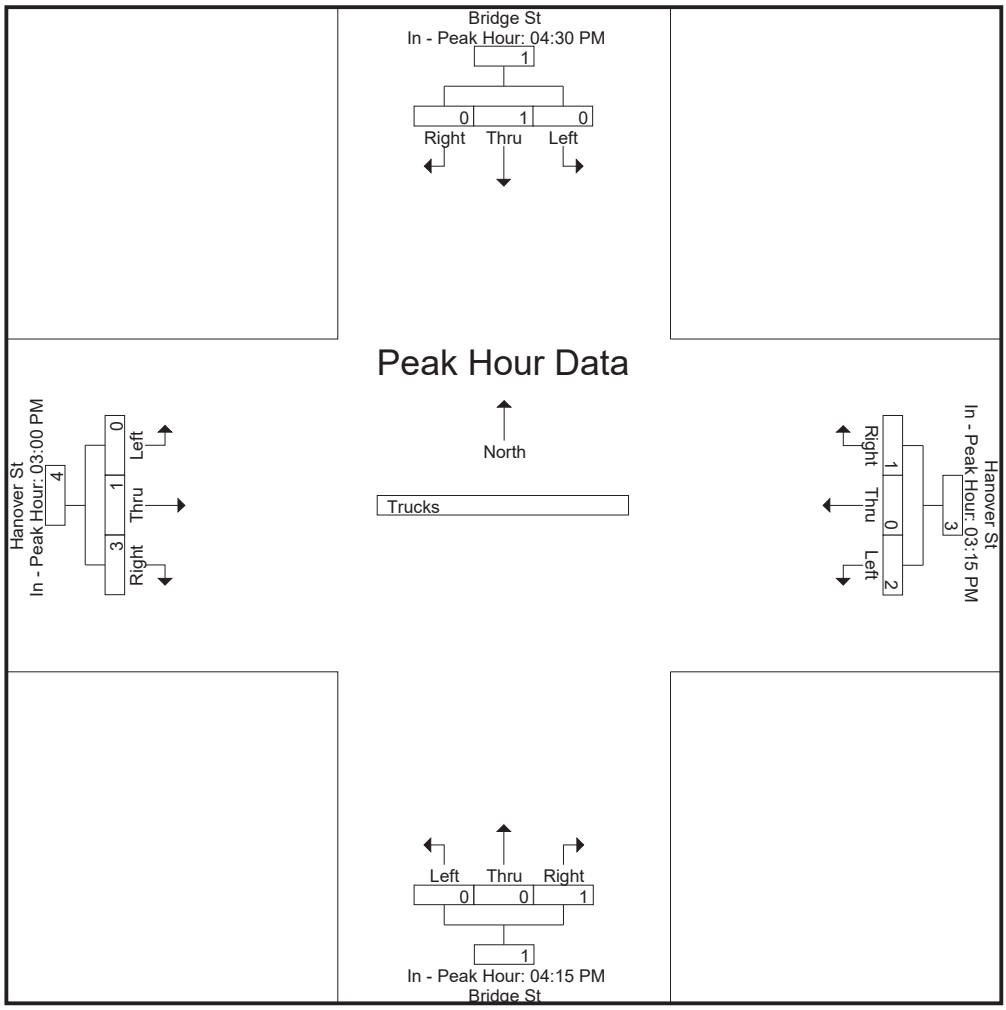
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				03:15 PM				04:15 PM				03:00 PM			
+0 mins.	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	**1**	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+45 mins.	0	**1**	0	**1**	1	0	0	1	0	0	**1**	**1**	0	0	1	1
Total Volume	0	1	0	1	2	0	1	3	0	0	1	1	0	1	3	4
% App. Total	0	100	0		66.7	0	33.3		0	0	100		0	25	75	
PHF	.000	.250	.000	.250	.500	.000	.250	.750	.000	.000	.250	.250	.000	.250	.750	1.000

Accurate Counts
978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024

Groups Printed- Bikes Peds

	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
03:00 PM	0	2	0	2	1	0	2	2	0	0	0	6	0	0	0	3	13	5	18
03:15 PM	0	0	0	6	0	0	0	6	0	0	0	13	0	0	0	7	32	0	32
03:30 PM	0	0	0	3	0	0	0	6	0	0	0	3	0	0	0	0	12	0	12
03:45 PM	0	0	0	7	0	0	0	9	0	0	1	9	0	0	0	2	27	1	28
Total	0	2	0	18	1	0	2	23	0	0	1	31	0	0	0	12	84	6	90
04:00 PM	0	0	0	6	0	1	0	5	0	0	0	7	0	0	0	4	22	1	23
04:15 PM	0	0	0	4	0	0	0	6	0	0	3	11	0	0	1	7	28	4	32
04:30 PM	0	0	0	1	0	0	0	3	0	0	0	15	0	0	0	7	26	0	26
04:45 PM	0	0	0	8	0	0	0	2	0	0	0	9	1	0	0	9	28	1	29
Total	0	0	0	19	0	1	0	16	0	0	3	42	1	0	1	27	104	6	110
05:00 PM	0	0	0	6	0	0	0	8	0	0	0	13	0	0	0	15	42	0	42
05:15 PM	0	0	0	7	0	0	0	13	0	0	0	4	0	0	0	4	28	0	28
05:30 PM	0	0	0	5	0	0	0	9	0	0	0	8	0	0	0	6	28	0	28
05:45 PM	0	0	0	4	0	0	0	5	0	0	0	11	0	0	0	1	21	0	21
Total	0	0	0	22	0	0	0	35	0	0	0	36	0	0	0	26	119	0	119
Grand Total	0	2	0	59	1	1	2	74	0	0	4	109	1	0	1	65	307	12	319
Apprch %	0	100	0		25	25	50		0	0	100		50	0	50				
Total %	0	16.7	0		8.3	8.3	16.7		0	0	33.3		8.3	0	8.3		96.2	3.8	

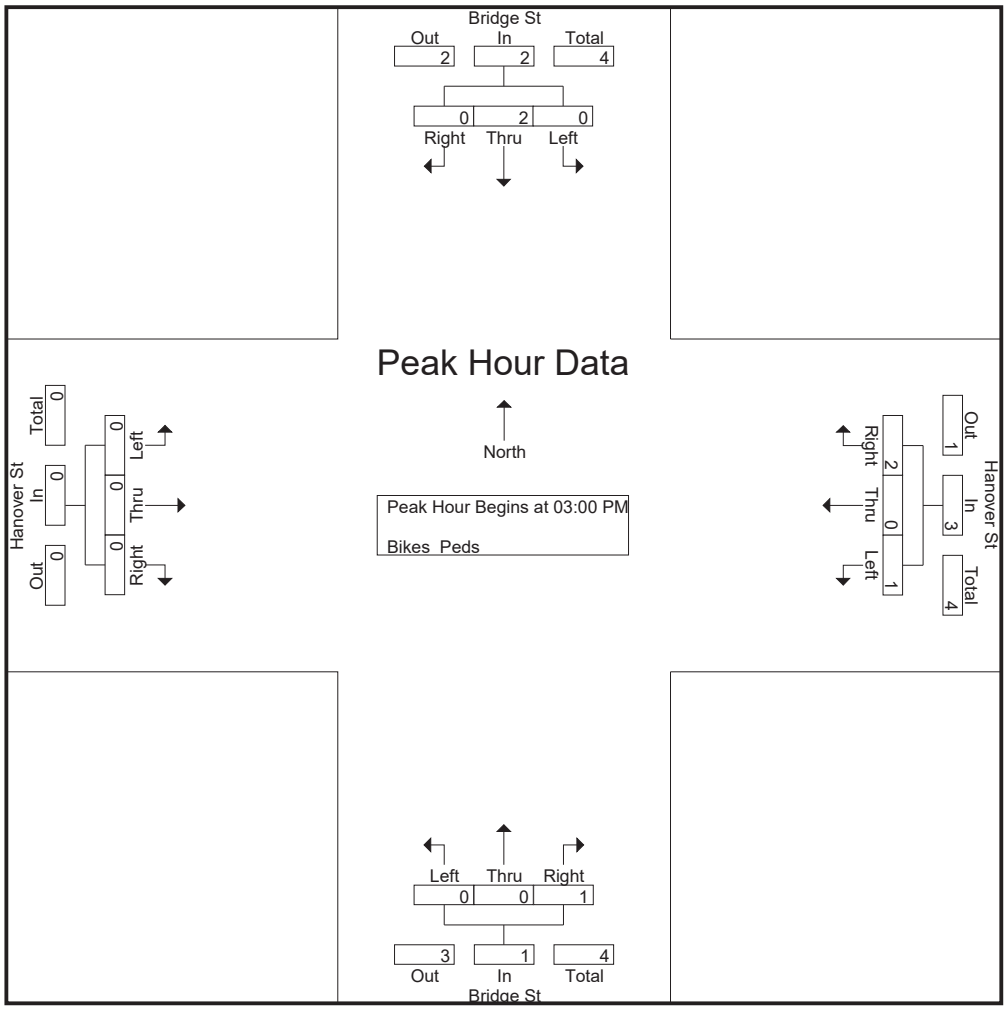
	Bridge St From North				Hanover St From East				Bridge St From South				Hanover St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	**2**	0	**2**	**1**	0	**2**	**3**	0	0	0	0	0	0	0	0	**5**
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	1
Total Volume	0	2	0	2	1	0	2	3	0	0	1	1	0	0	0	0	6
% App. Total	0	100	0		33.3	0	66.7		0	0	100		0	0	0		
PHF	.000	.250	.000	.250	.250	.000	.250	.250	.000	.000	.250	.250	.000	.000	.000	.000	.300

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 11



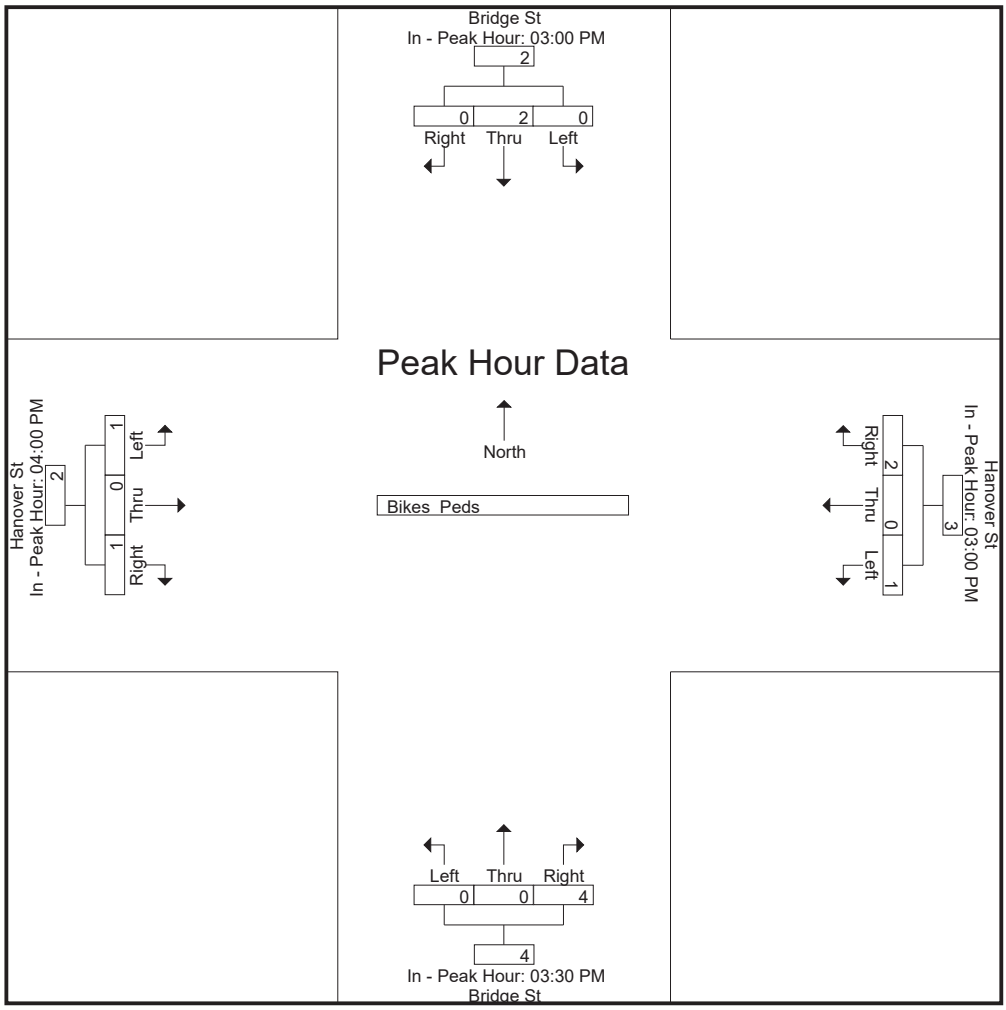
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:30 PM				04:00 PM			
+0 mins.	0	**2**	0	**2**	**1**	0	**2**	**3**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	**1**	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	**3**	**3**	**1**	0	0	1
Total Volume	0	2	0	2	1	0	2	3	0	0	4	4	1	0	1	2
% App. Total	0	100	0		33.3	0	66.7		0	0	100		50	0	50	
PHF	.000	.250	.000	.250	.250	.000	.250	.250	.000	.000	.333	.333	.250	.000	.250	.500

N/S Street : Bridge Street
E/W Street : Hanover Street
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068003
Site Code : 10068003
Start Date : 8/6/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 1

Groups Printed- Cars - Trucks

	Bridge St From North		Bridge St From South		Foundry Place From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
07:00 AM	3	8	2	7	0	0	20
07:15 AM	6	8	3	5	1	1	24
07:30 AM	6	10	0	5	1	3	25
07:45 AM	3	16	7	6	1	0	33
Total	18	42	12	23	3	4	102
08:00 AM	5	22	5	5	2	0	39
08:15 AM	6	33	8	7	7	2	63
08:30 AM	7	36	8	9	1	2	63
08:45 AM	6	25	3	14	6	1	55
Total	24	116	24	35	16	5	220
Grand Total	42	158	36	58	19	9	322
Apprch %	21	79	38.3	61.7	67.9	32.1	
Total %	13	49.1	11.2	18	5.9	2.8	
Cars	42	158	36	57	19	9	321
% Cars	100	100	100	98.3	100	100	99.7
Trucks	0	0	0	1	0	0	1
% Trucks	0	0	0	1.7	0	0	0.3

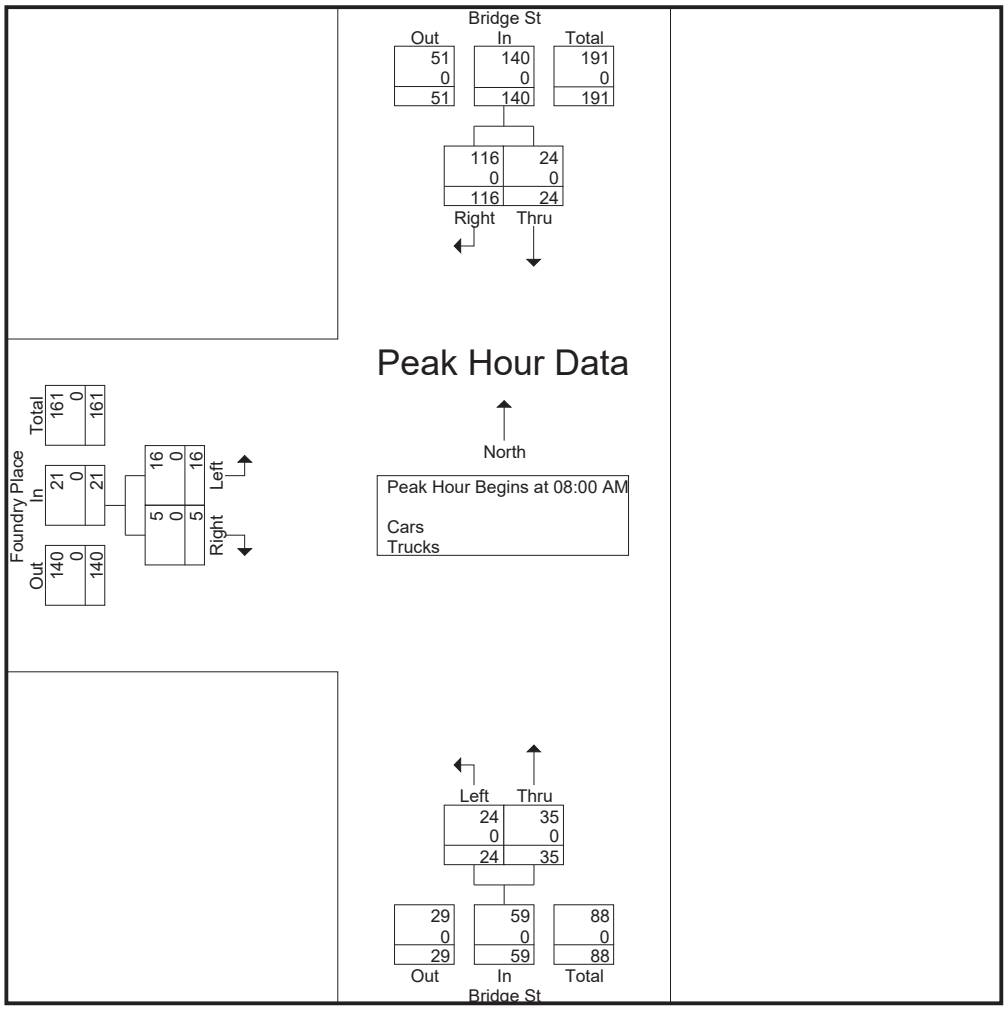
	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	5	22	27	5	5	10	2	0	2	39
08:15 AM	6	33	39	**8**	7	15	**7**	**2**	**9**	**63**
08:30 AM	**7**	**36**	**43**	8	9	**17**	1	2	3	63
08:45 AM	6	25	31	3	**14**	17	6	1	7	55
Total Volume	24	116	140	24	35	59	16	5	21	220
% App. Total	17.1	82.9		40.7	59.3		76.2	23.8		
PHF	.857	.806	.814	.750	.625	.868	.571	.625	.583	.873
Cars	24	116	140	24	35	59	16	5	21	220
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

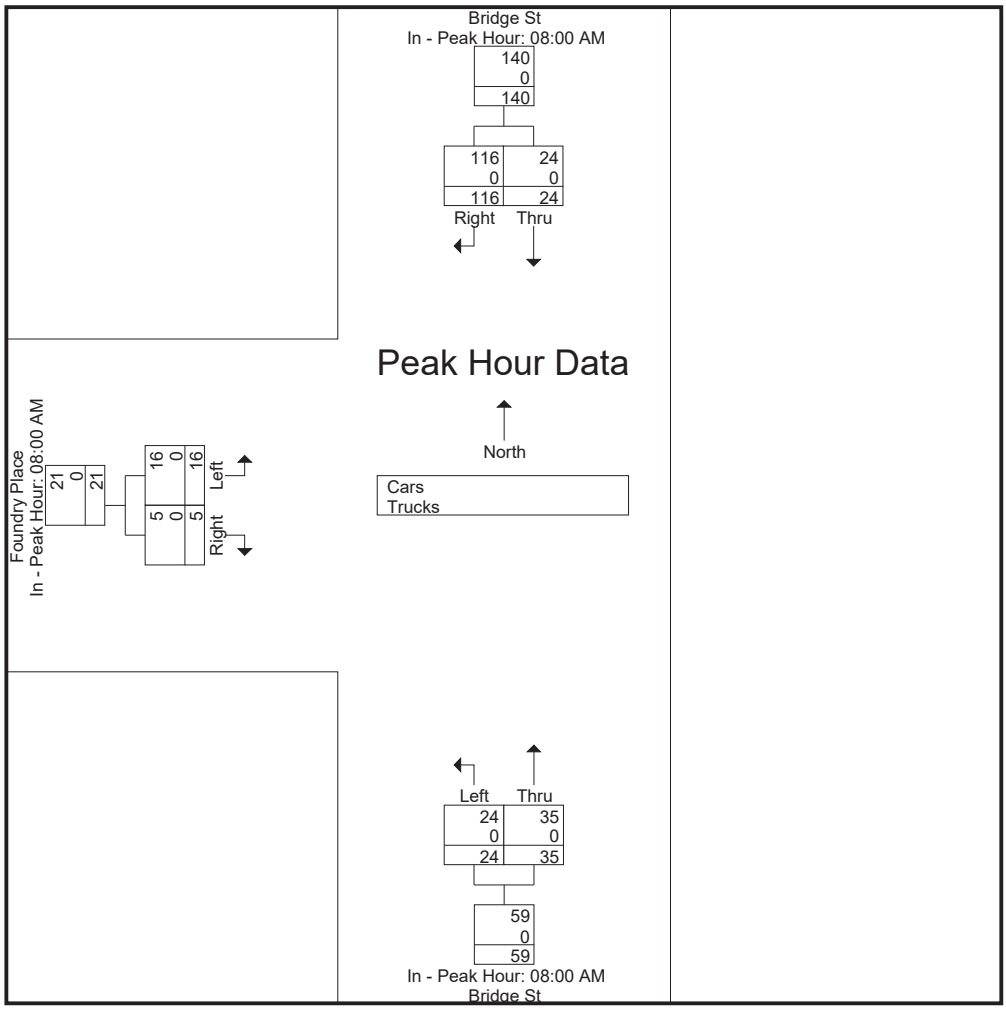
	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	5	22	27	5	5	10	2	0	2
+15 mins.	6	33	39	**8**	7	15	**7**	**2**	**9**
+30 mins.	**7**	**36**	**43**	8	9	**17**	1	2	3
+45 mins.	6	25	31	3	**14**	17	6	1	7
Total Volume	24	116	140	24	35	59	16	5	21
% App. Total	17.1	82.9		40.7	59.3		76.2	23.8	
PHF	.857	.806	.814	.750	.625	.868	.571	.625	.583
Cars	24	116	140	24	35	59	16	5	21
% Cars	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 4

Groups Printed- Cars

	Bridge St From North		Bridge St From South		Foundry Place From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
07:00 AM	3	8	2	7	0	0	20
07:15 AM	6	8	3	5	1	1	24
07:30 AM	6	10	0	5	1	3	25
07:45 AM	3	16	7	5	1	0	32
Total	18	42	12	22	3	4	101
08:00 AM	5	22	5	5	2	0	39
08:15 AM	6	33	8	7	7	2	63
08:30 AM	7	36	8	9	1	2	63
08:45 AM	6	25	3	14	6	1	55
Total	24	116	24	35	16	5	220
Grand Total	42	158	36	57	19	9	321
Apprch %	21	79	38.7	61.3	67.9	32.1	
Total %	13.1	49.2	11.2	17.8	5.9	2.8	

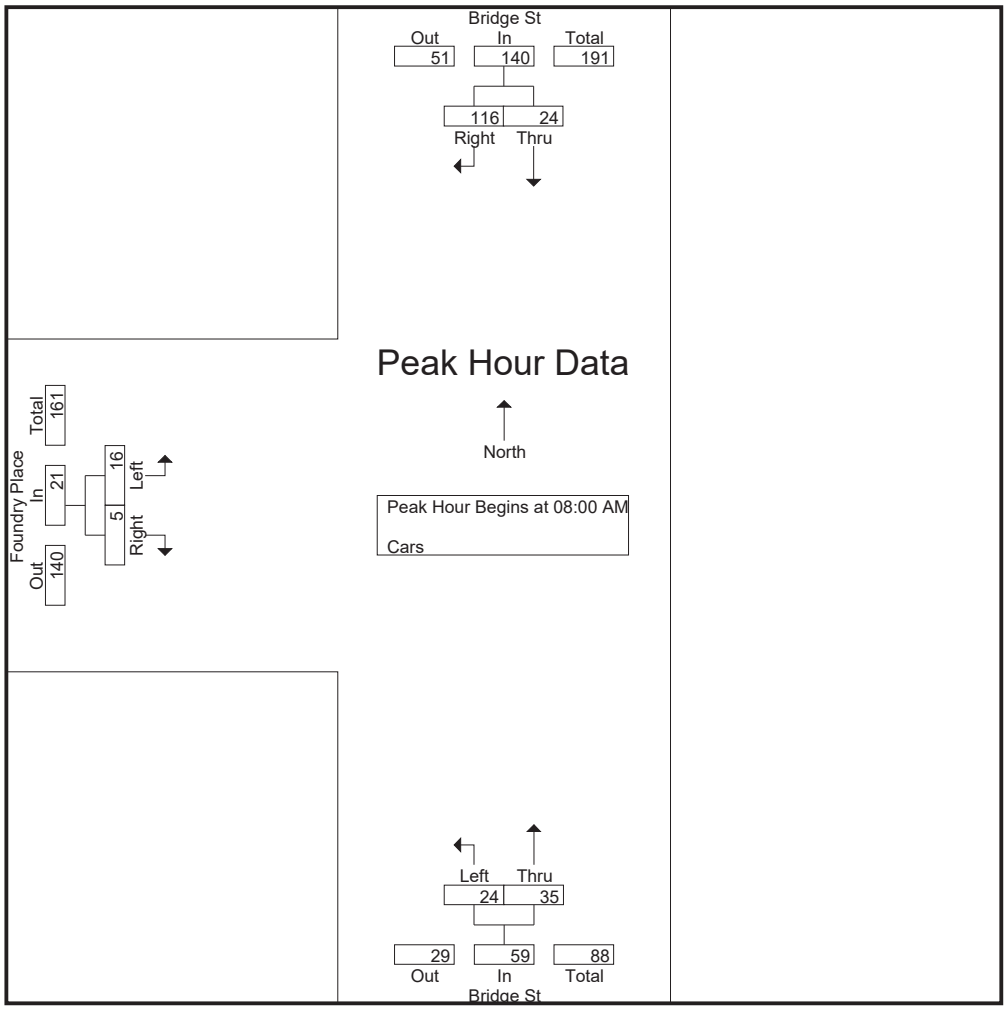
	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	5	22	27	5	5	10	2	0	2	39
08:15 AM	6	33	39	**8**	7	15	**7**	**2**	**9**	**63**
08:30 AM	**7**	**36**	**43**	8	9	**17**	1	2	3	63
08:45 AM	6	25	31	3	**14**	17	6	1	7	55
Total Volume	24	116	140	24	35	59	16	5	21	220
% App. Total	17.1	82.9		40.7	59.3		76.2	23.8		
PHF	.857	.806	.814	.750	.625	.868	.571	.625	.583	.873

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 5



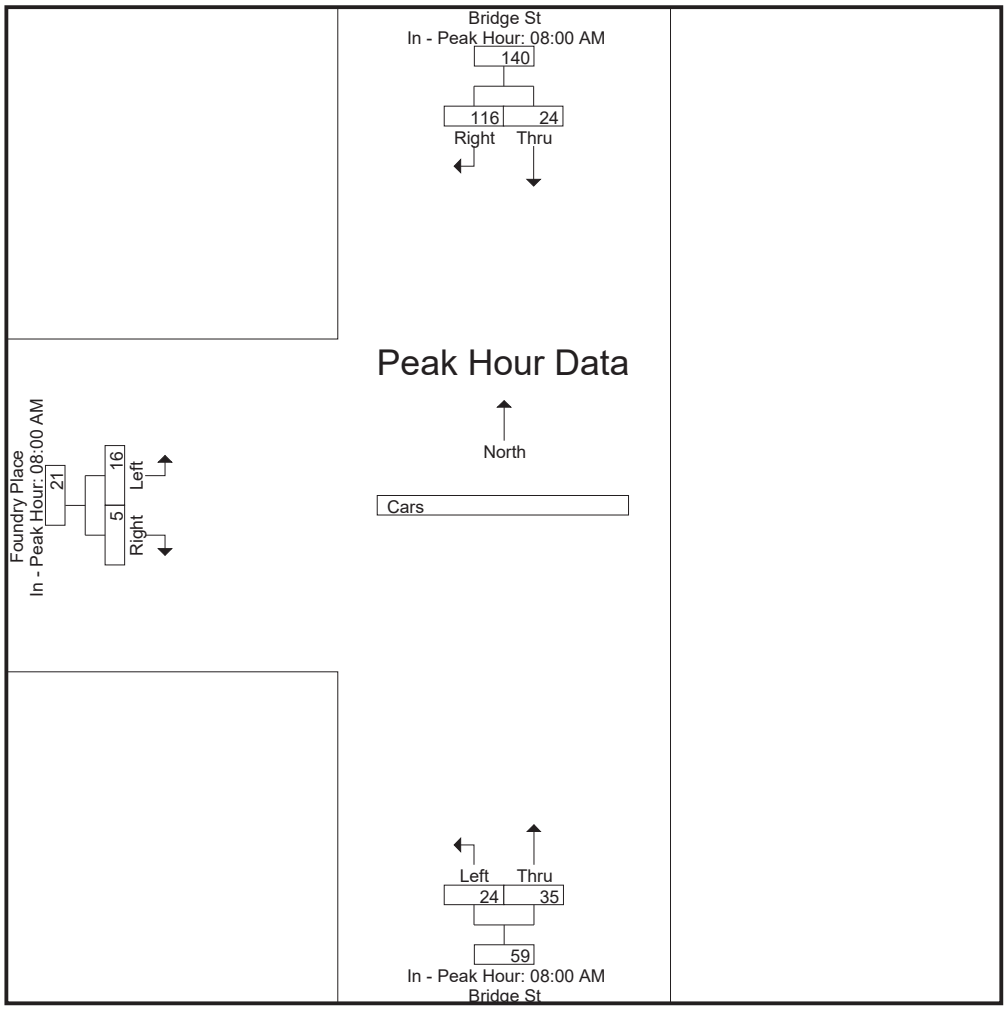
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	5	22	27	5	5	10	2	0	2
+15 mins.	6	33	39	**8**	7	15	**7**	**2**	**9**
+30 mins.	**7**	**36**	**43**	8	9	**17**	1	2	3
+45 mins.	6	25	31	3	**14**	17	6	1	7
Total Volume	24	116	140	24	35	59	16	5	21
% App. Total	17.1	82.9		40.7	59.3		76.2	23.8	
PHF	.857	.806	.814	.750	.625	.868	.571	.625	.583

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
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Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
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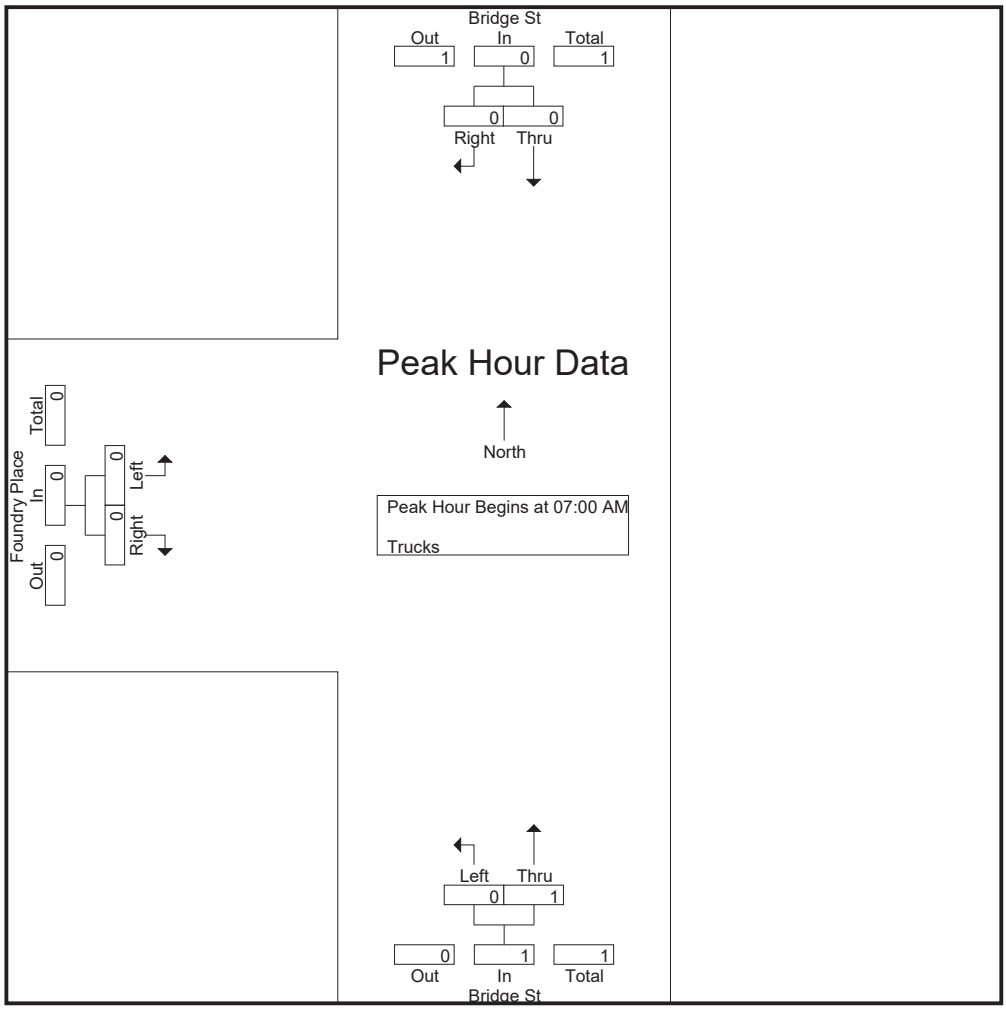
Groups Printed- Trucks

	Bridge St From North		Bridge St From South		Foundry Place From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	0	0	1
Total	0	0	0	1	0	0	1
08:00 AM	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	0	1
Apprch %	0	0	0	100	0	0	
Total %	0	0	0	100	0	0	

	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	**1**	**1**	0	0	0	**1**
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
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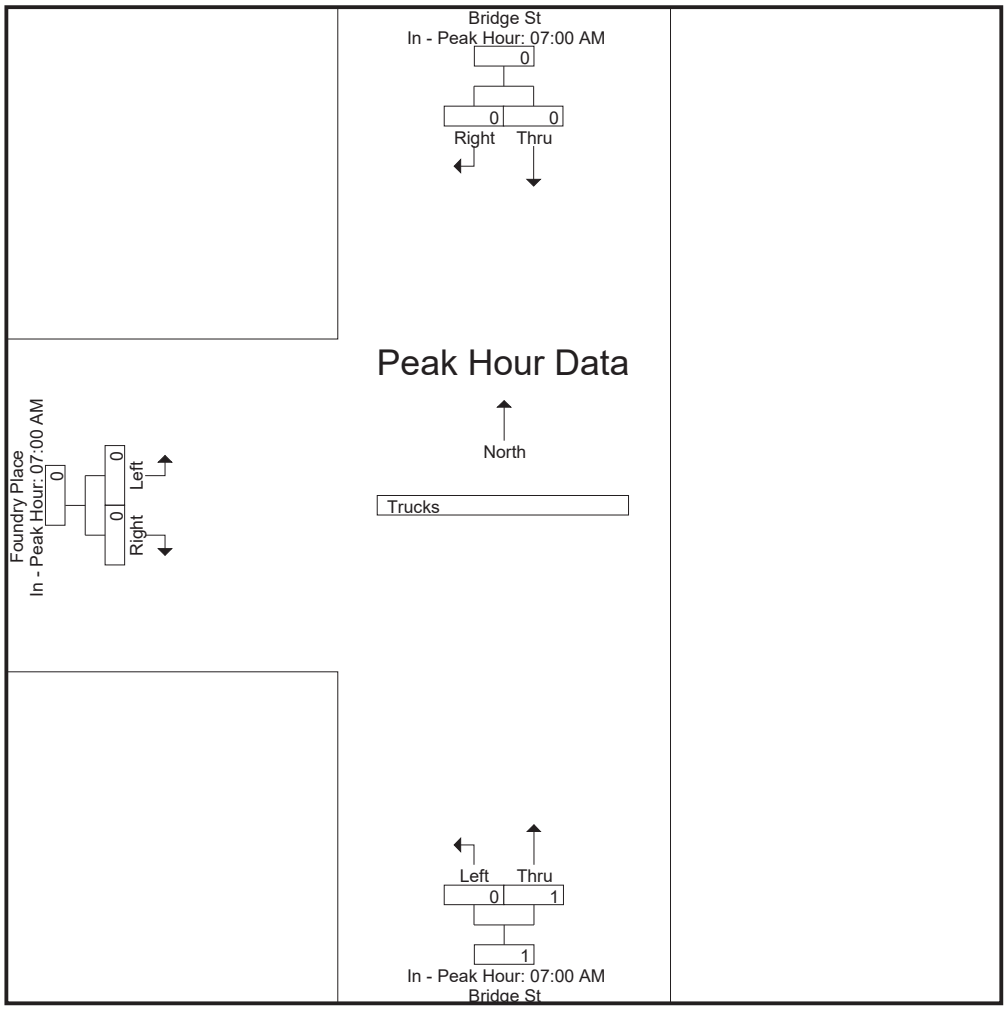


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	**1**	**1**	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0
% App. Total	0	0		0	100		0	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024

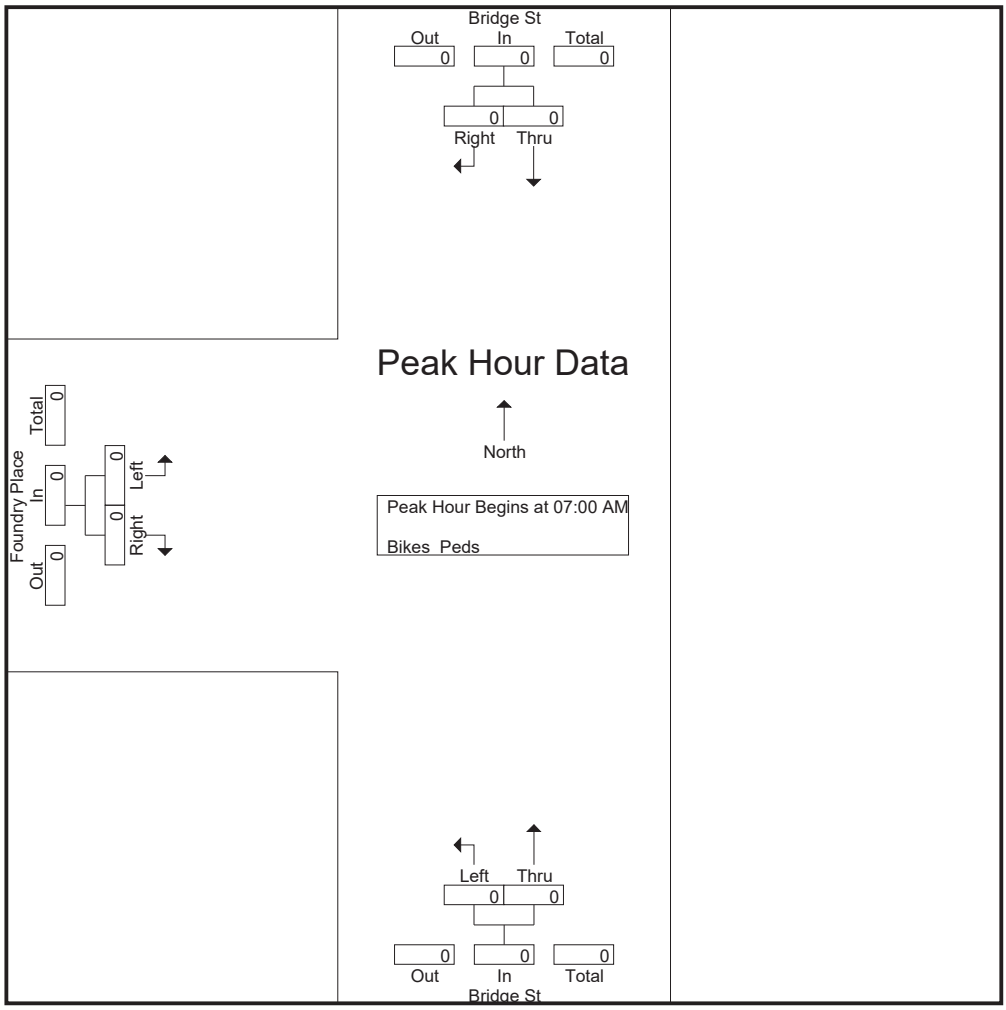
Groups Printed- Bikes Peds

	Bridge St From North			Bridge St From South			Foundry Place From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	6	0	0	2	0	0	5	13	0	13
07:15 AM	0	0	4	0	0	3	0	0	7	14	0	14
07:30 AM	0	0	0	0	0	0	0	0	4	4	0	4
07:45 AM	0	0	3	0	0	1	0	0	4	8	0	8
Total	0	0	13	0	0	6	0	0	20	39	0	39
08:00 AM	0	0	4	0	0	5	0	0	7	16	0	16
08:15 AM	0	0	4	0	0	3	0	0	9	16	0	16
08:30 AM	0	0	4	0	0	4	0	0	10	18	0	18
08:45 AM	0	0	2	0	0	6	0	0	6	14	0	14
Total	0	0	14	0	0	18	0	0	32	64	0	64
Grand Total	0	0	27	0	0	24	0	0	52	103	0	103
Apprch %	0	0		0	0		0	0				
Total %										100	0	

	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
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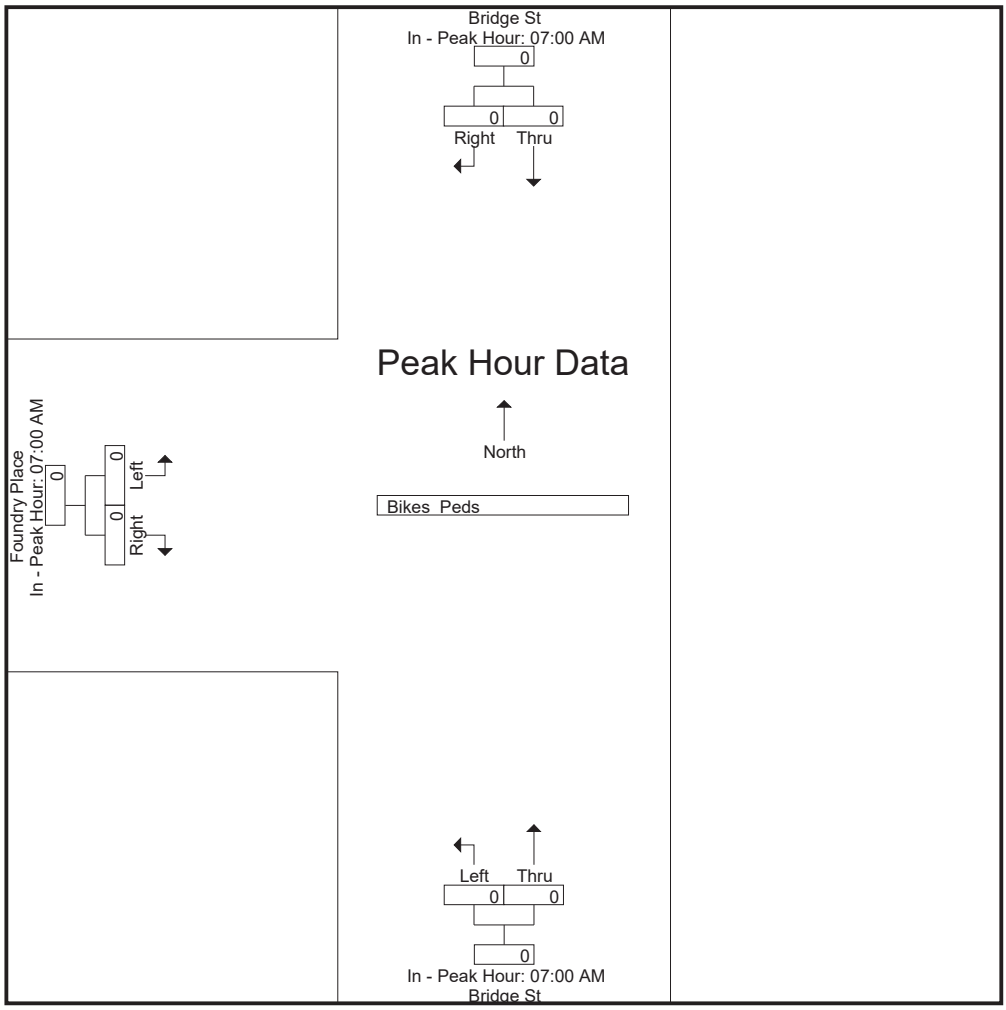


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
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Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 1

Groups Printed- Cars - Trucks

	Bridge St From North		Bridge St From South		Foundry Place From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
03:00 PM	9	4	4	10	11	4	42
03:15 PM	16	1	4	12	12	2	47
03:30 PM	9	6	5	11	19	0	50
03:45 PM	9	6	2	16	9	5	47
Total	43	17	15	49	51	11	186
04:00 PM	10	6	2	15	10	6	49
04:15 PM	11	7	4	14	18	3	57
04:30 PM	9	5	2	16	18	6	56
04:45 PM	14	6	3	9	13	7	52
Total	44	24	11	54	59	22	214
05:00 PM	14	5	3	12	29	13	76
05:15 PM	8	1	2	15	19	10	55
05:30 PM	13	2	2	9	21	6	53
05:45 PM	12	2	2	8	21	3	48
Total	47	10	9	44	90	32	232
Grand Total	134	51	35	147	200	65	632
Apprch %	72.4	27.6	19.2	80.8	75.5	24.5	
Total %	21.2	8.1	5.5	23.3	31.6	10.3	
Cars	133	51	35	146	200	65	630
% Cars	99.3	100	100	99.3	100	100	99.7
Trucks	1	0	0	1	0	0	2
% Trucks	0.7	0	0	0.7	0	0	0.3

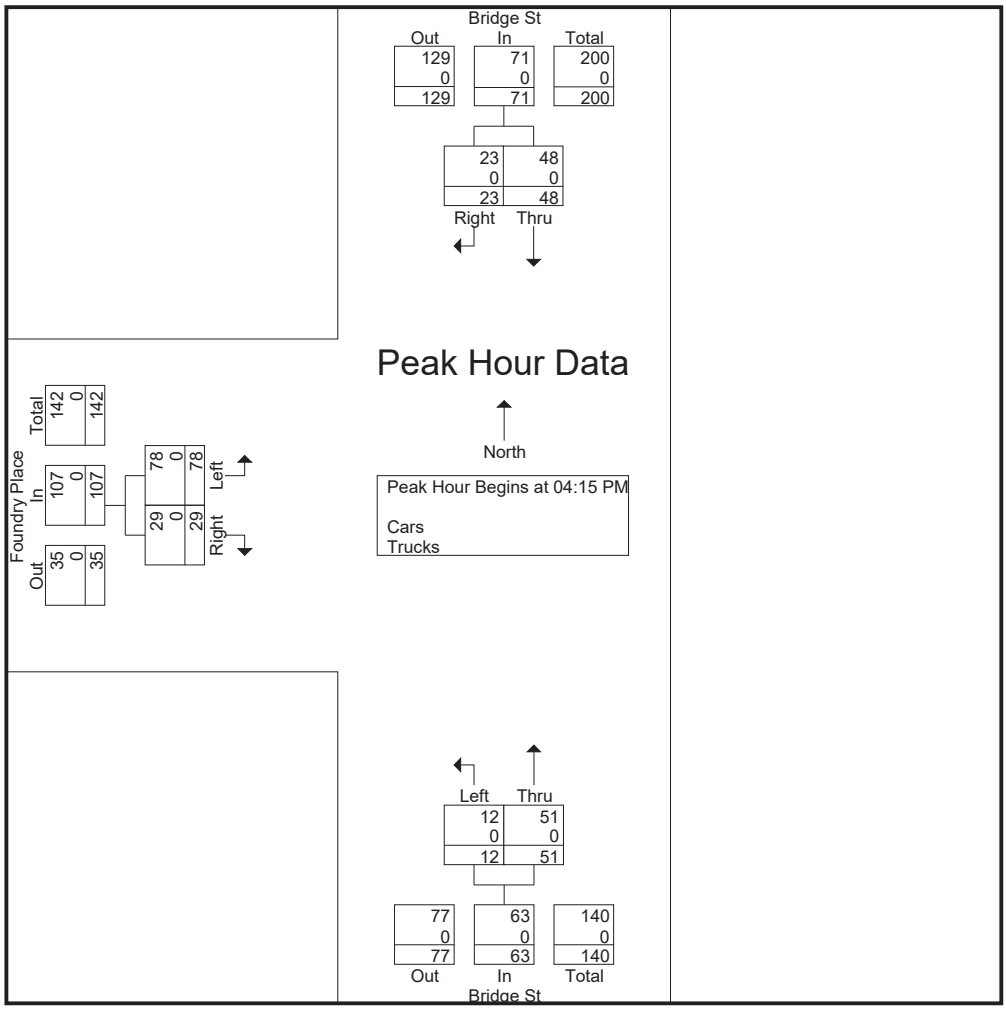
	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	11	**7**	18	**4**	14	**18**	18	3	21	57
04:30 PM	9	5	14	2	**16**	18	18	6	24	56
04:45 PM	**14**	6	**20**	3	9	12	13	7	20	52
05:00 PM	14	5	19	3	12	15	**29**	**13**	**42**	**76**
Total Volume	48	23	71	12	51	63	78	29	107	241
% App. Total	67.6	32.4		19	81		72.9	27.1		
PHF	.857	.821	.888	.750	.797	.875	.672	.558	.637	.793
Cars	48	23	71	12	51	63	78	29	107	241
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 2



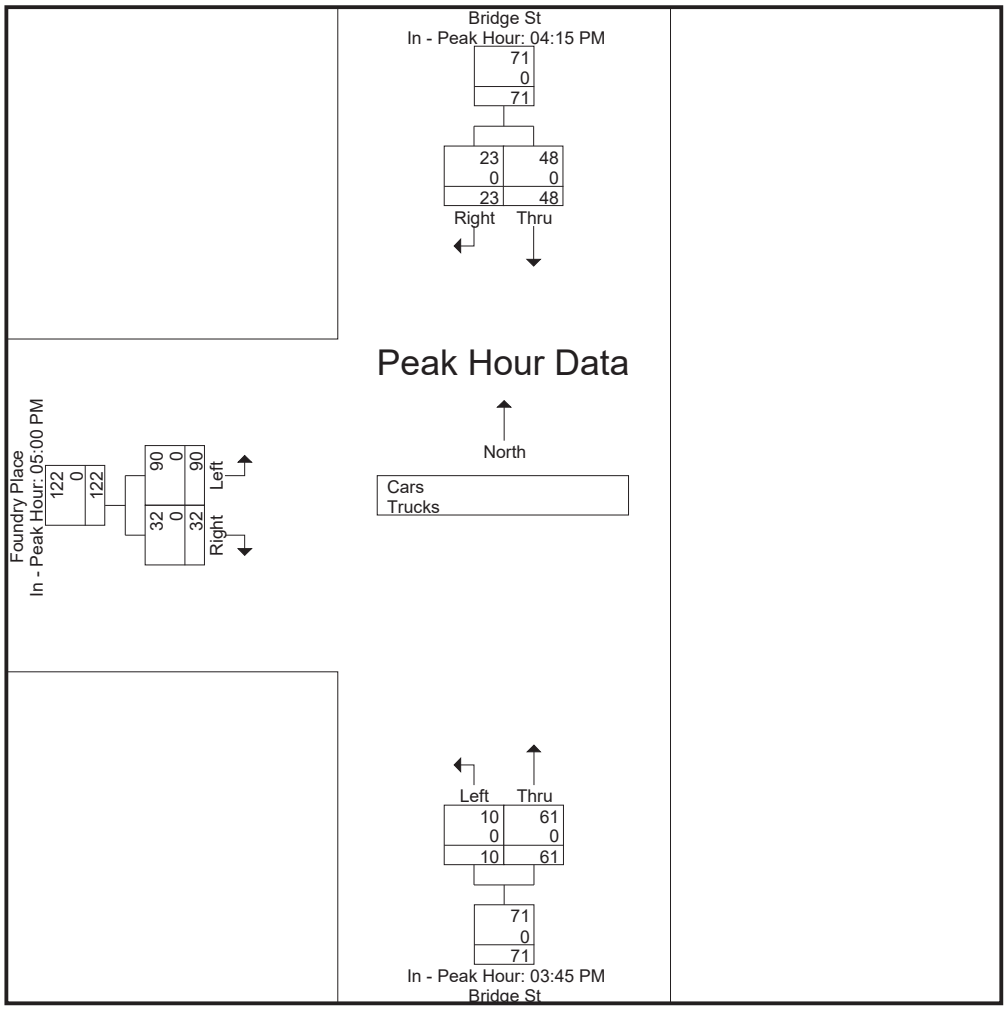
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			03:45 PM			05:00 PM		
+0 mins.	11	**7**	18	2	**16**	**18**	**29**	**13**	**42**
+15 mins.	9	5	14	2	15	17	19	10	29
+30 mins.	**14**	6	**20**	**4**	14	18	21	6	27
+45 mins.	14	5	19	2	16	18	21	3	24
Total Volume	48	23	71	10	61	71	90	32	122
% App. Total	67.6	32.4		14.1	85.9		73.8	26.2	
PHF	.857	.821	.888	.625	.953	.986	.776	.615	.726
Cars	48	23	71	10	61	71	90	32	122
% Cars	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 4

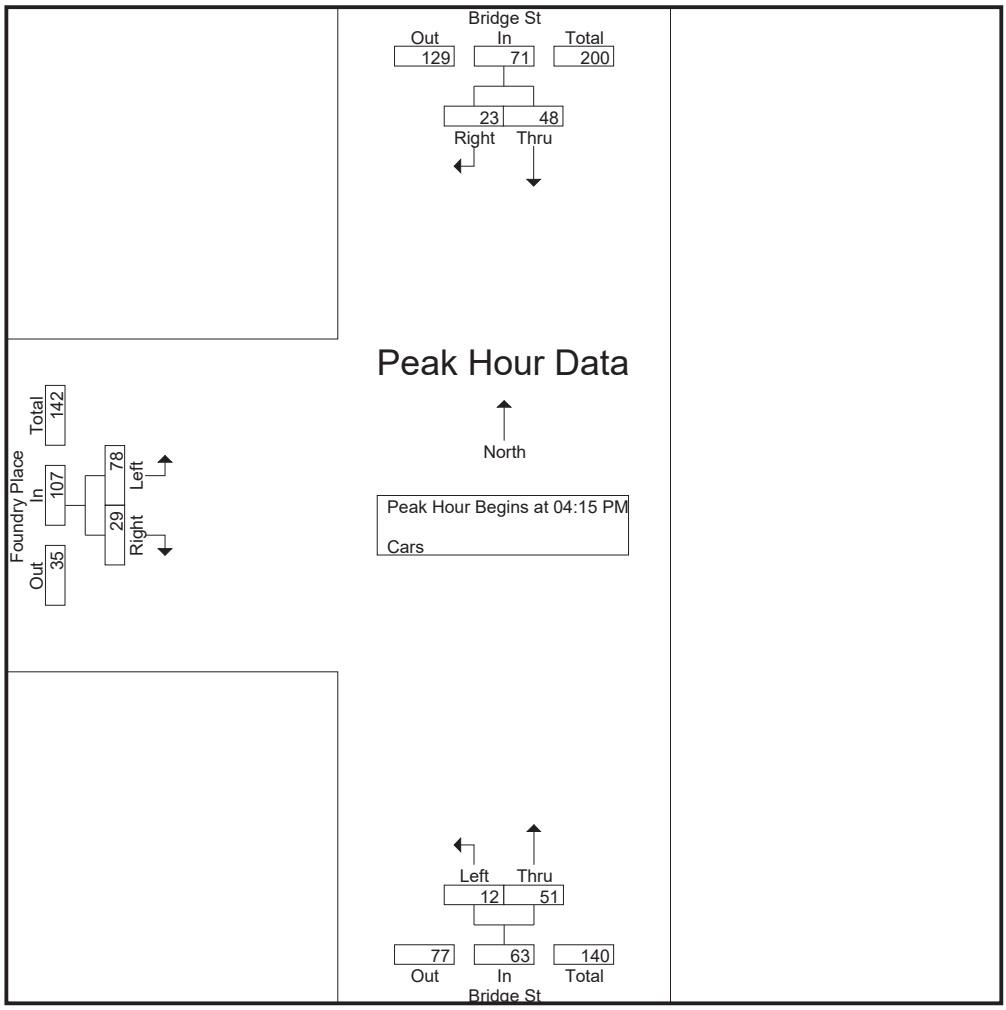
Groups Printed- Cars

	Bridge St From North		Bridge St From South		Foundry Place From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
03:00 PM	9	4	4	10	11	4	42
03:15 PM	16	1	4	12	12	2	47
03:30 PM	9	6	5	10	19	0	49
03:45 PM	9	6	2	16	9	5	47
Total	43	17	15	48	51	11	185
04:00 PM	10	6	2	15	10	6	49
04:15 PM	11	7	4	14	18	3	57
04:30 PM	9	5	2	16	18	6	56
04:45 PM	14	6	3	9	13	7	52
Total	44	24	11	54	59	22	214
05:00 PM	14	5	3	12	29	13	76
05:15 PM	7	1	2	15	19	10	54
05:30 PM	13	2	2	9	21	6	53
05:45 PM	12	2	2	8	21	3	48
Total	46	10	9	44	90	32	231
Grand Total	133	51	35	146	200	65	630
Apprch %	72.3	27.7	19.3	80.7	75.5	24.5	
Total %	21.1	8.1	5.6	23.2	31.7	10.3	

	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	11	**7**	18	**4**	14	**18**	18	3	21	57
04:30 PM	9	5	14	2	**16**	18	18	6	24	56
04:45 PM	**14**	6	**20**	3	9	12	13	7	20	52
05:00 PM	14	5	19	3	12	15	**29**	**13**	**42**	**76**
Total Volume	48	23	71	12	51	63	78	29	107	241
% App. Total	67.6	32.4		19	81		72.9	27.1		
PHF	.857	.821	.888	.750	.797	.875	.672	.558	.637	.793

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 5

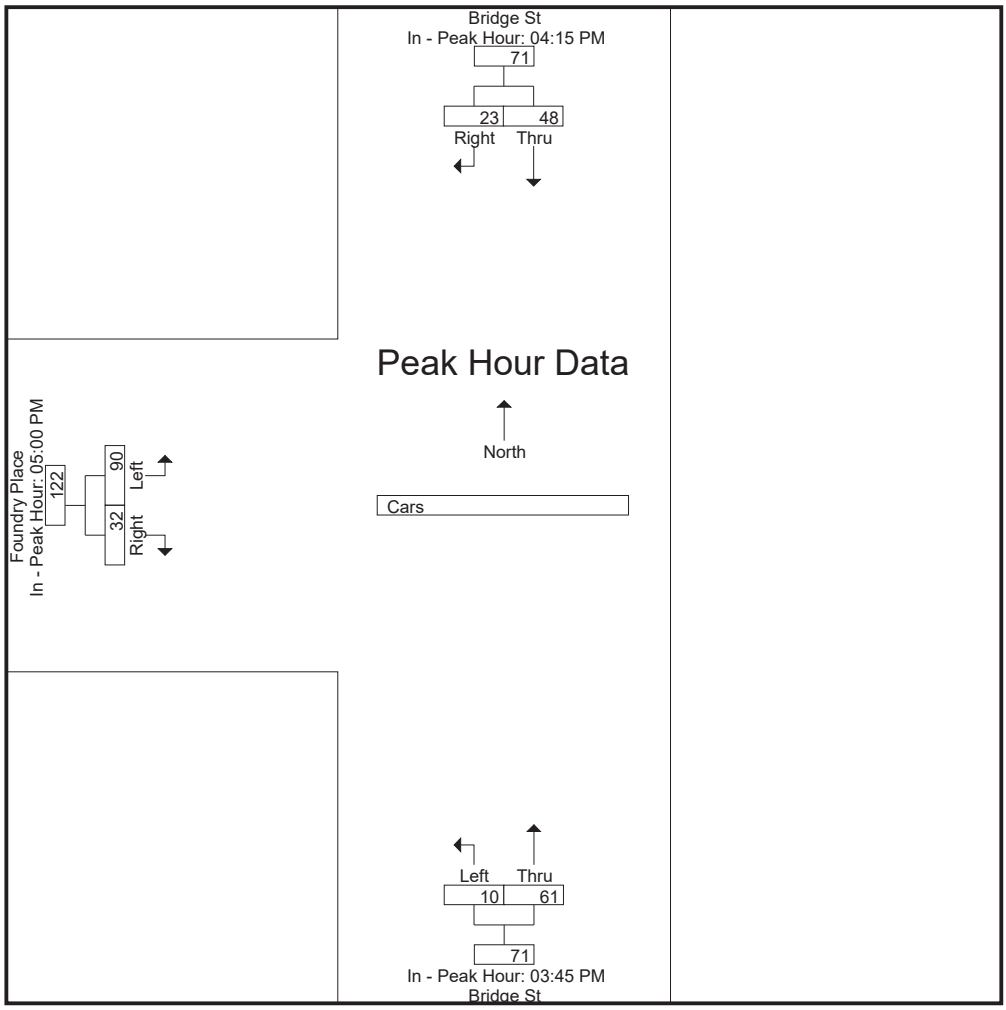


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			03:45 PM			05:00 PM		
+0 mins.	11	**7**	18	2	**16**	**18**	**29**	**13**	**42**
+15 mins.	9	5	14	2	15	17	19	10	29
+30 mins.	**14**	6	**20**	**4**	14	18	21	6	27
+45 mins.	14	5	19	2	16	18	21	3	24
Total Volume	48	23	71	10	61	71	90	32	122
% App. Total	67.6	32.4		14.1	85.9		73.8	26.2	
PHF	.857	.821	.888	.625	.953	.986	.776	.615	.726

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024

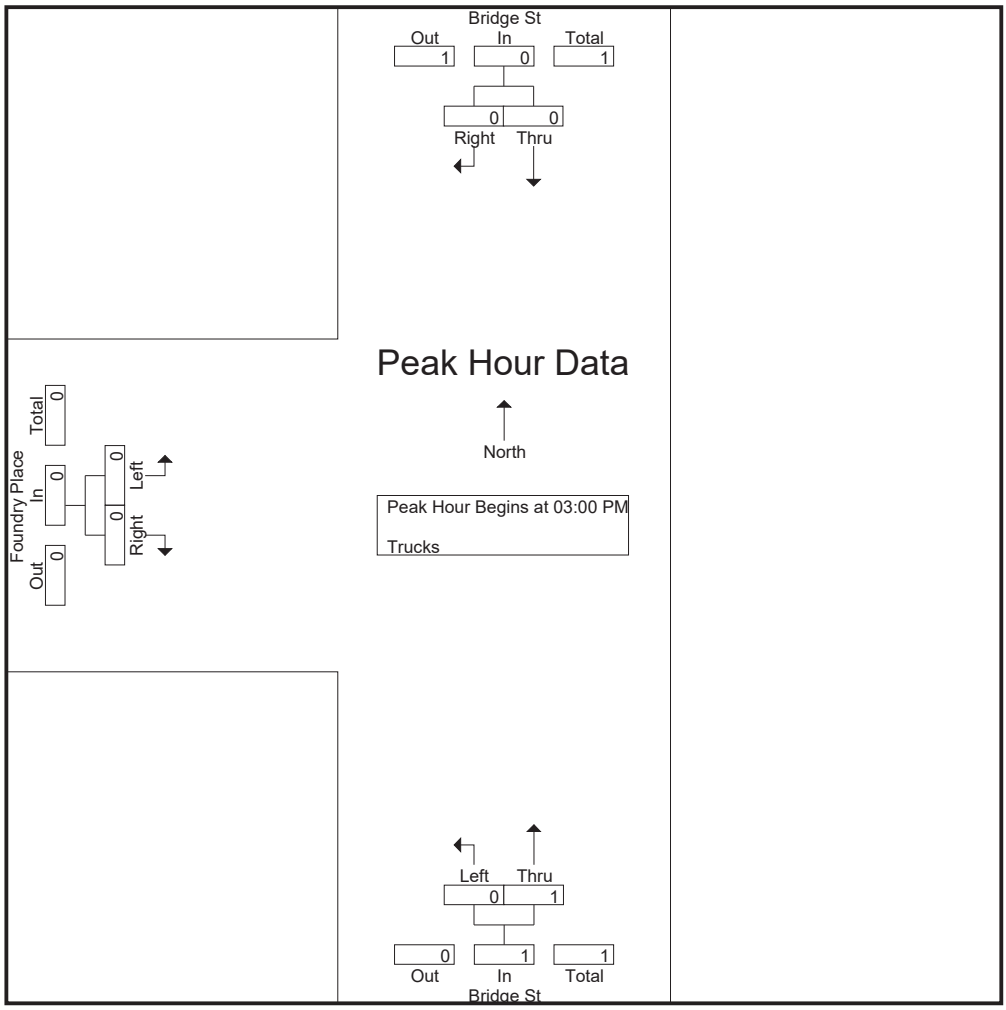
Groups Printed- Trucks

	Bridge St From North		Bridge St From South		Foundry Place From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
03:00 PM	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0
03:30 PM	0	0	0	1	0	0	1
03:45 PM	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0
05:15 PM	1	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	1
Grand Total	1	0	0	1	0	0	2
Apprch %	100	0	0	100	0	0	
Total %	50	0	0	50	0	0	

	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	**1**	**1**	0	0	0	**1**
03:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 8

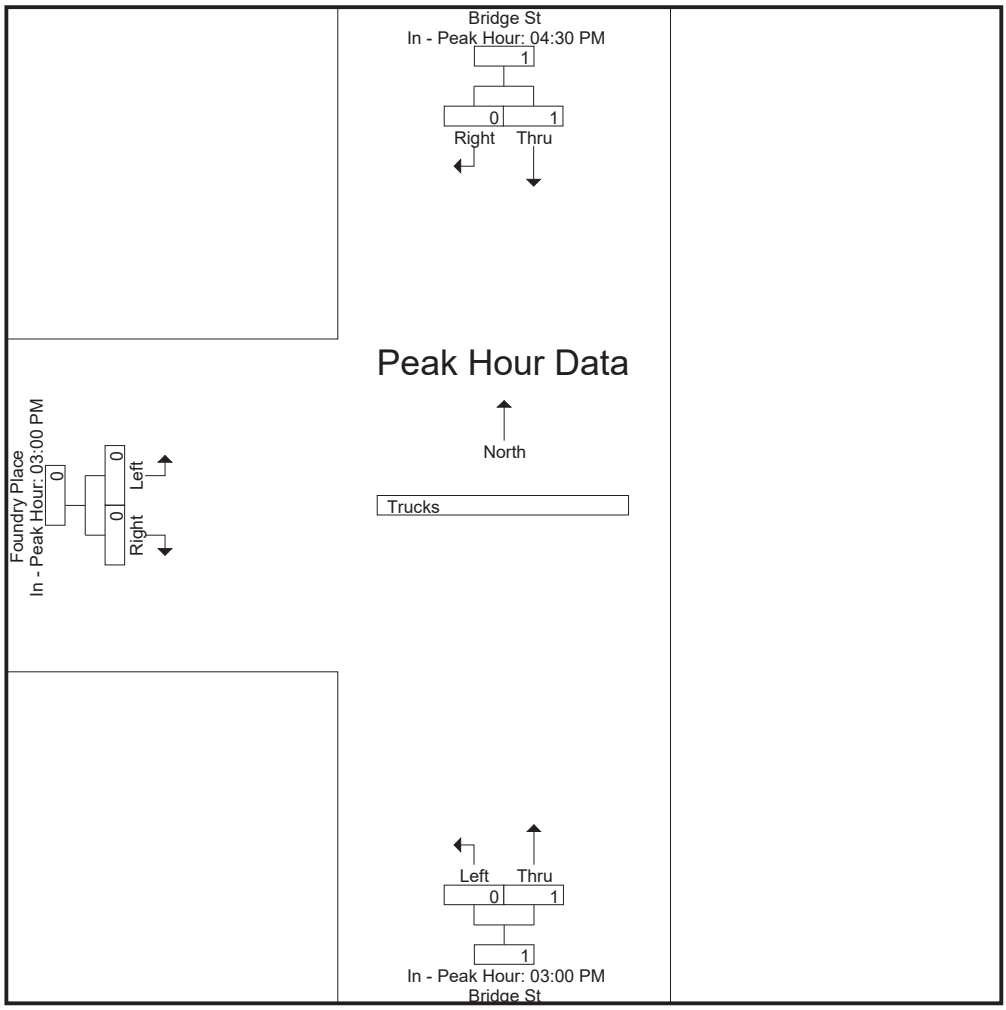


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			03:00 PM			03:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	**1**	**1**	0	0	0
+45 mins.	**1**	0	**1**	0	0	0	0	0	0
Total Volume	1	0	1	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024

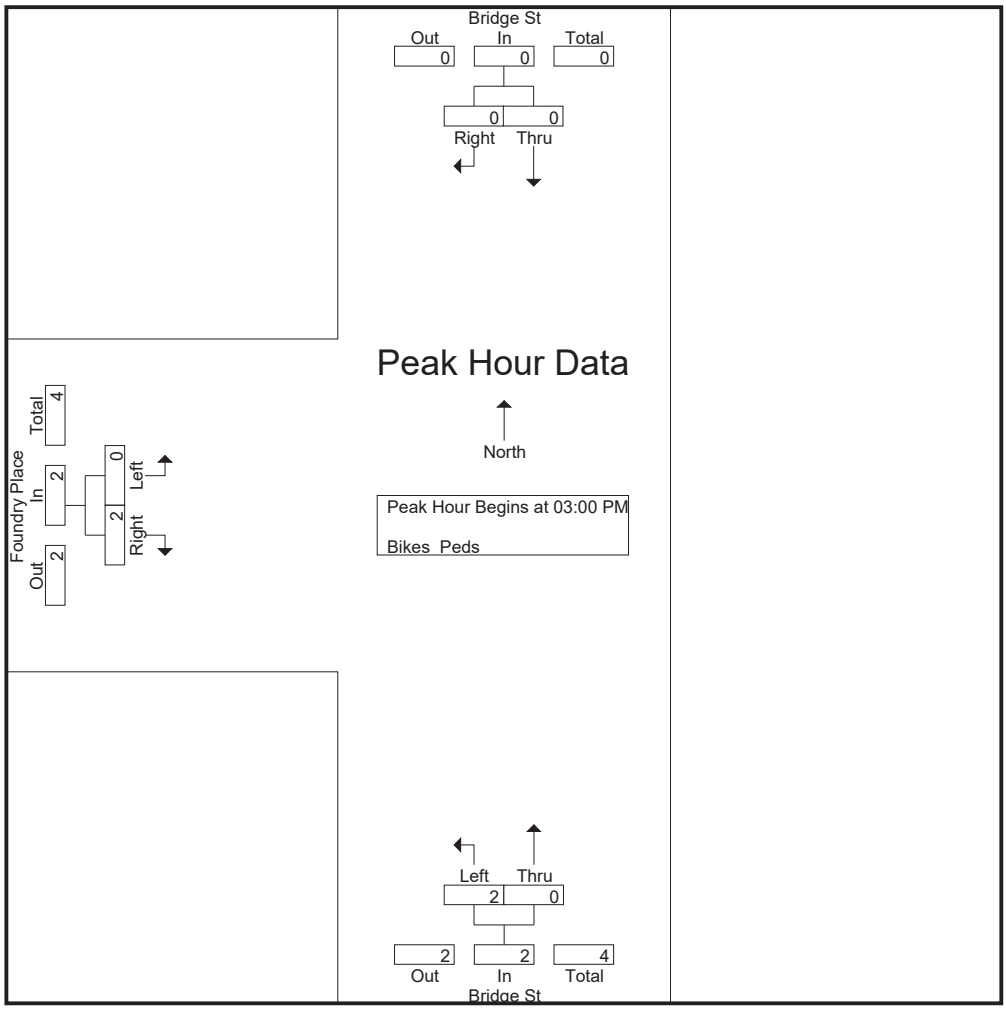
Groups Printed- Bikes Peds

	Bridge St From North			Bridge St From South			Foundry Place From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
03:00 PM	0	0	9	2	0	2	0	2	4	15	4	19
03:15 PM	0	0	7	0	0	3	0	0	6	16	0	16
03:30 PM	0	0	3	0	0	4	0	0	2	9	0	9
03:45 PM	0	0	3	0	0	2	0	0	9	14	0	14
Total	0	0	22	2	0	11	0	2	21	54	4	58
04:00 PM	0	0	5	0	0	5	0	0	6	16	0	16
04:15 PM	0	0	2	0	0	4	0	0	5	11	0	11
04:30 PM	0	0	3	0	0	2	0	0	7	12	0	12
04:45 PM	0	0	3	0	1	2	0	0	8	13	1	14
Total	0	0	13	0	1	13	0	0	26	52	1	53
05:00 PM	0	0	4	0	0	1	0	0	13	18	0	18
05:15 PM	0	0	5	0	0	6	0	0	15	26	0	26
05:30 PM	0	0	4	0	0	3	0	0	11	18	0	18
05:45 PM	0	0	5	0	0	2	0	0	7	14	0	14
Total	0	0	18	0	0	12	0	0	46	76	0	76
Grand Total	0	0	53	2	1	36	0	2	93	182	5	187
Apprch %	0	0		66.7	33.3		0	100				
Total %	0	0		40	20		0	40		97.3	2.7	

	Bridge St From North			Bridge St From South			Foundry Place From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	0	0	**2**	0	**2**	0	**2**	**2**	**4**
03:15 PM	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	2	0	2	2	4
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250	.250

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 11

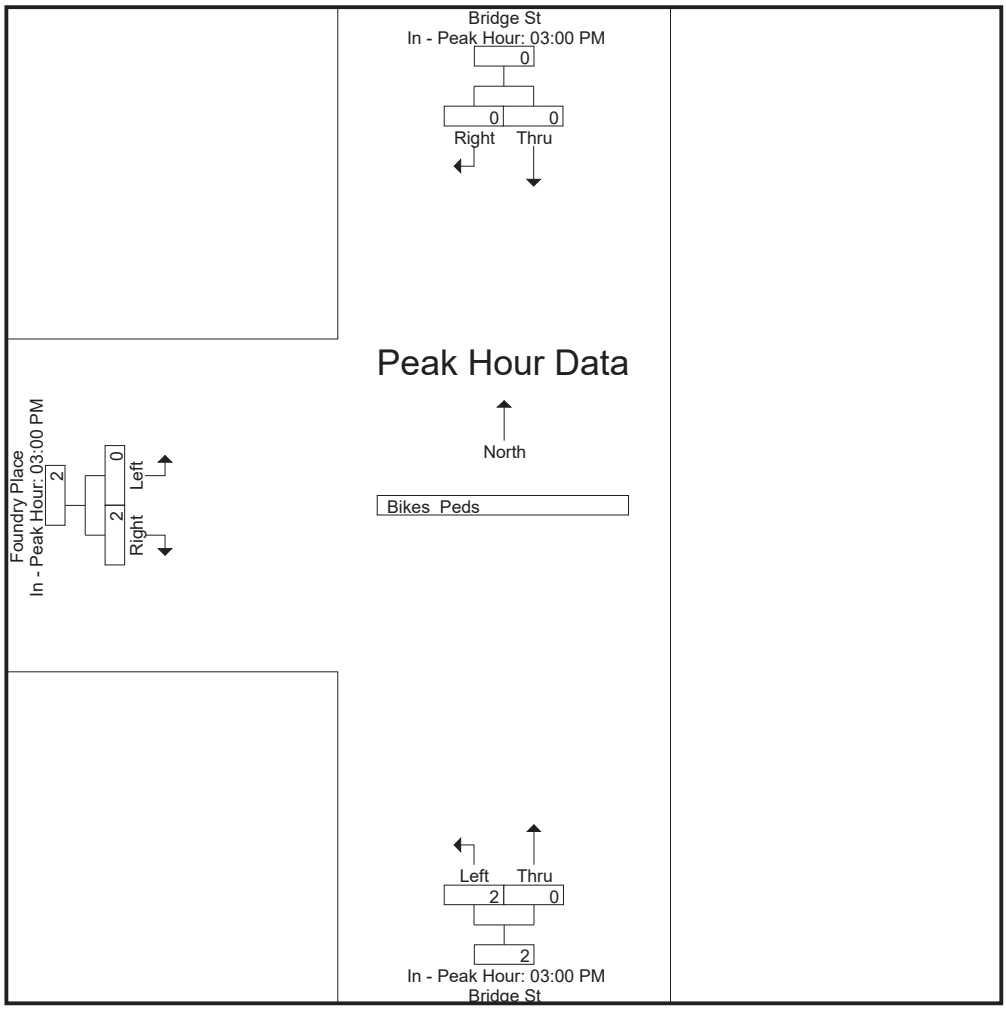


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM			03:00 PM			03:00 PM		
+0 mins.	0	0	0	**2**	0	**2**	0	**2**	**2**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	2	0	2	2
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250

N/S Street : Bridge Street
E/W Street : Foundry Place
City/State : Portsmouth, NH
Weather : Rain / Cloudy

File Name : 10068004
Site Code : 10068004
Start Date : 8/6/2024
Page No : 12



AUTOMATIC TRAFFIC RECORDER COUNT DATA

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH

Site Code: 10068001

8/6/2024	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	1			0	9				
12:15	0	0			0	9				
12:30	0	1			0	7				
12:45	0	1	0	3	0	10	0	35	0	38
1:00	0	0			1	10				
1:15	0	0			0	15				
1:30	0	1			0	5				
1:45	0	1	0	2	0	8	1	38	1	40
2:00	0	1			0	8				
2:15	0	3			0	8				
2:30	0	2			0	7				
2:45	0	0	0	6	0	9	0	32	0	38
3:00	0	0			0	8				
3:15	0	1			0	12				
3:30	0	0			0	5				
3:45	0	2	0	3	0	14	0	39	0	42
4:00	0	0			0	10				
4:15	1	0			1	12				
4:30	0	0			0	6				
4:45	0	3	1	3	0	11	1	39	2	42
5:00	0	0			1	11				
5:15	0	0			0	4				
5:30	0	2			0	4				
5:45	0	2	0	4	2	11	3	30	3	34
6:00	0	1			1	7				
6:15	0	0			4	2				
6:30	2	0			4	4				
6:45	0	0	2	1	3	1	12	14	14	15
7:00	0	1			5	6				
7:15	0	0			9	1				
7:30	0	1			4	1				
7:45	1	0	1	2	8	3	26	11	27	13
8:00	0	0			9	6				
8:15	0	0			12	1				
8:30	1	0			20	2				
8:45	0	0	1	0	9	0	50	9	51	9
9:00	0	0			8	3				
9:15	0	1			12	1				
9:30	0	0			8	1				
9:45	1	1	1	2	13	3	41	8	42	10
10:00	0	0			14	0				
10:15	2	1			8	1				
10:30	1	0			4	0				
10:45	0	0	3	1	10	0	36	1	39	2
11:00	0	0			4	0				
11:15	0	0			5	1				
11:30	2	0			12	0				
11:45	0	0	2	0	8	1	29	2	31	2
Total	11	27			199	258			210	285
Percent	28.9%	71.1%			43.5%	56.5%			42.4%	57.6%

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH

Site Code: 10068001

8/7/2024	WB,		Hour Totals		EB,		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternon	Morning	Afternoon	Morning	Afternoon	Morning	Afternon
12:00	0	2			0	11				
12:15	0	3			0	11				
12:30	0	0			0	7				
12:45	0	3	0	8	0	7	0	36	0	44
1:00	0	0			1	6				
1:15	0	1			0	5				
1:30	0	1			0	5				
1:45	0	0	0	2	0	8	1	24	1	26
2:00	0	4			0	10				
2:15	0	0			0	7				
2:30	0	2			0	6				
2:45	0	2	0	8	0	11	0	34	0	42
3:00	0	1			0	9				
3:15	0	1			0	4				
3:30	0	3			0	9				
3:45	0	3	0	8	0	7	0	29	0	37
4:00	0	0			0	11				
4:15	1	0			2	13				
4:30	0	0			2	10				
4:45	0	1	1	1	1	8	5	42	6	43
5:00	0	0			1	10				
5:15	0	1			0	7				
5:30	0	2			1	4				
5:45	0	1	0	4	3	3	5	24	5	28
6:00	0	0			2	5				
6:15	0	1			4	4				
6:30	2	0			2	10				
6:45	1	0	3	1	4	3	12	22	15	23
7:00	2	0			3	3				
7:15	0	1			2	1				
7:30	2	0			9	3				
7:45	2	1	6	2	8	6	22	13	28	15
8:00	2	0			16	6				
8:15	0	2			11	2				
8:30	3	0			4	1				
8:45	2	0	7	2	8	0	39	9	46	11
9:00	3	0			14	2				
9:15	4	1			6	1				
9:30	1	0			9	2				
9:45	0	0	8	1	7	1	36	6	44	7
10:00	1	0			9	2				
10:15	2	0			7	0				
10:30	4	0			14	0				
10:45	1	0	8	0	6	0	36	2	44	2
11:00	1	0			10	0				
11:15	3	0			10	1				
11:30	2	0			13	0				
11:45	0	0	6	0	4	0	37	1	43	1
Total	39	37			193	242			232	279
Percent	51.3%	48.7%			44.4%	55.6%			45.4%	54.6%
Grand Total	50	64			392	500			442	564
Percent	43.9%	56.1%			43.9%	56.1%			43.9%	56.1%
ADT		ADT: 503		AADT: 503						

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH

Site Code: 10068001

8/5/2024	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Average	
Time	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,	WB,	EB,
12:00 AM	*	*	0	0	0	0	*	*	*	*	*	*	*	*	0	0
1:00	*	*	0	1	0	1	*	*	*	*	*	*	*	*	0	1
2:00	*	*	0	0	0	0	*	*	*	*	*	*	*	*	0	0
3:00	*	*	0	0	0	0	*	*	*	*	*	*	*	*	0	0
4:00	*	*	1	1	1	5	*	*	*	*	*	*	*	*	1	3
5:00	*	*	0	3	0	5	*	*	*	*	*	*	*	*	0	4
6:00	*	*	2	12	3	12	*	*	*	*	*	*	*	*	2	12
7:00	*	*	1	26	6	22	*	*	*	*	*	*	*	*	4	24
8:00	*	*	1	50	7	39	*	*	*	*	*	*	*	*	4	44
9:00	*	*	1	41	8	36	*	*	*	*	*	*	*	*	4	38
10:00	*	*	3	36	8	36	*	*	*	*	*	*	*	*	6	36
11:00	*	*	2	29	6	37	*	*	*	*	*	*	*	*	4	33
12:00 PM	*	*	3	35	8	36	*	*	*	*	*	*	*	*	6	36
1:00	*	*	2	38	2	24	*	*	*	*	*	*	*	*	2	31
2:00	*	*	6	32	8	34	*	*	*	*	*	*	*	*	7	33
3:00	*	*	3	39	8	29	*	*	*	*	*	*	*	*	6	34
4:00	*	*	3	39	1	42	*	*	*	*	*	*	*	*	2	40
5:00	*	*	4	30	4	24	*	*	*	*	*	*	*	*	4	27
6:00	*	*	1	14	1	22	*	*	*	*	*	*	*	*	1	18
7:00	*	*	2	11	2	13	*	*	*	*	*	*	*	*	2	12
8:00	*	*	0	9	2	9	*	*	*	*	*	*	*	*	1	9
9:00	*	*	2	8	1	6	*	*	*	*	*	*	*	*	2	7
10:00	*	*	1	1	0	2	*	*	*	*	*	*	*	*	0	2
11:00	*	*	0	2	0	1	*	*	*	*	*	*	*	*	0	2
Total	0	0	38	457	76	435	0	0	0	0	0	0	0	0	58	446
Day	0		495		511		0		0		0		0		504	
AM Peak			10:00	8:00	9:00	8:00									10:00	8:00
Volume			3	50	8	39									6	44
PM Peak			2:00	3:00	12:00 PM	4:00									2:00	4:00
Volume			6	39	8	42									7	40
Comb Total	0		495		511		0		0		0		0		504	
ADT	ADT: 503		AADT: 503													

SEASONAL ADJUSTMENT DATA

Year 2019 Monthly Data

Town: Straford
Station: 2125001
Location: Dover Point Rd
Group: 4

Month	ADT	Adjustment to Average	Adjustment to Peak
January	10,029	1.11	1.18
February	10,191	1.09	1.16
March	10,505	1.06	1.13
April	*10,988*	*1.01*	*1.08*
May	11,844	0.94	1.00
June	11,849	0.94	1.00
July	11,364	0.98	1.04
August	11,709	0.95	1.01
September	11,765	0.94	1.01
October	11,611	0.96	1.02
November	10,873	1.02	1.09
December	10,493	1.06	1.13

AADT: 11,102
Peak Month: 11,849

COVID-19 ADJUSTMENT DATA

August 2019 Average Count Data – Sta. 02125001

ADT: 11,709
Weekday Morning Peak-Hour Traffic: 753
Weekday Evening Peak-Hour Traffic: 1,049

August 2024 Average Count Data – Sta. 02125001

ADT: 11,674
Weekday Morning Peak-Hour Traffic: 731
Weekday Evening Peak-Hour Traffic: 1,075

COVID Adjustment

ADT: $1 - \frac{11,709}{11,674} = -0.003$

Weekday Morning Adjustment: $1 - \frac{753}{731} = -0.030$

Weekday Evening Adjustment: $1 - \frac{1,049}{1,075} = +0.024$

New Hampshire DOT

02125001: Monthly Hourly Volume for August 2019

Location ID:	**02125001**	**Seasonal Factor Group:**	**04**
County:	**STRAFFORD**	**Daily Factor Group:**	
Functional Class	**4**	**Axle Factor Group:**	**E**
Location:	**Dover Point Rd**	**Growth Factor Group:**	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	QC Status	Day
1	92	35	30	34	83	230	506	775	738	650	662	789	809	807	879	947	1,052	1,014	695	585	513	368	231	151	12,675	Accepted	Thursday
2	104	36	35	41	78	214	491	701	743	671	722	818	823	881	967	981	980	945	683	569	473	407	254	190	12,807	Accepted	Friday
3	115	51	41	33	37	78	213	356	539	659	682	744	796	789	782	814	732	708	599	519	436	353	231	174	10,481	Accepted	Saturday
4	100	46	34	11	23	49	158	250	312	502	626	713	671	704	733	684	675	583	536	472	368	251	175	106	8,782	Accepted	Sunday
5	40	22	14	30	72	237	494	734	748	636	631	732	756	750	928	938	1,010	1,034	700	517	412	271	184	111	12,001	Accepted	Monday
6	98	31	30	39	79	265	496	793	787	698	635	710	737	754	861	972	1,095	1,060	717	581	448	300	189	109	12,484	Accepted	Tuesday
7	86	35	21	34	71	246	492	739	754	663	687	753	772	806	931	984	1,003	1,045	663	492	410	278	188	119	12,272	Accepted	Wednesday
8	103	27	22	35	80	254	478	725	753	722	651	808	817	835	910	1,016	1,034	1,069	768	602	493	347	221	155	12,925	Accepted	Thursday
9	86	28	39	36	62	218	441	707	758	696	675	848	905	880	947	1,064	940	949	751	549	464	361	256	196	12,856	Accepted	Friday
10	137	67	44	25	38	95	200	345	514	601	733	766	807	842	814	750	778	803	566	491	397	333	229	141	10,516	Accepted	Saturday
11	118	52	26	20	18	57	140	185	325	423	610	635	784	676	688	718	667	608	479	437	342	231	181	98	8,518	Accepted	Sunday
12	50	25	12	28	74	226	432	724	668	586	698	721	728	721	863	877	992	1,045	685	540	382	266	196	115	11,654	Accepted	Monday
13	91	24	36	36	88	247	472	753	685	655	743	806	764	801	829	918	1,011	1,071	725	537	412	284	149	116	12,253	Accepted	Tuesday
14	88	31	22	37	76	230	489	743	755	621	628	737	810	777	877	888	1,057	1,128	769	586	480	339	180	127	12,475	Accepted	Wednesday
15	96	34	25	31	88	235	481	756	709	685	659	778	768	742	824	987	996	1,101	728	646	498	351	236	174	12,628	Accepted	Thursday
16	100	32	22	17	67	210	416	690	680	632	680	763	769	849	961	1,093	991	944	669	605	431	389	233	181	12,424	Accepted	Friday
17	119	59	31	31	24	69	202	363	458	576	707	803	818	775	798	800	740	760	593	470	365	339	243	176	10,319	Accepted	Saturday
18	84	67	35	33	22	62	133	195	321	425	621	665	771	764	777	730	675	594	570	508	331	221	163	101	8,868	Accepted	Sunday
19	49	21	23	30	71	205	444	765	681	713	652	707	774	751	830	986	973	1,049	683	494	428	312	157	139	11,937	Accepted	Monday
20	87	36	30	29	81	248	482	776	734	700	701	722	756	803	811	935	1,064	1,097	712	651	471	314	210	124	12,574	Accepted	Tuesday
21	89	47	24	23	71	249	456	756	700	710	693	785	829	762	861	1,008	1,018	1,000	669	548	413	272	175	131	12,289	Accepted	Wednesday
22	103	31	23	31	77	236	488	777	767	697	798	777	845	823	841	1,015	1,064	1,117	752	676	480	329	220	140	13,107	Accepted	Thursday
23	110	46	26	34	65	204	466	766	712	663	697	738	815	915	980	1,073	1,126	1,041	779	560	429	348	277	195	13,065	Accepted	Friday
24	129	61	34	19	46	96	210	397	465	649	752	845	1,006	811	881	812	744	704	610	501	412	305	204	156	10,849	Accepted	Saturday
25	100	62	44	18	24	56	149	221	320	432	609	720	713	696	691	665	722	615	518	429	319	189	133	97	8,542	Accepted	Sunday
26	37	22	17	25	64	243	503	732	707	600	621	742	825	757	895	1,025	1,101	1,140	721	512	393	248	151	110	12,191	Accepted	Monday
27	76	40	21	32	72	243	536	816	758	661	666	783	761	814	873	1,047	1,106	1,145	753	640	408	267	184	112	12,814	Accepted	Tuesday
28	80	41	25	31	79	228	504	833	744	649	645	738	812	791	855	1,054	1,097	1,077	757	497	349	253	162	113	12,414	Accepted	Wednesday
29	90	27	25	25	85	221	518	793	767	719	719	716	789	823	929	1,095	1,078	1,072	772	615	468	340	207	137	13,030	Accepted	Thursday
30	105	41	30	27	64	178	401	721	709	694	751	806	906	879	974	1,070	968	935	726	612	432	330	249	173	12,781	Accepted	Friday
31	141	58	29	20	30	81	186	320	510	680	805	834	799	773	803	756	748	744	562	522	412	292	210	147	10,462	Accepted	Saturday
								753	730							999	1,034	1,049							11,709		

AM Peak-Hour = 753 PM Peak-Hour = 1,049 ADT August = 11,709

New Hampshire DOT

02125001: Monthly Hourly Volume for August 2024

Location ID:	**02125001**	**Seasonal Factor Group:**	
County:	**STRAFFORD**	**Daily Factor Group:**	
Functional Class	**4**	**Axle Factor Group:**	
Location:	**Dover Point Rd**	**Growth Factor Group:**	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	QC Status	Day
1	102	50	27	37	128	260	468	730	837	763	880	911	913	854	925	1,041	1,180	1,096	754	584	454	300	208	110	13,612	Accepted	Thursday
2	100	41	22	51	112	247	446	640	653	715	776	785	901	916	999	969	1,019	972	731	520	396	268	186	156	12,621	Accepted	Friday
3	119	49	31	37	35	89	199	324	464	604	707	798	801	873	813	805	810	690	594	480	371	266	221	139	10,319	Accepted	Saturday
4	107	51	21	21	40	70	153	223	326	474	546	678	683	720	635	594	602	520	489	401	315	215	140	76	8,100	Accepted	Sunday
5	43	14	29	31	108	225	443	720	740	670	728	771	778	841	921	1,005	1,034	967	653	417	339	208	172	113	11,970	Accepted	Monday
6	98	30	26	51	115	269	438	709	751	678	597	717	808	778	924	988	1,011	1,004	641	531	343	247	158	115	12,027	Accepted	Tuesday
7	81	45	38	44	111	242	431	707	736	688	737	728	770	836	875	973	1,077	1,147	775	611	455	289	198	142	12,736	Accepted	Wednesday
8	92	32	31	48	130	255	450	710	702	670	675	757	814	831	900	973	1,097	1,088	742	499	417	271	174	129	12,487	Accepted	Thursday
9	97	42	28	44	116	214	399	619	726	675	677	760	839	879	1,012	1,015	965	915	672	500	338	274	198	155	12,159	Accepted	Friday
10	99	45	26	36	38	105	186	288	453	604	796	817	856	833	821	860	758	718	647	509	403	280	214	168	10,560	Accepted	Saturday
11	92	54	22	33	41	65	134	214	333	491	658	675	715	761	725	713	695	672	522	431	385	201	148	96	8,876	Accepted	Sunday
12	52	28	17	31	103	249	454	677	705	625	660	729	823	747	914	936	1,045	978	605	471	379	218	158	119	11,723	Accepted	Monday
13	85	34	21	36	121	272	477	716	754	729	726	773	786	855	967	1,043	1,137	991	681	486	374	236	168	135	12,603	Accepted	Tuesday
14	93	28	21	39	125	275	471	718	764	708	644	817	842	800	950	1,009	1,198	1,132	706	501	377	418	219	126	12,981	Accepted	Wednesday
15	89	45	31	40	108	272	454	711	725	681	681	821	860	830	967	994	1,093	1,146	670	515	382	276	192	136	12,719	Accepted	Thursday
16	81	41	24	51	103	240	404	686	683	691	775	835	878	905	983	1,086	1,046	925	713	537	397	315	189	166	12,754	Accepted	Friday
17	99	45	28	36	43	99	200	322	430	582	736	872	816	799	820	821	752	686	592	448	356	274	200	151	10,207	Accepted	Saturday
18																											
19								695	731							1,003	1,075	1,030							11,674		
20																											
21					AM Peak-Hour =		731						PM Peak-Hour =		1,075							ADT August 2024 =			11,674		
22																											
23																											
24																											
25																											
26																											
27																											
28																											
29																											
30																											
31																											

VEHICLE TRAVEL SPEED DATA

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH
Direction: WB,

Site Code: 10068001

8/6/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
7:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:00	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
11:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
1:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2:00	0	0	2	2	1	0	1	0	0	0	0	0	0	0	6
3:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
4:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
5:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
6:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
10:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	12	15	7	2	2	0	0	0	0	0	0	0	38

Percentile	15th	50th	85th	95th
Speed	0	9	13	16

Mean Speed (Average)	10.7
10 MPH Pace Speed	7-16
Number in Pace	36
Percent in Pace	95.0%
Number > 12 MPH	11
Percent > 12 MPH	28.9%

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH
Direction: WB,

Site Code: 10068001

8/7/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
7:00	0	0	2	3	0	1	0	0	0	0	0	0	0	0	6
8:00	0	0	1	5	0	0	1	0	0	0	0	0	0	0	7
9:00	0	0	4	3	1	0	0	0	0	0	0	0	0	0	8
10:00	0	0	3	5	0	0	0	0	0	0	0	0	0	0	8
11:00	0	0	1	4	0	1	0	0	0	0	0	0	0	0	6
12:00 PM	0	0	6	1	1	0	0	0	0	0	0	0	0	0	8
1:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2:00	0	0	4	3	0	1	0	0	0	0	0	0	0	0	8
3:00	0	0	3	3	1	0	1	0	0	0	0	0	0	0	8
4:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00	0	0	2	0	1	0	1	0	0	0	0	0	0	0	4
6:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
8:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
9:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	30	33	6	4	3	0	0	0	0	0	0	0	76
			Percentile	15th	50th	85th	95th								
			Speed	0	8	13	16								
		Mean Speed (Average)		10.4											
		10 MPH Pace Speed		7-16											
		Number in Pace		73											
		Percent in Pace		96.0%											
		Number > 12 MPH		13											
		Percent > 12 MPH		17.1%											
Grand Total	0	0	42	48	13	6	5	0	0	0	0	0	0	0	114
Stats			Percentile	15th	50th	85th	95th								
			Speed	0	9	13	16								
		Mean Speed (Average)		10.5											
		10 MPH Pace Speed		7-16											
		Number in Pace		109											
		Percent in Pace		96.0%											
		Number > 12 MPH		24											
		Percent > 12 MPH		21.1%											

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH
Direction: EB,

Site Code: 10068001

8/6/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
6:00	0	0	2	3	3	2	2	0	0	0	0	0	0	0	12
7:00	0	0	2	4	13	6	1	0	0	0	0	0	0	0	26
8:00	0	0	3	11	21	13	2	0	0	0	0	0	0	0	50
9:00	0	0	3	18	15	5	0	0	0	0	0	0	0	0	41
10:00	0	0	6	14	10	5	1	0	0	0	0	0	0	0	36
11:00	0	0	0	14	12	3	0	0	0	0	0	0	0	0	29
12:00 PM	0	0	2	12	18	3	0	0	0	0	0	0	0	0	35
1:00	0	0	3	15	16	4	0	0	0	0	0	0	0	0	38
2:00	0	0	3	11	15	2	1	0	0	0	0	0	0	0	32
3:00	0	0	1	20	14	3	1	0	0	0	0	0	0	0	39
4:00	0	0	7	14	16	1	0	1	0	0	0	0	0	0	39
5:00	0	0	4	6	15	4	1	0	0	0	0	0	0	0	30
6:00	0	0	3	3	6	2	0	0	0	0	0	0	0	0	14
7:00	0	0	3	5	2	1	0	0	0	0	0	0	0	0	11
8:00	0	0	3	2	4	0	0	0	0	0	0	0	0	0	9
9:00	0	0	2	2	2	2	0	0	0	0	0	0	0	0	8
10:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	48	160	182	57	9	1	0	0	0	0	0	0	457

Percentile	15th	50th	85th	95th
Speed	8	11	14	16

Mean Speed (Average)	12.8
10 MPH Pace Speed	8-17
Number in Pace	420
Percent in Pace	92.0%
Number > 12 MPH	249
Percent > 12 MPH	54.5%

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH
Direction: EB,

Site Code: 10068001

8/7/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	3	1	0	0	0	0	0	0	0	0	0	5
5:00	0	0	1	1	3	0	0	0	0	0	0	0	0	0	5
6:00	0	0	3	4	4	1	0	0	0	0	0	0	0	0	12
7:00	0	0	0	5	13	3	1	0	0	0	0	0	0	0	22
8:00	0	0	1	12	17	7	2	0	0	0	0	0	0	0	39
9:00	0	0	5	13	11	4	3	0	0	0	0	0	0	0	36
10:00	0	0	2	10	15	7	2	0	0	0	0	0	0	0	36
11:00	0	0	5	14	10	5	3	0	0	0	0	0	0	0	37
12:00 PM	0	0	7	15	11	2	1	0	0	0	0	0	0	0	36
1:00	0	0	2	9	9	3	0	1	0	0	0	0	0	0	24
2:00	0	0	2	15	14	0	3	0	0	0	0	0	0	0	34
3:00	0	0	4	9	12	3	1	0	0	0	0	0	0	0	29
4:00	0	0	9	12	15	5	1	0	0	0	0	0	0	0	42
5:00	0	0	2	10	10	1	1	0	0	0	0	0	0	0	24
6:00	0	0	4	9	6	2	1	0	0	0	0	0	0	0	22
7:00	0	0	2	7	3	1	0	0	0	0	0	0	0	0	13
8:00	0	0	2	3	2	1	1	0	0	0	0	0	0	0	9
9:00	0	0	1	2	3	0	0	0	0	0	0	0	0	0	6
10:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
11:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	55	154	160	45	20	1	0	0	0	0	0	0	435
			Percentile	15th	50th	85th	95th								
			Speed	8	11	15	16								
		Mean Speed (Average)		12.7											
		10 MPH Pace Speed		8-17											
		Number in Pace		389											
		Percent in Pace		90.0%											
		Number > 12 MPH		226											
		Percent > 12 MPH		52.0%											
Grand Total	0	0	103	314	342	102	29	2	0	0	0	0	0	0	892
Stats			Percentile	15th	50th	85th	95th								
			Speed	8	11	14	16								
		Mean Speed (Average)		12.8											
		10 MPH Pace Speed		8-17											
		Number in Pace		810											
		Percent in Pace		91.0%											
		Number > 12 MPH		475											
		Percent > 12 MPH		53.3%											

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH
Direction: Combined

Site Code: 10068001

8/6/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
5:00	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
6:00	0	0	2	4	4	2	2	0	0	0	0	0	0	0	14
7:00	0	0	2	4	14	6	1	0	0	0	0	0	0	0	27
8:00	0	0	3	11	21	13	3	0	0	0	0	0	0	0	51
9:00	0	0	3	19	15	5	0	0	0	0	0	0	0	0	42
10:00	0	0	7	16	10	5	1	0	0	0	0	0	0	0	39
11:00	0	0	1	15	12	3	0	0	0	0	0	0	0	0	31
12:00 PM	0	0	2	14	18	4	0	0	0	0	0	0	0	0	38
1:00	0	0	4	16	16	4	0	0	0	0	0	0	0	0	40
2:00	0	0	5	13	16	2	2	0	0	0	0	0	0	0	38
3:00	0	0	3	21	14	3	1	0	0	0	0	0	0	0	42
4:00	0	0	7	15	18	1	0	1	0	0	0	0	0	0	42
5:00	0	0	5	8	16	4	1	0	0	0	0	0	0	0	34
6:00	0	0	3	3	6	3	0	0	0	0	0	0	0	0	15
7:00	0	0	4	6	2	1	0	0	0	0	0	0	0	0	13
8:00	0	0	3	2	4	0	0	0	0	0	0	0	0	0	9
9:00	0	0	3	2	3	2	0	0	0	0	0	0	0	0	10
10:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
11:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	60	175	189	59	11	1	0	0	0	0	0	0	495

	Percentile	15th	50th	85th	95th
	Speed	8	11	14	16

Mean Speed (Average)	12.6
10 MPH Pace Speed	7-16
Number in Pace	451
Percent in Pace	91.0%
Number > 12 MPH	260
Percent > 12 MPH	52.5%

Accurate Counts
978-664-2565

Location : Hanover Street
Location : East of Rock Street
City/State: Portsmouth, NH
Direction: Combined

Site Code: 10068001

8/7/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6
5:00	0	0	1	1	3	0	0	0	0	0	0	0	0	0	5
6:00	0	0	4	5	5	1	0	0	0	0	0	0	0	0	15
7:00	0	0	2	8	13	4	1	0	0	0	0	0	0	0	28
8:00	0	0	2	17	17	7	3	0	0	0	0	0	0	0	46
9:00	0	0	9	16	12	4	3	0	0	0	0	0	0	0	44
10:00	0	0	5	15	15	7	2	0	0	0	0	0	0	0	44
11:00	0	0	6	18	10	6	3	0	0	0	0	0	0	0	43
12:00 PM	0	0	13	16	12	2	1	0	0	0	0	0	0	0	44
1:00	0	0	3	10	9	3	0	1	0	0	0	0	0	0	26
2:00	0	0	6	18	14	1	3	0	0	0	0	0	0	0	42
3:00	0	0	7	12	13	3	2	0	0	0	0	0	0	0	37
4:00	0	0	9	12	16	5	1	0	0	0	0	0	0	0	43
5:00	0	0	4	10	11	1	2	0	0	0	0	0	0	0	28
6:00	0	0	4	10	6	2	1	0	0	0	0	0	0	0	23
7:00	0	0	2	8	3	2	0	0	0	0	0	0	0	0	15
8:00	0	0	2	5	2	1	1	0	0	0	0	0	0	0	11
9:00	0	0	2	2	3	0	0	0	0	0	0	0	0	0	7
10:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
11:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	85	187	166	49	23	1	0	0	0	0	0	0	511
			Percentile	15th	50th	85th	95th								
			Speed	8	11	14	16								
		Mean Speed (Average)		12.4											
		10 MPH Pace Speed		7-16											
		Number in Pace		460											
		Percent in Pace		91.0%											
		Number > 12 MPH		239											
		Percent > 12 MPH		46.8%											
Grand Total	0	0	145	362	355	108	34	2	0	0	0	0	0	0	1006
Stats			Percentile	15th	50th	85th	95th								
			Speed	8	11	14	16								
		Mean Speed (Average)		12.5											
		10 MPH Pace Speed		7-16											
		Number in Pace		913											
		Percent in Pace		91.0%											
		Number > 12 MPH		499											
		Percent > 12 MPH		49.6%											

TRANSIT INFORMATION

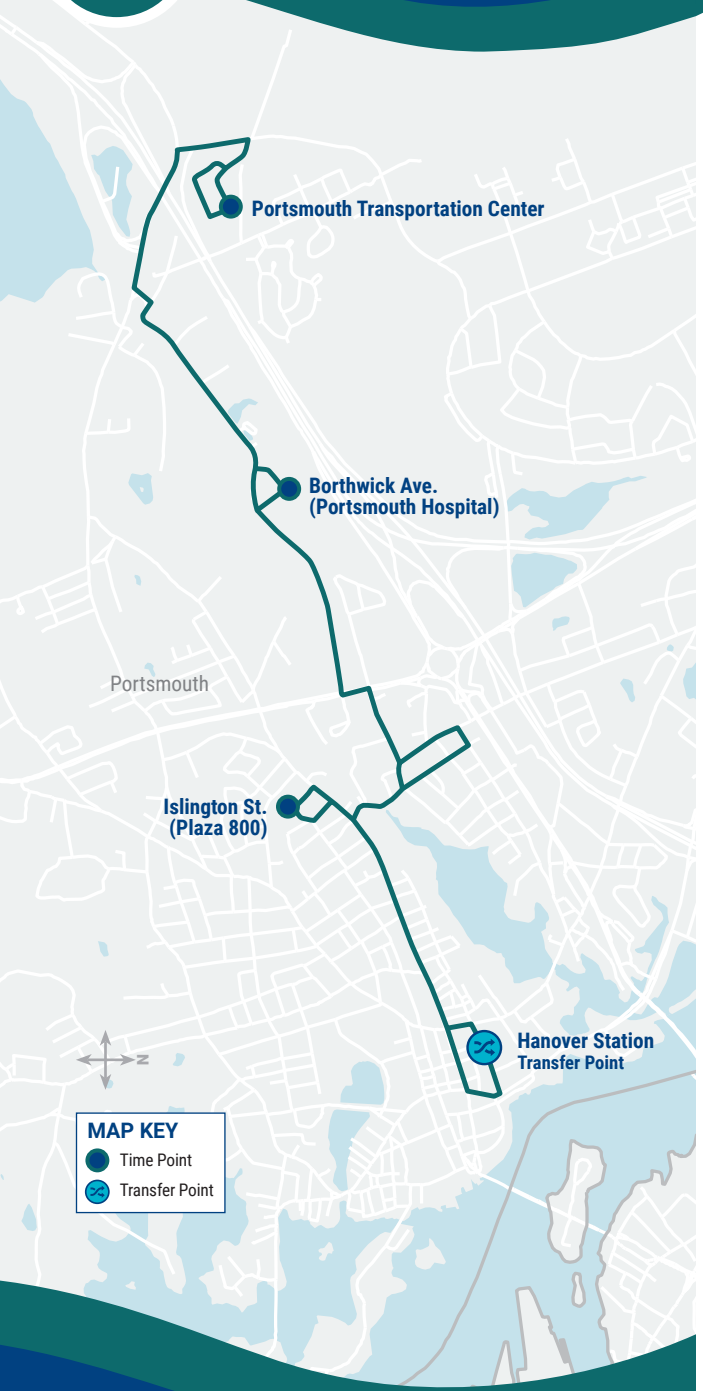
COAST Routes 12, 13, 14 Bus Stop List

13 North

Stop Number	Stop Name
2253	**Hanover Station**
2504	Russell St. (Sheraton Harborside)
2552	Dover Point Rd. (Coastal Furniture)
2555	Dover Point Rd. / Homestead Ln. Northbound
2558	Dover Point Rd. / Pearson Dr. Northbound
2561	Dover Point Rd. / Roberta Dr.
2564	Dover Point / Roberts Rds. Northbound
2567	Dover Point Rd. / Riverside Dr.
9057	**Dover Point Rd. (St. Thomas Aquinas High School) Northbound**
2573	Dover Point / Middle Rds. Northbound
2576	Dover Point Rd. / Tuttle Ln.
2579	Dover Point Rd. / Toftree Ln.
2582	Dover Point Rd. / Constitution Way Northbound
2585	Dover Point Rd. (Dover Point Office Park)
2588	Dover Point Rd. (Bill Dube Ford)
2591	Dover Point Rd. / Pointe Pl.
2594	Dover Point Rd. (Weathervane Restaurant)
2597	Stark Ave. / Hawthorn Rd.
2600	Stark Ave. / Beech Rd.
2603	Central Ave. (Pine Hill Cemetery)
2606	Central Ave. / Union St.
2609	Central Ave. (Central Towers)
2618	Chestnut / Orchard Sts. (Cocheco Park)
9009	**Dover Transportation Center**

Route 40 Map

Portsmouth • Islington • Borthwick



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

*Available at **www.coastbus.org** or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

COAST adheres to all Federal regulations regarding Civil Rights. If you need to request an ADA Reasonable Modification/ Accommodation, or if you believe you have been discriminated against or would like to file a complaint under the ADA or Title VI, please contact COAST's Civil Rights Officer at 603-516-0788, TTY 711 or email CivilRights@coastbus.org.

NO SERVICE DAYS

COAST does not operate on the following holidays:

- New Year's Day
- Martin Luther King Jr./ Civil Rights Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

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Bus Schedule & Map 40

Effective 09.17.22

ROUTE 40

Portsmouth • Islington • Borthwick



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COAST SYSTEM MAP

OUTBOUND • INBOUND

Route 40 Portsmouth • Islington • Borthwick

How to Read the Schedule

Printed bus schedules only show the timepoints ● (major bus stops where the bus will hold until the scheduled departure time). In between those timepoints are many other stops that you can use. For a full listing of bus stops, visit **www.coastbus.org**, or use the Passio GO! App.

The times shown represent the number of minutes after the hour that the bus will depart from that stop. Last stop times are arrivals. Any exceptions will be noted.

OUTBOUND (M-Sat)	Service On Every Hour		
Hanover Station - Portsmouth Transportation Center	First Bus	Minutes Past Hour	Last Bus
● Hanover Station	6:00am	:00*	7:00pm
● Islington St. (Plaza 800)	6:07am	:07*	7:07pm
● Borthwick Ave. (Ports. Hospital)	6:15am	:15*	7:15pm
● Portsmouth Transportation Center	6:23am	:23*	7:23pm

No Service during the hour of 3pm.

INBOUND (M-Sat)	Service On Every Hour		
Portsmouth Transportation Center- Hanover Station	First Bus	Minutes Past Hour	Last Bus
● Portsmouth Transportation Center	6:24am	:24*	7:24pm
● Borthwick Ave. (Ports. Hospital)	6:31am	:31*	7:31pm
● Islington St. (Plaza 800)	6:39am	:39*	7:39pm
● Hanover Station	6:47am	:47*	7:47pm

No Service during the hour of 3pm.

MAP IT!

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or use the Passio GO! App.



Passio GO! App
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Making Connections

Please tell your driver if you are trying to make a connection to another Route.

TRANSFER POINTS

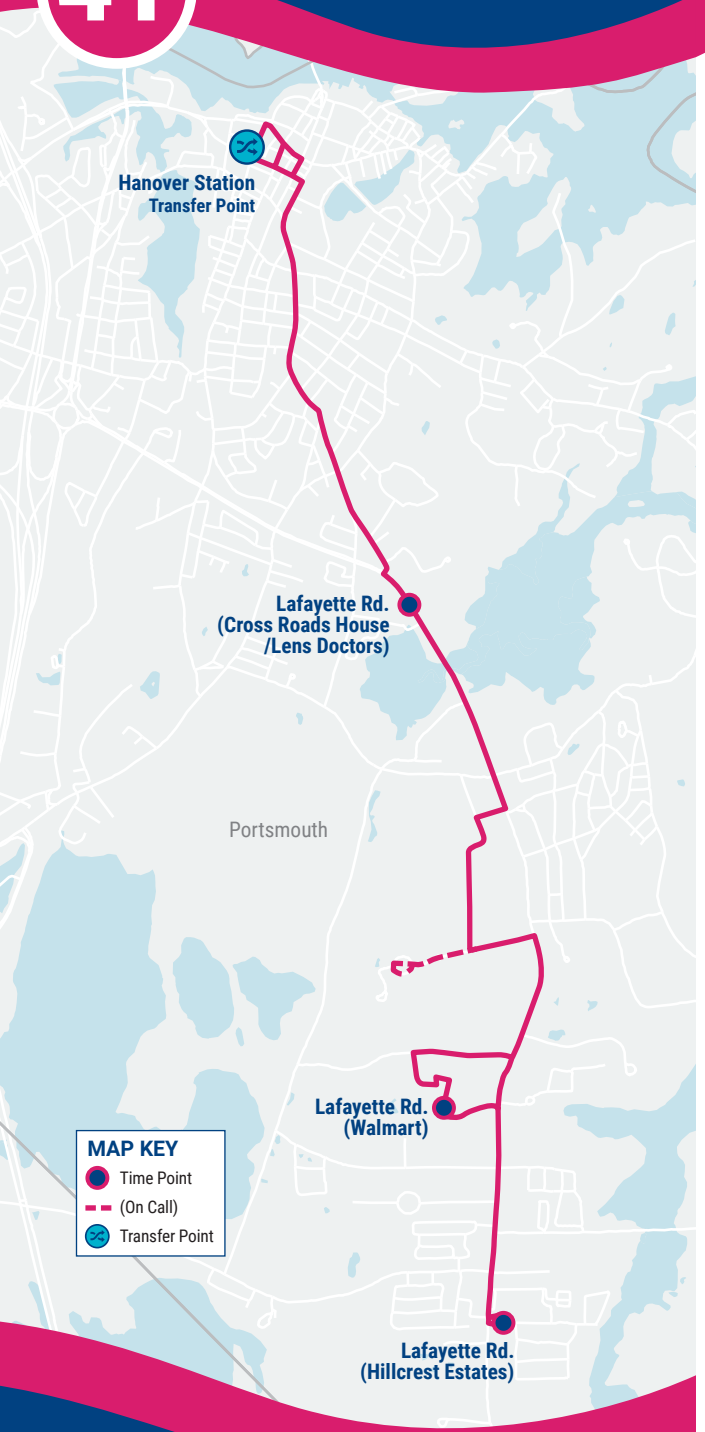
Hanover Station	13 14 40 41 42 43 44
Dover Transportation Center	1 12 13 33 M-F 33 SAT 34
Dover NHDOT Park & Ride (Exit 9)	1 14
Rochester City Hall	6 12 14

14 33 SAT Temporarily suspended part of route due to driver shortage.

Hanover Station, Portsmouth

Route 41 Map

Portsmouth • Lafayette Road



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

*Available at **www.coastbus.org** or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

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NO SERVICE DAYS

COAST does not operate on the following holidays:

- New Year's Day
- Martin Luther King Jr./ Civil Rights Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

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Bus Schedule & Map 41

COAST

Effective 09.17.22

ROUTE 41

Portsmouth • Lafayette Road



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MAP OUT YOUR GAME PLAN

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COAST SYSTEM MAP

OUTBOUND • INBOUND

Route 41 Portsmouth • Lafayette Road

How to Read the Schedule

Printed bus schedules only show the timepoints (major bus stops where the bus will hold until the scheduled departure time). In between those timepoints are many other stops that you can use. For a full listing of bus stops, visit **www.coastbus.org**, or use the Passio GO! App.

The times shown represent the number of minutes after the hour that the bus will depart from that stop. Last stop times are arrivals. Any exceptions will be noted.

OUTBOUND (M-Sat)	Service On Every Hour		
Hanover Station - Lafayette Rd. (Hillcrest Estates)	First Bus	Minutes Past Hour	Last Bus
• Hanover Station	6:00am	:00	8:00pm
• Lafayette Rd. (Cross Roads House)	6:10am	:10	8:10pm
• Lafayette Rd. (Walmart)	6:20am	:20	8:20pm
• Lafayette Rd. (Hillcrest Estates)	6:29am	:29	8:29pm

INBOUND (M-Sat)	Service On Every Hour		
Lafayette Rd. (Hillcrest Estates) - Hanover Station	First Bus	Minutes Past Hour	Last Bus
• Lafayette Rd. (Hillcrest Estates)	6:30am	:30	8:30pm
• Lafayette Rd. (Lens Doctors)	6:38am	:38	8:38pm
• Hanover Station	6:49am	:49	8:49pm

MAP IT!

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www.coastbus.org
or use the Passio GO! App.



Passio GO! App
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Making Connections

Please tell your driver if you are trying to make a connection to another Route.

TRANSFER POINTS

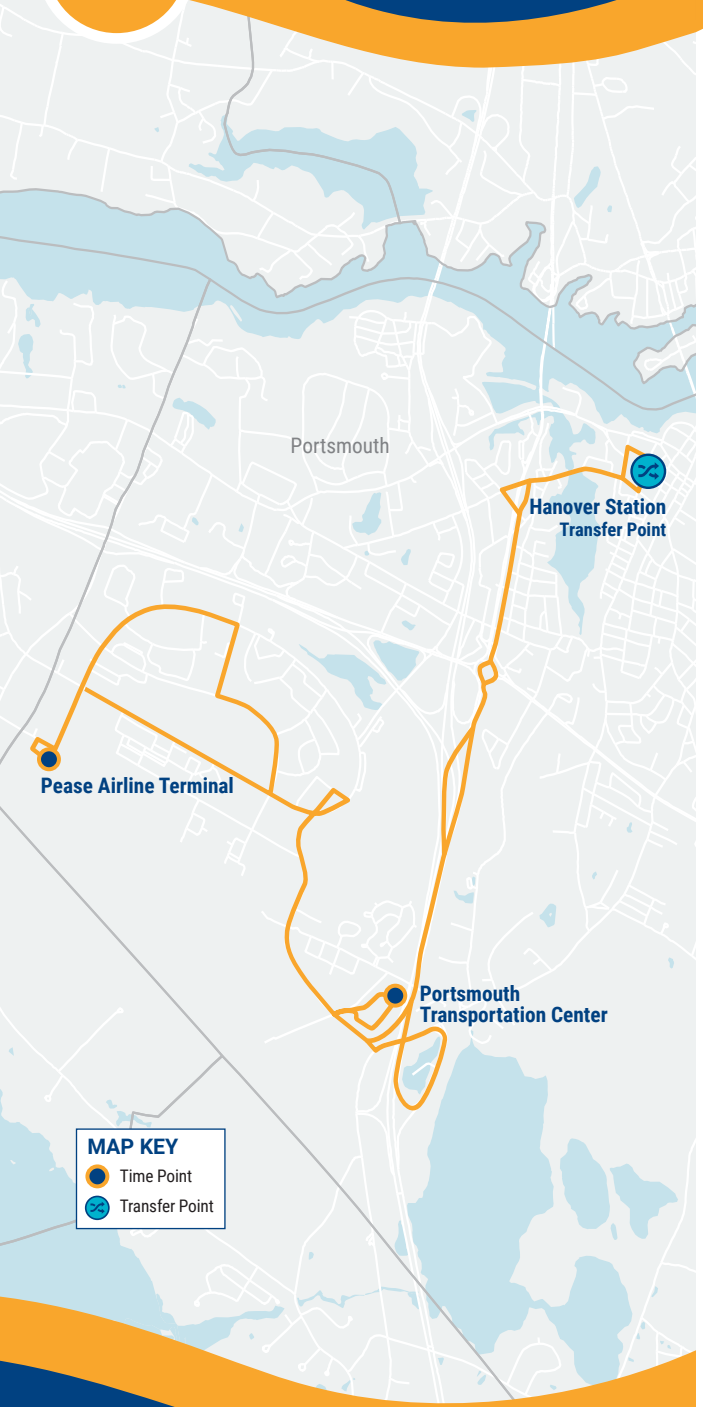
Hanover Station	13 14 40 41 42 43 44
Dover Transportation Center	1 12 13 33 M-F 33 SAT 34
Dover NHDOT Park & Ride (Exit 9)	1 14
Rochester City Hall	6 12 14

14 33 SAT Temporarily suspended part of route due to driver shortage.

Hanover Station, Portsmouth

Route 42 Map

Portsmouth • Pease Shuttle



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

*Available at **www.coastbus.org** or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

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NO SERVICE DAYS

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- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

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Bus Schedule & Map 42

COAST

Effective 07.01.22

ROUTE 42

Portsmouth • Pease Shuttle



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MAP OUT YOUR GAME PLAN

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COAST SYSTEM MAP

OUTBOUND • INBOUND

Route 42 Portsmouth • Pease Shuttle

How to Read the Schedule

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The times shown represent the number of minutes after the hour that the bus will depart from that stop. Last stop times are arrivals. Any exceptions will be noted.

OUTBOUND (M-F)	Service On Every Hour		
Hanover Station - Pease Airline Terminal	First Bus	Minutes Past Hour	Last Bus
• Hanover Station	6:22am	:00*	6:00pm
• Portsmouth Transportation Center	6:33am	:11*	6:11pm
• Pease Airline Terminal	6:42am	:20*	6:20pm

**Regular hourly schedule starts during the hour of 7am and No Service during the hour of 10am.*

INBOUND (M-F)	Service On Every Hour		
Pease Airline Terminal - Hanover Station	First Bus	Minutes Past Hour	Last Bus
• Pease Airline Terminal	6:43am	:21*	6:21pm
• Portsmouth Transportation Center	6:47am	:25*	6:25pm
• Hanover Station	6:57am	:35*	6:35pm

**Regular hourly schedule starts during the hour of 7am and No Service during the hour of 10am.*

MAP IT!

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or use the Passio GO! App.



Passio GO! App

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Making Connections

Please tell your driver if you are trying to make a connection to another Route.

TRANSFER POINTS

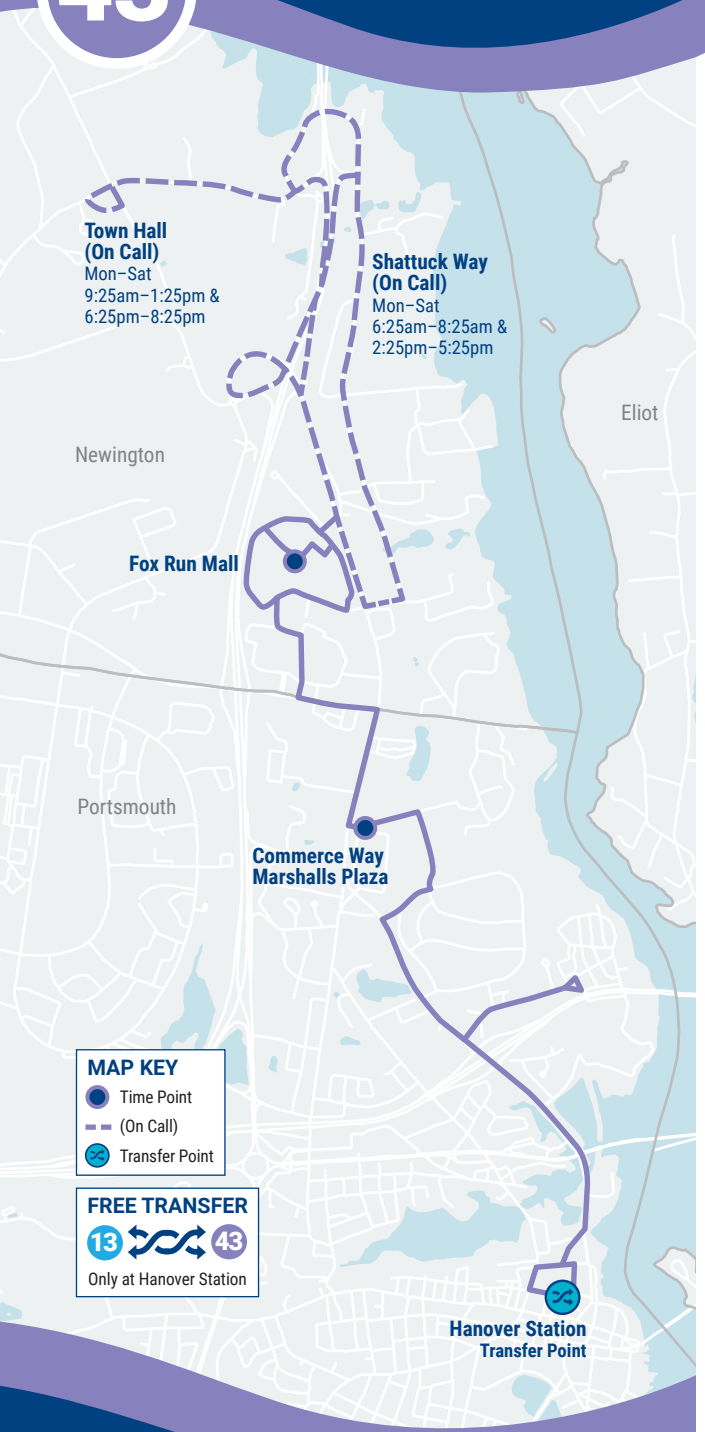
Hanover Station	13 14 40 41 42 43 44
Dover Transportation Center	1 12 13 33 M-F 33 SAT 34
Dover NHDOT Park & Ride (Exit 9)	1 14
Rochester City Hall	6 12 14

14 33 SAT Temporarily suspended part of route due to driver shortage.

Hanover Station, Portsmouth

Route 43 Map

Portsmouth • Newington



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

*Available at **www.coastbus.org** or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

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- Martin Luther King Jr./ Civil Rights Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

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Bus Schedule & Map 43

COAST

Effective 09.17.22

ROUTE 43

Portsmouth • Newington



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MAP OUT YOUR GAME PLAN

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COAST SYSTEM MAP

EXPRESS • INBOUND • OUTBOUND

Route 43 Portsmouth • Newington

How to Read the Schedule

Printed bus schedules only show the timepoints ● (major bus stops where the bus will hold until the scheduled departure time). In between those timepoints are many other stops that you can use. For a full listing of bus stops, visit **www.coastbus.org**, or use the Passio GO! App.

The times shown represent the number of minutes after the hour that the bus will depart from that stop. Last stop times are arrivals. Any exceptions will be noted.

EXPRESS (M-Sat)	Single Run Only		
DOVER - NEWINGTON	First Bus	Minutes Past Hour	Last Bus
● Dover Transportation Center	6:30am	--	--
● Fox Run Mall	6:45am	--	--

INBOUND (M-Sat)	Service On Every Hour		
NEWINGTON - PORTSMOUTH	First Bus	Minutes Past Hour	Last Bus
● Fox Run Mall	6:30am	:30	8:30pm
● Commerce Way (Marshalls Plaza)	6:36am	:36	8:36pm
● Hanover Station	6:57am	:57	8:57pm

OUTBOUND (M-Sat)	Service On Every Hour		
PORTSMOUTH - NEWINGTON	First Bus	Minutes Past Hour	Last Bus
● Hanover Station	7:00am	:00	8:00pm
● Commerce Way (Marshalls Plaza)	7:09am	:09	8:09pm
● Fox Run Mall	7:22am	:22	8:22pm

MAP IT!

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www.coastbus.org
or use the Passio GO! App.



Passio GO! App
Download the Passio GO! App for real-time information at the Google Play or App store.

Making Connections

Please tell your driver if you are trying to make a connection to another Route.

TRANSFER POINTS

Hanover Station	13 14 40 41 42 43 44
Dover Transportation Center	1 12 13 33 M-F 33 SAT 34
Dover NHDOT Park & Ride (Exit 9)	1 14
Rochester City Hall	6 12 14

14 33 SAT Temporarily suspended part of route due to driver shortage.

Hanover Station, Portsmouth

Route 44 Map

Portsmouth • Kittery • PNSY



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

*Available at **www.coastbus.org** or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

COAST adheres to all Federal regulations regarding Civil Rights. If you need to request an ADA Reasonable Modification/ Accommodation, or if you believe you have been discriminated against or would like to file a complaint under the ADA or Title VI, please contact COAST's Civil Rights Officer at 603-516-0788, TTY 711 or email CivilRights@coastbus.org.

NO SERVICE DAYS

COAST does not operate on the following holidays:

- New Year's Day
- Martin Luther King Jr./ Civil Rights Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

42 Sumner Drive • Dover, NH 03820

603-743-5777 • TTY 711 • **www.coastbus.org**

This brochure is available in alternative formats upon request.

Bus Schedule & Map 44

COAST

Effective 07.01.22

ROUTE 44

Portsmouth • Kittery • PNSY



Find all of the full COAST schedules online at **coastbus.org**



MAP OUT YOUR GAME PLAN

Planning your trip has never been easier!

www.coastbus.org

COAST SYSTEM MAP

OUTBOUND • INBOUND
Route 44 Portsmouth • Kittery • PNSY

How to Read the Schedule

Printed bus schedules only show the timepoints (major bus stops where the bus will hold until the scheduled departure time). In between those timepoints are many other stops that you can use. For a full listing of bus stops, visit **www.coastbus.org**, or use the Passio GO! App.

The times shown represent the number of minutes after the hour that the bus will depart from that stop. Last stop times are arrivals. Any exceptions will be noted.

OUTBOUND (M-F)	Service On Every Hour		
Hanover Station - Government St. (PNSY Gate 1)	First Bus	Minutes Past Hour	Last Bus
Hanover Station	5:54am	:36*	6:36pm
Junkins Ave. (Portsmouth City Hall)	7:41am	:41*	6:41pm
Government St. (PNSY Gate 1)	6:00am	:45*	6:45pm

**Regular hourly schedule starts during the hour of 7am.*

INBOUND (M-F)	Service On Every Hour		
Government St. (PNSY Gate 1) - Hanover Station	First Bus	Minutes Past Hour	Last Bus
Government St. (PNSY Gate 1)	6:35am	:45*	8:45pm
Hanover Station	6:42am	:54*	8:54pm

**Regular hourly schedule starts during the hour of 7am.*

MAP IT!

For a full listing of bus stops, visit
www.coastbus.org
or use the Passio GO! App.



Passio GO! App
Download the Passio GO! App for real-time information at the Google Play or App store.

Making Connections

Please tell your driver if you are trying to make a connection to another Route.

TRANSFER POINTS

Hanover Station	13 14 40 41 42 43 44
Dover Transportation Center	1 12 13 33 M-F 33 SAT 34
Dover NHDOT Park & Ride (Exit 9)	1 14
Rochester City Hall	6 12 14

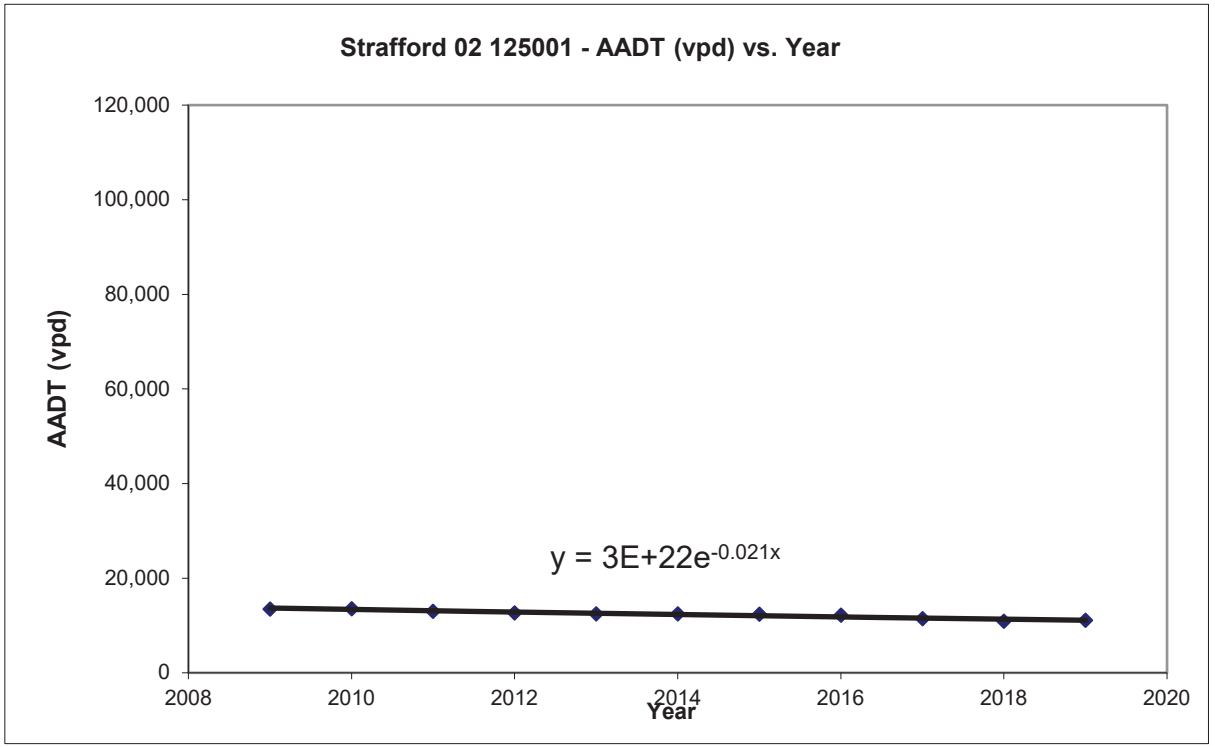
14 33 SAT Temporarily suspended part of route due to driver shortage.

Hanover Station, Portsmouth

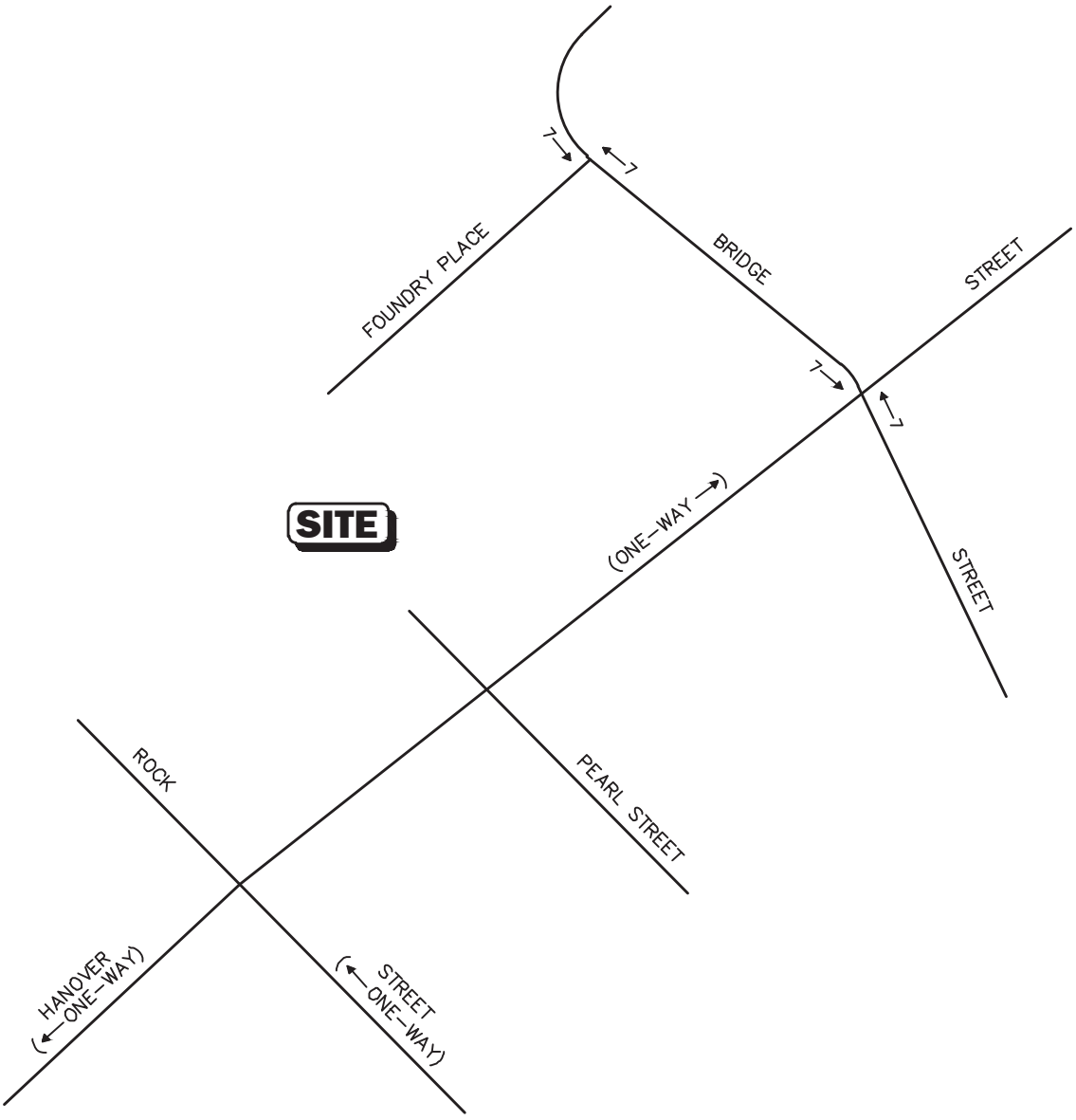
GENERAL BACKGROUND TRAFFIC GROWTH

Station 02125001
Strafford - Dover Point Rd
Group 4
Region E
FC 11

	AADT	Annual Change
2009	13500	
2010	13567	0.50%
2011	13024	-4.00%
2012	12639	-2.96%
2013	12461	-1.41%
2014	12490	0.23%
2015	12396	-0.75%
2016	12219	-1.43%
2017	11436	-6.41%
2018	10938	-4.35%
2019	11100	1.48%
	CAGR	-1.94%
	Exp	1.86%
	Avg	-0.04%



BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS



Not To Scale

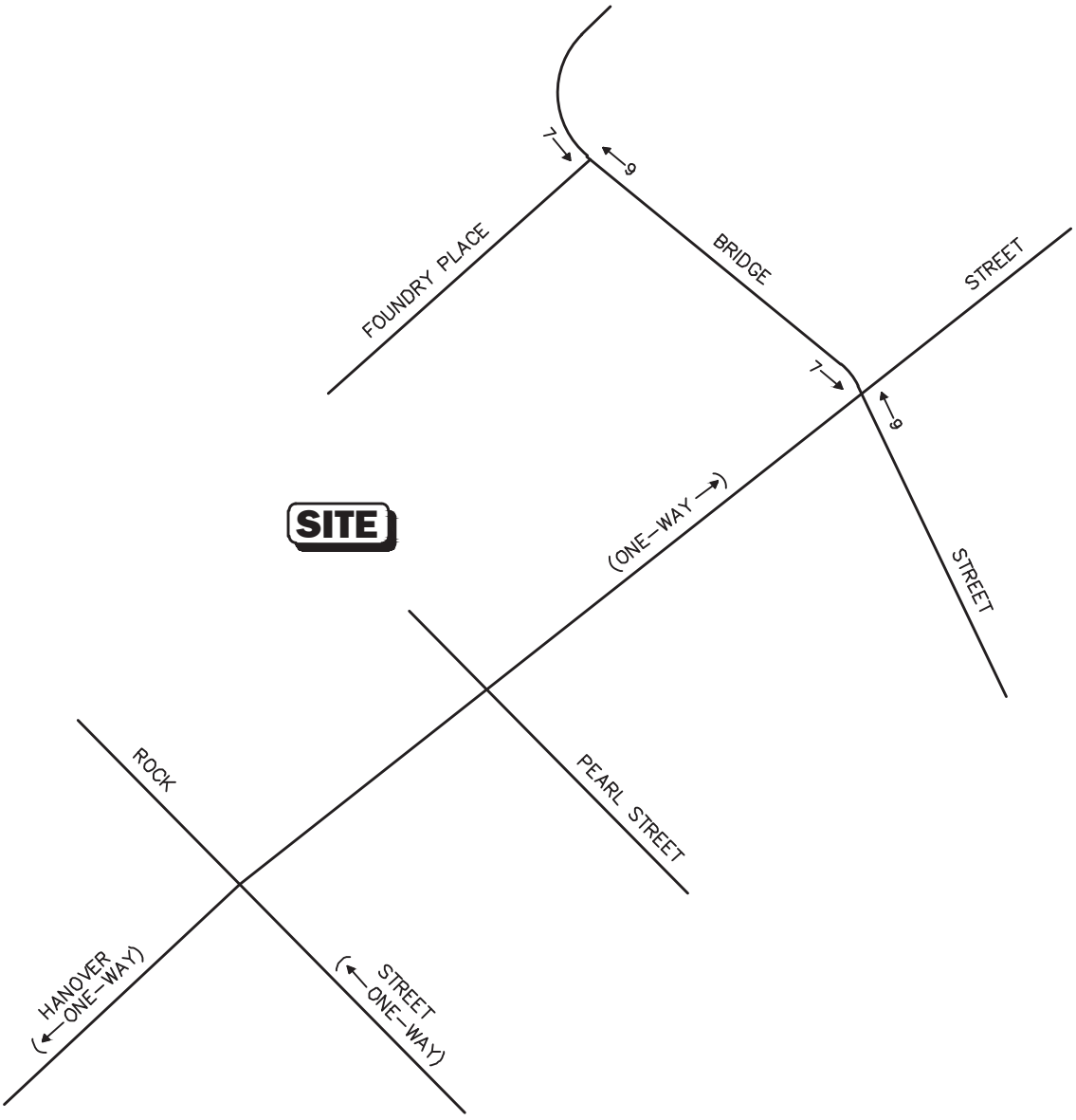
Figure A-1

70 Maplewood Avenue
Lot 5 Deer Street Development
Weekday Morning
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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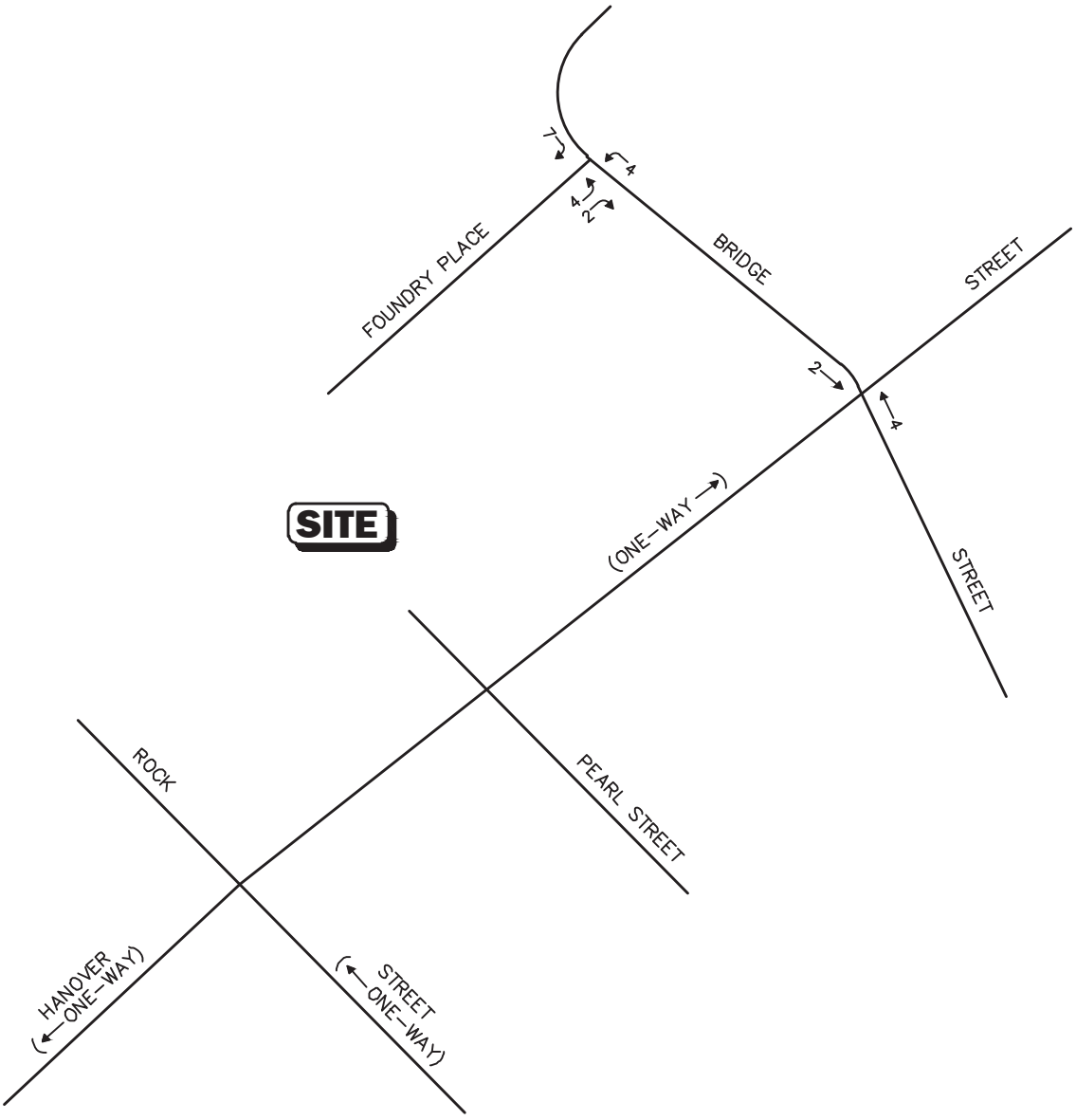
Figure A-2

70 Maplewood Avenue
Lot 5 Deer Street Development
Weekday Evening
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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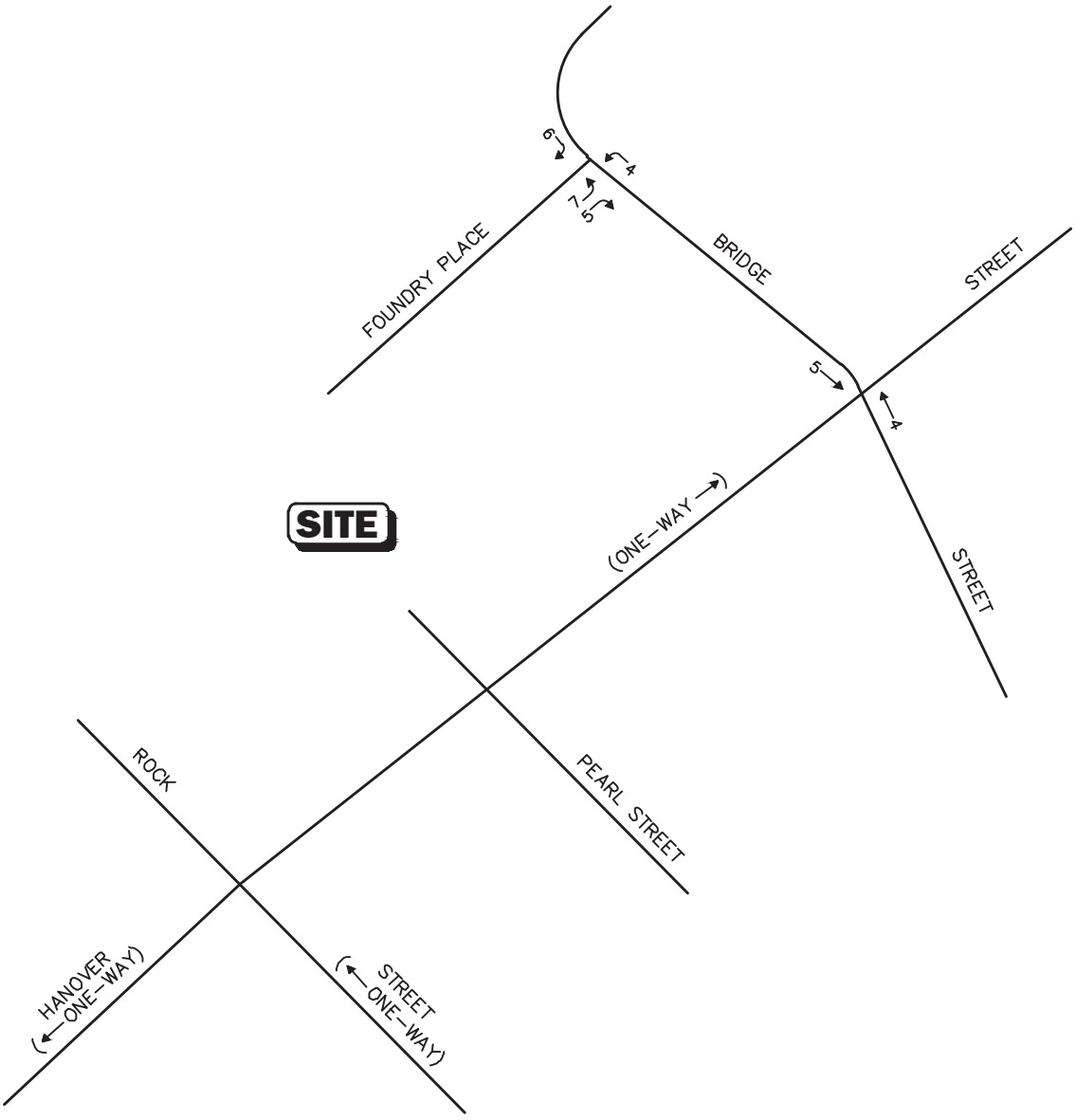
Figure A-3

Foundry Place Community Space
Lot 2 of Deer Street
Associates Projects
Weekday Morning
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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Not To Scale

Figure A-4

Foundry Place Community Space
Lot 2 of Deer Street
Associates Projects
Weekday Evening
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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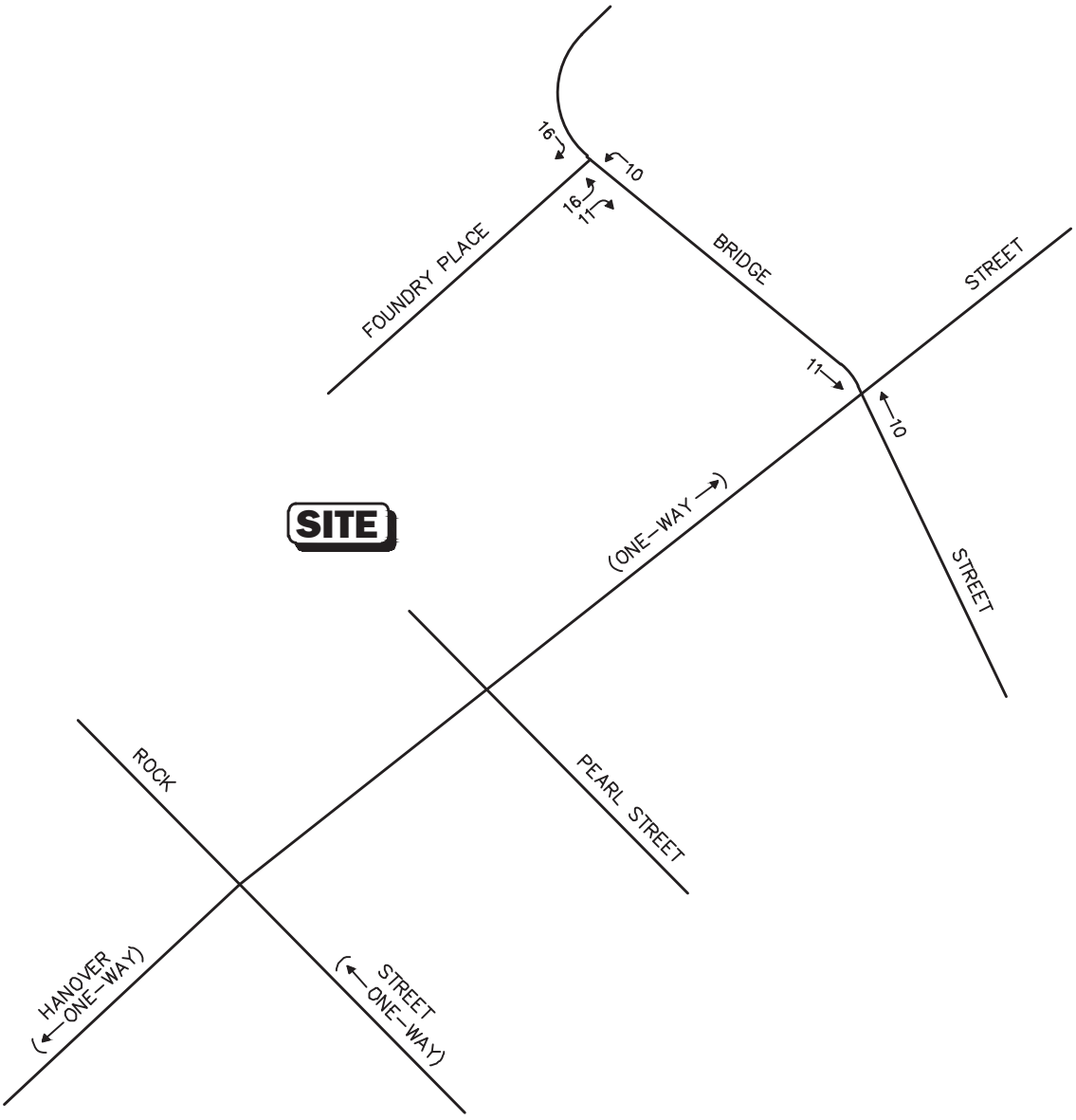
Figure A-5

165 Deer Street
Lot 3 of Deer Street
Associates Projects
Weekday Morning
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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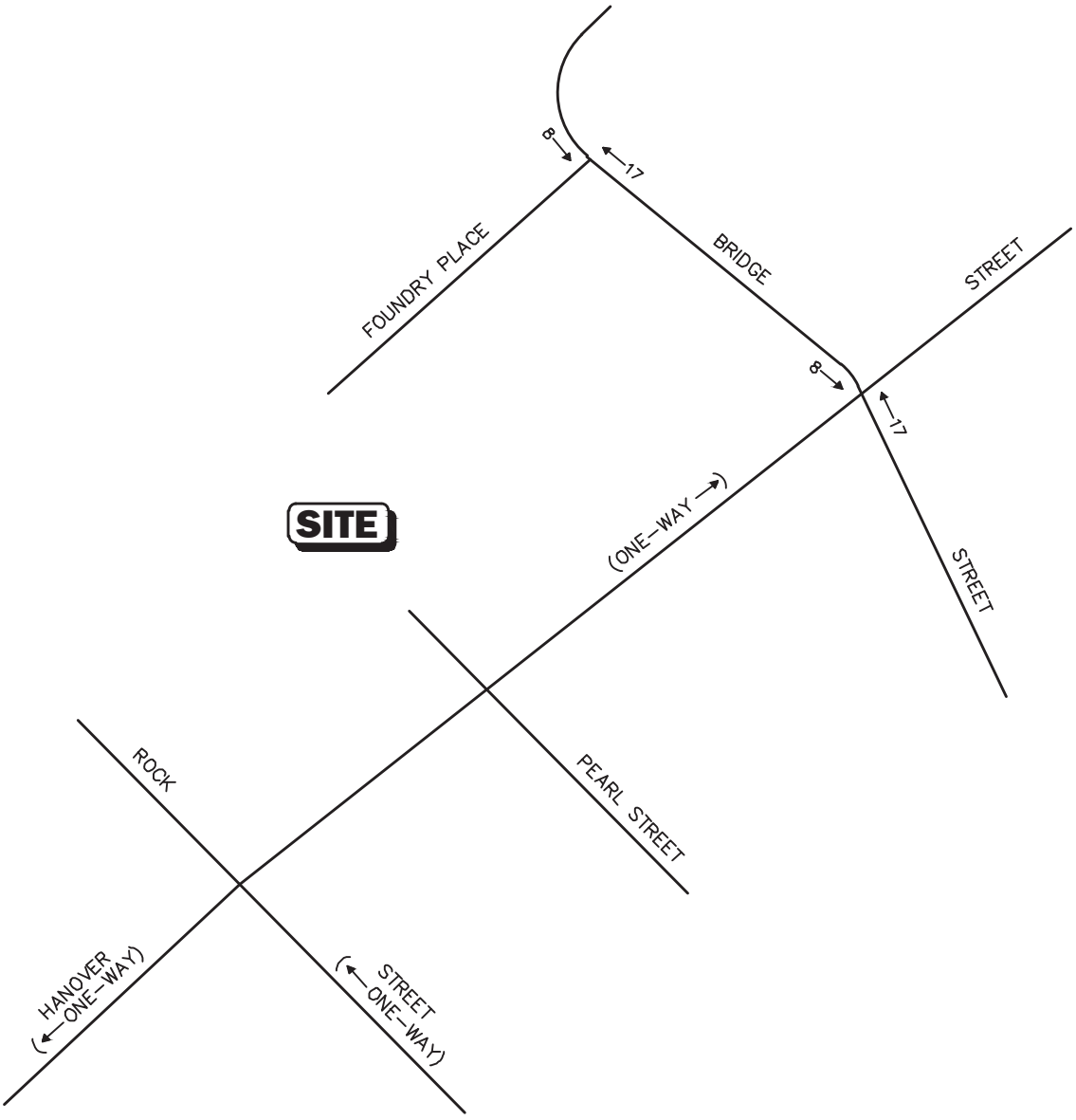
Figure A-6

165 Deer Street
Lot 3 of Deer Street
Associates Projects
Weekday Evening
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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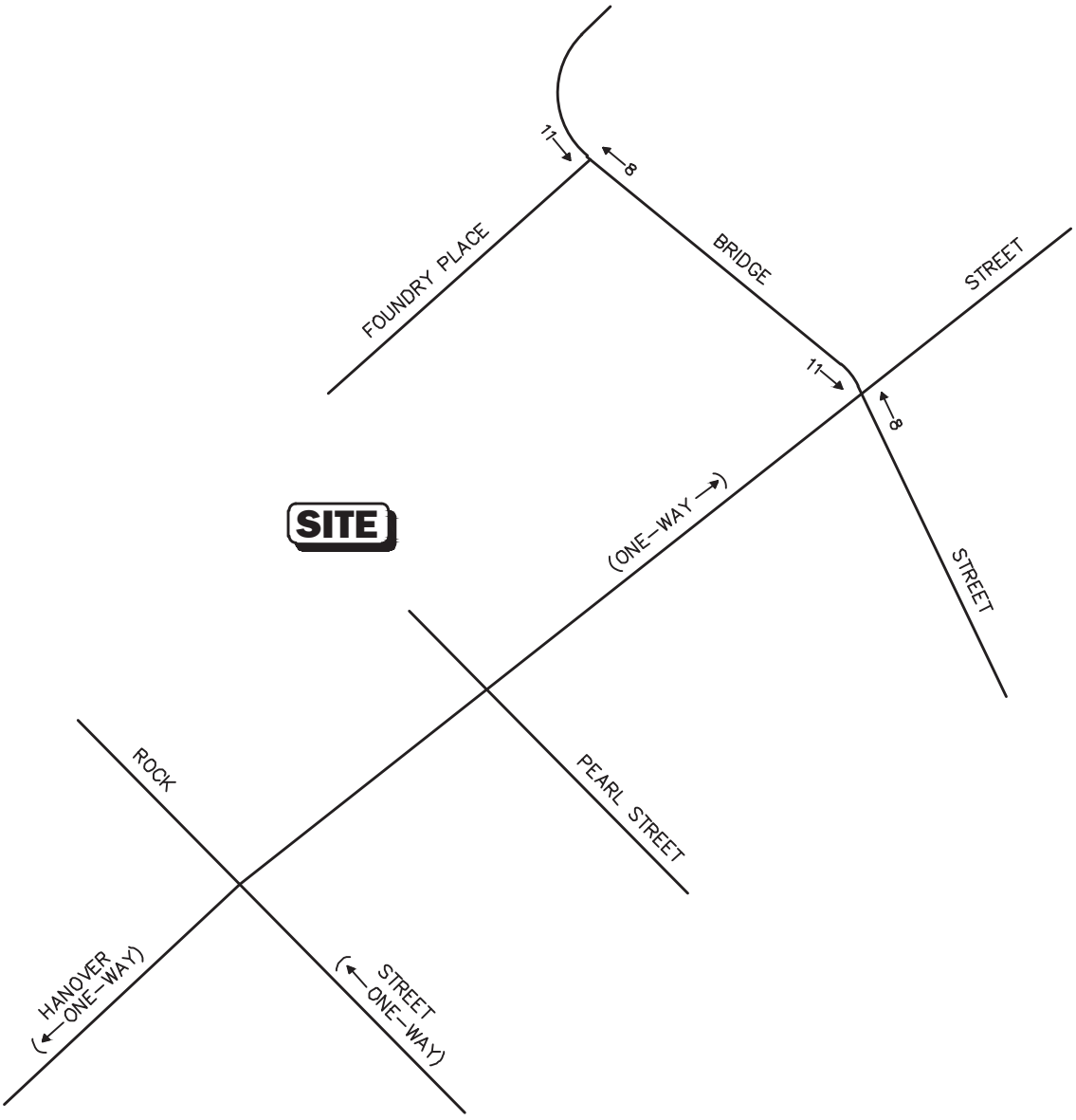
Figure A-7

163 Deer Street
Lot 4 of Deer Street
Associates Projects
Weekday Morning
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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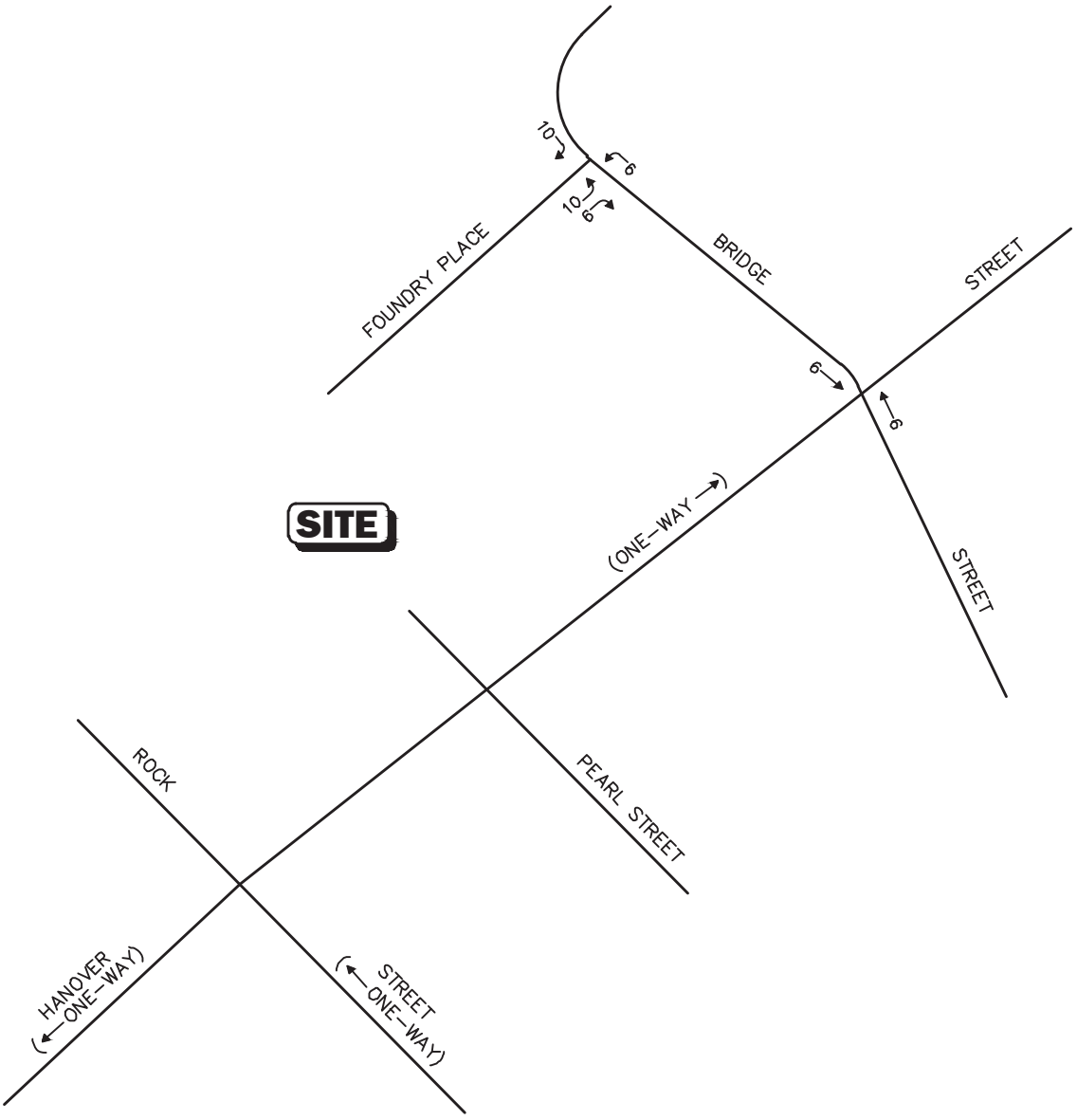
Figure A-8

163 Deer Street
Lot 4 of Deer Street
Associates Projects
Weekday Evening
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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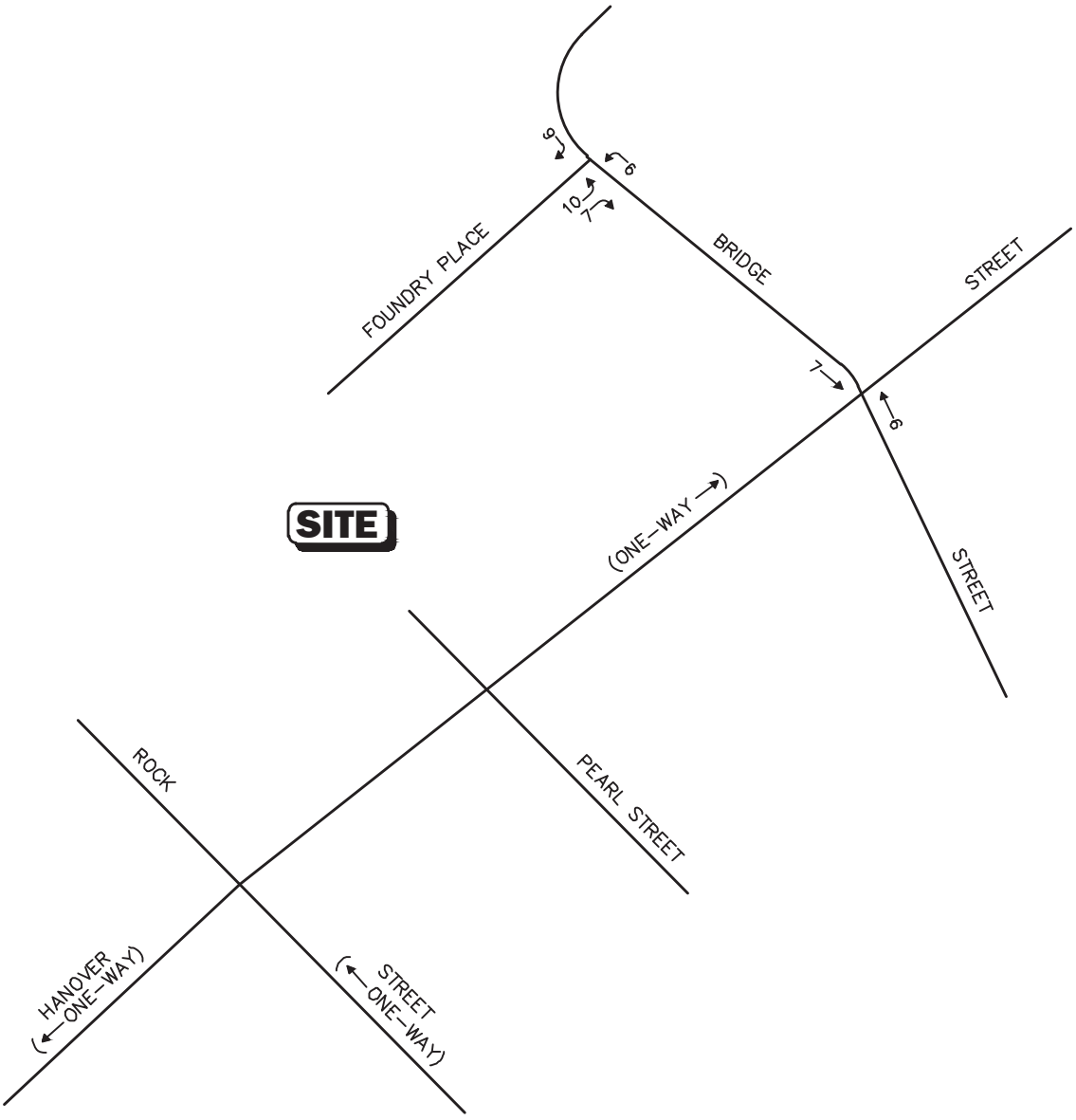
Figure A-9

89 and 99 Foundry Place
Lot 6 of Deer Street
Associates Projects
Weekday Morning
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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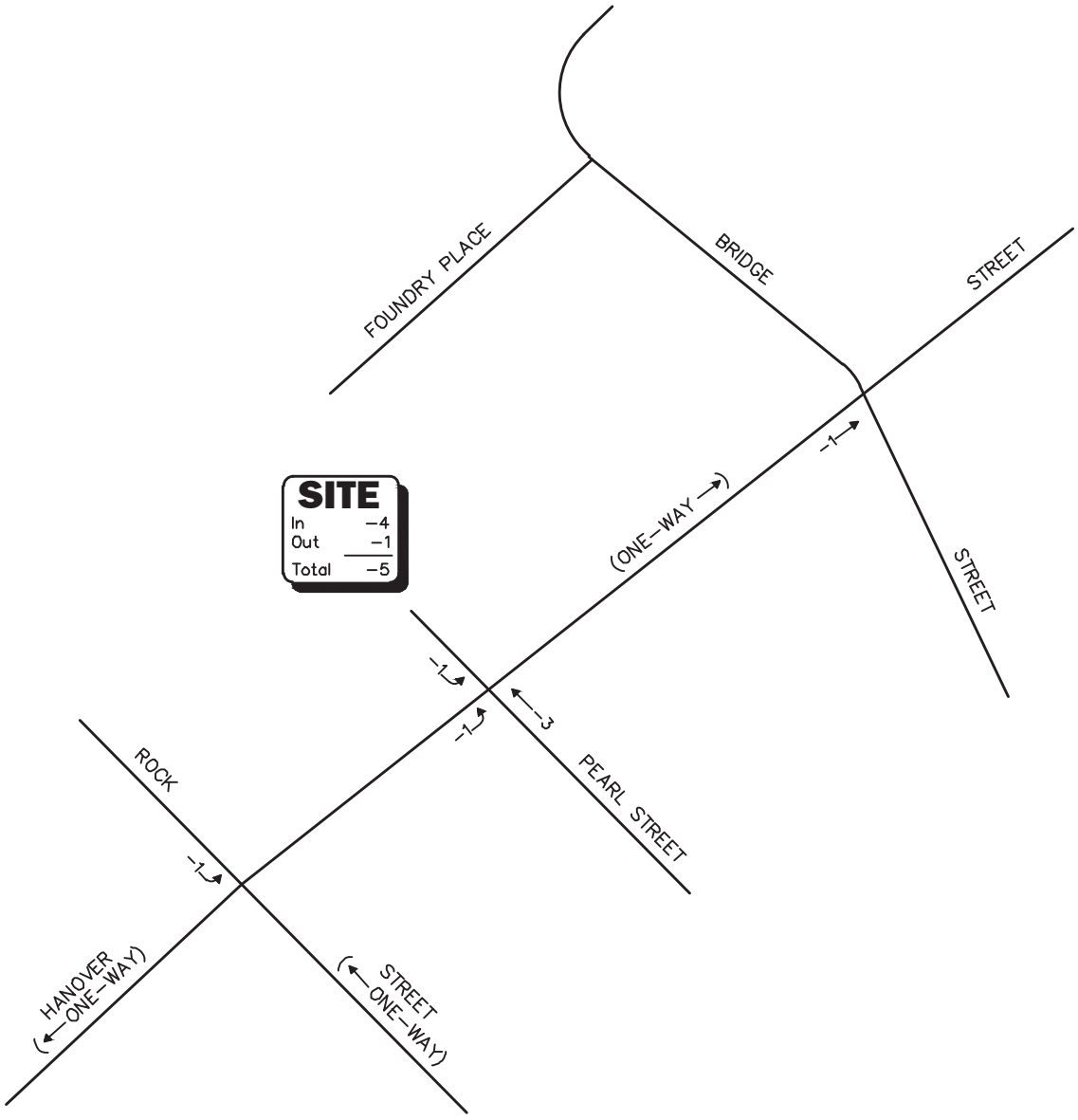
Figure A-10

89 and 99 Foundry Place
Lot 6 of Deer Street
Associates Projects
Weekday Evening
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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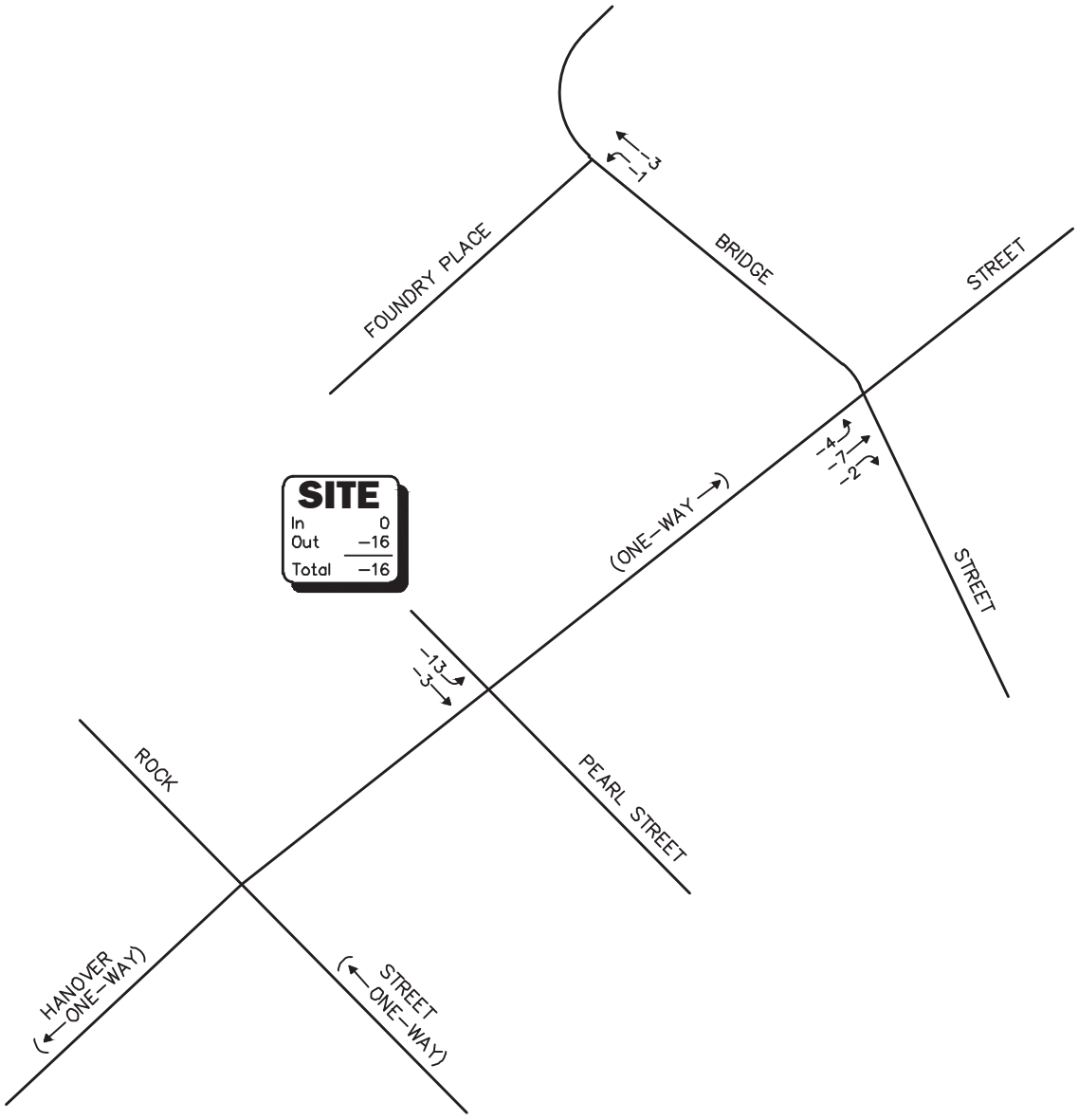
Figure A-11

Existing Site Trips Removed
Weekday Morning
Peak-Hour Traffic Volumes

Vanasse & Associates inc

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Figure A-12

Existing Site Trips Removed
Weekday Evening
Peak-Hour Traffic Volumes

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TRIP-DISTRIBUTION

Kearsarge Mill Residential Development
Portsmouth, New Hampshire

Residence	Workplace	Number	Hanover Street East		Bridge Street North		Bridge Street South		Pearl Street South (Exting Trip)	
Portsmouth city	Portsmouth city	6310	40%	2524	20%	1262	30%	1893	10%	631
Portsmouth city	Dover city	643	50%	322	50%	322		0		0
Portsmouth city	Durham town	470	50%	235	50%	235		0		0
Portsmouth city	Exeter town	437		0	70%	306		0	30%	131
Portsmouth city	Kittery town	379	70%	265		0		0	30%	114
Portsmouth city	Newington town	360	100%	360		0		0		0
Portsmouth city	Hampton town	354		0	60%	212		0	40%	142
Portsmouth city	Boston city	164		0	60%	98		0	40%	66
Portsmouth city	North Hampton town	162	100%	162		0		0		0
Portsmouth city	Salem town	159		0	70%	111		0	30%	48
Portsmouth city	York town	142	60%	85	40%	57		0		0
Portsmouth city	New Castle town	134	70%	94		0		0	30%	40
Portsmouth city	Manchester city	129		0	100%	129		0		0
Portsmouth city	Somersworth city	125	70%	88	30%	38		0		0
Portsmouth city	Rye town	123		0		0		0	100%	123
Portsmouth city	Stratham town	123	60%	74		0		0	40%	49
Portsmouth city	Greenland town	112	60%	67		0		0	40%	45
Portsmouth city	Londonderry town	92		0	60%	55		0	40%	37
Portsmouth city	Concord city	89		0	100%	89		0		0
Portsmouth city	Newburyport city	86		0	50%	43		0	50%	43
Portsmouth city	Seabrook town	85		0	50%	43		0	50%	43
Portsmouth city	Rochester city	80		0	100%	80		0		0
Portsmouth city	Peabody city	78		0	60%	47		0	40%	31
Portsmouth city	Brentwood town	77		0	60%	46		0	40%	31
Portsmouth city	Raymond town	75		0	100%	75		0		0
Portsmouth city	North Berwick town	72	70%	50	30%	22		0		0
Portsmouth city	Bedford town	69		0	100%	69		0		0
Portsmouth city	Barrington town	56	100%	56		0		0		0
Portsmouth city	Hampton Falls town	53	50%	27		0		0	50%	27
Portsmouth city	Plymouth town	51		0	100%	51		0		0
Portsmouth city	North Andover town	49	50%	25		0		0	50%	25
Portsmouth city	Wolfeboro town	49		0	100%	49		0		0
Portsmouth city	Eliot town	48	100%	48		0		0		0
Portsmouth city	Amesbury Town city	48	50%	24		0		0	50%	24
Portsmouth city	Andover town	41		0	100%	41		0		0
Portsmouth city	Methuen Town city	40	100%	40		0		0		0
Portsmouth city	Stoneham town	39	100%	39		0		0		0
Portsmouth city	Plaistow town	39	100%	39		0		0		0
		11,642		4,623		3,479		1,893		1,647
				39.7%		29.9%		16.3%		14.1%
		SAY		**40%**		**30%**		**16%**		**14%**

TRIP-GENERATION CALCULATIONS

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
General Urban/Suburban

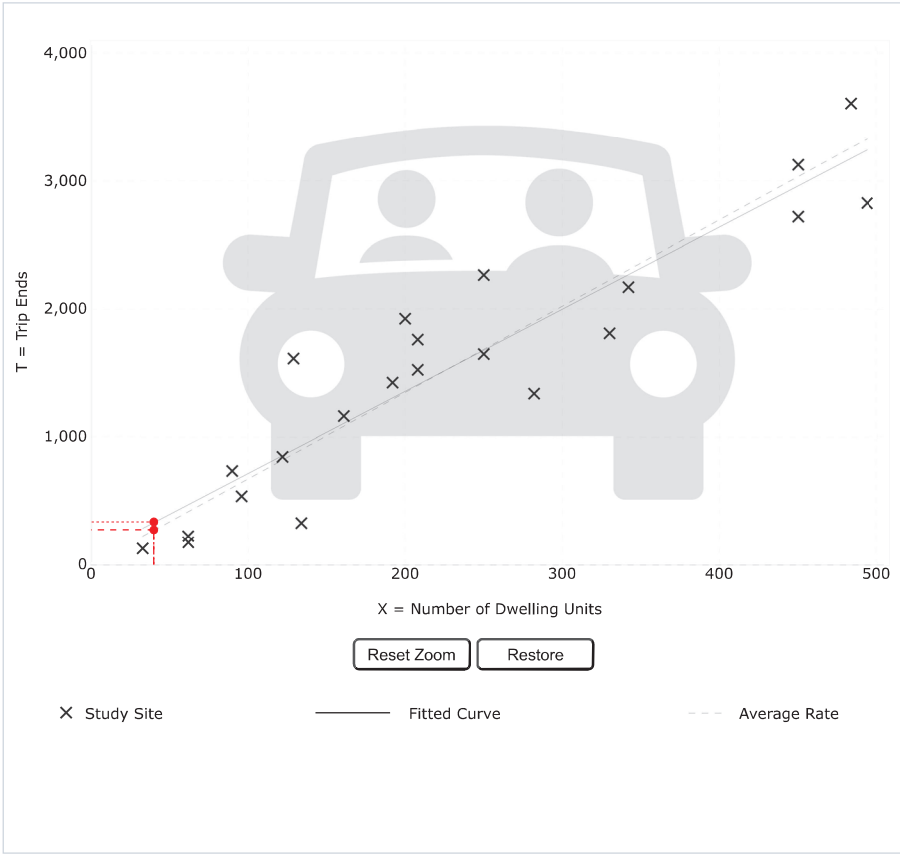
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
40 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
22

Avg. Num. of Dwelling Units:
229

Average Rate:
6.74

Range of Rates:
2.46 - 12.50

Standard Deviation:
1.79

Fitted Curve Equation:
T = 6.41(X) + 75.31

R^2:
0.86

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 270 (Total), 135 (Entry), 135 (Exit)
Fitted Curve: 332 (Total), 166 (Entry), 166 (Exit)

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Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
General Urban/Suburban

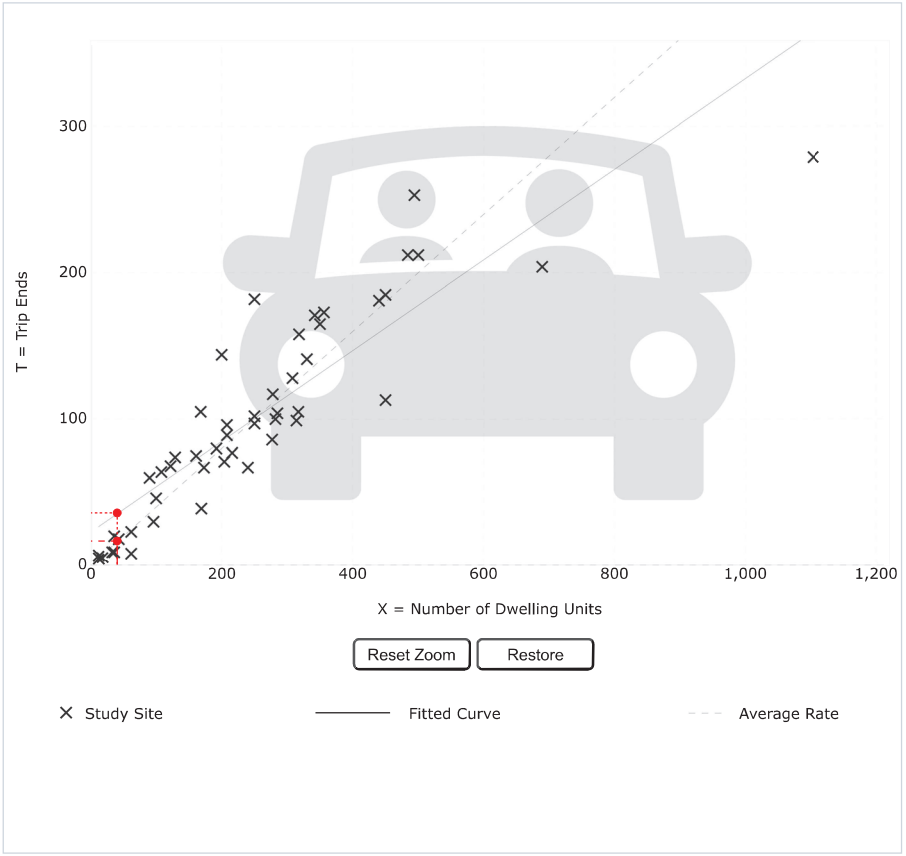
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Stre

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
40 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
49

Avg. Num. of Dwelling Units:
249

Average Rate:
0.40

Range of Rates:
0.13 - 0.73

Standard Deviation:
0.12

Fitted Curve Equation:
T = 0.31(X) + 22.85

R^2:
0.79

Directional Distribution:
24% entering, 76% exiting

Calculated Trip Ends:
Average Rate: 16 (Total), 4 (Entry), 12 (Exit)
Fitted Curve: 35 (Total), 8 (Entry), 27 (Exit)

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Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
220

LAND USE GROUP:
(200-299) Residential

LAND USE :
220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
General Urban/Suburban

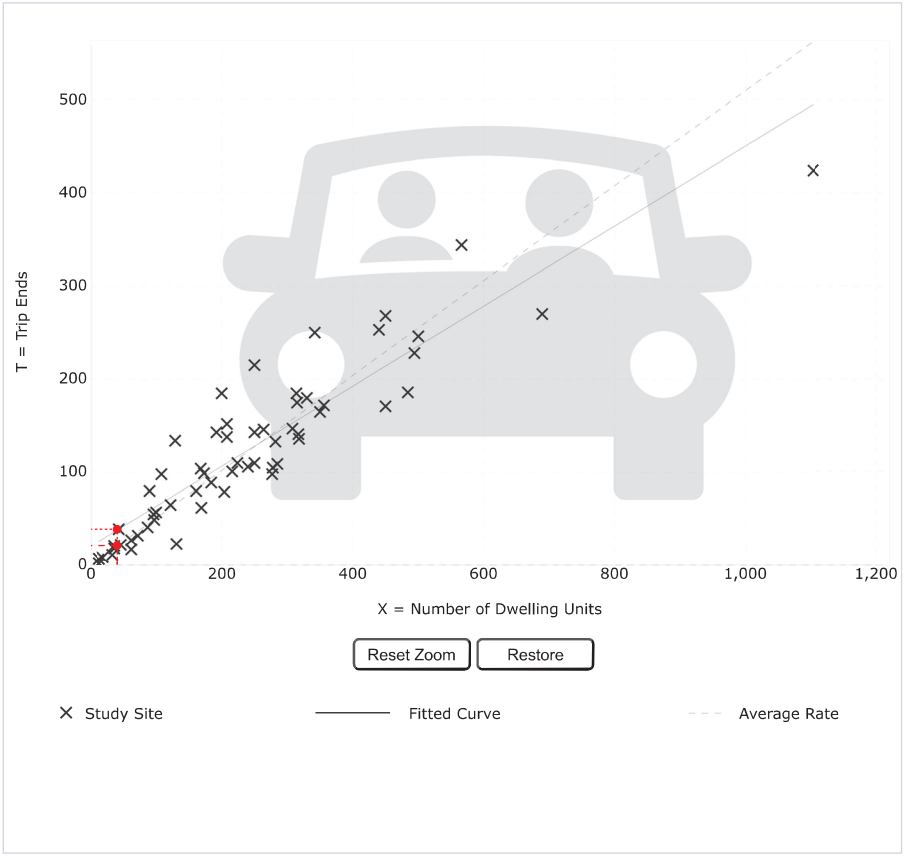
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Stre

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
40 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
59

Avg. Num. of Dwelling Units:
241

Average Rate:
0.51

Range of Rates:
0.08 - 1.04

Standard Deviation:
0.15

Fitted Curve Equation:
T = 0.43(X) + 20.55

R^2:
0.84

Directional Distribution:
63% entering, 37% exiting

Calculated Trip Ends:
Average Rate: 20 (Total), 13 (Entry), 7 (Exit)
Fitted Curve: 38 (Total), 24 (Entry), 14 (Exit)

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CAPACITY ANALYSIS WORKSHEETS

2024 Existing
2026 No-Build
2026 Opening-Year Build
2036 No-Build
2036 Build

2024 Existing

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	2	0	6	0	16	36	0	0
Future Vol, veh/h	0	0	0	0	2	0	6	0	16	36	0	0
Peak Hour Factor	0.92	0.92	0.92	0.25	0.25	0.25	0.88	0.88	0.88	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	8	0	7	0	18	49	0	0
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.7	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	27%	0%	100%
Vol Thru, %	0%	100%	0%
Vol Right, %	73%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	22	2	36
LT Vol	6	0	36
Through Vol	0	2	0
RT Vol	16	0	0
Lane Flow Rate	25	8	49
Geometry Grp	1	1	1
Degree of Util (X)	0.025	0.009	0.057
Departure Headway (Hd)	3.569	4.028	4.132
Convergence, Y/N	Yes	Yes	Yes
Cap	1005	887	870
Service Time	1.583	2.059	2.139
HCM Lane V/C Ratio	0.025	0.009	0.056
HCM Control Delay, s/veh	6.7	7.1	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	40	11	1	1	0	1	3	14	0	0	1
Future Vol, veh/h	1	40	11	1	1	0	1	3	14	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	50	50	50	85	85	85	25	25	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	52	14	2	2	0	1	4	16	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	66	0	0	68	68	59	62	75	2
Stage 1	-	-	-	-	-	-	62	62	-	6	6	-
Stage 2	-	-	-	-	-	-	6	6	-	56	69	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1634	-	-	1548	-	-	930	827	1012	937	819	1088
Stage 1	-	-	-	-	-	-	955	847	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	961	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1634	-	-	1548	-	-	925	825	1012	916	818	1088
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	825	-	916	818	-
Stage 1	-	-	-	-	-	-	954	847	-	1020	894	-
Stage 2	-	-	-	-	-	-	1016	894	-	940	841	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.14	3.66	8.79	8.32
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	970	33	-	-	900	-	-	1088
HCM Lane V/C Ratio	0.022	0.001	-	-	0.001	-	-	0.004
HCM Ctrl Dly (s/v)	8.8	7.2	0	-	7.3	0	-	8.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	36	3	26	0	28	0	16	66	0	11	14
Future Vol, veh/h	19	36	3	26	0	28	0	16	66	0	11	14
Peak Hour Factor	0.88	0.88	0.88	0.93	0.93	0.93	0.72	0.72	0.72	0.75	0.75	0.75
Heavy Vehicles, %	0	0	33	0	0	4	0	0	5	0	0	0
Mvmt Flow	22	41	3	28	0	30	0	22	92	0	15	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.6	7.3	7.2	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	33%	48%	0%
Vol Thru, %	20%	62%	0%	44%
Vol Right, %	80%	5%	52%	56%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	58	54	25
LT Vol	0	19	26	0
Through Vol	16	36	0	11
RT Vol	66	3	28	14
Lane Flow Rate	114	66	58	33
Geometry Grp	1	1	1	1
Degree of Util (X)	0.116	0.078	0.064	0.036
Departure Headway (Hd)	3.658	4.236	3.992	3.868
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	969	841	890	914
Service Time	1.723	2.287	2.05	1.942
HCM Lane V/C Ratio	0.118	0.078	0.065	0.036
HCM Control Delay, s/veh	7.2	7.6	7.3	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.2	0.1

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	5	25	36	25	121
Future Vol, veh/h	17	5	25	36	25	121
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	87	87	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	9	29	41	31	149

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	229	131	205	0	-	0
Stage 1	131	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	763	924	1378	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	902	1345	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.07	3.17	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	738	-	747	-	-
HCM Lane V/C Ratio	0.021	-	0.051	-	-
HCM Ctrl Dly (s/v)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	4	0	10	0	11	28	0	5
Future Vol, veh/h	0	0	0	0	4	0	10	0	11	28	0	5
Peak Hour Factor	0.92	0.92	0.92	0.38	0.38	0.38	0.58	0.58	0.58	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	11	0	17	0	19	37	0	7
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.9	7.2
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	48%	0%	85%
Vol Thru, %	0%	100%	0%
Vol Right, %	52%	0%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	21	4	33
LT Vol	10	0	28
Through Vol	0	4	0
RT Vol	11	0	5
Lane Flow Rate	36	11	44
Geometry Grp	1	1	1
Degree of Util (X)	0.038	0.012	0.049
Departure Headway (Hd)	3.731	4.038	4.023
Convergence, Y/N	Yes	Yes	Yes
Cap	962	885	893
Service Time	1.746	2.069	2.034
HCM Lane V/C Ratio	0.037	0.012	0.049
HCM Control Delay, s/veh	6.9	7.1	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	33	5	0	1	0	3	0	26	0	3	13
Future Vol, veh/h	0	33	5	0	1	0	3	0	26	0	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	25	25	25	73	73	73	50	50	50
Heavy Vehicles, %	0	0	0	0	0	0	0	0	15	0	0	0
Mvmt Flow	0	40	6	0	4	0	4	0	36	0	6	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	46	0	0	50	47	43	44	50	4
Stage 1	-	-	-	-	-	-	43	43	-	4	4	-
Stage 2	-	-	-	-	-	-	7	4	-	40	46	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	1631	-	-	1574	-	-	954	848	991	963	845	1085
Stage 1	-	-	-	-	-	-	976	863	-	1024	897	-
Stage 2	-	-	-	-	-	-	1020	897	-	980	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1631	-	-	1574	-	-	925	848	991	928	845	1085
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	848	-	928	845	-
Stage 1	-	-	-	-	-	-	976	863	-	1024	897	-
Stage 2	-	-	-	-	-	-	989	897	-	944	860	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	8.81	8.61
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	984	1631	-	-	1574	-	-	1030
HCM Lane V/C Ratio	0.04	-	-	-	-	-	-	0.031
HCM Ctrl Dly (s/v)	8.8	0	-	-	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	43	9	61	1	16	0	32	127	19	40	0
Future Vol, veh/h	25	43	9	61	1	16	0	32	127	19	40	0
Peak Hour Factor	0.77	0.77	0.77	0.92	0.92	0.92	0.90	0.90	0.90	0.78	0.78	0.78
Heavy Vehicles, %	0	0	22	0	0	4	0	0	2	0	0	0
Mvmt Flow	32	56	12	66	1	17	0	36	141	24	51	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8.2	7.9	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	32%	78%	32%
Vol Thru, %	20%	56%	1%	68%
Vol Right, %	80%	12%	21%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	77	78	59
LT Vol	0	25	61	19
Through Vol	32	43	1	40
RT Vol	127	9	16	0
Lane Flow Rate	177	100	85	76
Geometry Grp	1	1	1	1
Degree of Util (X)	0.193	0.126	0.108	0.096
Departure Headway (Hd)	3.942	4.532	4.587	4.576
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	912	792	783	784
Service Time	1.959	2.554	2.61	2.597
HCM Lane V/C Ratio	0.194	0.126	0.109	0.097
HCM Control Delay, s/veh	7.9	8.2	8.2	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.4	0.4	0.3

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	29	12	52	48	23
Future Vol, veh/h	79	29	12	52	48	23
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	88	88	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	123	45	14	59	54	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	178	92	105	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	816	971	1499	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	770	948	1464	-	-	-
Mov Cap-2 Maneuver	770	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	920	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.6	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	338	-	811	-	-
HCM Lane V/C Ratio	0.009	-	0.208	-	-
HCM Ctrl Dly (s/v)	7.5	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

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Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	2	0	6	0	16	37	0	0
Future Vol, veh/h	0	0	0	0	2	0	6	0	16	37	0	0
Peak Hour Factor	0.92	0.92	0.92	0.25	0.25	0.25	0.88	0.88	0.88	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	8	0	7	0	18	51	0	0
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.7	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	27%	0%	100%
Vol Thru, %	0%	100%	0%
Vol Right, %	73%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	22	2	37
LT Vol	6	0	37
Through Vol	0	2	0
RT Vol	16	0	0
Lane Flow Rate	25	8	51
Geometry Grp	1	1	1
Degree of Util (X)	0.025	0.009	0.058
Departure Headway (Hd)	3.569	4.03	4.132
Convergence, Y/N	Yes	Yes	Yes
Cap	1005	887	871
Service Time	1.584	2.061	2.139
HCM Lane V/C Ratio	0.025	0.009	0.059
HCM Control Delay, s/veh	6.7	7.1	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	41	11	1	1	0	1	3	14	1	0	0
Future Vol, veh/h	1	41	11	1	1	0	1	3	14	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	50	50	50	85	85	85	25	25	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	53	14	2	2	0	1	4	16	4	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	68	0	0	69	69	60	64	76	2
Stage 1	-	-	-	-	-	-	63	63	-	6	6	-
Stage 2	-	-	-	-	-	-	6	6	-	58	70	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1634	-	-	1547	-	-	928	825	1011	936	818	1088
Stage 1	-	-	-	-	-	-	953	846	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	959	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1634	-	-	1547	-	-	926	824	1011	915	816	1088
Mov Cap-2 Maneuver	-	-	-	-	-	-	926	824	-	915	816	-
Stage 1	-	-	-	-	-	-	952	846	-	1020	894	-
Stage 2	-	-	-	-	-	-	1020	894	-	939	840	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.14	3.67	8.8	8.95
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	969	33	-	-	900	-	-	915
HCM Lane V/C Ratio	0.022	0.001	-	-	0.001	-	-	0.004
HCM Ctrl Dly (s/v)	8.8	7.2	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	37	3	27	0	29	0	64	67	11	46	0
Future Vol, veh/h	19	37	3	27	0	29	0	64	67	11	46	0
Peak Hour Factor	0.88	0.88	0.88	0.93	0.93	0.93	0.72	0.72	0.72	0.75	0.75	0.75
Heavy Vehicles, %	0	0	33	0	0	4	0	0	5	0	0	0
Mvmt Flow	22	42	3	29	0	31	0	89	93	15	61	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8	7.7	8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	32%	48%	19%
Vol Thru, %	49%	63%	0%	81%
Vol Right, %	51%	5%	52%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	59	56	57
LT Vol	0	19	27	11
Through Vol	64	37	0	46
RT Vol	67	3	29	0
Lane Flow Rate	182	67	60	76
Geometry Grp	1	1	1	1
Degree of Util (X)	0.201	0.085	0.072	0.093
Departure Headway (Hd)	3.98	4.553	4.315	4.41
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	908	789	832	815
Service Time	1.98	2.568	2.331	2.425
HCM Lane V/C Ratio	0.2	0.085	0.072	0.093
HCM Control Delay, s/veh	8	8	7.7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.3	0.2	0.3

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	22	50	61	41	161
Future Vol, veh/h	45	22	50	61	41	161
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	87	87	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	38	57	70	51	199

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	360	175	274	0	-	0
Stage 1	175	-	-	-	-	-
Stage 2	185	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	643	874	1300	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	851	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	584	853	1269	-	-	-
Mov Cap-2 Maneuver	584	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.72	3.59	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	811	-	651	-	-
HCM Lane V/C Ratio	0.045	-	0.177	-	-
HCM Ctrl Dly (s/v)	8	0	11.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	4	0	11	0	10	29	0	5
Future Vol, veh/h	0	0	0	0	4	0	11	0	10	29	0	5
Peak Hour Factor	0.92	0.92	0.92	0.38	0.38	0.38	0.58	0.58	0.58	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	11	0	19	0	17	39	0	7
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.9	7.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	85%
Vol Thru, %	0%	100%	0%
Vol Right, %	48%	0%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	21	4	34
LT Vol	11	0	29
Through Vol	0	4	0
RT Vol	10	0	5
Lane Flow Rate	36	11	45
Geometry Grp	1	1	1
Degree of Util (X)	0.038	0.012	0.051
Departure Headway (Hd)	3.77	4.04	4.027
Convergence, Y/N	Yes	Yes	Yes
Cap	952	884	892
Service Time	1.785	2.073	2.038
HCM Lane V/C Ratio	0.038	0.012	0.05
HCM Control Delay, s/veh	6.9	7.1	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	34	5	0	1	0	3	0	27	13	3	0
Future Vol, veh/h	0	34	5	0	1	0	3	0	27	13	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	25	25	25	73	73	73	50	50	50
Heavy Vehicles, %	0	0	0	0	0	0	0	0	15	0	0	0
Mvmt Flow	0	41	6	0	4	0	4	0	37	26	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	48	0	0	52	49	45	45	52	4
Stage 1	-	-	-	-	-	-	45	45	-	4	4	-
Stage 2	-	-	-	-	-	-	7	4	-	41	48	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	1631	-	-	1573	-	-	953	847	990	961	844	1085
Stage 1	-	-	-	-	-	-	975	862	-	1024	897	-
Stage 2	-	-	-	-	-	-	1020	897	-	978	859	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1631	-	-	1573	-	-	946	847	990	925	844	1085
Mov Cap-2 Maneuver	-	-	-	-	-	-	946	847	-	925	844	-
Stage 1	-	-	-	-	-	-	975	862	-	1024	897	-
Stage 2	-	-	-	-	-	-	1013	897	-	942	859	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	8.81	9.11
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	985	1631	-	-	1573	-	-	909
HCM Lane V/C Ratio	0.042	-	-	-	-	-	-	0.035
HCM Ctrl Dly (s/v)	8.8	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	44	9	62	1	16	0	70	130	19	82	0
Future Vol, veh/h	26	44	9	62	1	16	0	70	130	19	82	0
Peak Hour Factor	0.92	0.92	0.92	0.77	0.77	0.77	0.90	0.90	0.90	0.78	0.78	0.78
Heavy Vehicles, %	0	0	22	0	0	4	0	0	2	0	0	0
Mvmt Flow	28	48	10	81	1	21	0	78	144	24	105	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	8.6	8.6	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	33%	78%	19%
Vol Thru, %	35%	56%	1%	81%
Vol Right, %	65%	11%	20%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	200	79	79	101
LT Vol	0	26	62	19
Through Vol	70	44	1	82
RT Vol	130	9	16	0
Lane Flow Rate	222	86	103	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.254	0.114	0.137	0.166
Departure Headway (Hd)	4.12	4.797	4.813	4.629
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	871	745	744	774
Service Time	2.148	2.836	2.85	2.662
HCM Lane V/C Ratio	0.255	0.115	0.138	0.167
HCM Control Delay, s/veh	8.6	8.5	8.6	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.4	0.5	0.6

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	114	53	32	70	67	54
Future Vol, veh/h	114	53	32	70	67	54
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	178	83	36	80	76	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	284	132	163	0	-	0
Stage 1	132	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	710	923	1429	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	658	901	1395	-	-	-
Mov Cap-2 Maneuver	658	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.81	2.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	565	-	720	-	-
HCM Lane V/C Ratio	0.026	-	0.362	-	-
HCM Ctrl Dly (s/v)	7.7	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

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Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	2	0	6	0	16	36	0	0
Future Vol, veh/h	0	0	0	0	2	0	6	0	16	36	0	0
Peak Hour Factor	0.92	0.92	0.92	0.25	0.25	0.25	0.88	0.88	0.88	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	8	0	7	0	18	49	0	0
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.7	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	27%	0%	100%
Vol Thru, %	0%	100%	0%
Vol Right, %	73%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	22	2	36
LT Vol	6	0	36
Through Vol	0	2	0
RT Vol	16	0	0
Lane Flow Rate	25	8	49
Geometry Grp	1	1	1
Degree of Util (X)	0.025	0.009	0.057
Departure Headway (Hd)	3.569	4.028	4.132
Convergence, Y/N	Yes	Yes	Yes
Cap	1005	887	870
Service Time	1.583	2.059	2.139
HCM Lane V/C Ratio	0.025	0.009	0.056
HCM Control Delay, s/veh	6.7	7.1	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	41	11	1	1	0	1	8	14	19	8	0
Future Vol, veh/h	0	41	11	1	1	0	1	8	14	19	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	50	50	50	85	85	85	90	90	90
Heavy Vehicles, %	2	0	0	0	0	2	0	2	0	2	2	2
Mvmt Flow	0	53	14	2	2	0	1	9	16	21	9	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	68	0	0	71	66	60	64	74	2
Stage 1	-	-	-	-	-	-	60	60	-	6	6	-
Stage 2	-	-	-	-	-	-	10	6	-	58	68	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.52	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4.018	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	1620	-	-	1547	-	0	926	824	1011	930	817	1082
Stage 1	-	-	-	-	-	0	956	845	-	1016	891	-
Stage 2	-	-	-	-	-	0	1016	891	-	954	839	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1620	-	-	1547	-	-	914	823	1011	903	816	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	914	823	-	903	816	-
Stage 1	-	-	-	-	-	-	956	845	-	1015	890	-
Stage 2	-	-	-	-	-	-	1004	890	-	928	839	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	3.67	8.98	9.26
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	932	1620	-	-	900	-	876
HCM Lane V/C Ratio	0.029	-	-	-	0.001	-	0.034
HCM Ctrl Dly (s/v)	9	0	-	-	7.3	0	9.3
HCM Lane LOS	A	A	-	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0.1

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	48	3	30	0	29	0	64	67	11	49	0
Future Vol, veh/h	27	48	3	30	0	29	0	64	67	11	49	0
Peak Hour Factor	0.88	0.88	0.88	0.93	0.93	0.93	0.72	0.72	0.72	0.75	0.75	0.75
Heavy Vehicles, %	0	0	33	0	0	4	0	0	5	0	0	0
Mvmt Flow	31	55	3	32	0	31	0	89	93	15	65	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	7.8	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	35%	51%	18%
Vol Thru, %	49%	62%	0%	82%
Vol Right, %	51%	4%	49%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	78	59	60
LT Vol	0	27	30	11
Through Vol	64	48	0	49
RT Vol	67	3	29	0
Lane Flow Rate	182	89	63	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.204	0.113	0.077	0.099
Departure Headway (Hd)	4.038	4.585	4.378	4.476
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	892	784	820	802
Service Time	2.05	2.602	2.397	2.492
HCM Lane V/C Ratio	0.204	0.114	0.077	0.1
HCM Control Delay, s/veh	8.1	8.2	7.8	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.4	0.2	0.3

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	22	50	69	44	161
Future Vol, veh/h	45	22	50	69	44	161
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	87	87	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	38	57	79	54	199

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	373	179	278	0	-	0
Stage 1	179	-	-	-	-	-
Stage 2	194	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	632	869	1296	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	574	849	1265	-	-	-
Mov Cap-2 Maneuver	574	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.84	3.35	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	756	-	642	-	-
HCM Lane V/C Ratio	0.045	-	0.18	-	-
HCM Ctrl Dly (s/v)	8	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	4	0	11	0	10	29	0	5
Future Vol, veh/h	0	0	0	0	4	0	11	0	10	29	0	5
Peak Hour Factor	0.92	0.92	0.92	0.38	0.38	0.38	0.58	0.58	0.58	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	11	0	19	0	17	39	0	7
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.9	7.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	85%
Vol Thru, %	0%	100%	0%
Vol Right, %	48%	0%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	21	4	34
LT Vol	11	0	29
Through Vol	0	4	0
RT Vol	10	0	5
Lane Flow Rate	36	11	45
Geometry Grp	1	1	1
Degree of Util (X)	0.038	0.012	0.051
Departure Headway (Hd)	3.77	4.04	4.027
Convergence, Y/N	Yes	Yes	Yes
Cap	952	884	892
Service Time	1.785	2.073	2.038
HCM Lane V/C Ratio	0.038	0.012	0.05
HCM Control Delay, s/veh	6.9	7.1	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	34	5	0	1	0	3	24	27	10	4	0
Future Vol, veh/h	0	34	5	0	1	0	3	24	27	10	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	25	25	25	73	73	73	90	90	90
Heavy Vehicles, %	2	0	0	0	0	2	0	2	15	2	2	2
Mvmt Flow	0	41	6	0	4	0	4	33	37	11	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	48	0	0	51	49	45	62	52	4
Stage 1	-	-	-	-	-	-	45	45	-	4	4	-
Stage 2	-	-	-	-	-	-	6	4	-	58	48	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.52	6.35	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4.018	3.435	3.518	4.018	3.318
Pot Cap-1 Maneuver	1618	-	-	1573	-	0	954	843	990	933	840	1080
Stage 1	-	-	-	-	-	0	975	858	-	1018	892	-
Stage 2	-	-	-	-	-	0	1021	892	-	954	855	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1618	-	-	1573	-	-	949	843	990	863	840	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	949	843	-	863	840	-
Stage 1	-	-	-	-	-	-	975	858	-	1018	892	-
Stage 2	-	-	-	-	-	-	1016	892	-	883	855	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	9.27	9.28
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	917	1618	-	-	1573	-	856
HCM Lane V/C Ratio	0.081	-	-	-	-	-	0.018
HCM Ctrl Dly (s/v)	9.3	0	-	-	0	-	9.3
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	0.1

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	43	7	72	1	16	0	70	130	19	89	0
Future Vol, veh/h	26	43	7	72	1	16	0	70	130	19	89	0
Peak Hour Factor	0.77	0.77	0.77	0.92	0.92	0.92	0.90	0.90	0.90	0.78	0.78	0.78
Heavy Vehicles, %	0	0	22	0	0	4	0	0	2	0	0	0
Mvmt Flow	34	56	9	78	1	17	0	78	144	24	114	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.6	8.7	8.6	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	34%	81%	18%
Vol Thru, %	35%	57%	1%	82%
Vol Right, %	65%	9%	18%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	200	76	89	108
LT Vol	0	26	72	19
Through Vol	70	43	1	89
RT Vol	130	7	16	0
Lane Flow Rate	222	99	97	138
Geometry Grp	1	1	1	1
Degree of Util (X)	0.256	0.132	0.131	0.179
Departure Headway (Hd)	4.152	4.83	4.872	4.65
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	864	740	733	770
Service Time	2.184	2.874	2.916	2.686
HCM Lane V/C Ratio	0.257	0.134	0.132	0.179
HCM Control Delay, s/veh	8.6	8.6	8.7	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.5	0.4	0.6

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	114	53	31	71	74	54
Future Vol, veh/h	114	53	31	71	74	54
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	88	88	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	178	83	35	81	83	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	138	169	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	705	915	1421	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	654	893	1387	-	-	-
Mov Cap-2 Maneuver	654	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	861	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.9	2.33	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	547	-	715	-	-
HCM Lane V/C Ratio	0.025	-	0.365	-	-
HCM Ctrl Dly (s/v)	7.7	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

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Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	2	0	7	0	18	41	0	0
Future Vol, veh/h	0	0	0	0	2	0	7	0	18	41	0	0
Peak Hour Factor	0.92	0.92	0.92	0.25	0.25	0.25	0.88	0.88	0.88	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	8	0	8	0	20	56	0	0
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.7	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	28%	0%	100%
Vol Thru, %	0%	100%	0%
Vol Right, %	72%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	25	2	41
LT Vol	7	0	41
Through Vol	0	2	0
RT Vol	18	0	0
Lane Flow Rate	28	8	56
Geometry Grp	1	1	1
Degree of Util (X)	0.028	0.009	0.065
Departure Headway (Hd)	3.579	4.046	4.135
Convergence, Y/N	Yes	Yes	Yes
Cap	1001	882	870
Service Time	1.596	2.08	2.141
HCM Lane V/C Ratio	0.028	0.009	0.064
HCM Control Delay, s/veh	6.7	7.1	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	45	12	1	1	0	1	3	16	1	0	0
Future Vol, veh/h	1	45	12	1	1	0	1	3	16	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	50	50	50	85	85	85	25	25	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	58	16	2	2	0	1	4	19	4	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	74	0	0	75	75	66	69	83	2
Stage 1	-	-	-	-	-	-	69	69	-	6	6	-
Stage 2	-	-	-	-	-	-	6	6	-	63	77	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1634	-	-	1538	-	-	920	819	1003	928	811	1088
Stage 1	-	-	-	-	-	-	946	842	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	953	835	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1634	-	-	1538	-	-	918	818	1003	905	810	1088
Mov Cap-2 Maneuver	-	-	-	-	-	-	918	818	-	905	810	-
Stage 1	-	-	-	-	-	-	946	841	-	1020	894	-
Stage 2	-	-	-	-	-	-	1020	894	-	931	834	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.12	3.67	8.82	8.99
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	966	30	-	-	900	-	-	905
HCM Lane V/C Ratio	0.024	0.001	-	-	0.001	-	-	0.004
HCM Ctrl Dly (s/v)	8.8	7.2	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	41	3	29	0	32	0	66	74	12	48	0
Future Vol, veh/h	21	41	3	29	0	32	0	66	74	12	48	0
Peak Hour Factor	0.88	0.88	0.88	0.93	0.93	0.93	0.72	0.72	0.72	0.75	0.75	0.75
Heavy Vehicles, %	0	0	33	0	0	4	0	0	5	0	0	0
Mvmt Flow	24	47	3	31	0	34	0	92	103	16	64	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.1	7.7	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	32%	48%	20%
Vol Thru, %	47%	63%	0%	80%
Vol Right, %	53%	5%	52%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	65	61	60
LT Vol	0	21	29	12
Through Vol	66	41	0	48
RT Vol	74	3	32	0
Lane Flow Rate	194	74	66	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.216	0.094	0.079	0.099
Departure Headway (Hd)	3.996	4.599	4.355	4.458
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	902	781	824	806
Service Time	2.006	2.618	2.375	2.472
HCM Lane V/C Ratio	0.215	0.095	0.08	0.099
HCM Control Delay, s/veh	8.1	8.1	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.3	0.3

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	23	52	65	43	174
Future Vol, veh/h	47	23	52	65	43	174
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	87	87	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	81	40	60	75	53	215

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	380	185	293	0	-	0
Stage 1	185	-	-	-	-	-
Stage 2	194	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	626	862	1280	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	567	841	1250	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.99	3.57	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	800	-	635	-	-
HCM Lane V/C Ratio	0.048	-	0.19	-	-
HCM Ctrl Dly (s/v)	8	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	5	0	12	0	11	33	0	6
Future Vol, veh/h	0	0	0	0	5	0	12	0	11	33	0	6
Peak Hour Factor	0.92	0.92	0.92	0.38	0.38	0.38	0.58	0.58	0.58	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	13	0	21	0	19	44	0	8
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.2	7	7.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	85%
Vol Thru, %	0%	100%	0%
Vol Right, %	48%	0%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	23	5	39
LT Vol	12	0	33
Through Vol	0	5	0
RT Vol	11	0	6
Lane Flow Rate	40	13	52
Geometry Grp	1	1	1
Degree of Util (X)	0.042	0.015	0.058
Departure Headway (Hd)	3.779	4.057	4.03
Convergence, Y/N	Yes	Yes	Yes
Cap	949	879	891
Service Time	1.795	2.094	2.042
HCM Lane V/C Ratio	0.042	0.015	0.058
HCM Control Delay, s/veh	7	7.2	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	37	6	0	1	0	3	0	29	15	3	0
Future Vol, veh/h	0	37	6	0	1	0	3	0	29	15	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	25	25	25	73	73	73	50	50	50
Heavy Vehicles, %	0	0	0	0	0	0	0	0	15	0	0	0
Mvmt Flow	0	45	7	0	4	0	4	0	40	30	6	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	52	0	0	56	53	49	49	56	4
Stage 1	-	-	-	-	-	-	49	49	-	4	4	-
Stage 2	-	-	-	-	-	-	7	4	-	45	52	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.35	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.435	3.5	4	3.3
Pot Cap-1 Maneuver	1631	-	-	1566	-	-	947	842	984	956	839	1085
Stage 1	-	-	-	-	-	-	970	858	-	1024	897	-
Stage 2	-	-	-	-	-	-	1020	897	-	974	855	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1631	-	-	1566	-	-	940	842	984	917	839	1085
Mov Cap-2 Maneuver	-	-	-	-	-	-	940	842	-	917	839	-
Stage 1	-	-	-	-	-	-	970	858	-	1024	897	-
Stage 2	-	-	-	-	-	-	1013	897	-	935	855	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	8.85	9.15
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	980	1631	-	-	1566	-	-	903
HCM Lane V/C Ratio	0.045	-	-	-	-	-	-	0.04
HCM Ctrl Dly (s/v)	8.8	0	-	-	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	48	10	69	1	18	0	73	142	21	86	0
Future Vol, veh/h	28	48	10	69	1	18	0	73	142	21	86	0
Peak Hour Factor	0.77	0.77	0.77	0.92	0.92	0.92	0.90	0.90	0.90	0.78	0.78	0.78
Heavy Vehicles, %	0	0	22	0	0	4	0	0	2	0	0	0
Mvmt Flow	36	62	13	75	1	20	0	81	158	27	110	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	8.7	8.8	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	33%	78%	20%
Vol Thru, %	34%	56%	1%	80%
Vol Right, %	66%	12%	20%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	86	88	107
LT Vol	0	28	69	21
Through Vol	73	48	1	86
RT Vol	142	10	18	0
Lane Flow Rate	239	112	96	137
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.15	0.13	0.179
Departure Headway (Hd)	4.177	4.847	4.906	4.705
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	858	737	728	761
Service Time	2.211	2.895	2.956	2.745
HCM Lane V/C Ratio	0.279	0.152	0.132	0.18
HCM Control Delay, s/veh	8.8	8.8	8.7	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.5	0.4	0.6

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	122	56	34	76	72	57
Future Vol, veh/h	122	56	34	76	72	57
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	88	88	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	191	88	39	86	81	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	302	138	170	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	164	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	694	916	1420	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	870	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	642	894	1386	-	-	-
Mov Cap-2 Maneuver	642	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	850	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.4	2.37	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	556	-	705	-	-
HCM Lane V/C Ratio	0.028	-	0.395	-	-
HCM Ctrl Dly (s/v)	7.7	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.9	-	-

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Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	2	0	7	0	18	40	0	0
Future Vol, veh/h	0	0	0	0	2	0	7	0	18	40	0	0
Peak Hour Factor	0.92	0.92	0.92	0.25	0.25	0.25	0.88	0.88	0.88	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	8	0	8	0	20	55	0	0
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.1	6.7	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	28%	0%	100%
Vol Thru, %	0%	100%	0%
Vol Right, %	72%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	25	2	40
LT Vol	7	0	40
Through Vol	0	2	0
RT Vol	18	0	0
Lane Flow Rate	28	8	55
Geometry Grp	1	1	1
Degree of Util (X)	0.028	0.009	0.063
Departure Headway (Hd)	3.579	4.044	4.135
Convergence, Y/N	Yes	Yes	Yes
Cap	1002	883	870
Service Time	1.594	2.077	2.141
HCM Lane V/C Ratio	0.028	0.009	0.063
HCM Control Delay, s/veh	6.7	7.1	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	45	12	1	1	0	1	8	16	19	8	0
Future Vol, veh/h	0	45	12	1	1	0	1	8	16	19	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	50	50	50	85	85	85	90	90	90
Heavy Vehicles, %	2	0	0	0	0	2	0	2	0	2	2	2
Mvmt Flow	0	58	16	2	2	0	1	9	19	21	9	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	74	0	0	77	72	66	69	80	2
Stage 1	-	-	-	-	-	-	66	66	-	6	6	-
Stage 2	-	-	-	-	-	-	10	6	-	63	74	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.52	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4.018	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	1620	-	-	1538	-	0	918	818	1003	923	810	1082
Stage 1	-	-	-	-	-	0	949	840	-	1016	891	-
Stage 2	-	-	-	-	-	0	1016	891	-	948	833	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1620	-	-	1538	-	-	906	817	1003	894	809	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	906	817	-	894	809	-
Stage 1	-	-	-	-	-	-	949	840	-	1015	890	-
Stage 2	-	-	-	-	-	-	1004	890	-	920	833	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	3.67	8.99	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	931	1620	-	-	900	-	867
HCM Lane V/C Ratio	0.032	-	-	-	0.001	-	0.035
HCM Ctrl Dly (s/v)	9	0	-	-	7.3	0	9.3
HCM Lane LOS	A	A	-	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0.1

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	51	3	32	0	32	0	66	74	12	51	0
Future Vol, veh/h	29	51	3	32	0	32	0	66	74	12	51	0
Peak Hour Factor	0.88	0.88	0.88	0.93	0.93	0.93	0.72	0.72	0.72	0.75	0.75	0.75
Heavy Vehicles, %	0	0	33	0	0	4	0	0	5	0	0	0
Mvmt Flow	33	58	3	34	0	34	0	92	103	16	68	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.3	7.8	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	35%	50%	19%
Vol Thru, %	47%	61%	0%	81%
Vol Right, %	53%	4%	50%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	83	64	63
LT Vol	0	29	32	12
Through Vol	66	51	0	51
RT Vol	74	3	32	0
Lane Flow Rate	194	94	69	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.219	0.121	0.084	0.105
Departure Headway (Hd)	4.058	4.629	4.415	4.517
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	887	775	812	795
Service Time	2.074	2.651	2.438	2.537
HCM Lane V/C Ratio	0.219	0.121	0.085	0.106
HCM Control Delay, s/veh	8.2	8.3	7.8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.4	0.3	0.4

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	23	52	73	46	174
Future Vol, veh/h	47	23	52	73	46	174
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	87	87	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	81	40	60	84	57	215

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	393	189	297	0	-	0
Stage 1	189	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	616	858	1276	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	557	837	1246	-	-	-
Mov Cap-2 Maneuver	557	-	-	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.12	3.34	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	749	-	626	-	-
HCM Lane V/C Ratio	0.048	-	0.193	-	-
HCM Ctrl Dly (s/v)	8	0	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	5	0	12	0	11	33	0	6
Future Vol, veh/h	0	0	0	0	5	0	12	0	11	33	0	6
Peak Hour Factor	0.92	0.92	0.92	0.38	0.38	0.38	0.58	0.58	0.58	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	13	0	21	0	19	44	0	8
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay, s/veh	7.2	7	7.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	52%	0%	85%
Vol Thru, %	0%	100%	0%
Vol Right, %	48%	0%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	23	5	39
LT Vol	12	0	33
Through Vol	0	5	0
RT Vol	11	0	6
Lane Flow Rate	40	13	52
Geometry Grp	1	1	1
Degree of Util (X)	0.042	0.015	0.058
Departure Headway (Hd)	3.779	4.057	4.03
Convergence, Y/N	Yes	Yes	Yes
Cap	949	879	891
Service Time	1.795	2.094	2.042
HCM Lane V/C Ratio	0.042	0.015	0.058
HCM Control Delay, s/veh	7	7.2	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.2

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	6	0	1	0	3	24	29	12	4	0
Future Vol, veh/h	0	37	6	0	1	0	3	24	29	12	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	25	25	25	73	73	73	90	90	90
Heavy Vehicles, %	2	0	0	0	0	2	0	2	15	2	2	2
Mvmt Flow	0	45	7	0	4	0	4	33	40	13	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	52	0	0	55	53	49	66	56	4
Stage 1	-	-	-	-	-	-	49	49	-	4	4	-
Stage 2	-	-	-	-	-	-	6	4	-	62	52	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.52	6.35	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4.018	3.435	3.518	4.018	3.318
Pot Cap-1 Maneuver	1618	-	-	1566	-	0	948	839	984	928	835	1080
Stage 1	-	-	-	-	-	0	970	854	-	1018	892	-
Stage 2	-	-	-	-	-	0	1021	892	-	950	851	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1618	-	-	1566	-	-	943	839	984	856	835	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	943	839	-	856	835	-
Stage 1	-	-	-	-	-	-	970	854	-	1018	892	-
Stage 2	-	-	-	-	-	-	1016	892	-	876	851	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	9.3	9.32
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	914	1618	-	-	1566	-	850
HCM Lane V/C Ratio	0.084	-	-	-	-	-	0.021
HCM Ctrl Dly (s/v)	9.3	0	-	-	0	-	9.3
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	0.1

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	47	8	79	1	18	0	73	143	21	93	0
Future Vol, veh/h	28	47	8	79	1	18	0	73	143	21	93	0
Peak Hour Factor	0.77	0.77	0.77	0.92	0.92	0.92	0.90	0.90	0.90	0.78	0.78	0.78
Heavy Vehicles, %	0	0	22	0	0	4	0	0	2	0	0	0
Mvmt Flow	36	61	10	86	1	20	0	81	159	27	119	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	8.9	8.9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	34%	81%	18%
Vol Thru, %	34%	57%	1%	82%
Vol Right, %	66%	10%	18%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	216	83	98	114
LT Vol	0	28	79	21
Through Vol	73	47	1	93
RT Vol	143	8	18	0
Lane Flow Rate	240	108	107	146
Geometry Grp	1	1	1	1
Degree of Util (X)	0.281	0.147	0.146	0.192
Departure Headway (Hd)	4.212	4.906	4.948	4.729
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	852	728	721	757
Service Time	2.248	2.959	3.002	2.772
HCM Lane V/C Ratio	0.282	0.148	0.148	0.193
HCM Control Delay, s/veh	8.9	8.8	8.9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.5	0.5	0.7

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	122	56	33	77	79	57
Future Vol, veh/h	122	56	33	77	79	57
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	88	88	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	191	88	38	88	89	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	308	146	178	0	-	0
Stage 1	146	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	688	907	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	637	885	1377	-	-	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.52	2.31	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	540	-	699	-	-
HCM Lane V/C Ratio	0.027	-	0.398	-	-
HCM Ctrl Dly (s/v)	7.7	0	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.9	-	-

SUDBURY STREET

ROCK STREET

CONCRETE STAIRS

DRIVER'S EYE LOCATION

14.5'

115' SIGHT DISTANCE

HANOVER STREET

NOTES:
1. THIS PLAN IS FOR REVIEW PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION.
2. BASE PLAN INFORMATION OBTAINED FROM GOOGLE EARTH.
3. NO OBJECTS SHALL BE PLACED WITH IN THE SIGHT TRIANGLE AREAS THAT WOULD EXCEED 2.5 FEET IN HEIGHT.
4. SNOW ACCUMULATIONS (WINDROWS) THAT EXCEED 3.5 FEET IN HEIGHT WILL BE PROMPTLY REMOVED.

0 20 40 Scale in Feet

Vanasse & Associates inc

Sight Triangle Plan
Hanover Street at Site Driveway

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OPEN SPACE CALCULATIONS			
AREA	GREEN SPACE	SIDEWALK	OPEN SPACE
A	1,058 S.F.	719 S.F.	1,777 S.F.
B	393 S.F.	294 S.F.	687 S.F.
TOTAL	1,451 S.F.	1,013 S.F.	2,464 S.F.

LOT SIZE: 38,528. TOTAL OPEN SPACE: 2,464 S.F.
2,464 S.F./38,528 = 6.4% – 5% IS REQUIRED

OPEN SPACE=6.4%

NORTH
NADB3(2011)
GRID
NHSPC

STATE OF NEW HAMPSHIRE
No. 738
JOHN R. CHAGNON
LICENSED LAND SURVEYOR
SIGNATURE

11

GREEN SPACE 108 S.F.
GREEN SPACE 208 S.F.
GREEN SPACE 105 S.F.
5'
SIDEWALK 206 S.F.
8'
SIDEWALK 397 S.F.
GREEN SPACE 64 S.F.
GREEN SPACE 386 S.F.
GREEN SPACE 156 S.F.
GREEN SPACE 31 S.F.
SIDEWALK 116 S.F.
SIDEWALK 34 S.F.
GREEN SPACE 112 S.F.
SIDEWALK 260 S.F.
GREEN SPACE 58 S.F.
6'
6'
GREEN SPACE 59 S.F.
GREEN SPACE 80 S.F.
GREEN SPACE 84 S.F.
#349

ROCK STREET
(PUBLIC RIGHT OF WAY)

OPEN SPACE EXHIBIT

SCALE: 1"=20'

REV: JUNE
JANUARY 2025

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

GRAPHIC SCALE
10 0 10 20 30 40 50 FEET
3 0 5 10 15 METERS

HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

FB 444 PG 1

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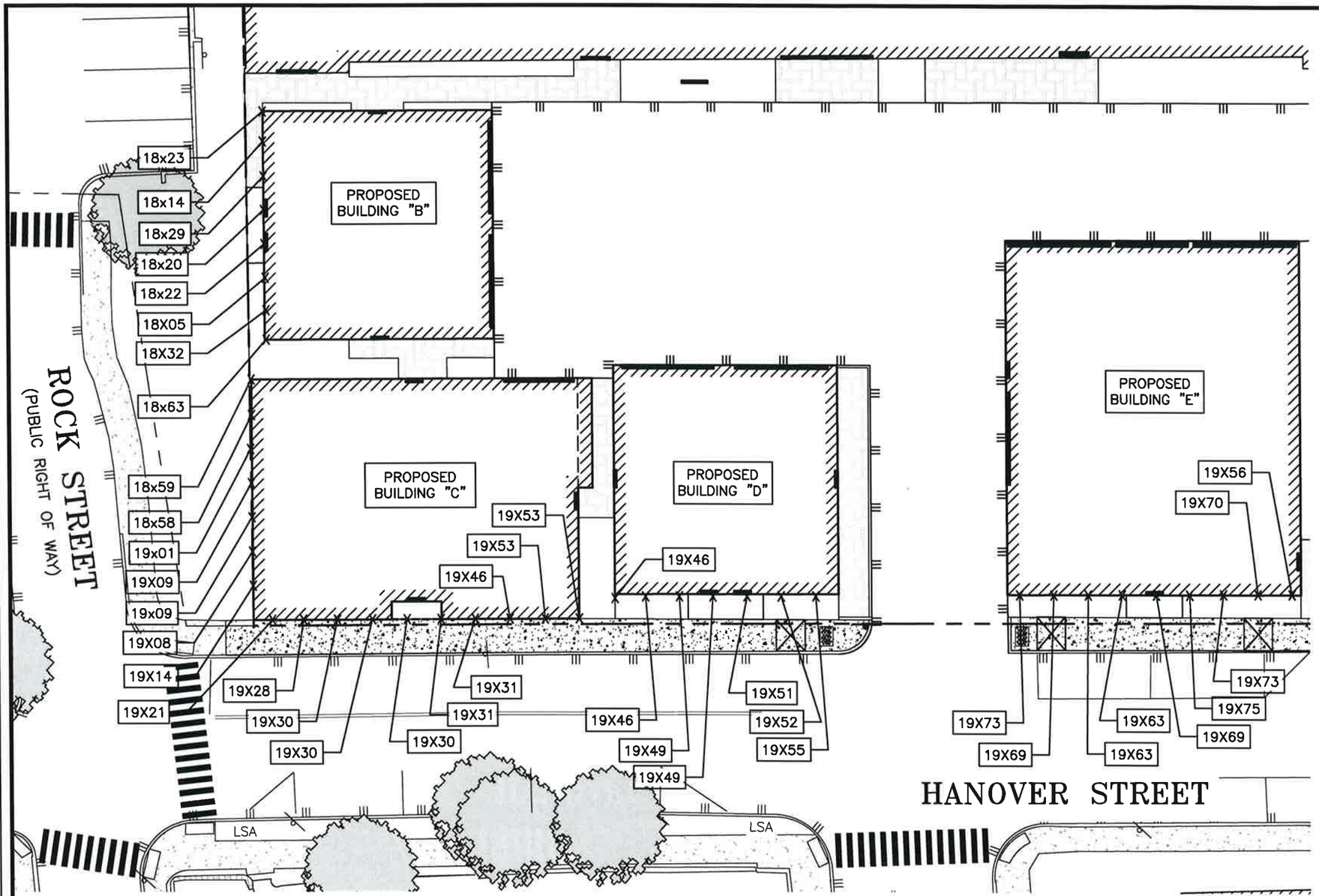
ZONING DEVELOPMENT STANDARD

CD5: CHARACTER DISTRICT 5, DOD: DOWNTOWN OVERLAY DISTRICT

	REQUIRED	EXISTING	PROPOSED - Building A	PROPOSED - Building B	PROPOSED - Building C	PROPOSED - Building D	PROPOSED - Building E
Height	2-3 stories 40'	2 Stories/ 18' +/-	3 stories with attic/ 40'	3 stories / 36'	3 stories / 36'	3 stories / 36'	3 stories with attic/ 40'
Penthouses	may exceed bldg height by 2'	N/A	N/A	N/A	N/A	N/A	N/A
Roof appurtenance	may exceed bldg height by 10'	<10'	<10'	No	<10'	No	<10'
Façade Types		N/A	N/A	N/A	N/A	N/A	N/A
Building Types	commercial, live-work, mixed use, flex space & community.	Commerical	Apartment	Duplex	Duplex	Duplex	Apartment
Front (principle) max S/B	5	99'	99'	0'	52'	5'	5'
Front (secondary) max S/B	5	0'	0'	N/A	N/A	N/A	N/A
Side S/B	NR	NR	NR	NR	NR	NR	NR
Rear yard S/B	5'	N/A	N/A	>5'	>5'	>5'	>5'
Front lotline buildout	80% min	100%	N/A	N/A	80%	80%	80%
Lot area (sf)	NR	N/A	N/A	N/A	N/A	N/A	N/A
LOT area per dwelling	NR	N/A	N/A	N/A	N/A	N/A	N/A
Building coverage, maximum	95%	38%	46.9%	4.1%	6.3%	4.1%	8.3%
Maximum building footprint	20,000	14,808	18,082	1,600	2,439	1,580	3,193
Ground floor area per use, max	15,000	14,808	<15,000	642	250	630	713
Open space, minimum	5%	<5%	>5%	>5%	>5%	>5%	>5%
Permitted uses		Commercial	Residential	Residential	Residential	Residential	Residential
Block length, max (ft)	225	205'	205'	N/A	60'	39.5'	51.5'
Façade modulation length, max (ft)	100	205	65	N/A	24'	39.25'	51.5'
Entrance spacing, max (ft)	50	>50'	50	N/A	28.5'	19.6'	25.75'
Floor height above sidewalk, max	36"	0'	N/A	N/A	24"	15"	18"
Ground story height, min	12'	10'	10.5'	12'	12'	12'	12'
Second story height, min	10'	10'	10.5'	11'	11'	11'	11'
Glazing, shopfront, min	70%	N/A	N/A	N/A	N/A	N/A	N/A
Glazing, other	20%-50%	>20%	>20%	>20%	>20%	>20%	>20%
Roof types	flat, gable, hip, gambrel, mansard	Flat	Mansard	Hip	Gambrel	Mansard	Mansard

S/B = Setback

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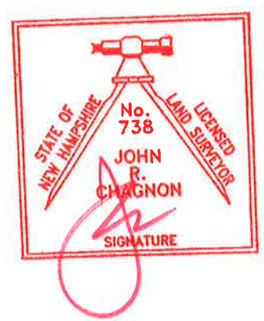


EXISTING AVERAGE GRADE PLANE

EXISTING AVERAGE GRADE

	BLDG. B	BLDG. C	BLDG. D	BLDG. E
	18.23	18.59	19.46	19.73
	18.14	18.58	19.46	19.69
	18.29	19.01	19.49	19.63
	18.20	19.09	19.49	19.63
	18.22	19.09	19.51	19.69
	18.05	19.08	19.52	19.75
	18.32	19.14	19.55	19.73
	18.63	19.21		19.70
		19.28		19.56
		19.30		
		19.30		
		19.30		
		19.31		
		19.31		
		19.46		
		19.53		
		19.53		
TOTAL	146.08	326.11	136.48	177.11
/# GRADES	146.08/8	326.11/17	136.48/7	177.11/9
AVG. GRADE	18.26	19.18	19.50	19.68

*SPOT GRADES TAKEN AT POINTS 6' ON CENTER ALONG PROPOSED BUILDING FOOTPRINTS.



SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

GRAPHIC SCALE
10 0 10 20 30 40 50 FEET
3 0 5 10 15 METERS

NORTH
NAD83(2011)
GRID
NHSPC

SCALE: 1"=20'

REV: JULY 2025
MAY 2025

HALEYWARD
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200 Griffin Rd. Unit 14
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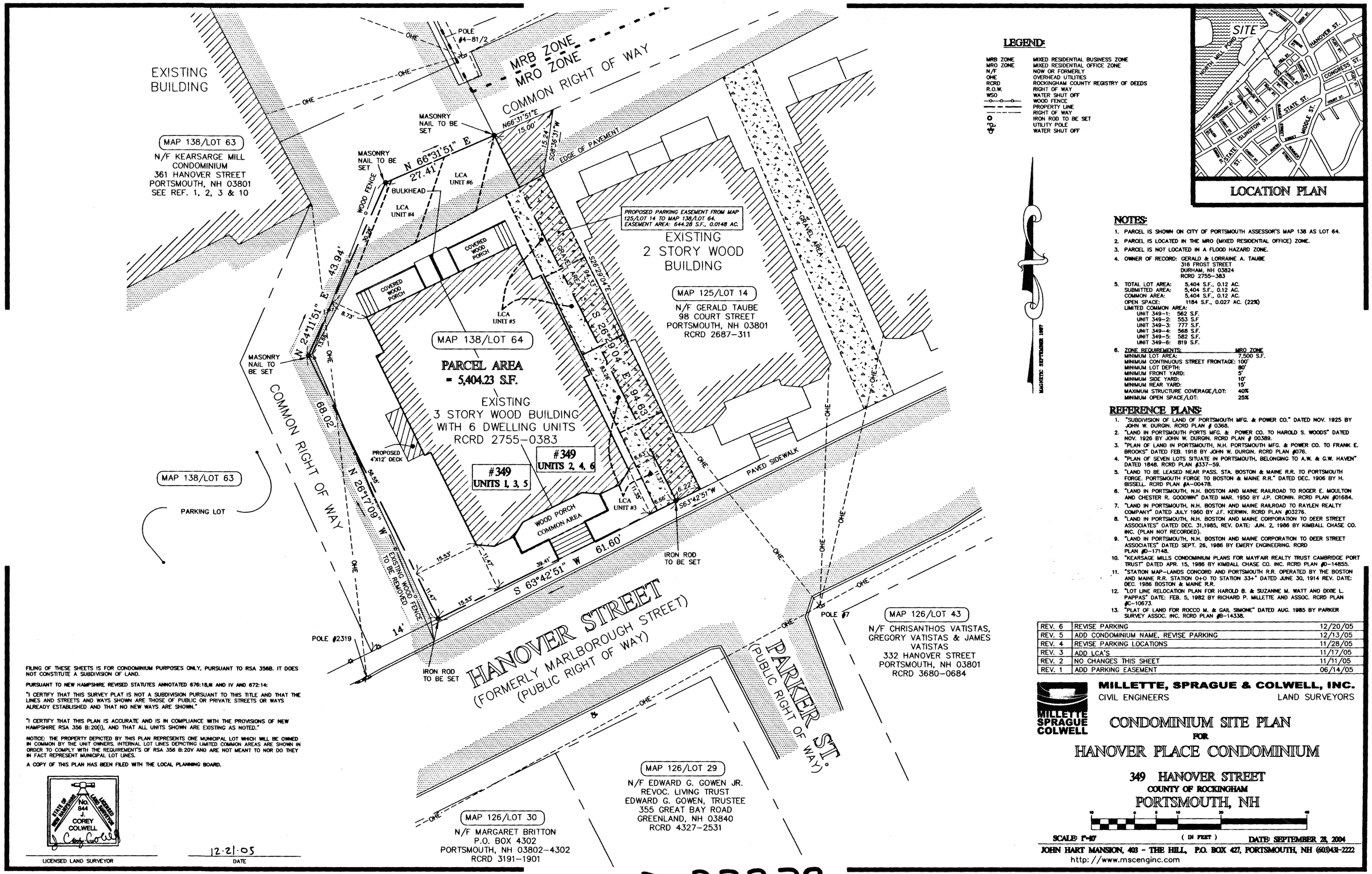
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094176



LEGEND:

MRB ZONE	MIXED RESIDENTIAL BUSINESS ZONE
MRO ZONE	MIXED RESIDENTIAL OFFICE ZONE
N/F	NOW OR FORMERLY
OHE	OVERHEAD UTILITIES
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
R.O.W.	RIGHT OF WAY
WSO	WATER SHUT OFF
-o-o-o-	WOOD FENCE
	PROPERTY LINE
	RIGHT OF WAY
O	IRON ROD TO BE SET
	UTILITY POLE
	WATER SHUT OFF

LOCATION PLAN

MAGNETIC SEPTEMBER 1997

NOTES:

1. PARCEL IS SHOWN ON CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 64.
2. PARCEL IS LOCATED IN THE MRO (MIXED RESIDENTIAL OFFICE) ZONE.
3. PARCEL IS NOT LOCATED IN A FLOOD HAZARD ZONE.
4. OWNER OF RECORD: GERALD & LORRAINE A. TAUBE
   316 FROST STREET
   DURHAM, NH 03824
   RCRD 2755-383
5. TOTAL LOT AREA: 5,404 S.F., 0.12 AC.
   SUBMITTED AREA: 5,404 S.F., 0.12 AC.
   COMMON AREA: 5,404 S.F., 0.12 AC.
   OPEN SPACE: 1184 S.F., 0.027 AC. (22%)
   LIMITED COMMON AREA:
   UNIT 349-1: 562 S.F.
   UNIT 349-2: 553 S.F.
   UNIT 349-3: 777 S.F.
   UNIT 349-4: 568 S.F.
   UNIT 349-5: 582 S.F.
   UNIT 349-6: 819 S.F.
6. ZONE REQUIREMENTS: MRO ZONE

MINIMUM LOT AREA:	7,500 S.F.
MINIMUM CONTINUOUS STREET FRONTAGE:	100'
MINIMUM LOT DEPTH:	80'
MINIMUM FRONT YARD:	5'
MINIMUM SIDE YARD:	10'
MINIMUM REAR YARD:	15'
MAXIMUM STRUCTURE COVERAGE/LOT:	40%
MINIMUM OPEN SPACE/LOT:	25%

REFERENCE PLANS:

1. "SUBDIVISION OF LAND OF PORTSMOUTH MFG. & POWER CO." DATED NOV. 1925 BY JOHN W. DURGIN. RCRD PLAN # 0368.
2. "LAND IN PORTSMOUTH PORTS MFG. & POWER CO. TO HAROLD S. WOODS" DATED NOV. 1926 BY JOHN W. DURGIN. RCRD PLAN # 00389.
3. "PLAN OF LAND IN PORTSMOUTH, N.H. PORTSMOUTH MFG. & POWER CO. TO FRANK E. BROOKS" DATED FEB. 1918 BY JOHN W. DURGIN. RCRD PLAN #076.
4. "PLAN OF SEVEN LOTS SITUATE IN PORTSMOUTH, BELONGING TO A.W. & G.W. HAVEN" DATED 1848. RCRD PLAN #337-59.
5. "LAND TO BE LEASED NEAR PASS. STA. BOSTON & MAINE R.R. TO PORTSMOUTH FORGE. PORTSMOUTH FORGE TO BOSTON & MAINE R.R." DATED DEC. 1906 BY H. BISSELL. RCRD PLAN #A-00478.
6. "LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO ROGER E. MOULTON AND CHESTER R. GOODWIN" DATED MAR. 1950 BY J.P. CRONIN. RCRD PLAN #01684.
7. "LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO RAYLEN REALTY COMPANY" DATED JULY 1960 BY J.F. KERWIN. RCRD PLAN #03276.
8. "LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE CORPORATION TO DEER STREET ASSOCIATES" DATED DEC. 31,1985, REV. DATE: JUN. 2, 1986 BY KIMBALL CHASE CO. INC. (PLAN NOT RECORDED).
9. "LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE CORPORATION TO DEER STREET ASSOCIATES" DATED SEPT. 26, 1986 BY EMERY ENGINEERING. RCRD PLAN #D-17148.
10. "KEARSAGE MILLS CONDOMINIUM PLANS FOR MAYFAIR REALTY TRUST CAMBRIDGE PORT TRUST" DATED APR. 15, 1986 BY KIMBALL CHASE CO. INC. RCRD PLAN #D-14855.
11. "STATION MAP-LANDS CONCORD AND PORTSMOUTH R.R. OPERATED BY THE BOSTON AND MAINE R.R. STATION O+O TO STATION 33+" DATED JUNE 30, 1914 REV. DATE: DEC. 1986 BOSTON & MAINE R.R.
12. "LOT LINE RELOCATION PLAN FOR HAROLD B. & SUZANNE M. WATT AND DIXIE L. PAPPAS" DATE: FEB. 5, 1982 BY RICHARD P. MILLETTE AND ASSOC. RCRD PLAN #C-10673.
13. "PLAT OF LAND FOR ROCCO M. & GAIL SIMONE" DATED AUG. 1985 BY PARKER SURVEY ASSOC. INC. RCRD PLAN #B-14338.

REV. 6	REVISE PARKING	12/20/05
REV. 5	ADD CONDOMINIUM NAME, REVISE PARKING	12/13/05
REV. 4	REVISE PARKING LOCATIONS	11/28/05
REV. 3	ADD LCA'S	11/17/05
REV. 2	NO CHANGES THIS SHEET	11/11/05
REV. 1	ADD PARKING EASEMENT	06/14/05

FILING OF THESE SHEETS IS FOR CONDOMINIUM PURPOSES ONLY, PURSUANT TO RSA 356B. IT DOES NOT CONSTITUTE A SUBDIVISION OF LAND.

PURSUANT TO NEW HAMPSHIRE REVISED STATUTES ANNOTATED 676:18,III AND IV AND 672:14:

"I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES AND STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN."

"I CERTIFY THAT THIS PLAN IS ACCURATE AND IS IN COMPLIANCE WITH THE PROVISIONS OF NEW HAMPSHIRE RSA 356 B:20(I), AND THAT ALL UNITS SHOWN ARE EXISTING AS NOTED."

NOTICE: THE PROPERTY DEPICTED BY THIS PLAN REPRESENTS ONE MUNICIPAL LOT WHICH WILL BE OWNED IN COMMON BY THE UNIT OWNERS. INTERNAL LOT LINES DEPICTING LIMITED COMMON AREAS ARE SHOWN IN ORDER TO COMPLY WITH THE REQUIREMENTS OF RSA 356 B:20V AND ARE NOT MEANT TO NOR DO THEY IN FACT REPRESENT MUNICIPAL LOT LINES.

A COPY OF THIS PLAN HAS BEEN FILED WITH THE LOCAL PLANNING BOARD.

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 844 J. COREY COLWELL

LICENSED LAND SURVEYOR

12.21.05
DATE

MILLETTE, SPRAGUE & COLWELL, INC.
CIVIL ENGINEERS LAND SURVEYORS

MILLETTE SPRAGUE COLWELL

CONDOMINIUM SITE PLAN
FOR
HANOVER PLACE CONDOMINIUM

349 HANOVER STREET
COUNTY OF ROCKINGHAM
PORTSMOUTH, NH

10 0 5 10 20 40
SCALE: 1"=10' (IN FEET) DATE: SEPTEMBER 28, 2004

JOHN HART MANSION, 403 - THE HILL, P.O. BOX 427, PORTSMOUTH, NH (603)431-2222
http://www.mscenginc.com

D-33379

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<04148CSP>

SHEET 1 OF 3

04148

PROPOSED DEVELOPMENT

361 HANOVER STREET

PORTSMOUTH, NEW HAMPSHIRE

SITE PERMIT PLANS

OWNER/APPLICANT:
361 HANOVER STEAM FACTORY, LLC
41 INDUSTRIAL DRIVE UNIT 20
EXETER, NH 03833
TEL. (603) 778–9999

CIVIL ENGINEER/LAND SURVEYOR:
HALEY WARD, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801
TEL. (603) 430–9282

ARCHITECT:
SCOTT BROWN
29 WATER STREET, SUITE 209
NEWBURYPORT, MA 01950
TEL. (978) 465–3535

PLANNING CONSULTANT:
NICHOLAS CRACKNELL
TEL. (978) 270–4789

LAND USE ATTORNEY:
BOSEN & ASSOCIATES
266 MIDDLE STREET
PORTSMOUTH, N.H. 03801
TEL. (603) 427–5500

PERMIT LIST:
PORTSMOUTH ZONING BOARD: APPROVED 19 FEBRUARY 2025
PORTSMOUTH SITE REVIEW: PENDING

SITE EXCAVATION NOTE:

ARCHAEOLOGIST SHALL BE IDENTIFIED AND HIRED TO BE ON CALL FOR THE DURATION OF THE PROJECT IN CASE EVIDENCE OF A BURIAL GROUND IS DISCOVERED.

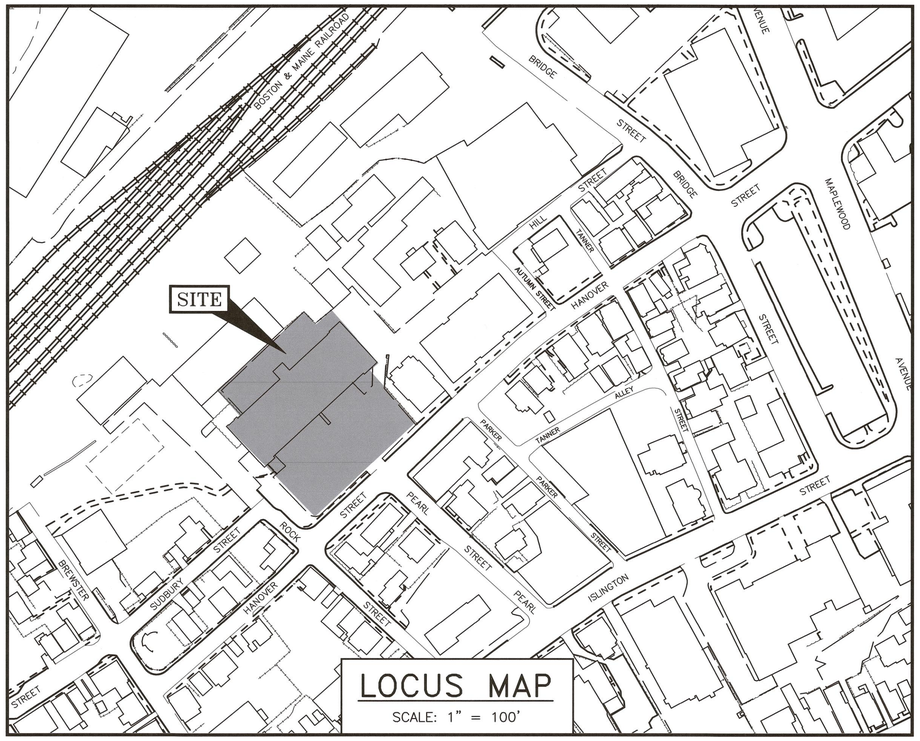
SITE EVACUATION SHALL FOLLOW PROCEDURES AS OUTLINED IN THE FOLLOWING STATUTES:

RSA 227–C:8–A DISCOVERY OF REMAINS AND NOTIFICATION OF AUTHORITIES (CONSTRUCTION SITES).

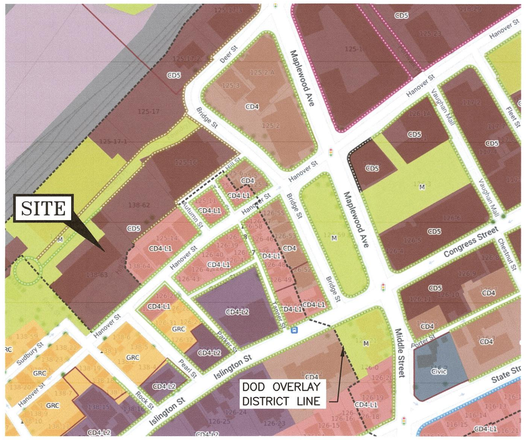
RSA 289:3 CEMETERIES–LOCATIONS (25 FEET FROM KNOWN CEMETERY LOCATION).

IF REMAINS ARE ENCOUNTERED CONTACT:

MARK DOPERALSKI
STATE ARCHAEOLOGIST
DIVISION OF HISTORICAL RESOURCES
NH DEPARTMENT OF NATURAL AND CULTURAL RESOURCES
172 PEMBROKE ROAD
CONCORD, NH 03301
http://www.nh.gov/nhdhr



LOCUS MAP
SCALE: 1" = 100'



MAP 10.5A21A
CHARACTER DISTRICTS AND CIVIC DISTRICTS

Character Districts
- CD5 Character District 5
- CD4 Character District 4
- CD4-W Character District 4-W
- CD4-L1 Character District 4-L1
- CD4-L2 Character District 4-L2

Civic District
- Civic District

Municipal District
- Municipal District

Overlay Districts
- OLOD Osprey Landing Overlay District
- Downtown Overlay District
- Historic District

MAP 10.5A21B
BUILDING HEIGHT STANDARDS

Height requirement area	Maximum building height*
1 Story	20'
2 Stories	35'
2 Stories (short 3rd*)	35'
2-3 Stories	40'
2-3 Stories (short 4th*)	45'
2-4 Stories	50'
2-4 Stories (short 5th*)	60'
2-5 Stories	60'

*Penthouse Levels may exceed the building height by 2 feet.

INDEX OF SHEETS

DWG NO.	
–	SUBDIVISION PLAN
–	EASEMENT PLAN
O1	ORTHOPHOTO PLAN
C1	EXISTING CONDITIONS PLAN
C2	DEMOLITION PLAN
C3	SITE PLAN
L1–L3	LANDSCAPE PLANS
C4	UTILITY PLAN
C5	GRADING PLAN
C6	ROOF DRAINAGE PLAN
C7	LIGHTING PLAN
C8	PARKING PLAN
T2	FIRE TRUCK TURNING TEMPLATE
–	ARCHITECTURAL PLANS
D1–D5	DETAILS

UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436–7708, Ext. 555.5678
ATTN: NICHOLAS KOSKO

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 294–5144
ATTN: DAVE BEAULIEU

CABLE:
COMCAST
155 COMMERCE WAY
PORTSMOUTH, N.H. 03801
Tel. (603) 679–5695 (X1037)
ATTN: MIKE COLLINS

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 427–1530
ATTN: DOUG SPARKS

COMMUNICATIONS:
CONSOLIDATED COMMUNICATIONS
BENJAMIN WILLS
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427–5525

DIG SAFE
– ME – NH – RI – VT
1–888–344–7233
CALL TOLL FREE

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
	UD	FOUNDATION DRAIN
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97×3	98×0	SPOT ELEVATION
		UTILITY POLE
		WALL MOUNTED EXTERIOR LIGHTS
		TRANSFORMER ON CONCRETE PAD
		ELECTRIC HANDHOLD
		SHUT OFFS (WATER/GAS)
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
S	SMH	SEWER MANHOLE
D	DMH	DRAIN MANHOLE
T	TMH	TELEPHONE MANHOLE
14	14	PARKING SPACE COUNT
PM		PARKING METER
LSA		LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	–	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

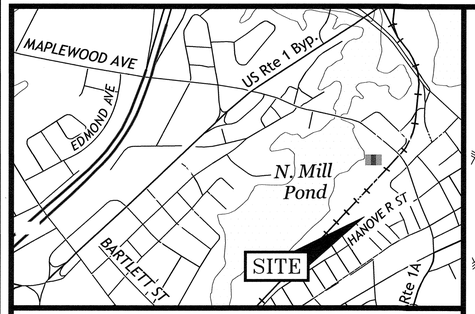
SITE PERMIT PLANS
PROPOSED DEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd, Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

PLAN SET SUBMITTAL DATE: 30 JULY 2025

50101.35.2977.01

P:\50\50101.35-Hampshire_Development\2977.01-Hanover St., Portsmouth, NH\CIVIL\2977.01-Site Plan\Plans & Specs\Site\2977.01 Cover Site Permit.dwg, 7/28/2025 11:18:53 AM



LOCATION MAP SCALE: 1" = 1000'

PLAN REFERENCES:

1) "PLAN OF LAND IN PORTSMOUTH, N.H. PORTSMOUTH MFG & POWER CO. TO FRANKIE BROOKS" BY JOHN W. DURGIN. DA TED FEBRUARY 191B. RCRD PLAN 078.

2) "SUBDIVISION OF LAND OF PORTSMOUTH MFG. & POWER CO. PORTSMOUTH, N.H." BY JOHN W. DURGIN. DATED NOVEMBER 1925. RCRD PLAN #36B.

3) "LAND IN PORTSMOUTH, N.H. PORTS. MFG. & POWER CO. TO HAROLD S. WOODS" BY JOHN W. DURGIN. DATED NOVEMBER 1926. RCRD PLAN #389.

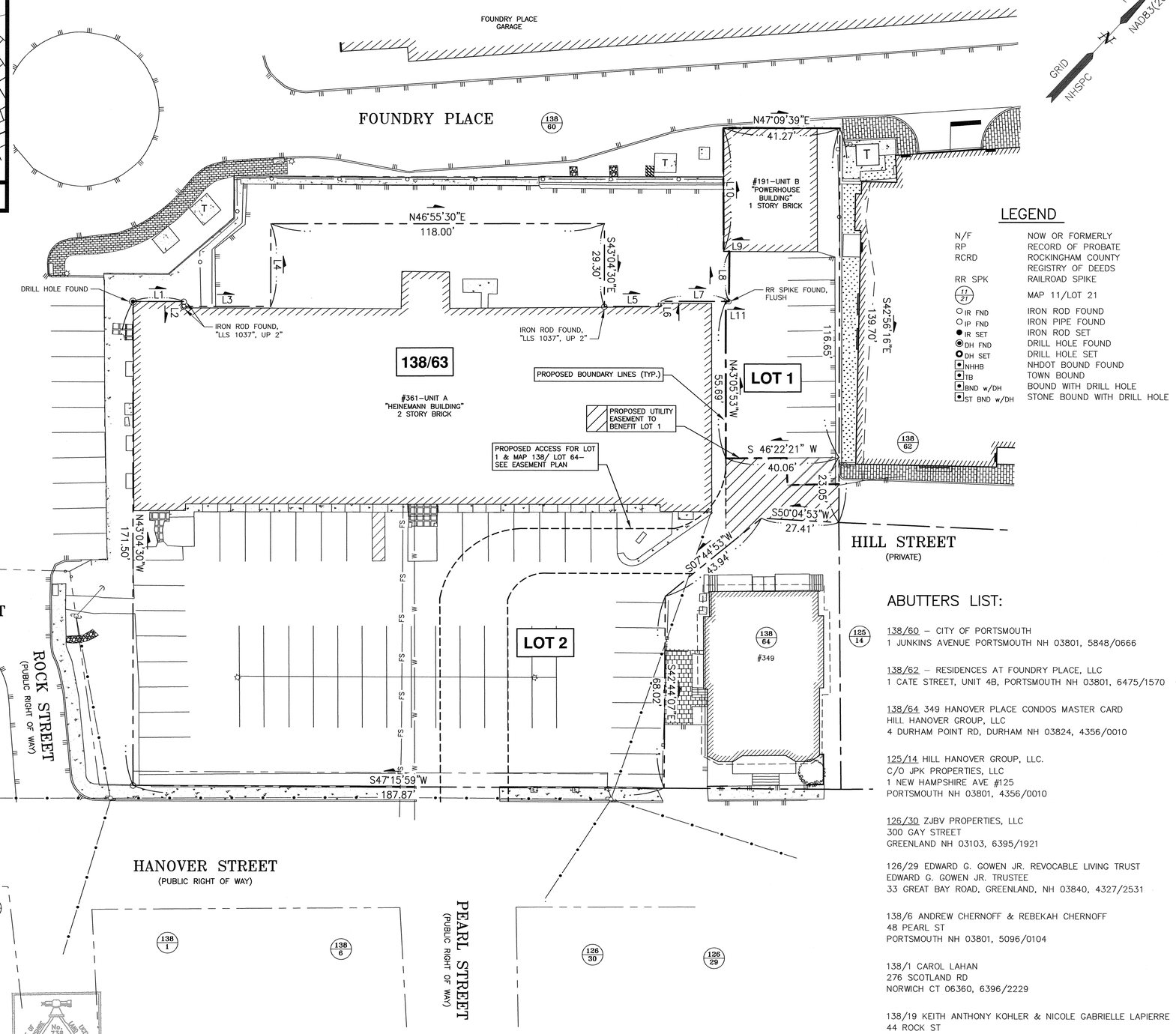
4) "CONDOMINIUM SITE PLAN FOR HANOVER PLACE CONDOMINIUM 349 HANOVER STREET COUNTY OF ROCKINGHAM PORTSMOUTH, NH" BY MILLETTE, SPRAGUE & COLWELL, INC. DATED SEPTEMBER 28, 2004 LAST REVISED DECEMBER 20, 2005. RCRD PLAN D-33379.

5) "CONSOLIDATION & SUBDIVISION PLAN TAX MAP 125, LOT 17 & TAX MAP 138, LOT 62 DEER STREET ASSOCIATES BRIDGE, DEER & HILL STREETS CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STA TE OF NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC. DA TED JULY 2015. RCRD PLAN D-39699.

6) "KEARSARGE MILLS CONDOMINIUM PLANS" BY KIMBALL CHASE COMPANY, INC. DATED APRIL 15, 1986. RCRD PLAN D-14855.

7) "BOUNDARY LINE AGREEMENT PLAN KEARSARGE MILL CONDOMINIUMS PORTSMOUTH, N.H." BY JONES & BEACH ENGINEERS, INC. DATED APRIL 10, 1997 LAST REVISED APRIL 21, 1997. RCRD PLAN D-25421.

8) "AMENDED SITE PLAN, KEARSARGE MILL CONDOMINIUMS, 1 HANOVER STREET PORTSMOUTH, NH" BY KIMBALL CHASE CONSULTING ENGINEERS DATED 04-14-06 AND LAST REVISED 02-16-07. RCRD PLAN D-34716.



GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N47°00'11"E	18.00'
L2	S43°03'50"E	1.78'
L3	N46°55'30"E	30.75'
L4	N43°04'30"W	29.30'
L5	N46°55'30"E	20.00'
L6	N43°04'30"W	1.80'
L7	N46°55'30"E	24.05'
L8	N42°30'12"W	17.65'
L9	S46°42'22"W	2.04'
L10	N43°17'38"W	43.88'
L11	N46°55'30"E	1.12'

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

JOHN R. CHAGNON, LLS — DATE 6.13.25

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN — DATE

STATE OF NEW HAMPSHIRE No. 738 JOHN R. CHAGNON SIGNATURE LICENSED LAND SURVEYOR

LEGEND

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
RR SPK	RAILROAD SPIKE
11/21	MAP 11/LOT 21
IR FND	IRON ROD FOUND
IP FND	IRON PIPE FOUND
IR SET	IRON ROD SET
DH FND	DRILL HOLE FOUND
DH SET	DRILL HOLE SET
NHHB	NHDOT BOUND FOUND
TB	TOWN BOUND
BND w/DH	BOUND WITH DRILL HOLE
ST BND w/DH	STONE BOUND WITH DRILL HOLE

ABUTTERS LIST:

138/60 – CITY OF PORTSMOUTH
1 JUNKINS AVENUE PORTSMOUTH NH 03801, 5848/0666

138/62 – RESIDENCES AT FOUNDRY PLACE, LLC
1 CATE STREET, UNIT 4B, PORTSMOUTH NH 03801, 6475/1570

138/64 349 HANOVER PLACE CONDOS MASTER CARD
HILL HANOVER GROUP, LLC
4 DURHAM POINT RD, DURHAM NH 03824, 4356/0010

125/14 HILL HANOVER GROUP, LLC.
C/O JPK PROPERTIES, LLC
1 NEW HAMPSHIRE AVE #125
PORTSMOUTH NH 03801, 4356/0010

126/30 ZJBV PROPERTIES, LLC
300 GAY STREET
GREENLAND NH 03103, 6395/1921

126/29 EDWARD G. GOWEN JR. REVOCABLE LIVING TRUST
EDWARD G. GOWEN JR. TRUSTEE
33 GREAT BAY ROAD, GREENLAND, NH 03840, 4327/2531

138/6 ANDREW CHERNOFF & REBEKAH CHERNOFF
48 PEARL ST
PORTSMOUTH NH 03801, 5096/0104

138/1 CAROL LAHAN
276 SCOTLAND RD
NORWICH CT 06360, 6396/2229

138/19 KEITH ANTHONY KOHLER & NICOLE GABRIELLE LAPIERRE
44 ROCK ST
PORTSMOUTH NH 03801, 4505/0807

138/22 SEAN G. CAUGHRAN
407 HANOVER ST
PORTSMOUTH NH 03801, 3289/1071

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.436.2315
WWW.HALEYWARD.COM

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 138 AS LOT 63.

2) OWNERS OF RECORD:

UNIT A:
361 HANOVER STEAM FACTORY, LLC
41 INDUSTRIAL DRIVE UNIT 20
EXETER, N.H. 03833
6352/2959

UNIT B:
POWERHOUSE REALTY TRUST
C/O ADAMS DAVID B. TRUSTEE
210 GATES STREET
PORTSMOUTH, NH 03801
5419/1223

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F. EFFECTIVE JANUARY 29, 2021.

4) LOT AREAS:
EXISTING
43,245 S.F.
0.9928 AC.

PROPOSED LOT 1
4,717 S.F.
0.1083 AC.

PROPOSED LOT 2
38,528 S.F.
0.8845 AC.

5) PARCEL IS LOCATED IN CHARACTER DISTRICT 5 (CD5), NORTH END INCENTIVE OVERLAY DISTRICT (NEIOD) AND DOWNTOWN OVERLAY DISTRICT.

6) THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED SUBDIVISION OF TAX MAP 139, LOT 63 IN PORTSMOUTH, NH INTO 2 LOTS.

7) PARCEL IS BURDENED BY THE FOLLOWING EASEMENTS:

A) ACCESS EASEMENT TO THE CITY OF PORTSMOUTH TO ALLOW ACCESS TO A PARKING AREA. SEE R.C.R.D. 4735/2971

B) ACCESS EASEMENT TO HANOVER PLACE CONDOMINIUM ASSOCIATION. THIS EASEMENT TO BE RE-DEFINED.

8) THE PARCEL HAS THE BENEFIT OF A REVOCABLE LICENSE BETWEEN THE CITY OF PORTSMOUTH AND THE KEARSARGE MILL UNIT ON THE PLAN ENTITLED "KEARSARGE MILL CONDOMINIUMS HANOVER STREET, PORTSMOUTH, NH SITE PLAN AMENDMENT" PREPARED BY KIMBALL CHASE CONSULTING ENGINEERS DATED APRIL 14, 2006, LICENSE AND SITE PLAN ARE AVAILABLE WITH THE RECORDS OF THE CITY OF PORTSMOUTH, SEE ALSO PLAN REFERENCE #6.

9) PROPERTY CORNERS WILL BE SET PRIOR TO RECORDING.

NO.	DESCRIPTION	DATE
4	ACCESS EASEMENT LOCATION	06/13/25
3	EASEMENTS	4/11/25
2	PARKING, ACCESS ESMT., ABUTTER DETAIL	3/25/25
1	NOTE 7	12/3/24
0	ISSUED FOR COMMENT	4/3/24

REVISIONS

SUBDIVISION PLAN
TAX MAP 138 – LOT 63

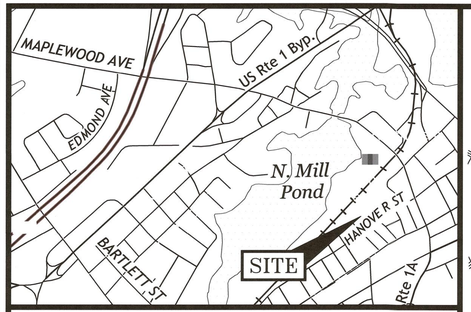
KEARSAGE MILL UNIT OWNERS ASSOCIATION

OWNERS: 361 HANOVER STEAM FACTORY, LLC & POWERHOUSE REALTY TRUST
FOUNDRY PLACE & HANOVER STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

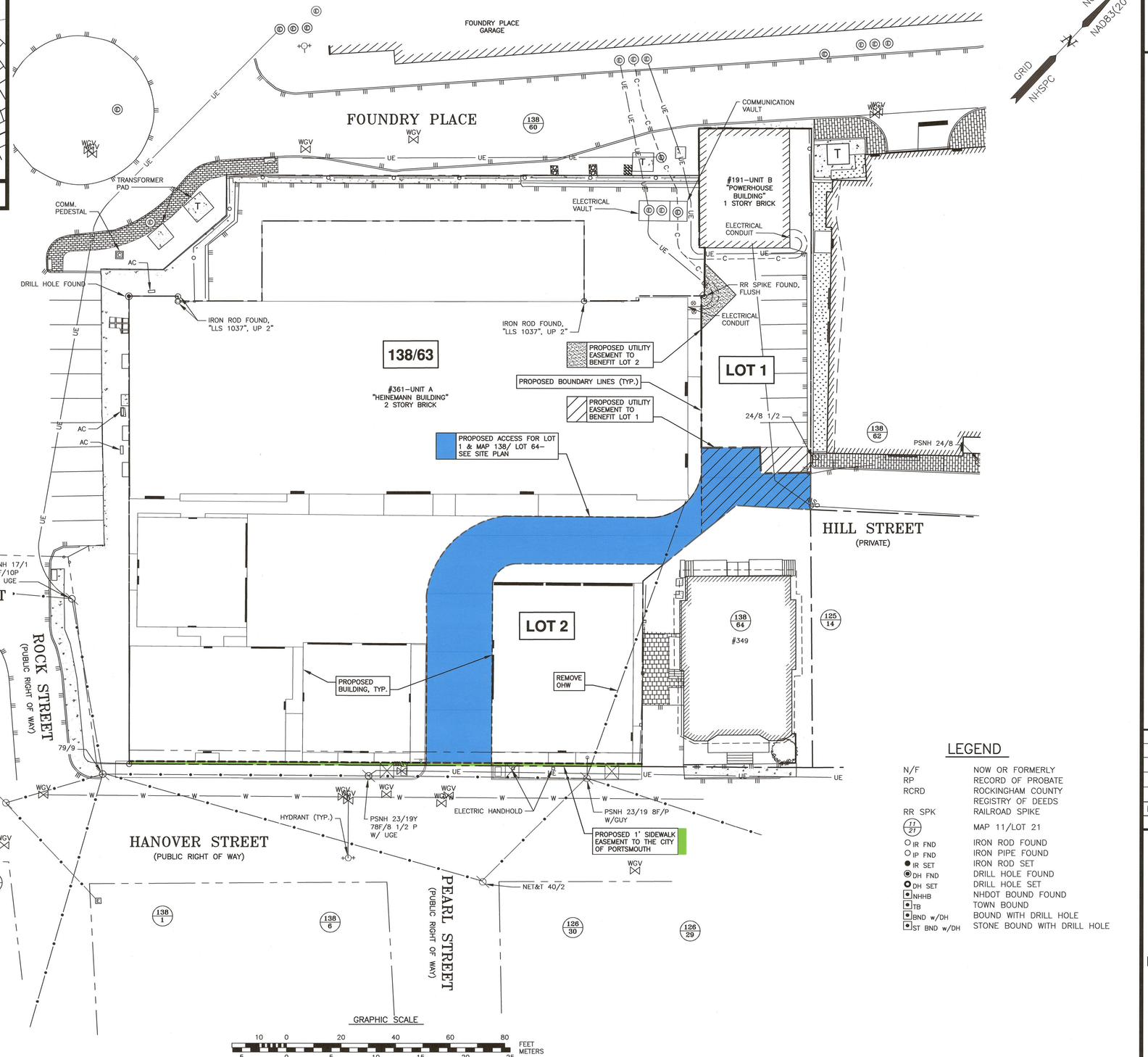
SCALE: 1"=20' JUNE 2025

FB 444 PG 1 — 5010135.2977.01

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LOCATION MAP SCALE: 1" = 1000'



GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

LEGEND

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
RR SPK	RAILROAD SPIKE
11/21	MAP 11/LOT 21
○ IR FND	IRON ROD FOUND
○ IP FND	IRON PIPE FOUND
● IR SET	IRON ROD SET
◉ DH FND	DRILL HOLE FOUND
◉ DH SET	DRILL HOLE SET
▣ NHHB	NHDOT BOUND FOUND
▣ TB	TOWN BOUND
▣ BND w/DH	BOUND WITH DRILL HOLE
▣ ST BND w/DH	STONE BOUND WITH DRILL HOLE

STATE OF NEW HAMPSHIRE No. 738 JOHN R. CHAGNON LAND SURVEYOR SIGNATURE

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

JOHN R. CHAGNON, LLS 738 — DATE 7.30.25

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
WWW.HALEYWARD.COM
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.436.2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 138 AS LOT 63.

2) OWNERS OF RECORD:

UNIT A:
361 HANOVER STEAM FACTORY, LLC
41 INDUSTRIAL DRIVE UNIT 20
EXETER, N.H. 03833
6352/2959

UNIT B:
POWERHOUSE REALTY TRUST
C/O ADAMS DAVID B. TRUSTEE
210 GATES STREET
PORTSMOUTH, NH 03801
5419/1223

3) THE PURPOSE OF THIS PLAN IS TO SHOW PROPOSED EASEMENT ON TAX MAP 139, LOT 63 IN PORTSMOUTH, NH.

4) PARCELS WILL BE SUBJECT TO A BLANKET WATER SERVICE EASEMENT TO THE CITY OF PORTSMOUTH TO INCLUDE LEAK DETECTION AND METERING.

5) PARCEL WILL BE SUBJECT TO ELECTRIC SERVICE EASEMENTS TO EVERSOURCE.

NO.	DESCRIPTION	DATE
1	BUILDING DIMENSIONS	07/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

EASEMENT PLAN
TAX MAP 138 – LOT 63

KEARSAGE MILL UNIT OWNERS ASSOCIATION

OWNERS: 361 HANOVER STEAM FACTORY, LLC & POWERHOUSE REALTY TRUST
FOUNDRY PLACE & HANOVER STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1"=20' JUNE 2025

FB 444 PG 1 — 5010135.2977.01

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No.	Address	Zoning District	Lot Area (SF +/-)	Lot Area / Dwelling Unit (SF +/-)	Building Coverage (% +/-)	Building Height (FT +/-)	Open Space (% +/-)
1	89 Foundry Place	CD5	22,651	427	79.9%	60	11.9%
2	100 Foundry Place	M	114,998	NA	32.6%	60	23.9%
3	165 Deer Street	CD5	26,571	NA	86.6%	60	8.5%
4	126 Bridge Street	CD5	26,571	NA	73.8%	14	8.1%
5	349 Hanover Street	CD4-L1	5,227	871	51.8%	40	11.1%
6	181 Hill Street	CD4-L1	16,117	1,343	43.1%	24	4.0%
7	45 Pearl Street	CD4-L1	3,485	1,743	80.1%	40	4.3%
8	51 Islington Street	CD4-L2	30,869	1,470	38.9%	58	10.0%
9	63 Islington Street	CD4-L2	16,183	NA	94.6%	11	3.1%
10	133 Islington Street	CD4-L2	16,552	1,505	52.0%	33	14.5%
11	44 Rock Street	GRC	3,049	3,049	33.1%	22	54.1%
12	394 Hanover Street	GRC	1,742	1,742	53.2%	26	15.8%
13	48 Pearl Street	GRC	3,920	1,960	42.3%	28	37.0%
14	407 Hanover Street	GRC	3,750	1,743	26.5%	24	59.5%
15	361 Hanover Street	CD5	38,528	963	69.8%	40	6.4%

Non-Conforming
Conforming



NORTH
NAD83(2011)
GRID
NHSPC

GRAPHIC SCALE
50 40 30 20 10 0 50 100 150 200 FEET
15 10 5 0 10 20 30 40 50 60 METERS

HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63.

2. APPLICANT:
   361 HANOVER STEAM FACTORY, LLC
   41 INDUSTRIAL DRIVE UNIT 20
   EXETER, N.H. 03833

3. PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F. JANUARY 29 2021.

PROPOSED LOT AREAS:
   LOT 138/63
   38,528 S.F.±
   0.8845 AC

   LOT 138/63-1
   4,717 S.F.
   0.1083 AC

4. PARCEL IS LOCATED IN CHARACTER DISTRICT 5 (CD5), NORTH END INCENTIVE OVERLAY, AND DOWNTOWN OVERLAY DISTRICT.

DIMENSIONAL REQUIREMENTS:
   *SEE PORTSMOUTH ZONING ORDINANCE AND TABLE.

   MINIMUM LOT AREA: NR
   SETBACKS:
      FRONT: 5 FEET (MAXIMUM)
      SIDE: NR
      REAR: 5 FEET
   MAXIMUM BUILDING COVERAGE: 95%
   MINIMUM OPEN SPACE: 5%

5. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS AND EXISTING DENSITY (TBD) OF THE "MCDONOUGH NEIGHBORHOOD" IN THE CITY OF PORTSMOUTH.

6. BOUNDARY LINES SHOWN HEREON ARE COMPILED FROM CITY OF PORTSMOUTH ASSESSOR'S MAPS AND TO BE CONSIDERED APPROXIMATE.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	CONFORMING/NON-CONFORMING LOTS	07/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

SCALE: 1"=50' MAY 2025

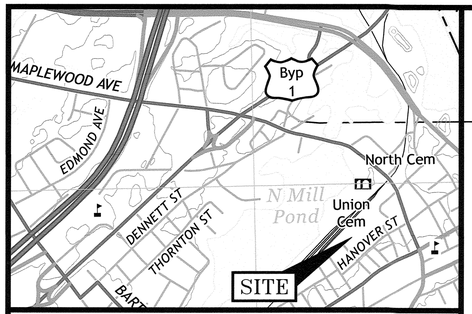
ORTHOPHOTO PLAN

01

FB 444 & PG 1

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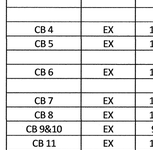
LOCATION MAP SCALE: 1"=1,000'

DRAINAGE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
CB 1	EX	20.66	8" CPP		17.46	SW
			8" CPP	17.51		SE
CB 2	EX	20.35	12" CPP		15.70	NW
	EX		8" CPP	15.80		NE
			8" CPP	16.50		SE
CB 3	EX	19.29	12" CPP		15.64	NW
			8" CPP	16.24		SW
			8" CPP	16.29		SE
CB 4	EX	18.90	12" CPP		15.65	SE
CB 5	EX	15.00	12" CPP		10.00	SW
			12" CPP	10.00		SE
CB 6	EX	15.60	12" CPP		12.85	SW
			8" CPP	13.20		NE
CB 7	EX	17.43	8" CPP		16.28	SW
CB 8	EX	12.15	12" CPP		7.45	NW
CB 9&10	EX	9.76	12" CPP		5.86	NE
CB 11	EX	10.07	12" CPP		6.17	SE
CB 12	EX	10.22	12" CPP		6.92	W
DMH 1	EX	19.81	12" CPP		15.56	SW
			12" CPP	15.56		E
DMH 2	EX	19.08	12" CPP		15.03	SW
			12" CPP	15.03		NE
			12" CPP	15.43		NW
			12" CPP	15.43		SE
DMH 3	EX	15.30	12" CPP		10.65	NW
			12" CPP	10.65		NE
DMH 4	EX	11.86	18" CPP		5.46	NW
			15" CPP	5.56		NE
			4" PVC	9.36		S
DMH 5	EX	9.87	NO DATA			
DMH 6	EX	11.84	NO DATA			
DMH 7	EX	10.19	18" CPP		6.29	SW
			12" CPP	6.44		NW
			12" CPP	6.39		E

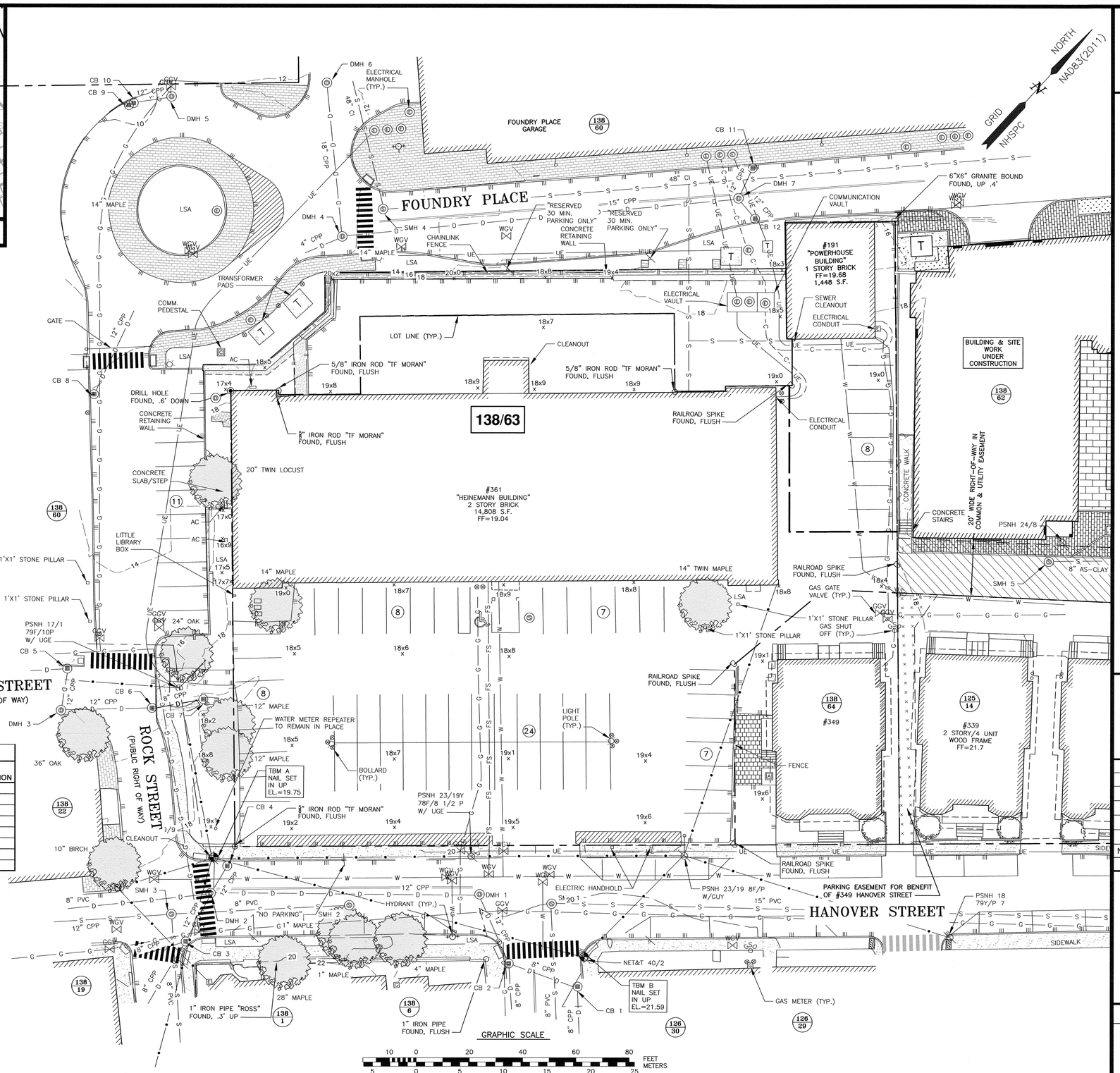
SEWER STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
SMH 1	EX	20.06	15" PVC		14.36	NE
			8" PVC	14.41		SE
SMH 2	EX	19.31	8" PVC		12.91	SW
SMH 3	EX	19.15	8" PVC		11.45	SW
			8" PVC	11.60		NE
			8" PVC	13.90		SE
SMH 4	EX	12.23	48" CI	-0.77		NW
			48" CI		-0.77	NE



"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

JOHN R. CHAGNON, LLS DATE 6.13.25



HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63.
2. OWNER OF RECORD:
   361 HANOVER STEAM FACTORY, LLC
   41 INDUSTRIAL DRIVE UNIT 20
   EXETER, N.H. 03833
   6352/2959
3. PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F. JANUARY 29 2021.

EXISTING LOT AREA:
38,528 S.F.

4. PARCEL IS LOCATED IN CHARACTER DISTRICT 5 (CD5), NORTH END INCENTIVE OVERLAY DISTRICT, AND DOWNTOWN OVERLAY DISTRICT.

DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

5. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63, AS AMENDED.
6. VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	ELECTRICAL/COMM LINES	6/13/25
1	WATER METER REPEATER, UTILITIES	4/11/25
0	ISSUED FOR COMMENT	03/14/25

REVISIONS

SCALE: 1"=20' JANUARY 2024

EXISTING CONDITIONS PLAN

C1

FB 444 & PG 1

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DEMOLITION NOTES

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT TRENCH IN AREAS WHERE PAVEMENT IS TO BE REMOVED.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

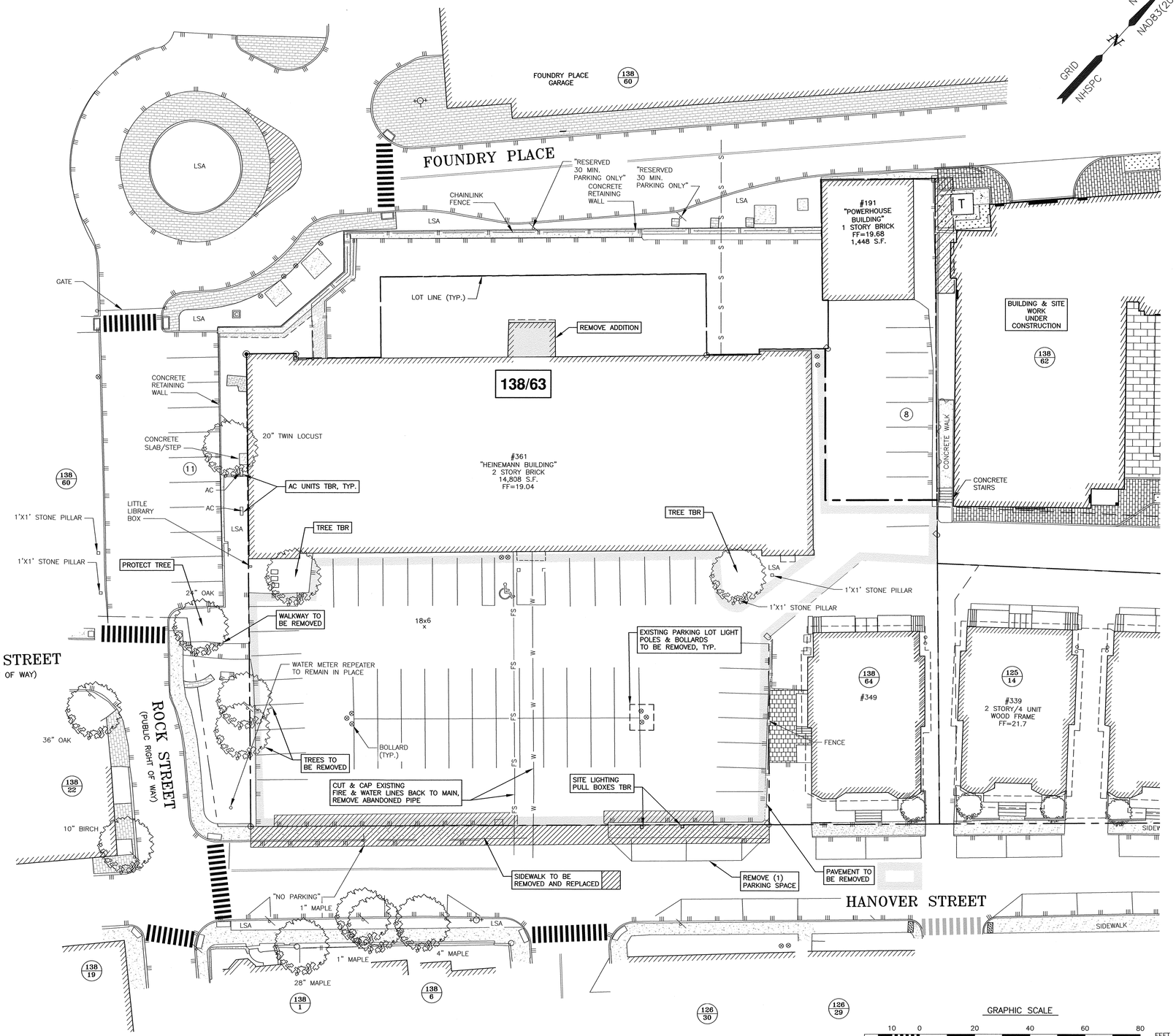
G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE-USE.

I) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

J) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

K) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS



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NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) COORDINATE ACCESS IN STREET/ROW AREAS ADJACENT TO DEMOLITION TO INSURE SAFE PASSAGE. UTILIZE DETOURS IF NEEDED.

5) EXISTING UTILITIES TO BE ABANDONED SHALL BE REMOVED TO THE UTILITY MAIN AND CAPPED PER THE UTILITY COMPANY REQUIREMENT.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
3	AC UNITS	06/30/25
2	NOTES PER TAC REVIEW	04/11/25
1	LIMIT OF PAVEMENT DEMO	03/26/25
0	ISSUED FOR COMMENT	03/14/25

REVISIONS

JOHN R. CHAGNON NO. 7651 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -

SCALE: 1"=20' JANUARY 2024

DEMOLITION PLAN

C2

FB 444 & PG 1

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P:\5010135\35-Hampshire_Development\2977.01-Hanover St, Portsmouth-(SCVA 2977)\264 Site Plan\Plans & Specs\Dwg\2977.01 Sht-Dwg, 6/30/2025 1:07:11 PM

ZONING DEVELOPMENT STANDARD

CD5: CHARACTER DISTRICT 5, DOD: DOWNTOWN OVERLAY DISTRICT

	REQUIRED	EXISTING	PROPOSED - Building A	PROPOSED - Building B	PROPOSED - Building C	PROPOSED - Building D	PROPOSED - Building E
Height	2-3 stories 40'	2 Stories/ 18' +/-	3 stories with attic/ 40'	3 stories / 36'	3 stories / 36'	3 stories / 36'	3 stories with attic/ 40'
Penthouses	may exceed bldg height by 2'	N/A	N/A	N/A	N/A	N/A	N/A
Roof appurtenance	may exceed bldg height by 10'	<10'	<10'	No	<10'	No	<10'
Façade Types		N/A	N/A	N/A	N/A	N/A	N/A
Building Types	commercial, live-work, mixed use, flex space & community.	Commerical	Apartment	Duplex	Duplex	Duplex	Apartment
Front (principle) max S/B	5	99'	99'	0'	52'	5'	5'
Front (secondary) max S/B	5	0'	0'	N/A	N/A	N/A	N/A
Side S/B	NR	NR	NR	NR	NR	NR	NR
Rear yard S/B	5'	N/A	N/A	>5'	>5'	>5'	>5'
Front lotline buildout	80% min	100%	N/A	N/A	80%	80%	80%
Lot area (sf)	NR	N/A	N/A	N/A	N/A	N/A	N/A
LOT area per dwelling	NR	N/A	N/A	N/A	N/A	N/A	N/A
Building coverage, maximum	95%	38%	46.9%	4.1%	6.3%	4.1%	8.3%
Maximum building footprint	20,000	14,808	18,082	1,600	2,439	1,580	3,193
Ground floor area per use, max	15,000	14,808	<15,000	642	250	630	713
Open space, minimum	5%	<5%	>5%	>5%	>5%	>5%	>5%
Permitted uses		Commercial	Residential	Residential	Residential	Residential	Residential
Block length, max (ft)	225	205'	205'	N/A	60'	39.5'	51.5'
Façade modulation length, max (ft)	100	205	65	N/A	24'	39.25'	51.5'
Entrance spacing, max (ft)	50	>50'	50	N/A	28.5'	19.6'	25.75'
Floor height above sidewalk, max	36"	0'	N/A	N/A	24"	15"	18"
Ground story height, min	12'	10'	10.5'	12'	12'	12'	12'
Second story height, min	10'	10'	10.5'	11'	11'	11'	11'
Glazing, shopfront, min	70%	N/A	N/A	N/A	N/A	N/A	N/A
Glazing, other	20%-50%	>20%	>20%	>20%	>20%	>20%	>20%
Roof types	flat, gable, hip, gambrel, mansard	Flat	Mansard	Hip	Gambrel	Mansard	Mansard

S/B = Setback

MAP 138 LOT 63 COVERAGES:
BUILDING COVERAGE: 26,894 S.F./ 38,528 = 70%

IMPERVIOUS SURFACE AREAS
(TO PROPERTY LINE)

STRUCTURE	PRE-CONSTRUCTION IMPERVIOUS (S.F.)	POST-CONSTRUCTION IMPERVIOUS (S.F.)
MAIN STRUCTURES	14615	26894
PAVEMENT	22,623	8,001
CONCRETE	656	144
WALKWAYS, COBBLES	117	1,485
STEPS/STOOPS	0	155
CURBING	31	29
TOTAL	38042	36708
LOT SIZE	38,528	38,528
% LOT COVERAGE	98.7%	95.3%

PROPOSED OPEN SPACE ON PROPOSED LOT 1: 356 S.F./7.5%
PROPOSED LOT 1 BUILDING COVERAGE 1,448 S.F./4,717 S.F.=30.7%
PROPOSED OPEN SPACE LOT 2: SEE OPEN SPACE EXHIBIT ON FILE

THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

PARKING CALCULATIONS:

361 HANOVER STREET (DEVELOPMENT SITE):

PROPOSED USE:
BUILDING A: 26 UNITS
BUILDING B: 2 UNITS
BUILDING C: 2 UNITS
BUILDING D: 2 UNITS
BUILDING E: 8 UNITS
TOTAL: 40 UNITS

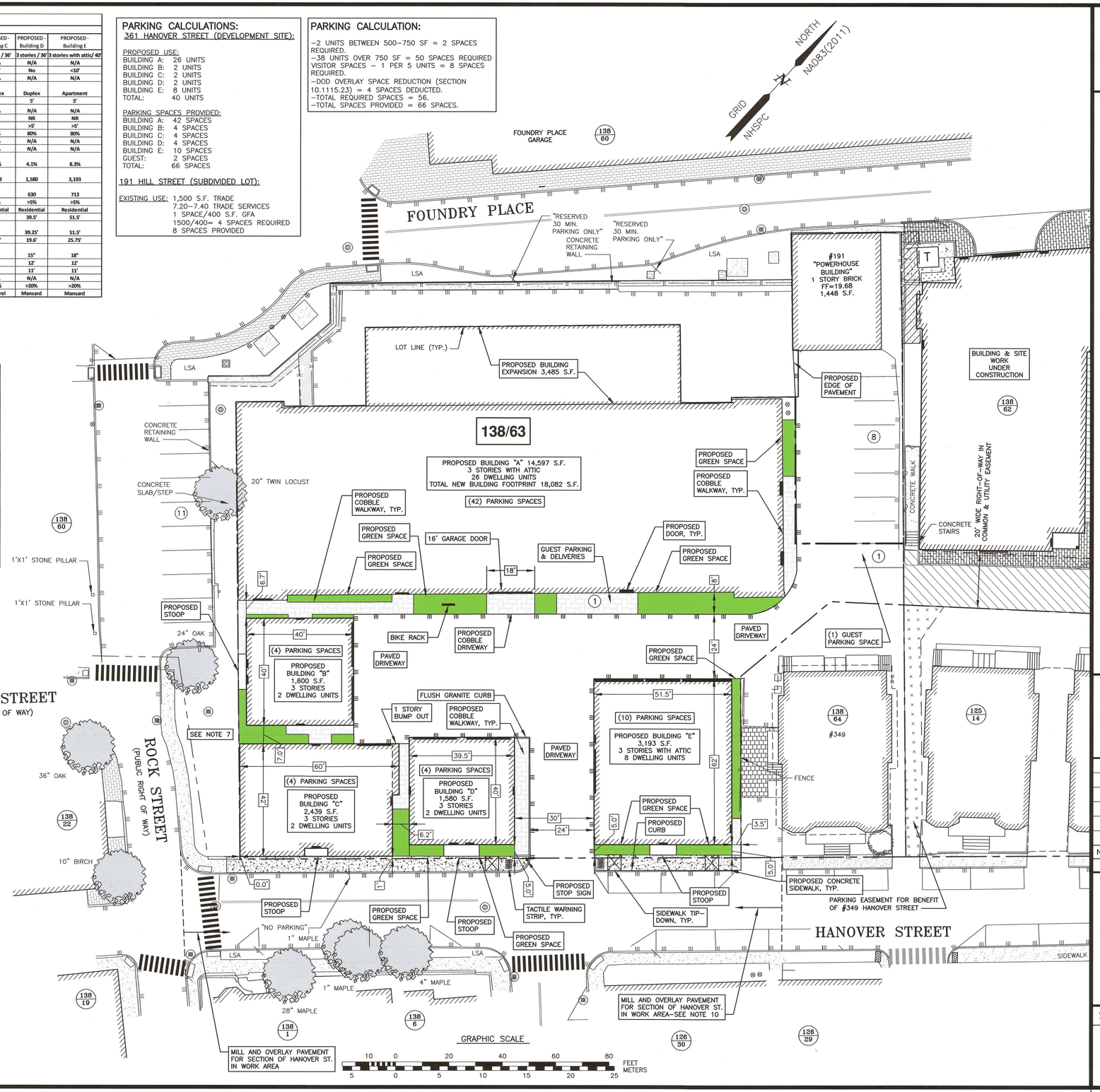
PARKING SPACES PROVIDED:
BUILDING A: 42 SPACES
BUILDING B: 4 SPACES
BUILDING C: 4 SPACES
BUILDING D: 4 SPACES
BUILDING E: 10 SPACES
GUEST: 2 SPACES
TOTAL: 66 SPACES

191 HILL STREET (SUBDIVIDED LOT):

EXISTING USE: 1,500 S.F. TRADE
7.20-7.40 TRADE SERVICES
1 SPACE/400 S.F. GFA
1500/400= 4 SPACES REQUIRED
8 SPACES PROVIDED

PARKING CALCULATION:

-2 UNITS BETWEEN 500-750 SF = 2 SPACES REQUIRED.
-38 UNITS OVER 750 SF = 50 SPACES REQUIRED
VISITOR SPACES - 1 PER 5 UNITS = 8 SPACES REQUIRED.
-DOD OVERLAY SPACE REDUCTION (SECTION 10.1115.23) = 4 SPACES DEDUCTED.
-TOTAL REQUIRED SPACES = 56.
-TOTAL SPACES PROVIDED = 66 SPACES.



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NOTES:

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63.
2. APPLICANT:
   361 HANOVER STEAM FACTORY, LLC
   41 INDUSTRIAL DRIVE UNIT 20
   EXETER, N.H. 03833
3. PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F. JANUARY 29 2021.

PROPOSED LOT AREAS:
LOT 138/63
38,528 S.F.±
0.8845 AC

LOT 138/63-1
4,717 S.F.
0.1083 AC

4. PARCEL IS LOCATED IN CHARACTER DISTRICT 5 (CD5), NORTH END INCENTIVE OVERLAY, AND DOWNTOWN OVERLAY DISTRICT.

DIMENSIONAL REQUIREMENTS:
*SEE PORTSMOUTH ZONING ORDINANCE AND TABLE.

MINIMUM LOT AREA: NR
SETBACKS:
FRONT: 5 FEET (MAXIMUM)
SIDE: NR
REAR: 5 FEET
MAXIMUM BUILDING COVERAGE: 95%
MINIMUM OPEN SPACE: 5%

5. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE DEVELOPMENT ON ASSESSOR'S MAP 138 LOT 63.
6. VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.
7. DEVELOPER/CONDOMINIUM OWNERS WILL APPLY TO THE PORTSMOUTH DPW TO MAINTAIN THE LANDSCAPING IN THE "ADOPT A SPOT" PROGRAM.
8. SNOW WILL BE REMOVED FROM THE SITE AND NOT STORED ON SITE OR IN THE PUBLIC RIGHT OF WAY.
9. THE HANOVER STREET SIDEWALKS SHALL BE RE-CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
10. DISTURBED AREAS ON HANOVER STREET WILL BE MILLED AND PAVED AS APPROVED BY PORTSMOUTH DPW.
11. THE CROSSWALKS IN THE PROJECT VICINITY WILL BE RE-PAINTED AT THE CONCLUSION OF CONSTRUCTION, PRIOR TO THE 20TH UNIT OCCUPANCY PERMIT.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	BUILDING DIMENSIONS	07/30/25
1	NOTE 8. BLDG. COVERAGE.	06/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

STATE OF NEW HAMPSHIRE - JOHN R. CHAGNON No.7651 LICENSED PROFESSIONAL ENGINEER

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 708 JOHN R. CHAGNON SIGNATURE

SCALE: 1"=20' JANUARY 2024

SITE PLAN

C3

FB 444 & PG 1

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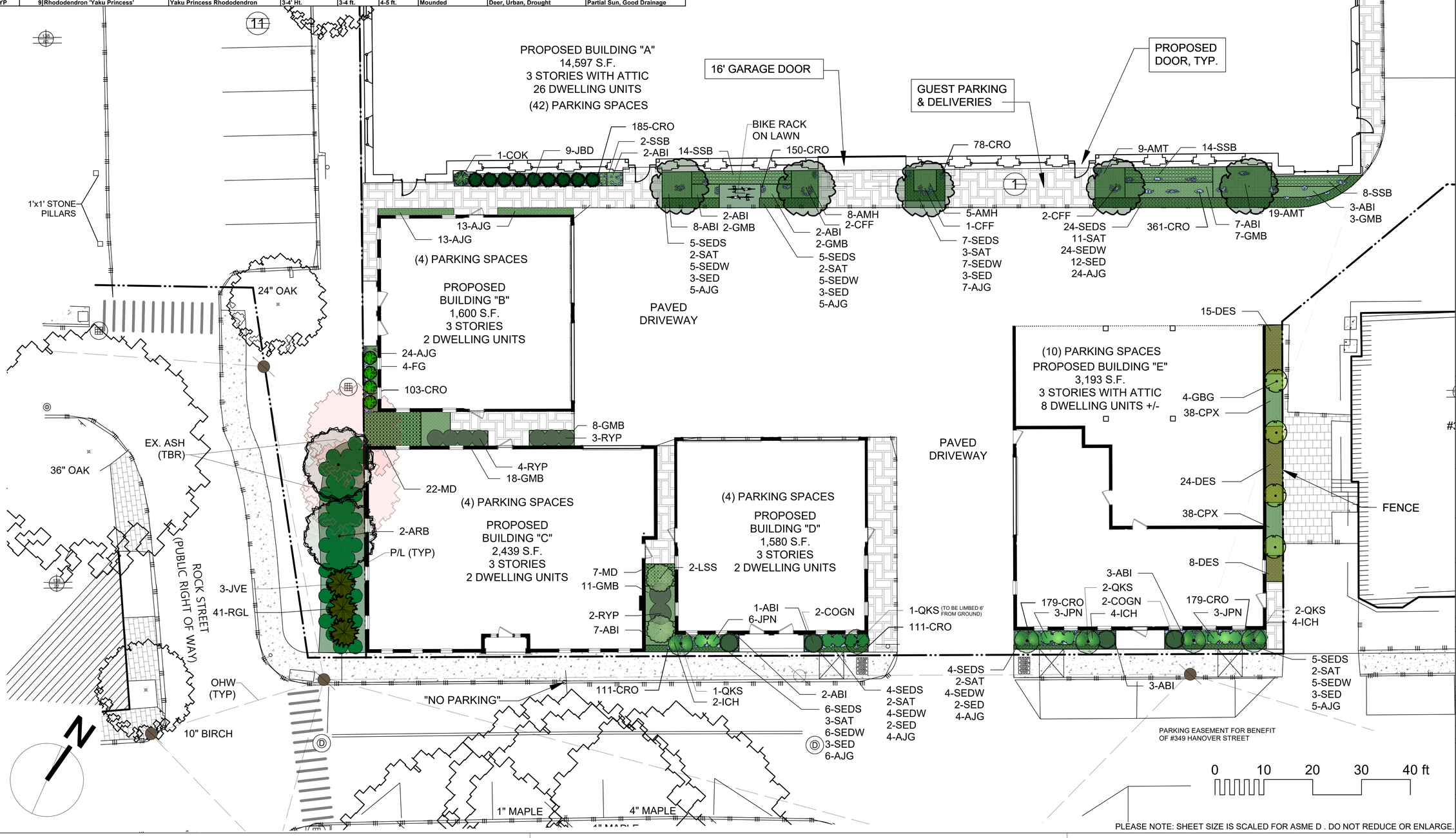
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Plant List - Trees and Shrubs

ID	Qty	Botanical Name	Common Name	Scheduled Size	Mature Height	Mature Spread	Growth Habit	Tolerances	Requirements
ARB	2	Acer rubrum 'Bowhall'	Bowhall Red Maple	1 1/2 - 2" Cal.	40-60 ft.	10-15 ft.	Upright, Pyramidal	Urban, Wet Soils	Full/Partial Sun, Moist Soil
CFF	5	Carpinus betulus 'Frans Fountaine'	Upright European Hornbeam	1 1/2 - 2" Cal.	30-40 ft.	10-20 ft.	Oval	Urban, Drought, Disease	Full/Partial Sun, Moist Soil
COGN	4	Chamaecyparis obtusa 'Nana Gracilis'	Hinoki Cypress	3-4' Ht.	3-6 ft.	2-4 ft.	Conical	Urban	Full/Partial Sun, Moist Soil
COK	1	Chamaecyparis obtusa 'Kosteri'	Kosteri Hinoki Cypress	2 1/2-3'	6 ft.	4 ft.	Pyramidal	Urban	Full/Partial Sun, Moist Soil
FG	4	Fothergilla gardenii	Dwarf Forthergilla	5 Gal.	4-5 ft.	4-5 ft.	Rounded	Urban, Moist Soil, Disease	Full/Partial Sun, Moist Soil
GBG	4	Ginkgo biloba 'Grindstone'	Grindstone Maidenhair Tree	2" Cal.	20-30 ft.	5-6 ft.	Fastigiate	Urban, Drought, Disease, Deer	Full Sun
ICH	10	Ilex crenata 'Hetzii'	Heitz Japanese Holly	5 Gal.	3-4 ft.	3-4 ft.	Rounded	Urban	Full/Partial Sun
JBD	9	Juniperus communis 'Blueberry Delight'	Blueberry Delight Juniper	2 Gal.	18-24 in.	4-5 ft.	Spreading	Drought, Deer, Urban	Full Sun, Good Drainage
JPN	12	Juniperus procumbens 'Nana'	Dwarf Japanese Garden Juniper	3 Gal.	6-12 in.	6-8 ft.	Groundcover	Drought, Deer, Urban	Full Sun, Good Drainage
JVE	3	Juniperus virginiana 'Emerald Sentinel'	Emerald Sentinel Columnar Juniper	8-10'	15-20 ft.	6-8 ft.	Upright	Urban, Salt, Drought	Full Sun, Good Drainage
LSS	2	Liquidambar sty. 'Slender Silhouette'	Slender Silouette Liquidambar	1 1/2 - 2" Cal.	40-60 ft.	6-8 ft.	Fastigiate	Moist Soil, Urban	Full Sun, Moist, Rich Acidic Soil
MD	29	Microbiota decussata	Siberian Carpet Cypress	3 Gal.	18-24 in.	4-5 ft.	Spreading	Deer, Drought, Moist Soil	Full/Partial Sun, Good Drainage
PAN	6	Picea abies 'Nidiformis'	Bird's Nest Spruce	3 Gal.	3-4 ft.	5-6 ft.	Broad	Drought, Disease, Urban	Full/Partial Sun, Good Drainage
QKS	6	Quercus x Kindred Spirit®	Kindred Spirit Hybrid Oak	1 1/2 - 2" Cal.	20-30 ft.	6-8 ft.	Fastigiate	Urban, Drought	Full Sun
RGL	41	Rhus aromatica 'Gro Low'	Gro Low Sumac	2 Gal.	18-24 in.	6-8 ft.	Spreading	Urban, Drought	Full/Partial Sun
RYP	9	Rhododendron 'Yaku Princess'	Yaku Princess Rhododendron	3-4' Ht.	3-4 ft.	4-5 ft.	Mounded	Deer, Urban, Drought	Partial Sun, Good Drainage

Plant List - Perennials

ID	Qty	Botanical Name	Common Name	Scheduled Size	Mature Height	Mature Spread	Tolerances	Requirements
ABI	40	Amsonia 'Blue Ice'	Blue Star Flower	2 QT	8-18 in.	24 in.	Deer, Drought, Salt, Heat	Full Sun, Dry to Normal Soil
AJG	215	Ajuga reptans 'Gaiety'	Gaiety Bugleweed	2 QT	3-6 in.	8-9 in.	Deer, Drought, Salt, Heat	Sun/Shade
AMH	13	Amsonia hubrichtii	Arkansas Amsonia	1 Gal.	18-30 in.	24 in.	Deer, Drought, Salt, Heat	Sun/Partial Shade, Dry to Normal Soil
AMT	28	Amsonia tabernaemontana	Amsonia	1 Gal.	18-30 in.	30 in.	Deer, Drought, Salt, Heat	Sun/Partial Shade, Dry to Normal Soil
CPX	76	Carex pensylvanica	Pennsylvania Sedge	1 Gal.	8-18 in.	8-18 in.	Deer, Drought, Salt	Partial/Shade, Moist to Normal Soil
CRO	1457	Crocus hybrids	Crocus	Bulb	3-6 in.	3-5 in.	Deer, Drought	Sun/Partial Shade, Good Drainage
DES	47	Deschampsia cespitosa	Tufted Hair Grass	1 Gal.	18-30 in.	36 in.	Deer, Shade, Wet Soils, Drought, Salt	Sun/Partial Shade
GMB	51	Geranium macrorrhizum 'Bevan's Variety'	Bevan's Variety Geranium	1 Gal.	8-18 in.	36 in.	Deer, Rabbit, Drought	Sun/Partial Shade, Dry to Normal Soil
SAT	27	Sedum 'Angelina's Teacup'	Angelina's Teacup Stonecrop	2 QT	0-8 in.	12-18 in.	Deer, Rabbit, Drought, Salt, Heat	Sun/Partial Shade, Dry to Normal Soil
SED	31	Sedum Sunsparkler 'Dazzleberry'	Dazzleberry Stonecrop	2 QT	0-8 in.	18 in.	Deer, Rabbit, Drought, Salt, Heat	Sun, Dry to Normal Soil
SEDS	60	Sedum sexangulare	Stonecrop	2 QT	0-8 in.	10-12 in.	Deer, Rabbit, Drought, Salt, Heat	Sun, Dry to Normal Soil
SEDW	60	Sedum 'Weihenstephaner Gold'	Weihenstephaner Gold Stonecrop	1 Gal.	0-8 in.	12-18 in.	Deer, Rabbit, Drought, Salt, Heat	Sun, Dry to Normal Soil
SSB	38	Schizachyrium scoparium 'The Blues'	The Blues Little Bluestem	1 Gal.	18-30 in.	18 in.	Deer, Rabbit, Drought, Salt, Heat	Sun/Partial Shade, Dry to Normal Soil



PLEASE NOTE: SHEET SIZE IS SCALED FOR ASME D . DO NOT REDUCE OR ENLARGE.

terra *firma*
landscape architecture

165-a Court Street Portsmouth, NH 03801
603.531.9109 | terrence@terrafirmalandarch.com

361 HANOVER

361 HANOVER STREET
PORTSMOUTH, NH

Project Title

TERRENCE P. PARKER
LICENSED LANDSCAPE ARCHITECT
STATE OF NEW HAMPSHIRE
041

Landscape Architect

Scale
1:120

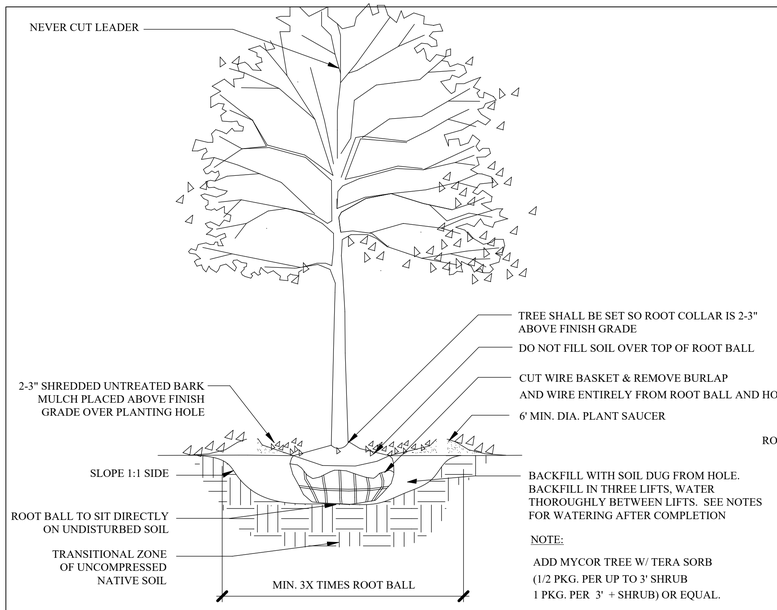
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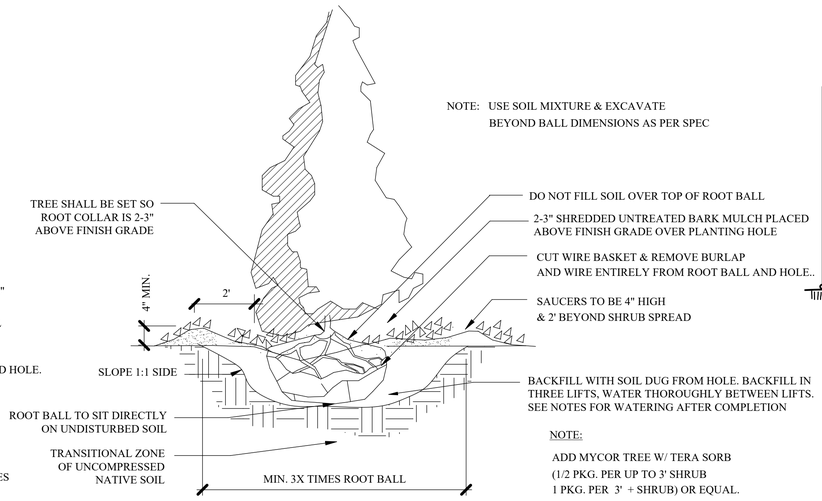
Project Manager
Drawn By
Date 7/28/2025
Reviewed By
Project ID 361 HANOVER ST.

Sheet Title
LANDSCAPE PLAN

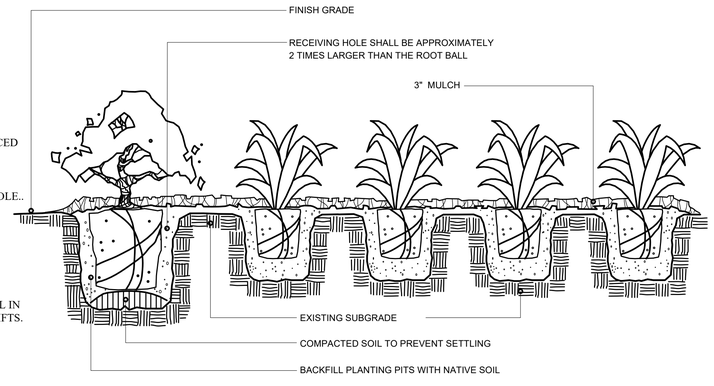
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1 / L-2 TREE PLANTING - 2"+ CAL.
SCALE: NTS

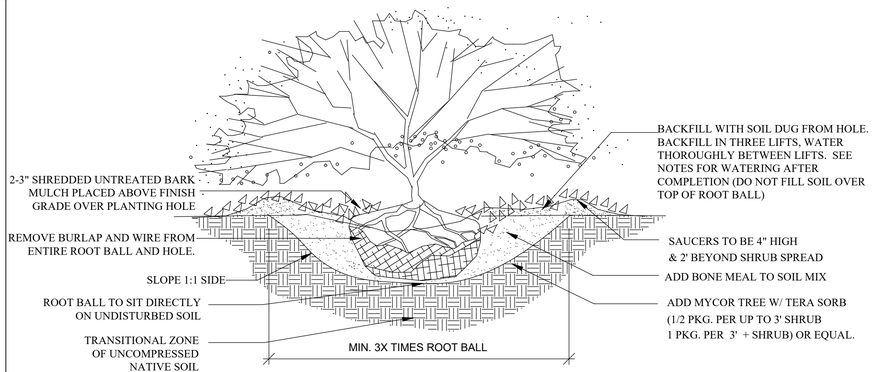


2 / L-2 PYRAMIDAL EVERGREEN TREE PLANTING
SCALE: NTS

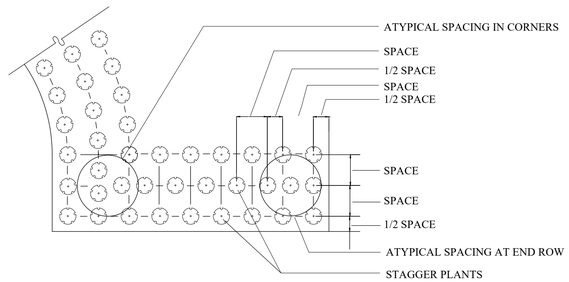


NOTE: SHRUBS SHALL BE PLANTED A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.

3 / L-2 SHRUB/GROUND COVER PLANTING DETAIL
SCALE: NTS



4 / L-2 B&B SHRUB PLANTING
SCALE: NTS



NOTES:

1. PLACE PLANTS IN BED AS SHOWN, SPACING AS SPECIFIED IN PLANT SCHEDULE.
2. GROUNDCOVER SHALL BE TRIANGULAR SPACED IN ROWS PARALLEL TO STRAIGHT EDGES AND SHALL BE EVENLY SPACED IN ROWS PARALLEL TO CURVE EDGES.

5 / L-2 GROUND COVER SPACING DETAIL
SCALE: NTS

CITY OF PORTSMOUTH PLANTING REQUIREMENTS

1. All planting holes shall be dug by hand- NO MACHINES. The only exceptions are new construction where new planting pits, planting beds with granite curbing, and planting sites with Silva Cells are being created. If a machine is used to dig in any of these situations and planting depth needs to be raised the material in the bottom of the planting hole MUST be firmed with machine to prevent sinking of the root ball.
2. ALL Wire and Burlap shall be removed from the root ball AND planting hole.
3. The root ball of the tree shall be worked so that the root collar of the tree is visible and no girdling roots are present.
4. The root collar of the tree shall be 2"-3" above grade of planting hole for finished depth.
5. All plantings shall be backfilled with soil from the site and amended no more than 20% with Organic Compost. The only exceptions are new construction where engineered soil is being used in conjunction with Silva Cells and where new planting beds are being created.
6. All plantings shall be backfilled in three lifts and ALL lifts shall be watered so the planting will be set and free of air pockets- NO EXCEPTIONS.
7. An earth berm shall be placed around the perimeter of the planting hole except where curbed planting beds or pits are being used.
8. 2"-3" of mulch shall be placed over the planting area.
9. At the time the planting is complete the planting shall receive additional water to ensure complete hydration of the roots, backfill material and mulch layer.
10. Stakes and guys shall be used where appropriate and/or necessary. Guy material shall be nondamaging to the tree.
11. All planting stock shall be specimen quality, free of defects, and disease or injury. The City of Portsmouth, NH reserves the right to refuse/reject any plant material or planting action that fails to meet the standards set forth in the ANSI A300 Part 6 Standard Practices for Planting and Transplanting and/or The City of Portsmouth, NH Planting Requirements.

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE ARCHITECT. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT DELIVERED TO THE SITE FOR AESTHETIC REASONS BEFORE PLANTING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE QUALITY FOR ALL THE PLANTS.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OR OTHERWISE FORFEIT HIS CLAIM. LANDSCAPE CONTRACTOR SHALL PRUNE PLANTINGS OF DEAD LIMBS OR TWIGS DURING THE FIRST YEAR OF GROWTH.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. LANDSCAPE CONTRACTOR SHOULD REPLACE DEAD PLANTINGS IMMEDIATELY UPON OWNER DIRECTION WITHIN THE WARRANTY PERIOD AND AGAIN AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAVE DIED, THAT HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT ARE, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS CALLED FOR.
15. ALL TREES AND SHRUBS TO BE PLANTED IN MULCH BEDS WITH DEFINED AND CUT EDGES TO SEPARATE TURF GRASS AREAS.
16. FOR ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR PINE BARK MULCH AS DEPICTED ON PLANS.
17. LANDSCAPE CONTRACTOR SHALL FEED AND PRUNE EX. TREES, ON OR JUST OFF SITE, THAT HAVE EXPERIENCED ROOT BASE INTRUSION OR DAMAGE DURING CONSTRUCTION IMMEDIATELY AND FOR THE DURATION OF THE WARRANTY PERIOD AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE EDGE OF THE EX. TREE CANOPY THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. ALL MULCH AREAS SHALL RECEIVE A 3" LAYER OF SHREDDED PINE BARK MULCH.
20. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.

NOTE: 6 INCHES OF TOPSOIL WITH 25% COMPOST TO BE ADDED TO ALL PLANTING AREAS

PLEASE NOTE: SHEET SIZE IS SCALED FOR ASME D . DO NOT REDUCE OR ENLARGE.

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Project Title
361 HANOVER
361 HANOVER STREET
PORTSMOUTH, NH

TERRENCE P. PARKER — LICENSED LANDSCAPE ARCHITECT — 041 — STATE OF NEW HAMPSHIRE

Landscape Architect

Scale
AS NOTED

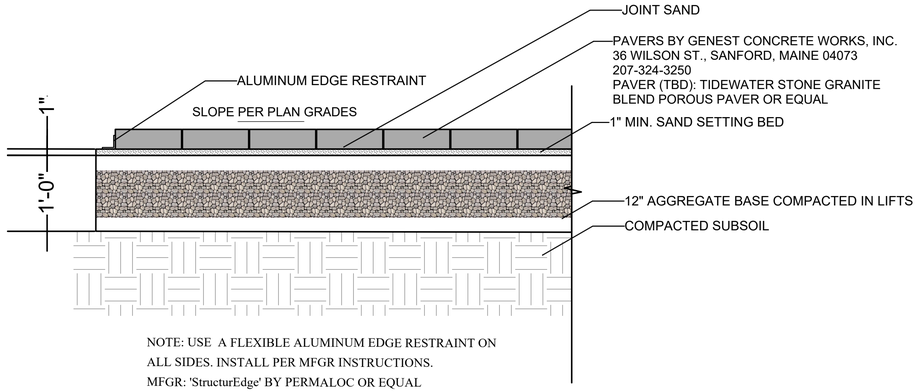
REV.	DATE	DESCRIPTION

NO.	DATE	ISSUE NOTE

Project Manager	Drawn By
Date 7/28/2025	Reviewed By
Project ID 361 HANOVER ST.	

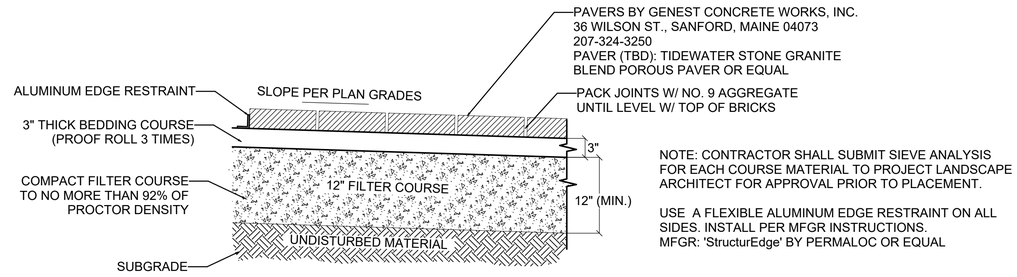
Sheet Title
LANDSCAPE DETAILS

Sheet No.
L-2



1 / L-3

CONCRETE PAVER DETAIL
SCALE: 1"=1'-0"

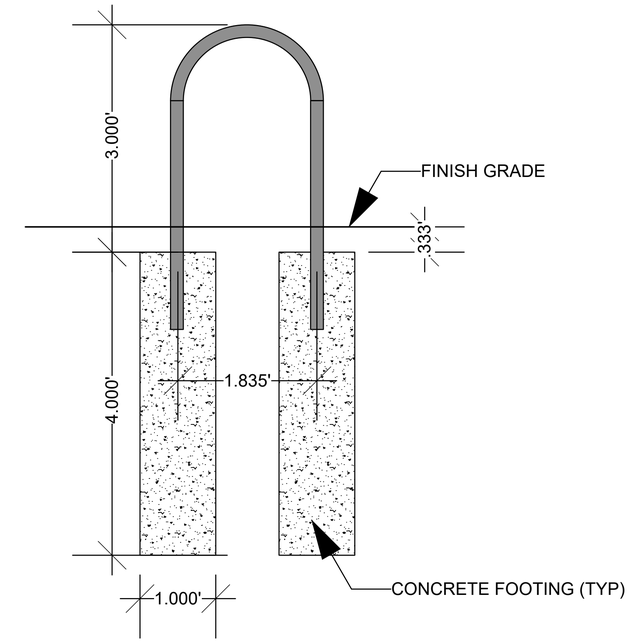


NOTE: CONTRACTOR SHALL SUBMIT SIEVE ANALYSIS FOR EACH COURSE MATERIAL TO PROJECT LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO PLACEMENT.

USE A FLEXIBLE ALUMINUM EDGE RESTRAINT ON ALL SIDES. INSTALL PER MFGR INSTRUCTIONS.
MFGR: 'StructurEdge' BY PERMALOC OR EQUAL

2 / L-3

POROUS PAVER DETAIL (OPTIONAL)
SCALE: 1"=1'-0"



PARK WAREHOUSE U BIKE RACK OR EQUAL

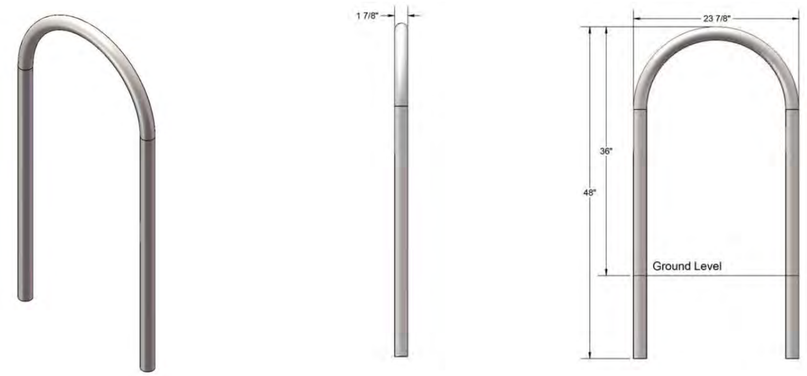
3 / L-3

BIKE RACK DETAIL
SCALE: 1"=1'-0"

PARK WAREHOUSE

U Bike Rack – Inground Mount

Model #: 622br205-1



Side View

Front View

PARK WAREHOUSE

U Bike Rack – Inground Mount

Model #: 622br205

Safety Warnings & Equipment Inspection:

- Owners and installers please note these safety warnings and make use of this checklist on a regular basis.
- Follow installation instructions when erecting equipment.
- Ground surfaces around equipment should be restored as needed. Concrete footings should never be exposed. Surface depth should comply with ASTM and CPSC specifications.
- Check for and repair damage caused by wear or vandalism, a major factor in injury causing situation.
- All protruding bolts should be covered or cut off and finished smooth. Sharp edges on pipes should be capped or removed. Check for bent, broken, or severely worn pipe, and replace.
- All equipment should be free of rust and repainted whenever necessary to deter rusting.
- We provide our customers with layout sheets and installation instructions. Please keep on file the specifications sheet that contains the listing of every part used.
- Never add components not intended for use with this product
- Regular maintenance is necessary in this and all park and recreational equipment to ensure the safety of the user.
- Note: Proper maintenance of equipment requires regular tightening of all bolts, nuts, and setscrews.
- Note: Regular checking of all parts, castings, etc. should be made. If a part is broken or worn, it should be replaced immediately.
- Check to be sure all fittings are tight, and that bars and pipes do not move.
- Replace all worn S-hooks. S-hooks must be completely closed. Failure to close S-hooks can result in serious injury to the user. NEVER reuse S-hooks.
- Test for free movement of swing hanger and other moving attached parts.
- Check for worn chains and replace them
- A soft resilient surface should be placed under all swings extending at least twice the height of the top rail both front and back.

PLEASE NOTE: SHEET SIZE IS SCALED FOR ASME D . DO NOT REDUCE OR ENLARGE.

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Project Title

361 HANOVER

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PORTSMOUTH, NH

TERRENCE P. PARKER — 041 — LICENSED LANDSCAPE ARCHITECT — STATE OF NEW HAMPSHIRE

Landscape Architect

Scale

AS NOTED

REV.	DATE	DESCRIPTION

NO.	DATE	ISSUE NOTE

Project Manager | Drawn By

Date 7/28/2025 | Reviewed By

Project ID 361 HANOVER ST.

Sheet Title

LANDSCAPE DETAILS

Sheet No.

L-3

UTILITY NOTES:

1) SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.

2) COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.

3) CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.

4) ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, POLYWRAPPED, CEMENT LINED DUCTILE IRON PIPE.

5) ALL WATERMAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION AND BEFORE ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTSMOUTH.

6) ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.

7) ALL WORK WITHIN CITY R.O.W. SHALL BE COORDINATED WITH CITY OF PORTSMOUTH

8) CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.

9) ANY CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.

10) EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.

11) ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.

12) THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.

13) ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

14) ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

15) THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATED TO THE OWNER PRIOR TO THE COMPLETION OF PROJECT.

16) THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED IN THESE DRAWING TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.

17) CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.

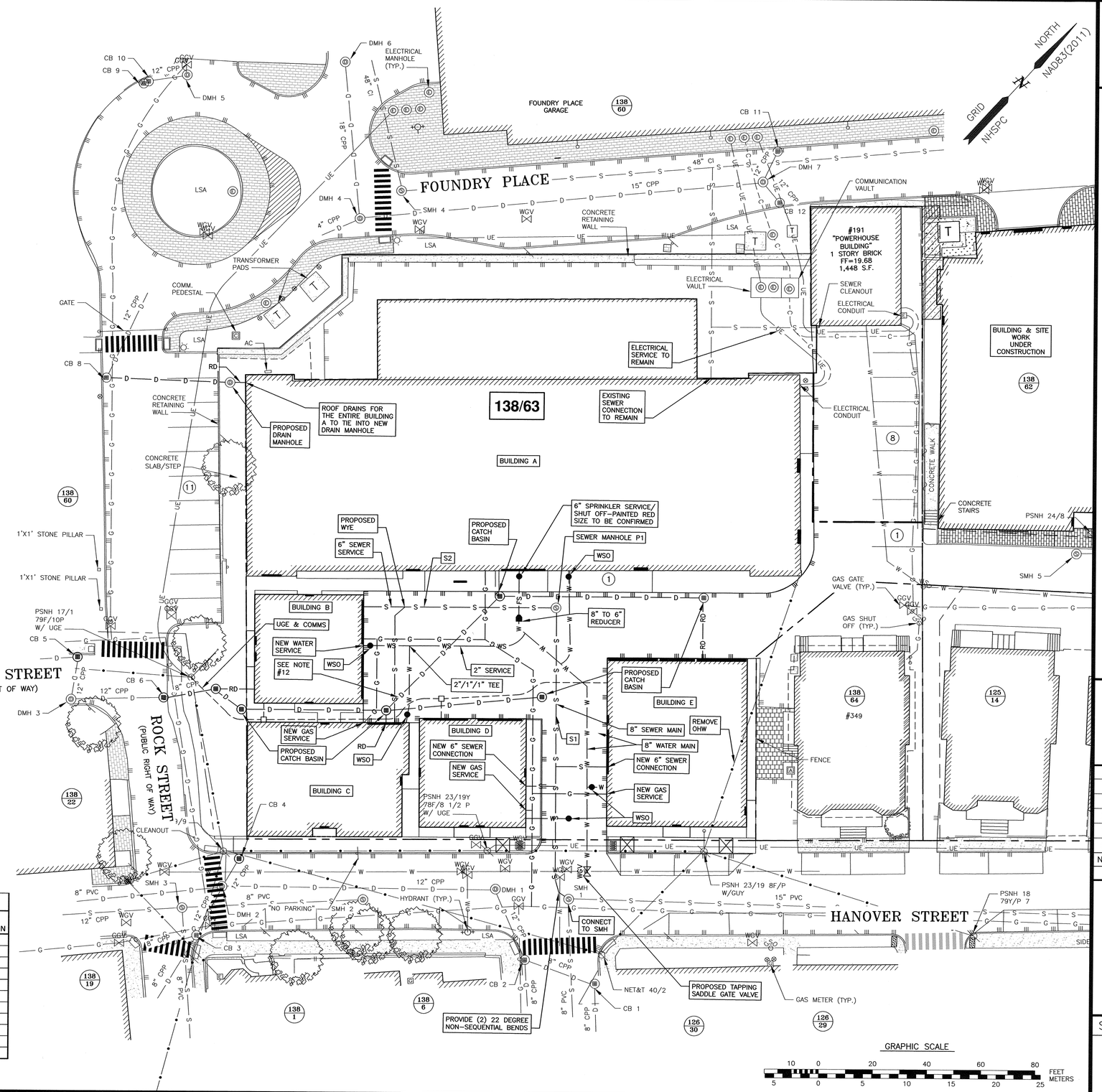
18) A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS WATER ABOVE SEWER.

19) SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

20) GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.

21) COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.

22) ALL SEWER PIPES WITH LESS THAN 6' COVER SHALL BE INSULATED.



SEWER PIPE SCHEDULE

PIPE	PROP/EX	PIPE SIZE/LENGTH	SLOPE
S1	PROP	8" X 108'	0.004
S2	PROP	6" X 69'	0.01

SEWER STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
SMH 1	EX	20.06	15" PVC		14.36	NE
			8" PVC	14.41		SE
SMH 1	PROP	20.06	8" PVC		15.02	NW
SMH 2	EX	19.31	8" PVC		12.91	SW
SMH 3	EX	19.15	8" PVC		11.45	SW
			8" PVC	11.60		NE
			8" PVC	13.90		SE
SMH 4	EX	12.23	48" CI	-0.77		NW
			48" CI		-0.77	NE
SMH P1	PROP		8" PVC		15.45	SE
SMH P1	PROP		6" PVC	15.62		SW

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NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) INSTALL CATCH BASIN INLET PROTECTION ON ALL EXISTING AND PROPOSED CATCH BASINS (IN THE PROJECT VICINITY) UNTIL CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED.

5) ALL WATER MAIN AND SANITARY SEWER WORK SHALL MEET THE STANDARDS OF THE NEW HAMPSHIRE STATE PLUMBING CODE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

6) UTILITY AS-BUILTS SHALL BE SUBMITTED TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS UPON COMPLETION OF THE PROJECT.

7) EVERSOURCE WORK ORDER #21498685.

8) PROPOSED SEWER FLOW:
40 UNITS X 170 GPD/UNITS = 6,800 GPD
TOTAL FLOW: 6,800 GPD

9) THE APPLICANT SHALL HAVE A COMMUNICATIONS SITE SURVEY CONDUCTED BY A MOTOROLA COMMUNICATIONS CARRIER APPROVED BY THE PORTSMOUTH'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE PORTSMOUTH POLICE AND FIRE RADIO SYSTEMS CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPERTY OWNER WILL BE REQUIRED TO MAINTAIN ANY INSTALLED EQUIPMENT. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES THAT EQUIPMENT IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR PORTSMOUTH. THE SURVEY SHALL BE COMPLETED AND ANY REQUIRED EQUIPMENT INSTALLED, TESTED, AND ACCEPTED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

10) FINAL CONDUIT LOCATION SUBJECT TO CONFIRMATION FROM UTILITY PROVIDERS.

11) EXISTING UTILITIES TO BE ABANDONED SHALL BE REMOVED TO THE UTILITY MAIN AND CAPPED PER THE UTILITY COMPANY REQUIREMENT.

12) ROOF DRAINS FOR BUILDING C & E WILL CONNECT TO THE DRAIN LINE. SEE SHEET C6 FOR GUTTER (SLOPE ROOF) CONNECTIONS.

13) SEWER SERVICES SHALL BE 6". WATER SERVICES SHALL BE 1", EXCEPT BUILDING A SHALL BE 2". SUBJECT TO FINAL DESIGN VERIFICATION.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	BUILDING DIMENSIONS	07/30/25
1	WATER, FIRE, & SEWER SERVICES	06/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

JOHN CHAGNON 18677 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: 1"=20' JANUARY 2024

UTILITY PLAN

C4

FB 444 & PG 1

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DRAINAGE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
CB 1	EX	20.66	8" CPP		17.46	SW
			8" CPP	17.51		SE
CB 2	EX	20.35	12" CPP		15.70	W
	EX		8" CPP	15.80		NE
			8" CPP	16..50		SE
CB 3	EX	19.29	12" CPP		15.64	NW
			8" CPP	16.24		S
			8" CPP	16.29		SE
CB 4	EX	18.90	12" CPP		15.65	SE
CB 5	EX	15.00	12" CPP		10.00	SE
			12" CPP	10.00		SW
CB 6	EX	15.60	12" CPP		12.85	SW
			~~8" CPP~~	~~13.20~~		~~NE~~
CB 6 (CORE)	PROP		12" HDPE	12.95		
CB 7	EX	17.43	8" CPP		16.28	SW
CB 8	EX	12.15	12" CPP		7.45	NW
CB 8 (CORE)	PROP		12" HDPE	7.65		
CB 9&10	EX	9.76	12" CPP		5.86	NE
CB 11	EX	10.07	12" CPP		6.17	SE
CB 12	EX	10.22	12" CPP		6.92	SW
DMH 1	EX	19.81	12" CPP		15.56	SW
			12" CPP	15.56		E
DMH 2	EX	19.08	12" CPP		15.03	SW
			12" CPP	15.03		NE
			12" CPP	15.43		NW
			12" CPP	15.43		SE
DMH 3	EX	15.30	12" CPP		10.65	NW
			12" CPP	10.65		NE
DMH 4	EX	11.86	18" CPP		5.46	NW
			15" CPP	5.56		NE
			4" PVC	9.36		S
DMH 5	EX	9.87	NO DATA			
DMH 6	EX	11.84	NO DATA			
DMH 7	EX	10.19	18" CPP		6.29	SW
			12" CPP	6.44		NW
			12" CPP	6.39		NE

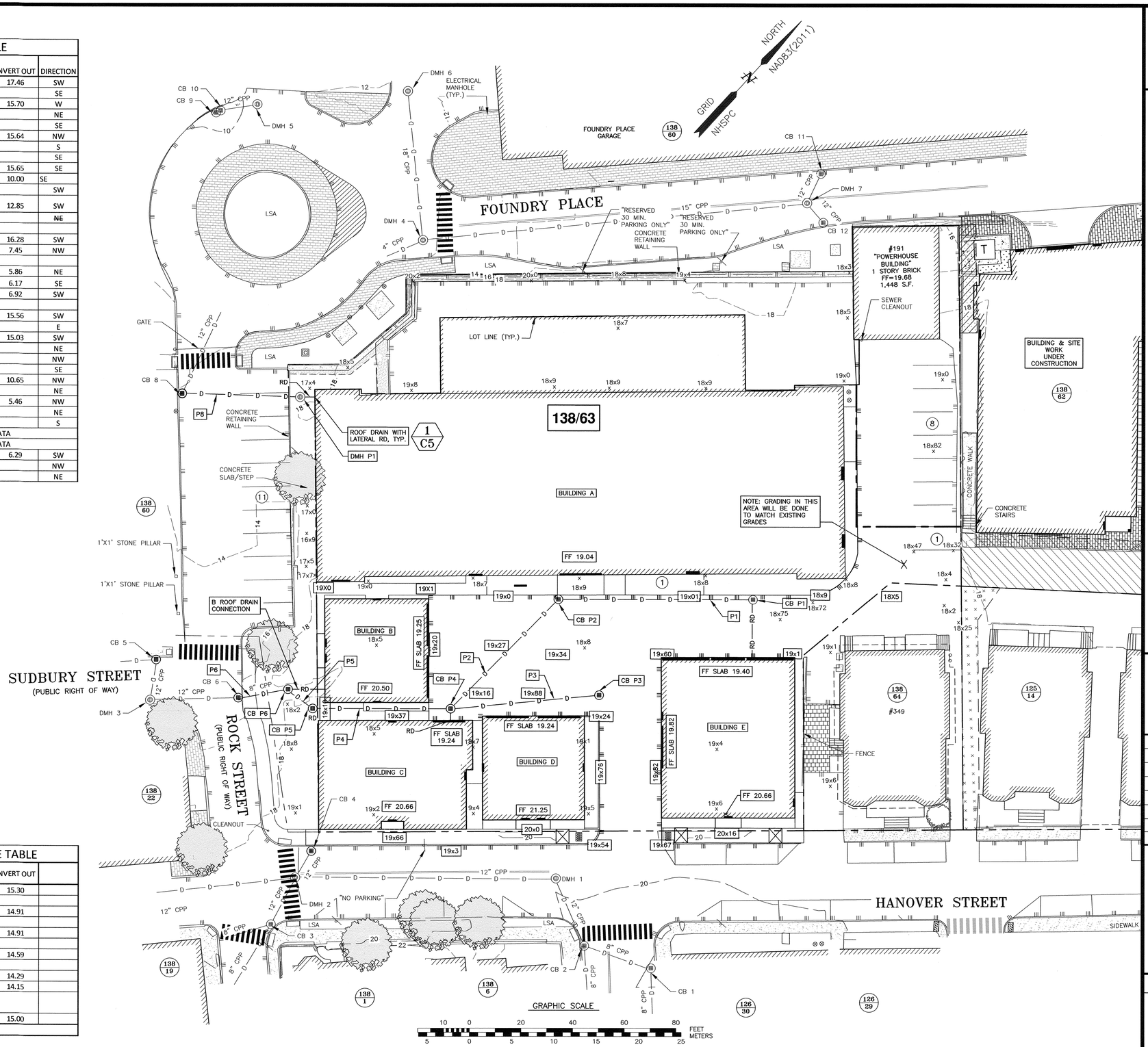
PROPOSED PIPING TABLE

PIPE	PROP/EX	PIPE SIZE/TYPE	SLOPE
P1	PROP	72'X12" HDPE	0.004
P2	PROP	54'X12" HDPE	0.004
P3	PROP	54'X12" HDPE	0.004
P4	PROP	50'X12" HDPE	0.004
P5	PROP	10'X12" HDPE	0.004
*P6	PROP	15'X12" HDPE	0.08
P8	PROP	41'X12" HDPE	0.004

*REPLACE EXISTING PIPE

PROPOSED DRAINAGE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	
CB P1	PROP	18.74	12" HDPE		15.30	
CB P2	PROP	18.90	12" HDPE	15.01		
			12" HDPE		14.91	
CB P3	PROP	19.04	12" HDPE	15.01		
			12" HDPE		14.91	
CB P4	PROP	19.06	12" HDPE	14.69		
			12" HDPE		14.59	
CB P5	PROP	19.00	12" HDPE	14.39	14.29	
CB P6	PROP	17.50	12" HDPE	14.25	14.15	
DMH P1	PROP	MATCH GRADE	12" HDPE	7.82		
DMH P1			6" RD		15.00	



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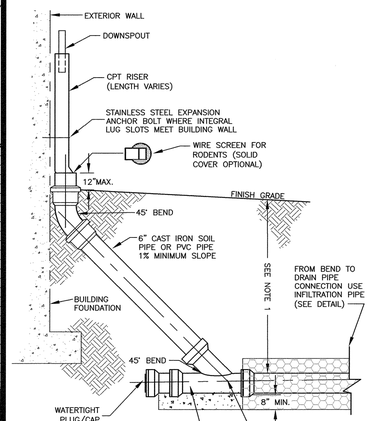
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NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1–888–DIG–SAFE (1–888–344–7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).



NOTES:
1) FOR ALL DEPTHS OF COVER LESS THAN 2 FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN 2 FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
2) A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
3) THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE RODENT SCREEN. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION AT THE POINT OF THE RODENT SCREEN.

1 C5 ROOF DRAIN WITH LATERAL
NTS

SITE REDEVELOPMENT 361 HANOVER STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING DIMENSIONS	07/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

STATE OF NEW HAMPSHIRE — JOHN CHAGNON No. 9851 — LICENSED PROFESSIONAL ENGINEER

SCALE: 1"=20' JANUARY 2024

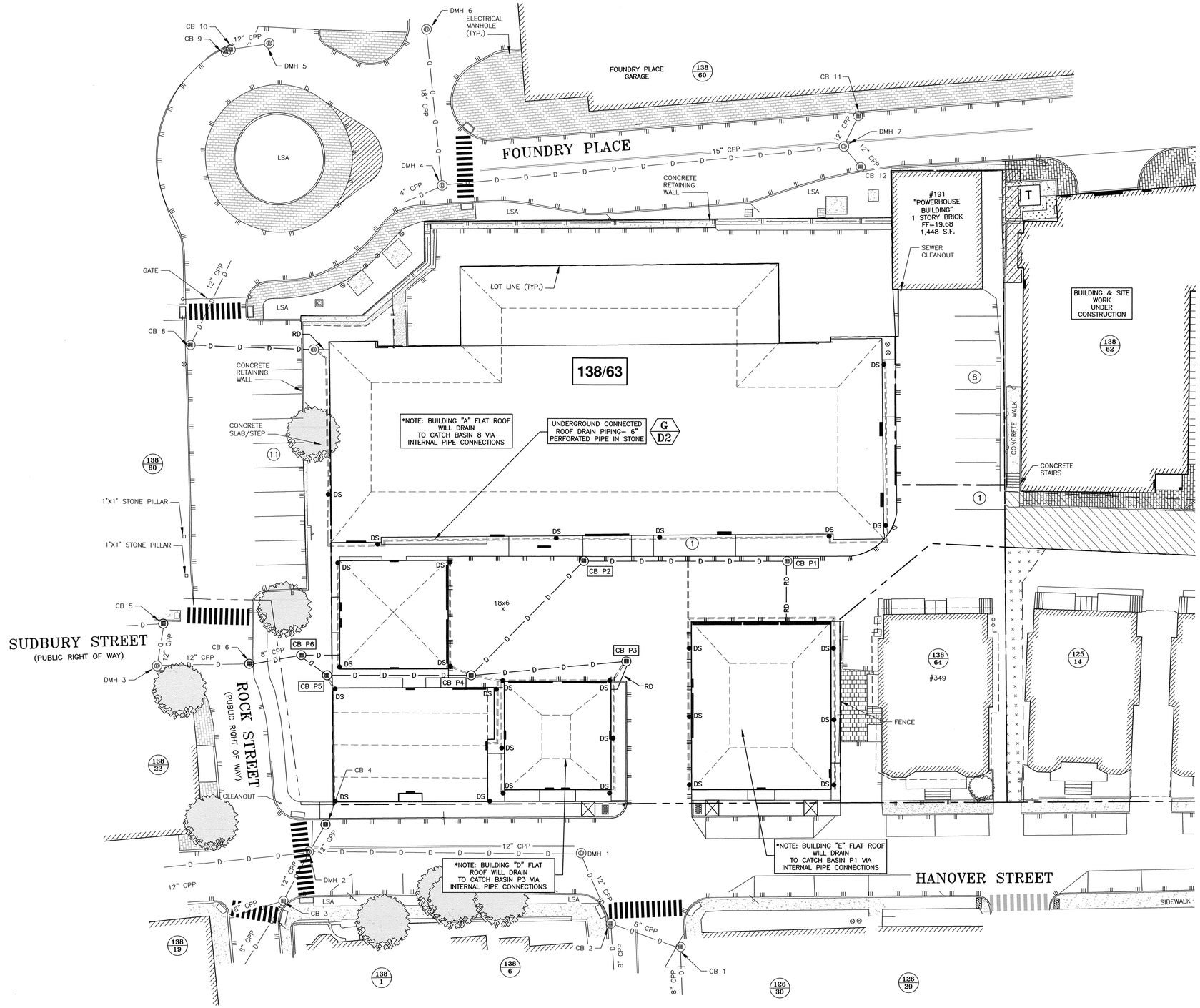
GRADING & DRAINAGE PLAN

C5

FB 444 & PG 1

5010135.2977.01

P:\NHS\5010135-Hampshire_Development\2977.01-Hanover Dr, Portsmouth-RFC\N 2977\204 Site Plan\Plans & Specs\Dwg\2977.01 Site.dwg 7/29/2025 9:47:56 AM



HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) THE PURPOSE OF THIS PLAN IS TO SHOW THE ROOF DRAIN CONNECTIONS TO THE DRAINAGE SYSTEM.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING DIMENSIONS	07/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 17651
LICENSED PROFESSIONAL ENGINEER

SCALE: 1"=20' JANUARY 2024

ROOF DRAINAGE PLAN

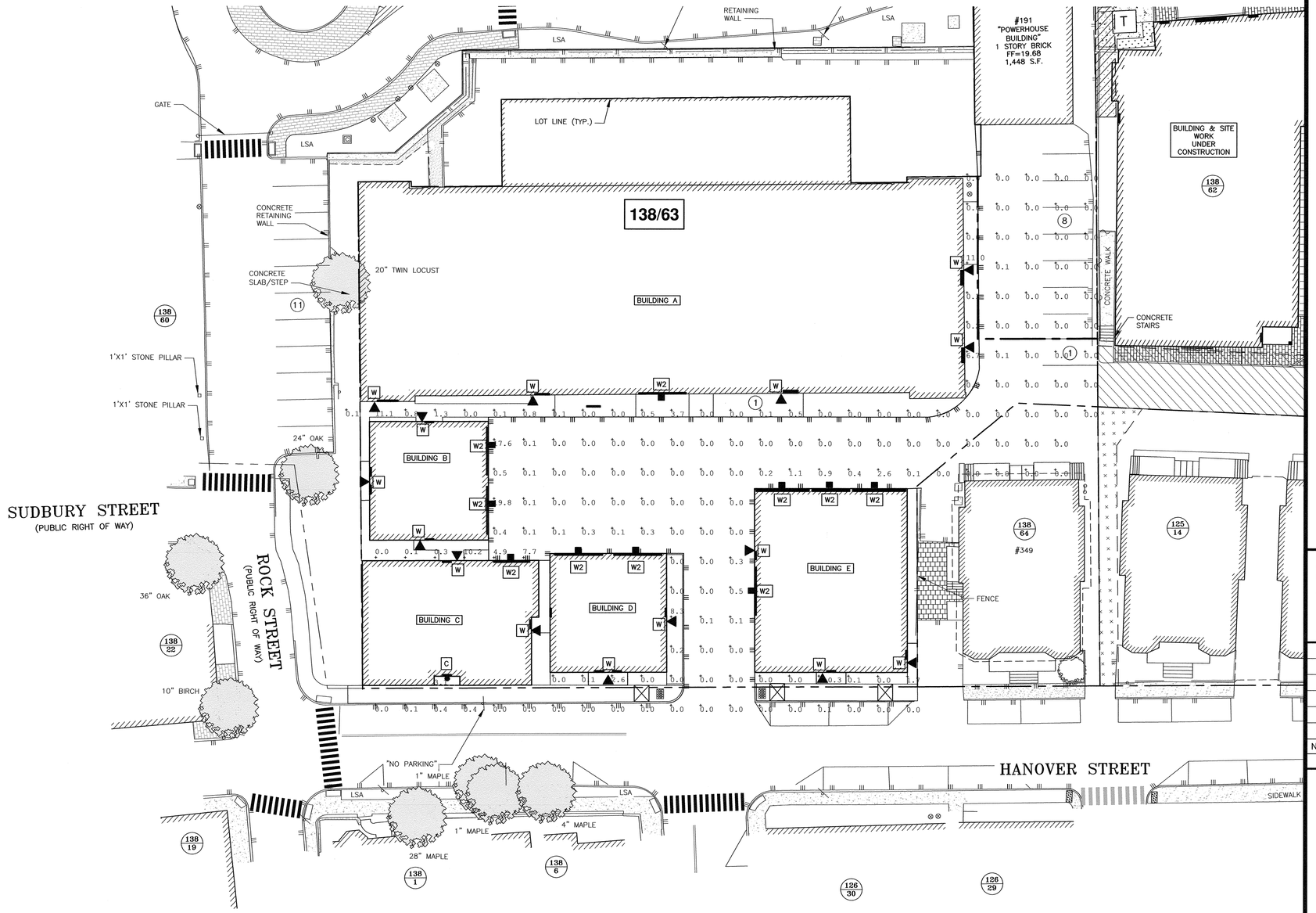
C6

FB 444 & PG 1

5010135.2977.01

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Luminaire Schedule					
Symbol	Qty	Label	Arrangement	[MANUFAC]	Description
●	1	C	Single	NICOR	CLR43SUS9WH (7W,806LM)
▲	15	W	Single	LIGMAN	UVA-30001-8W-W30-01-120/277V
■	10	W2	Single	LIGMAN	UCI-30131-21W-W-W30-01-120/277V



GRAPHIC SCALE

10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

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NOTES:

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3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) ALL LIGHTING SHALL BE SHIELDED TO MINIMIZE LIGHT TRESPASS AND DIRECT GLARE BEYOND THE PROPERTY.

5) ALL LIGHTS SHALL BE DARK SKY COMPLIANT AND DIRECTED DOWNWARD.

6) LIGHTING LAYOUT & FIXTURE SPECIFICATIONS DESIGNED/PROVIDED BY: EXPOSURE 2 LIGHTING. CONTACT: KEN SWEENEY 603-601-8080.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING DIMENSIONS	07/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

SCALE: 1"=20' JANUARY 2024

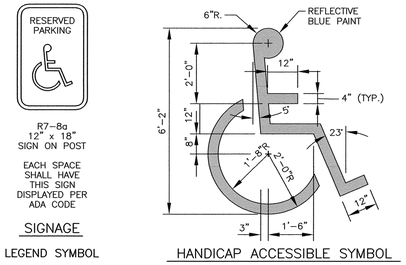
LIGHTING PLAN

C7

FB 444 & PG 1

5010135.2977.01

P:\5010135 Hampshire_Development\2977.01 - Hanover St., Portsmouth, NH\CAD\2977.01 Site Plan\Plans & Specs\Dwg\2977.01 Site.dwg, 7/9/2025 8:42:28 AM



HANDICAP ACCESSIBLE SYMBOL

R7-8a
12" x 18"
SIGN ON POST

EACH SPACE SHALL HAVE THIS SIGN DISPLAYED PER ADA CODE

SIGNAGE

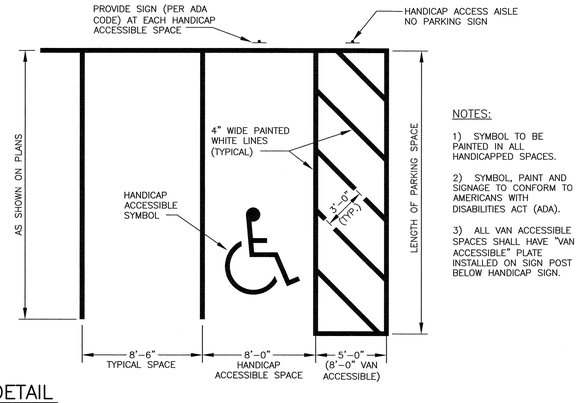
LEGEND SYMBOL



K-4438
12" x 18"
SIGN ON POST

SIGNAGE

HANDICAP ACCESS AISLE NO PARKING SIGN



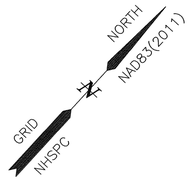
NOTES:

1) SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES.

2) SYMBOL, PAINT AND SIGNAGE TO CONFORM TO AMERICANS WITH DISABILITIES ACT (ADA).

3) ALL VAN ACCESSIBLE SPACES SHALL HAVE "VAN ACCESSIBLE" PLATE INSTALLED ON SIGN POST BELOW HANDICAP SIGN.

1/C8 HANDICAP PARKING DETAIL
NTS



PARKING CALCULATIONS:

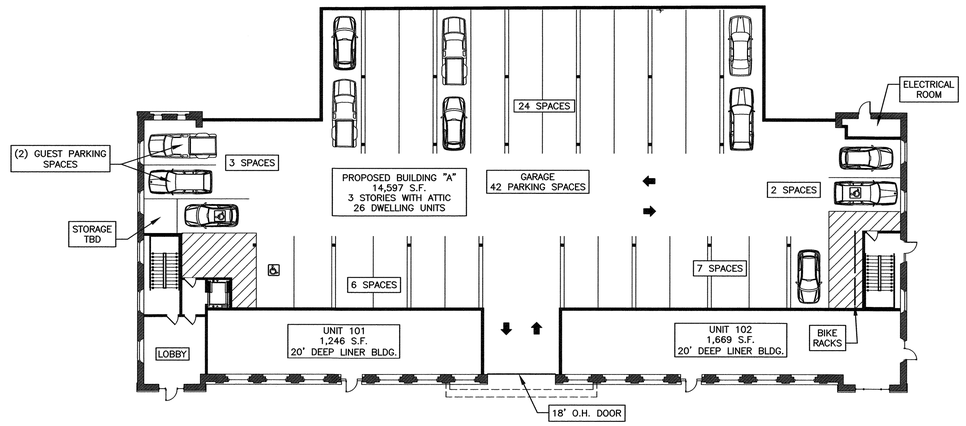
361 HANOVER STREET (DEVELOPMENT SITE):

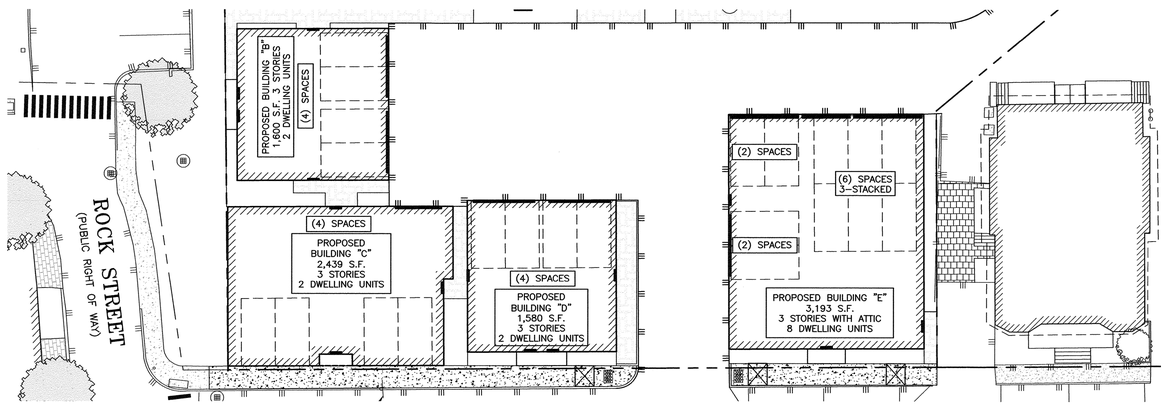
PROPOSED USE:
BUILDING A: 26 UNITS
BUILDING B: 2 UNITS
BUILDING C: 2 UNITS
BUILDING D: 2 UNITS
BUILDING E: 8 UNITS
TOTAL: 40 UNITS

PARKING SPACES PROVIDED:
BUILDING A: 42 SPACES
BUILDING B: 4 SPACES
BUILDING C: 4 SPACES
BUILDING D: 4 SPACES
BUILDING E: 10 SPACES
GUEST: 2 SPACES
TOTAL: 66 SPACES

191 HILL STREET (SUBDIVIDED LOT):

EXISTING USE: 1,500 S.F. TRADE
7.20-7.40 TRADE SERVICES
1 SPACE/400 S.F. GFA
1500/400= 4 SPACES REQUIRED
8 SPACES PROVIDED





GRAPHIC SCALE

10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

NOTES:

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63.

2. APPLICANT:
361 HANOVER STEAM FACTORY, LLC
41 INDUSTRIAL DRIVE UNIT 20
EXETER, N.H. 03833

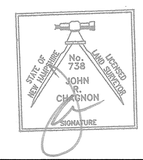
3. THE PURPOSE OF THIS PLAN IS TO SHOW THE PARKING FOR THE PROPOSED SITE DEVELOPMENT ON ASSESSOR'S MAP 138 LOT 63 IN THE CITY OF PORTSMOUTH.

HALEYWARD
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200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	BUILDING DIMENSIONS	07/30/25
1	GUEST PARKING	06/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS



SCALE: 1"=20' JUNE 2025

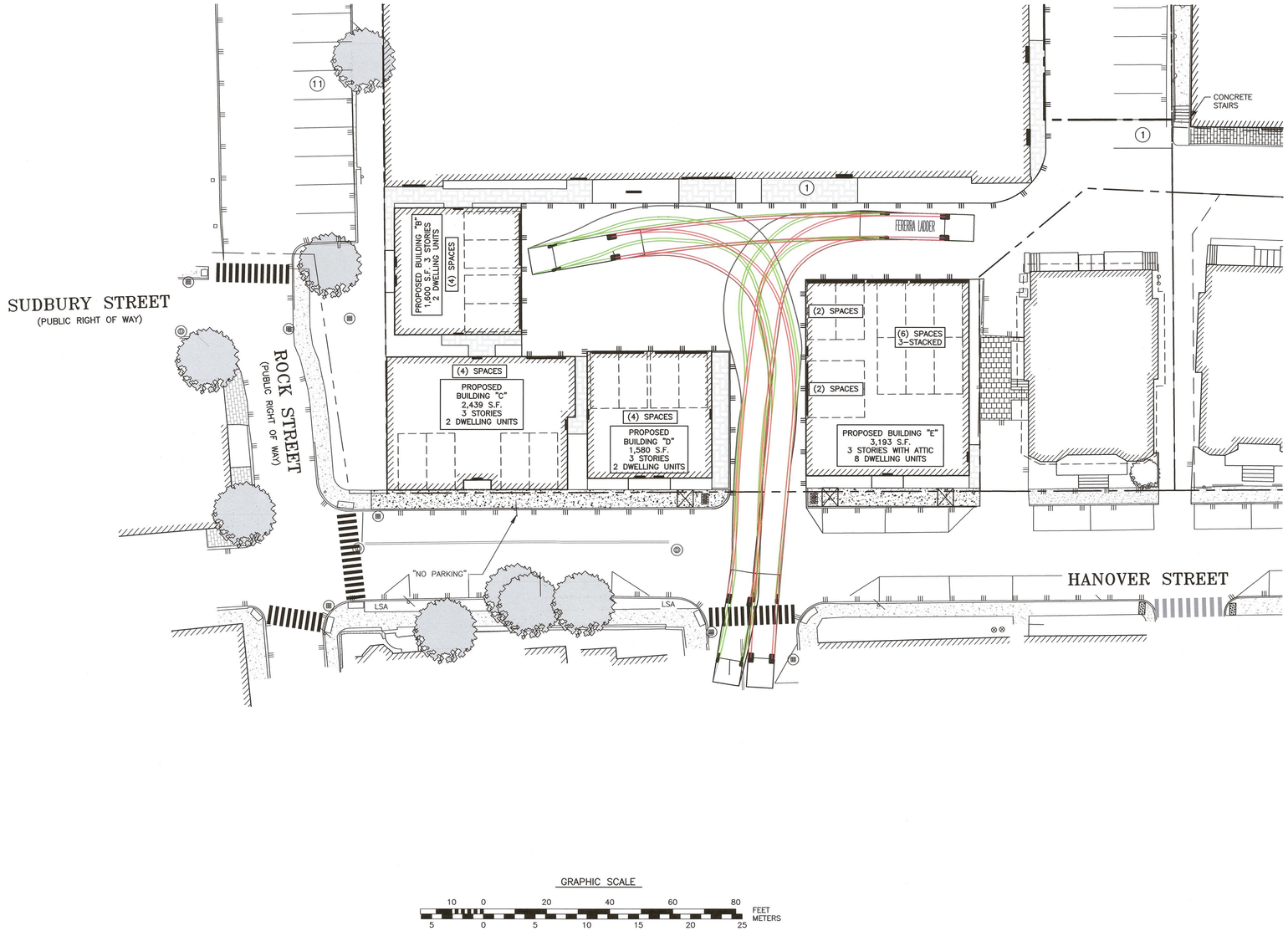
PARKING PLAN

C8

FB 444 & PG 1

5010135.2977.01

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GRAPHIC SCALE

10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

NORTH
NADB3(2011)
GRID
NHSPC

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603.430.9282
WWW.HALEYWARD.COM

NOTES:

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 138 AS LOT 63.
2. APPLICANT:
   361 HANOVER STEAM FACTORY, LLC
   41 INDUSTRIAL DRIVE UNIT 20
   EXETER, N.H. 03833
3. PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F. JANUARY 29 2021.

PROPOSED LOT AREAS:

LOT 138/63
38,528 S.F.±
0.8845 AC

LOT 138/63-1
4,717 S.F.
0.1083 AC

4. THE PURPOSE OF THIS PLAN IS TO SHOW A FIRE TRUCK TURNING TEMPLATE ON ASSESSOR'S MAP 138 LOT 63.

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING DIMENSIONS	07/30/25
0	ISSUED FOR COMMENT	06/13/25

REVISIONS

STATE OF NEW HAMPSHIRE No. 738 JOHN R. CHAGNON LICENSED LAND SURVEYOR SIGNATURE

SCALE: 1"=20' JUNE 2025

FIRE TRUCK TURNING TEMPLATE

T2

FB 444 & PG 1

5010135.2977.01

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2 ROCK STREET ELEVATION
Scale: 1/8" = 1'-0"



1 HANOVER STREET ELEVATION
Scale: 1/8" = 1'-0"

0 10 14 18 FT

CAD File Name
361Hanover St_SD_ColoredStreetElevation.vwx

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48 MARKET STREET
NEWBURYPORT, MA 01950
T. 978.465.3535
WWW.SCOTTBROWNARCHITECT.COM

SITE DEVELOPMENT
AT
361 HANOVER STREET
PORTSMOUTH, NH, 03801

REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

STREET ELEVATIONS

A2.0

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2 SOUTH (LEFT SIDE) ELEVATION
Scale: 1/8" = 1'-0"



1 EAST (FRONT) ELEVATION
Scale: 1/8" = 1'-0"

0 5 10 15 FT

CAD File Name
361HanoverSt_SD_BuildingA.vwx

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SITE DEVELOPMENT
AT
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PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

ELEVATIONS: BUILDING A

A2.1a

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2 NORTH (RIGHT SIDE) ELEVATION
Scale: 1/8" = 1'-0"



1 WEST (REAR) ELEVATION
Scale: 1/8" = 1'-0"

0 5 10 15 FT

CAD File Name
361HanoverSt_SD_BuildingA.vwx

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SITE DEVELOPMENT
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REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

ELEVATIONS: BUILDING A

A2.2a

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4 BUILDING B: WEST (LEFT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



3 BUILDING B: NORTH (REAR) ELEVATION
Scale: 3/16" = 1'-0"



2 BUILDING B: EAST (RIGHT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



1 BUILDING B: SOUTH (FRONT) ELEVATION
Scale: 3/16" = 1'-0"

0 5 10 FT

CAD File Name
361HanoverSt_SD_BuildingB.vwx

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SITE DEVELOPMENT
AT
361 HANOVER STREET
PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

ELEVATIONS: BUILDING B

A2.1b

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4 BUILDING C: SOUTH (LEFT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



3 BUILDING C: WEST (REAR) ELEVATION
Scale: 3/16" = 1'-0"



2 BUILDING C: NORTH (RIGHT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



1 BUILDING C: EAST (FRONT) ELEVATION
Scale: 3/16" = 1'-0"

0 5 10 FT

CAD File Name
361HanoverSt_SD_BuildingC.vwx

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SITE DEVELOPMENT
AT
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PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PLANNING BOARD SUBMISSION

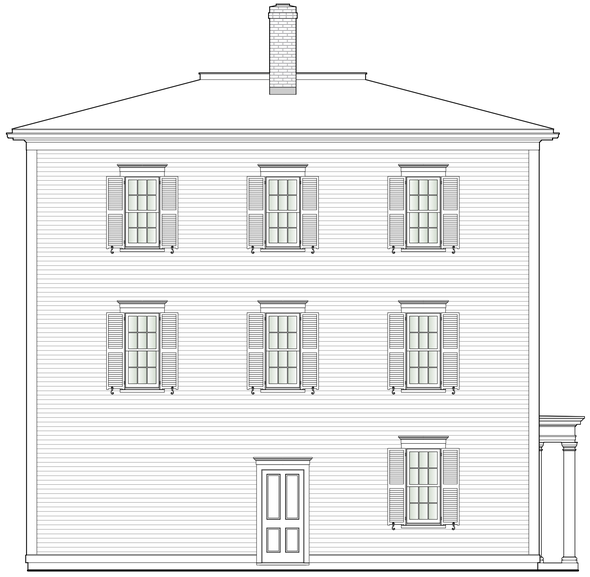
Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

ELEVATIONS: BUILDING C

A2.1c

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4 BUILDING D: SOUTH (LEFT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



3 BUILDING D: WEST (REAR) ELEVATION
Scale: 3/16" = 1'-0"



2 BUILDING D: NORTH (RIGHT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



1 BUILDING D: EAST (FRONT) ELEVATION
Scale: 3/16" = 1'-0"

0 5 10 FT

CAD File Name
361HanoverSt_SD_BuildingD.vwx

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SITE DEVELOPMENT
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REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

ELEVATIONS: BUILDING D

A2.1d

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4 BUILDING E: SOUTH (LEFT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



3 BUILDING E: WEST (REAR) ELEVATION
Scale: 3/16" = 1'-0"



2 BUILDING E: NORTH (RIGHT SIDE) ELEVATION
Scale: 3/16" = 1'-0"



1 BUILDING E: EAST (FRONT) ELEVATION
Scale: 3/16" = 1'-0"

0 5 10 FT

CAD File Name
361HanoverSt_SD_BuildingE.vwx

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SITE DEVELOPMENT
AT
361 HANOVER STREET
PORTSMOUTH, NH, 03801

REVISION & REISSUE NOTES

No.	Date	Notes
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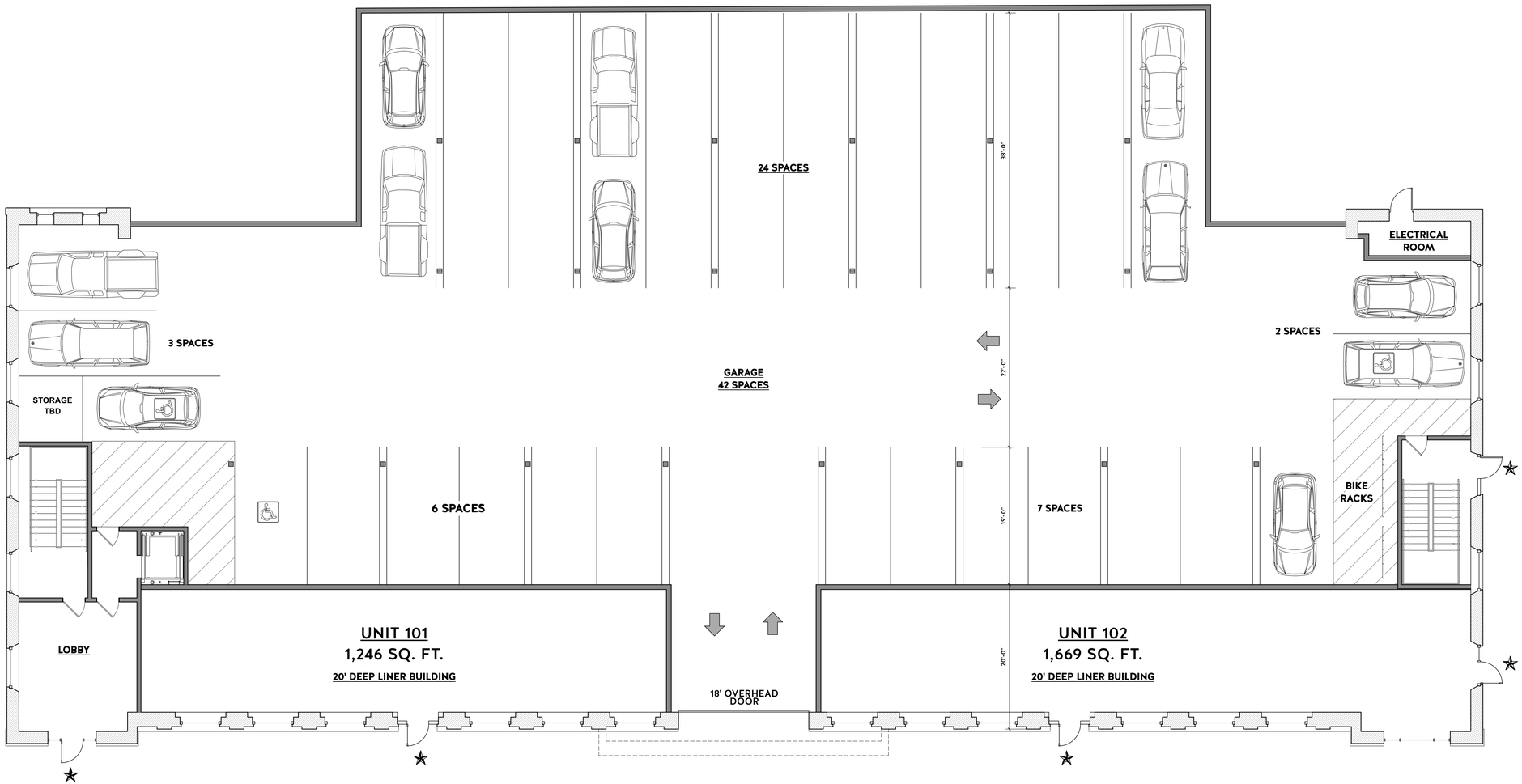
Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

ELEVATIONS: BUILDING E

A2.1e

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1 GROUND FLOOR PLAN: BUILDING A
Scale: 1/8" = 1'-0"

0 5 10 15 FT

CAD File Name
361HanoverSt_SD_BuildingC.vwx

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SITE DEVELOPMENT
AT
361 HANOVER STREET
PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
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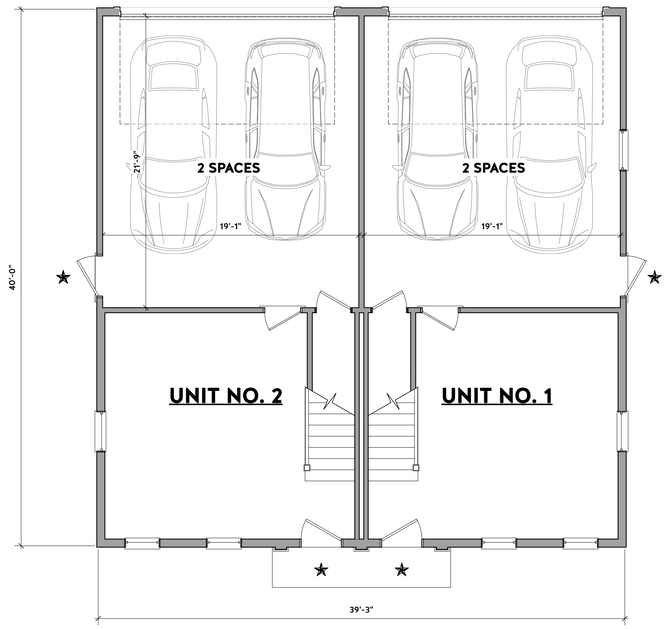
Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

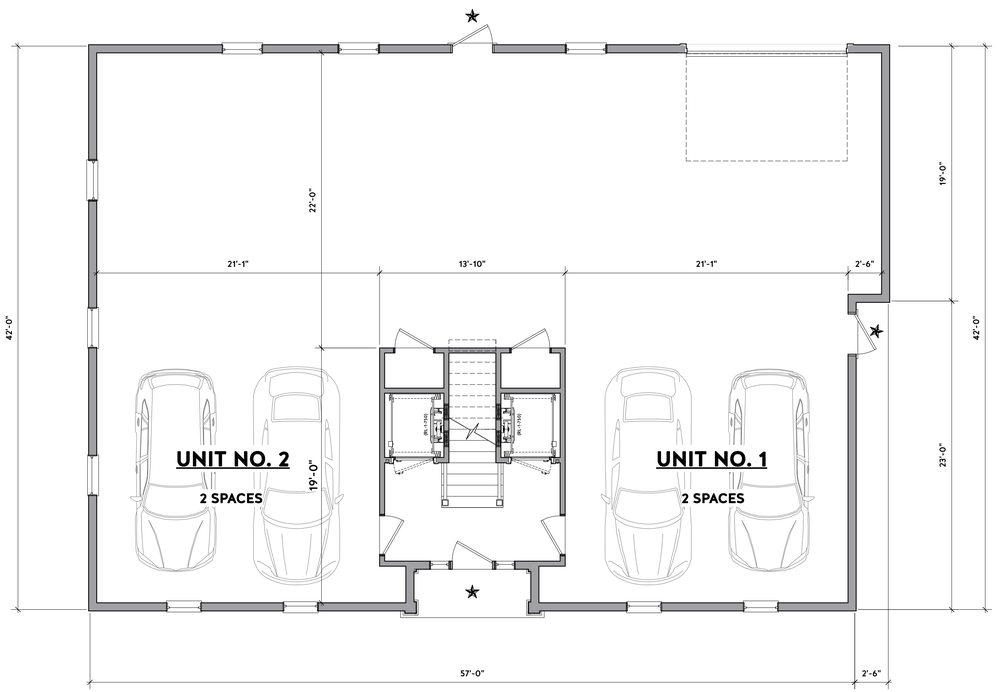
GROUND FLOOR LAYOUT PLANS

A1

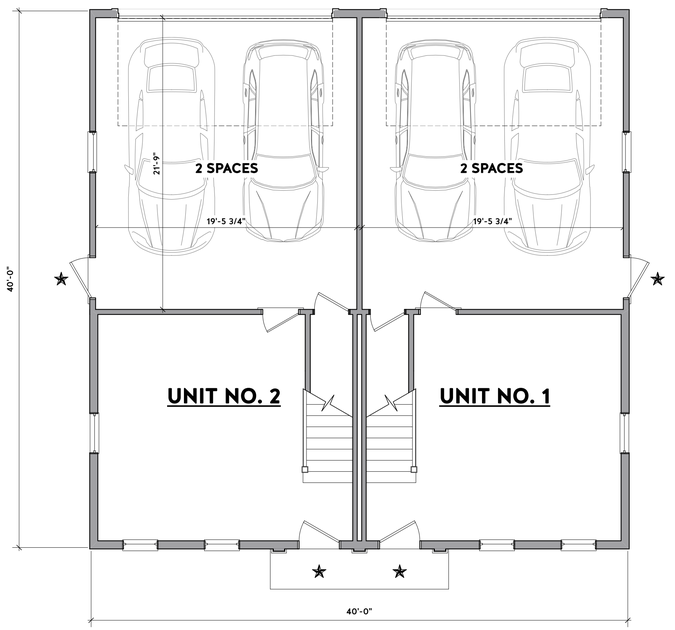
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2 GROUND FLOOR PLAN: BUILDING D
Scale: 3/16" = 1'-0"



3 GROUND FLOOR PLAN: BUILDING C
Scale: 3/16" = 1'-0"



1 GROUND FLOOR PLAN: BUILDING B
Scale: 3/16" = 1'-0"

0 5 10 FT

CAD File Name
361HanoverSt_SD_BuildingC_vwx

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T. 978.465.3535
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SITE DEVELOPMENT
AT
361 HANOVER STREET
PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

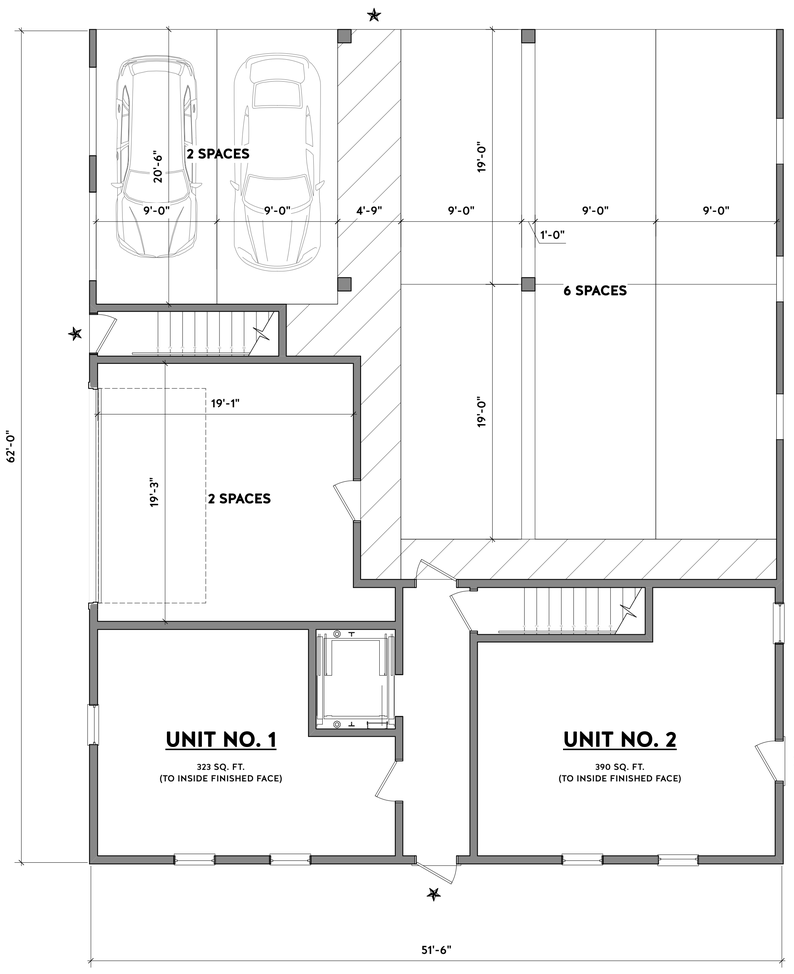
Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

GROUND FLOOR LAYOUT PLANS

A2

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1 GROUND FLOOR PLAN: BUILDING E
Scale: 3/16" = 1'-0"

0 5 10 FT

CAD File Name
361HanoverSt_SD_BuildingC.vwx

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ESTD | ARCHITECTS | 2007

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NEWBURYPORT, MA 01950
T. 978.465.3535
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SITE DEVELOPMENT
AT
361 HANOVER STREET
PORTSMOUTH, NH 03801

REVISION & REISSUE NOTES

No.	Date	Notes
A	7-30-25	PB SUBMISSION

Project #	Project Manager	Date
2024-09	X.X.	7-30-25

Scale: AS NOTED

GROUND FLOOR LAYOUT PLANS

A3

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EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

IF REQUIRED THE CONTRACTOR SHALL OBTAIN AN **NPDES** PHASE II STORMWATER PERMIT AND SUBMIT A NOTICE OF INTENT (N.O.I) BEFORE BEGINNING CONSTRUCTION AND SHALL HAVE ON SITE A STORMWATER POLLUTION PREVENTION PLAN (**S.W.P.P.P.**) AVAILABLE FOR INSPECTION BY THE PERMITTING AUTHORITY DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THE **S.W.P.P.P.** AND INSPECTING AND MAINTAINING ALL BMP'S CALLED FOR BY THE PLAN. THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (**N.O.T.**) FORM TO THE REGIONAL EPA OFFICE WITHIN 30 DAYS OF FINAL STABILIZATION OF THE ENTIRE SITE OR TURNING OVER CONTROL OF THE SITE TO ANOTHER OPERATOR.

THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
1. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
2. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
3. A REPRESENTATIVE OF THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
4. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

INSTALL PERIMETER CONTROLS, i.e., SILTSOXX AND CATCH BASIN PROTECTION AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAYBALES IS NOT ALLOWED.

THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES. PLACE FODS AS NEEDED.

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED. DEMOLISH BUILDINGS AND FENCES AS NEEDED.

ROUGH GRADE SITE.

LAYOUT AND INSTALL ALL BURIED UTILITIES AND SERVICES UP TO 10' OF THE PROPOSED BUILDING FOUNDATIONS. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

CONSTRUCT BUILDING.

CONNECT UTILITIES.

PLACE BINDER LAYER OF PAVEMENT AND CONSTRUCT SIDEWALK BASE.

PLANT LANDSCAPING IN AREAS OUT OF WAY OF BUILDING CONSTRUCTION. PREPARE AND STABILIZE FINAL SITE GRADING BY ADDING TOPSOIL, SEED, MULCH AND FERTILIZER.

AFTER BUILDINGS ARE COMPLETED, FINISH ALL REMAINING LANDSCAPED WORK.

FINISH PAVE AND COMPLETE SIDEWALKS.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A BUILDING REDEVELOPMENT AND ADDITIONS WITH ASSOCIATED UTILITIES AND PARKING.

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 0.820 ACRES.

BASED ON THE USCS WEB SOIL SURVEY THE SOILS ON SITE CONSIST OF URBAN LAND WHICH HAS AN UNSPECIFIED HYDROLOGIC SOIL GROUP RATING, ASSUMED D.

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM TO THE CITY OF PORTSMOUTH CLOSED DRAINAGE SYSTEM WHICH ULTIMATELY FLOWS TO THE NORTH MILL POND.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DUST CONTROL: DUST CONTROL MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.
IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILTSOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILTSOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
- EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
- IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA.

STABILIZATION MEASURES TO BE USED INCLUDE:
- TEMPORARY SEEDING;
- MULCHING.

1. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
2. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN THESE AREAS, SILTSOXX, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
3. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILTSOXX, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

MAINTENANCE AND PROTECTION

THE SILTSOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

SILTSOXX SHALL BE REMOVED ONCE SITE IS STABILIZED, AND DISTURBED AREAS RESULTING FROM SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

THE CATCH BASIN INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.
SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

WINTER NOTES

ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;

AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;

STOCKPILES

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

CONCRETE WASHOUT AREA

THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
1. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FAILITY;
2. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
3. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
4. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES

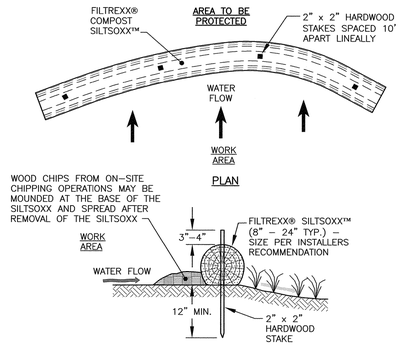
1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL

1. WASTE MATERIAL
   - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   - NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   - ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE
   - ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   - SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE
   - ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

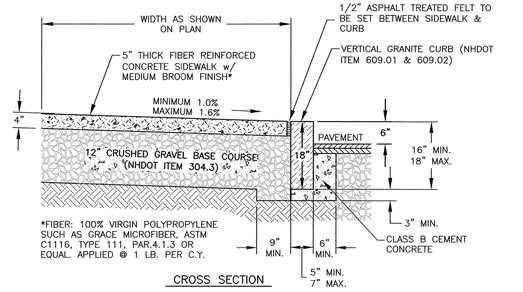
BLASTING NOTES

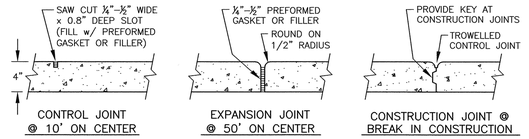
1. CONTRACTOR SHALL CONTACT THE NHDES AND/OR LOCAL JURISDICTION PRIOR TO COMMENCING ANY BLASTING ACTIVITIES.
2. FOR ANY PROJECT FOR WHICH BLASTING OF BEDROCK IS ANTICIPATED, THE APPLICANT SHALL SUBMIT A BLASTING PLAN THAT IDENTIFIES:
   - WHERE THE BLASTING ACTIVITIES ARE ANTICIPATED TO OCCUR;
   - THE ESTIMATED QUANTITY OF BLAST ROCK IN CUBIC YARDS; AND
   - SITE-SPECIFIC BLASTING BEST MANAGEMENT PRACTICES.



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

A / C5 FILTREXX® SILTSOXX™ FILTRATION SYSTEM (IF NEEDED) NTS





C / C3 CONCRETE SIDEWALK GRANITE CURB NTS

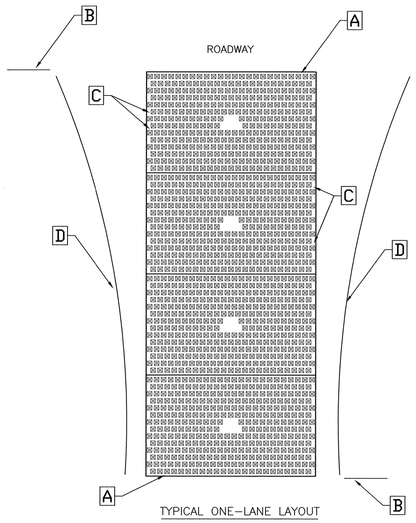
FODS TRACKOUT CONTROL SYSTEM

INSTALLATION:

THE PURPOSE AND DESIGN OF THE FODS TRACKOUT CONTROL SYSTEM IS TO EFFECTIVELY REMOVE MOST SEDIMENT FROM VEHICLE TIRES AS THEY EXIT A DISTURBED LAND AREA ONTO A PAVED STREET. THIS MANUAL IS A PLATFORM FROM WHICH TO INSTALL A FODS TRACKOUT CONTROL SYSTEM. (NOTE: THIS IS NOT A ONE SIZE FITS ALL GUIDE.) THE INSTALLATION MAY NEED TO BE MODIFIED TO MEET THE EXISTING CONDITIONS, EXPECTATIONS, OR DEMANDS OF A PARTICULAR SITE. THIS IS A GUIDELINE. ULTIMATELY THE FODS TRACKOUT CONTROL SYSTEM SHOULD BE INSTALLED SAFELY WITH PROPER ANCHORING AND SIGNS PLACED AT THE ENTRANCE AND EXIT TO CAUTION USERS AND OTHERS.

KEY NOTES:

A. FODS TRACKOUT CONTROL SYSTEM MAT.
B. FODS SAFETY SIGN.
C. ANCHOR POINT.
D. SILT OR ORANGE CONSTRUCTION FENCE.



INSTALLATION:
1. THE SITE WHERE THE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED SHOULD CORRESPOND TO BEST MANAGEMENT PRACTICES AS MUCH AS POSSIBLE. THE SITE WHERE FODS TRACKOUT CONTROL SYSTEM IS PLACED SHOULD ALSO MEET OR EXCEED THE LOCAL JURISDICTION OR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS.
2. CALL FOR UTILITY LOCATES 3 BUSINESS DAYS IN ADVANCE OF THE OF FODS TRACKOUT CONTROL SYSTEM INSTALLATION FOR THE MARKING OF UNDERGROUND UTILITIES. CALL THE UTILITY NOTIFICATION CENTER AT 811.
3. ONCE THE SITE IS ESTABLISHED WHERE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED, ANY EXCESSIVE UNEVEN TERRAIN SHOULD BE LEVELED OUT OR REMOVED SUCH AS LARGE ROCKS, LANDSCAPING MATERIALS, OR SUDDEN ABRUPT CHANGES IN ELEVATION.
4. THE INDIVIDUAL MATS CAN START TO BE PLACED INTO POSITION. THE FIRST MAT SHOULD BE PLACED NEXT TO THE CLOSEST POINT OF EGRESS. THIS WILL ENSURE THAT THE VEHICLE WILL EXIT STRAIGHT FROM THE SITE ONTO THE PAVED SURFACE.
8. AFTER THE FIRST MAT IS PLACED DOWN IN THE PROPER LOCATION, MATS SHOULD BE ANCHORED TO PREVENT THE POTENTIAL MOVEMENT WHILE THE ADJOINING MATS ARE INSTALLED. ANCHORS SHOULD BE PLACED AT EVERY ANCHOR POINT (IF FEASIBLE) TO HELP MAINTAIN THE MAT IN ITS CURRENT POSITION.
9. AFTER THE FIRST MAT IS ANCHORED IN ITS PROPER PLACE, AN H BRACKET SHOULD BE PLACED AT THE END OF THE FIRST MAT BEFORE ANOTHER MAT IS PLACED ADJACENT TO THE FIRST MAT.
10. ONCE THE SECOND MAT IS PLACED ADJACENT TO THE FIRST MAT, MAKE SURE THE H BRACKET IS CORRECTLY SITUATED BETWEEN THE TWO MATS, AND SLIDE MATS TOGETHER.
11. NEXT THE CONNECTOR STRAPS SHOULD BE INSTALLED TO CONNECT THE TWO MATS TOGETHER.
12. UPON PLACEMENT OF EACH NEW MAT IN THE SYSTEM, THAT MAT SHOULD BE ANCHORED AT EVERY ANCHOR POINT TO HELP STABILIZE THE MAT AND ENSURE THE SYSTEM IS CONTINUOUS WITH NO GAPS IN BETWEEN THE MATS.
13. SUCCESSIVE MATS CAN THEN BE PLACED TO CREATE THE FODS TRACKOUT CONTROL SYSTEM REPEATING THE ABOVE STEPS.

USE AND MAINTENANCE
1. VEHICLES SHOULD TRAVEL DOWN THE LENGTH OF THE TRACKOUT CONTROL SYSTEM AND NOT CUT ACROSS THE MATS.
2. DRIVERS SHOULD TURN THE WHEEL OF THEIR VEHICLES SUCH THAT THE VEHICLE WILL MAKE A SHALLOW S-TURN ROUTE DOWN THE LENGTH OF THE FODS TRACKOUT CONTROL SYSTEM.
3. MATS SHOULD BE CLEANED ONCE THE VOIDS BETWEEN THE PYRAMIDS BECOME FULL OF SEDIMENT. TYPICALLY THIS WILL NEED TO BE PERFORMED WITHIN TWO WEEKS AFTER A STORM EVENT. BRUSHING IS THE PREFERRED METHOD OF CLEANING, EITHER MANUALLY OR MECHANICALLY.
4. THE USE OF ICE MELT, ROCK SALT, SNOW MELT, DE-ICER, ETC. SHOULD BE UTILIZED AS NECESSARY DURING THE WINTER MONTHS AND AFTER A SNOW EVENT TO PREVENT ICE BUILDUP.

REMOVAL
1. REMOVAL OF FODS TRACKOUT CONTROL SYSTEM IS REVERSE ORDER OF INSTALLATION.
2. STARTING WITH THE LAST MAT, THE MAT THAT IS PLACED AT THE INNERMOST POINT OF THE SITE OR THE MAT FURTHEST FROM THE EXIT OR PAVED SURFACE SHOULD BE REMOVED FIRST.
3. THE ANCHORS SHOULD BE REMOVED.
4. THE CONNECTOR STRAPS SHOULD BE UNBOLTED AT ALL LOCATIONS IN THE FODS TRACKOUT CONTROL SYSTEM.
5. STARTING WITH THE LAST MAT IN THE SYSTEM, EACH SUCCESSIVE MAT SHOULD THEN BE MOVED AND STACKED FOR LOADING BY FORKLIFT OR EXCAVATOR ONTO A TRUCK FOR REMOVAL FROM THE SITE.

B / C5 FODS (USE AS REQUIRED) NTS

HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SITE REDEVELOPMENT 361 HANOVER STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DETAIL C	4/11/25
0	ISSUED FOR COMMENT	3/14/25

REVISIONS

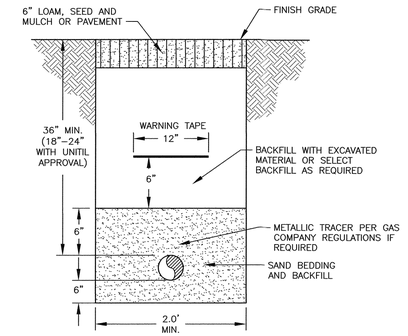
STATE OF NEW HAMPSHIRE · JOHN R. CHAGNON · No. 7681 · LICENSED PROFESSIONAL ENGINEER

SCALE: AS SHOWN MARCH 2025

EROSION PROTECTION NOTES AND DETAILS **D1**

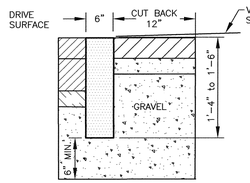
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P:\NH\5010135-Hampshire_Development\2977.01-Hanover St, Portsmouth-JRC\IN 2977\2024 Site Plan\Plans & Specs\Site\2977.01 Details 2025.dwg, 4/23/2025 12:19:35 PM, \\SVRPSM-FS01\Portsmouth Plotter Canon TX3000



D / C4 GAS SERVICE TRENCH

NTS

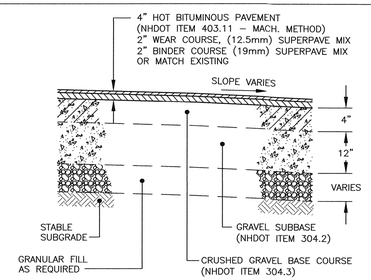


MIN. LENGTH OF CURB STONES 3FT.
MAX. LENGTH OF CURB STONES 10FT.
MAX. LENGTH OF STRAIGHT CURB STONES LAID ON CURVES SEE CHART

NOTE: ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATE LENGTH.

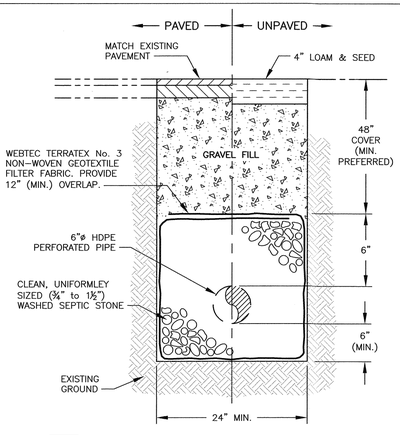
E / C3 FLUSHED GRANITE CURB

NTS



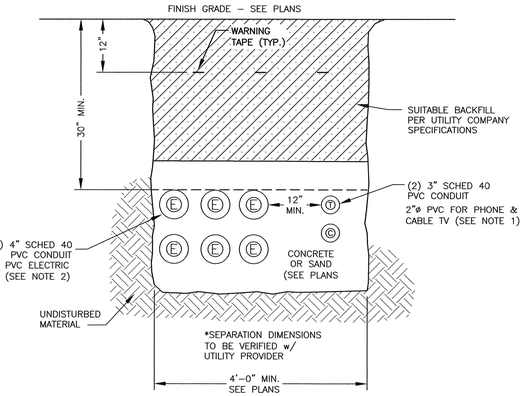
F / C3 TYPICAL PAVEMENT CROSS–SECTION

NTS



G / C5 UNDERGROUND CONNECTED ROOF DRAIN

NTS



NOTES:
1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCHED. 40 FOR THE REMAINDER.

2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.

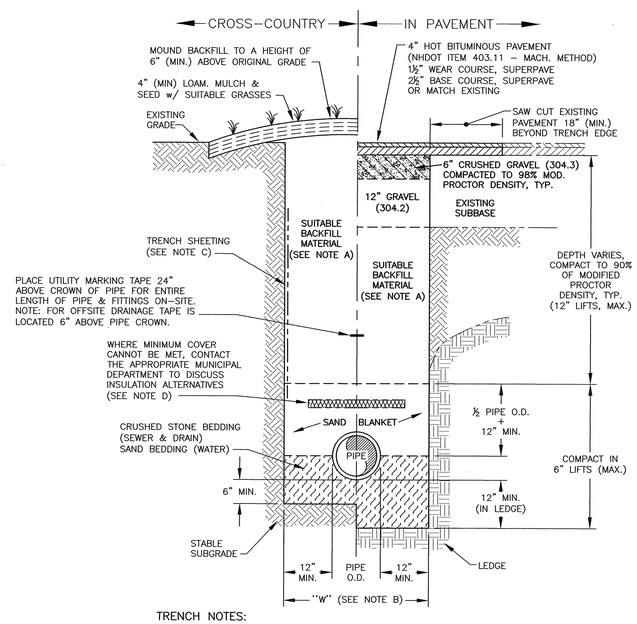
3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)

4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT

5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANY'S PRIOR TO ANY CONSTRUCTION.

H / C4 BURIED ELEC/COMM CABLE

NTS



TRENCH NOTES:

A) TRENCH BACKFILL:
– IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.

– IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.

B) "W" = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..

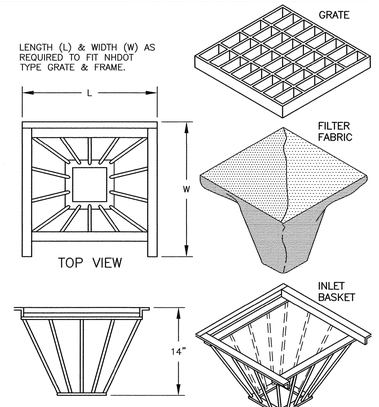
C) TRENCH SHEETING:
THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFE EXCAVATION PRACTICES.

D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):
- 5' MINIMUM FOR SEWER (IN PAVEMENT)
- 4' MINIMUM FOR SEWER (CROSS COUNTRY)
- 3' MINIMUM FOR STORMWATER DRAINS
- 5' MINIMUM FOR WATER MAINS

E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.

I / C4 TYPICAL PIPE TRENCH

NTS



1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

2) FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.

3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- –RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
- –MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

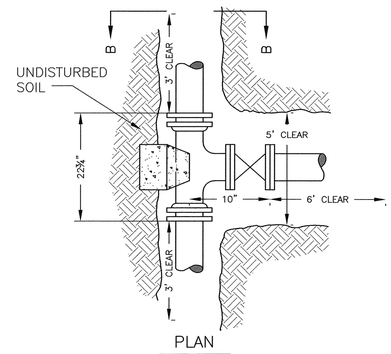
4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITTIVITY IN SEC.–1 FROM ASTM 54491–85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)

5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

J / C5 CATCH BASIN INLET BASKET

NTS



NOTES:
1) ALL MATERIALS SHALL BE APPROVED BY THE PORTSMOUTH WATER DEPARTMENT PRIOR TO INSTALLATION AND USE.
2) ALL JOINTS SHALL BE MECHANICAL.
3) "CLEAR" DIMENSIONS SHOWN ATE REQUIRED FOR WORKSPACE. NO JOINTS ON PIPE BEING TAPPED WITHIN "CLEAR" AREA.
4) FORD TYPE STAINLESS STEEL TAPPING SADDLES OR APPROVED EQUAL ARE ALSO ACCEPTABLE.

K / C4 TAPPING SLEEVE AND GATE

INSTALL PER PORTSMOUTH REQUIREMENTS NTS

HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

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SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	DETAIL G	6/13/25
1	DETAIL G	4/11/25
0	ISSUED FOR COMMENT	3/14/25

REVISIONS

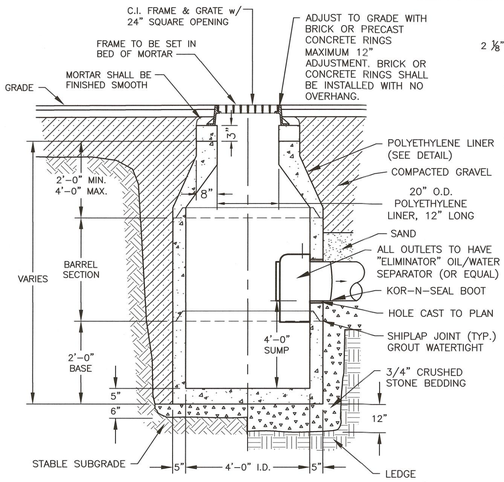
STATE OF NEW HAMPSHIRE – JOHN R. CHAGNON 16371 – LICENSED PROFESSIONAL ENGINEER

SCALE: AS SHOWN MARCH 2025

DETAILS D2

FB 444 PG 1

5010135.2977



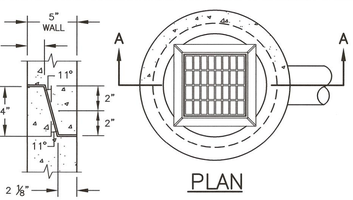
SECTION A – A

L / C5 CATCH BASIN DETAIL

NTS

CATCH BASIN POLYETHYLENE LINER NOTES:

1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS," FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER.



PLAN

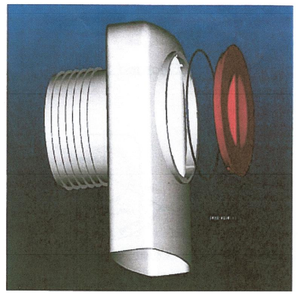
DETAIL OF SHIPLAP JOINT

NOTES:

1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS & SHALL BE PLACED IN THE CENTER THIRD OF WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
5. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
6. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
8. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
9. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
10. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.

OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.

11. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
12. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
13. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.



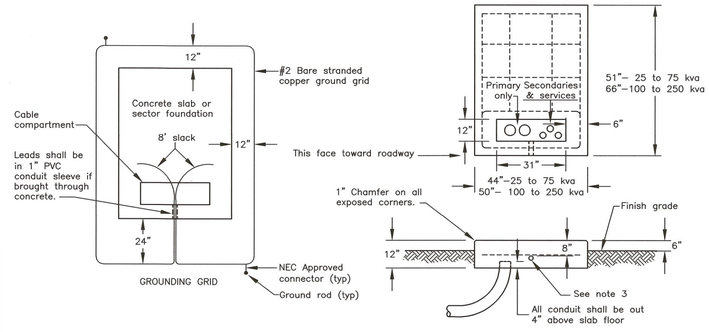
NOTES:

1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP.

M / C5 CATCH BASIN OIL TRAP

THE "ELIMINATOR"

NTS



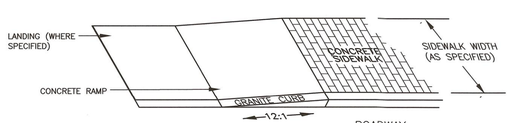
NOTES

1. See sheet "Requirements for Padmounted Transformer Slab Details".
2. All reinforcing to be #6 bars.
3. 1" PVC conduit sleeve for ground grid leads.
4. The ground grid shall be supplied and installed by the customer and is to be buried at least 12" below grade. Eight feet of extra wire for each ground grid leg shall be left exposed in the cable compartment to allow for the connection to the transfomer. the two 8' ground rods may be either galvanized steel or copperweld and they shall be connected to the grid with NEC approved connectors.

N / C4 TRANSFORMER PAD

IF NEEDED

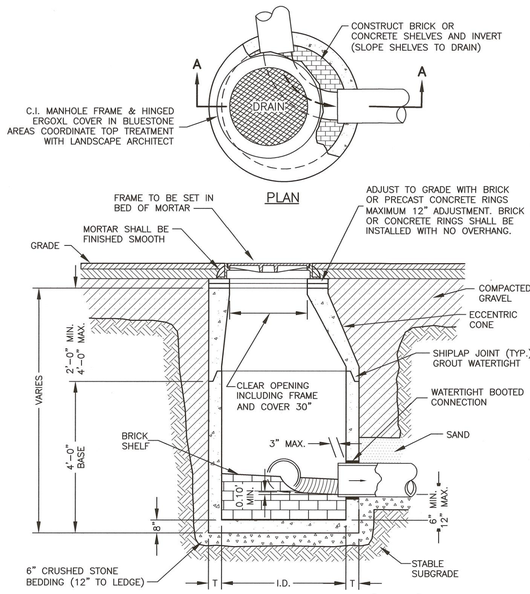
NTS



SIDEWALK TIP DOWN

(NON INTERSECTION) NTS

0 / C3 TYPICAL SIDEWALK TIP DOWNS

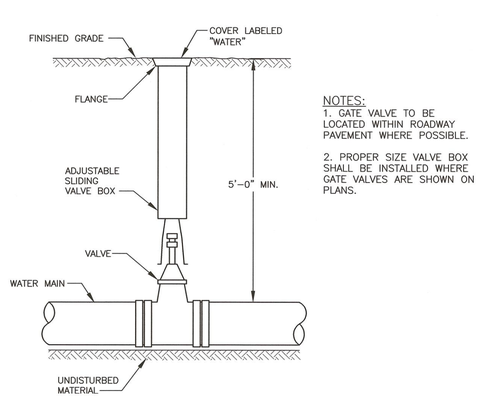


NOTES:

1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FOOT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
5. ALL MANHOLES SHALL BE 48" I.D. UNLESS SPECIFIED OTHERWISE ON THE PLANS.
6. MANHOLE SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND H-20 LOADING.
7. PARGE SPACES BETWEEN PIPE AND MANHOLE WITH MOTAR.

P / C5 DRAIN MANHOLE WITH BOOT DETAIL

NTS

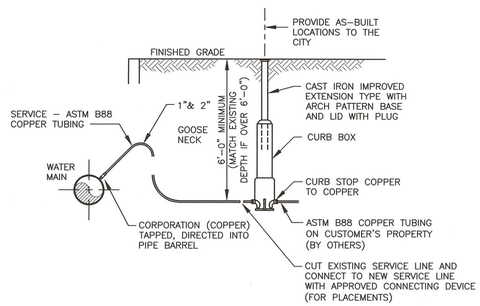


VALVE AND BOX DETAIL

NTS

NOTES:

1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE.
2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS.



TYPICAL WATER SERVICE CONNECTION

NOTE:
PROVIDE WATER SERVICE SHUTOFF BOXES PER CITY STANDARDS.

Q / C4 WATER MAIN & SERVICE CONNECTION

COORDINATE WITH PORTSMOUTH DPW

HORIZONTAL ANCHOR DIMENSIONS FOR PIPE INSTALLATION IN ROCK

UP TO 150 P.S.I. WORKING PRESSURE

PIPE SIZE	TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	H	L	H	L	H	L	H	L	H	L
* 4"	0'–9"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"
6"	0'–9"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"
8"	1'–2"	1'–2"	1'–2"	1'–2"	1'–0"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"
10"	1'–4"	1'–4"	1'–4"	1'–4"	1'–0"	1'–0"	0'–9"	1'–0"	0'–9"	1'–0"
12"	1'–8"	1'–8"	1'–8"	1'–8"	1'–3"	1'–3"	1'–0"	1'–0"	0'–9"	1'–0"

* – FOR 3" AND SMALLER PIPES

HORIZONTAL ANCHOR DIMENSIONS FOR AVERAGE SOIL CONDITIONS

UP TO 150 P.S.I. WORKING PRESSURE

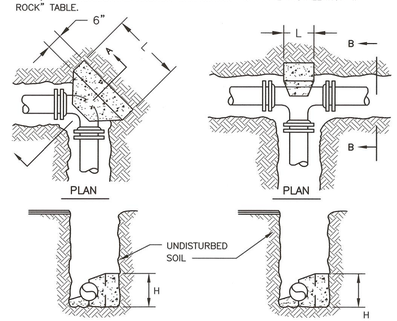
PIPE SIZE	TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	H	L	H	L	H	L	H	L	H	L
* 4"	1'–0"	2'–0"	1'–0"	2'–0"	1'–0"	1'–4"	0'–9"	1'–0"	0'–6"	1'–0"
6"	1'–0"	2'–0"	1'–0"	2'–0"	1'–0"	1'–4"	0'–9"	1'–0"	0'–6"	1'–0"
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10"	1'–8"	3'–4"	1'–8"	3'–4"	1'–8"	2'–0"	1'–3"	1'–3"	1'–0"	1'–0"
12"	2'–0"	4'–0"	2'–0"	4'–0"	2'–0"	2'–2"	1'–6"	1'–6"	1'–3"	1'–3"

* – FOR 3" AND SMALLER PIPES

NOTES:

1) TABLES ARE BASED ON AN ALLOWABLE SOIL PRESSURE OF 3000 PSF ON UNDISTURBED EARTH BEHIND THE ANCHOR BLOCK. WHERE SOIL HAS BEEN DISTURBED BY ADJACENT EXCAVATIONS OR WHERE SOIL CANNOT WITHSTAND SUCH A PRESSURE, THE TABLE DOES NOT APPLY.

2) WHERE ENTIRE DEPTH OF PIPE IS BELOW THE TOP SURFACE OF SOUND ROCK, USE "HORIZONTAL ANCHOR DIMENSIONS FOR PIPE INSTALLATION IN ROCK" TABLE.



HORIZONTAL ANCHORING

HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

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SITE REDEVELOPMENT 361 HANOVER STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	DETAIL N	6/13/25
1	DETAIL Q	4/11/25
0	ISSUED FOR COMMENT	3/14/25

REVISIONS

STATE OF NEW HAMPSHIRE – JOHN R. CHAGNON No. 7651 – LICENSED PROFESSIONAL ENGINEER

SCALE: AS SHOWN MARCH 2025

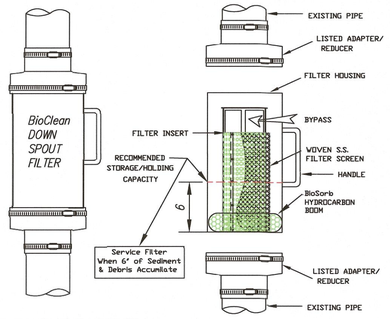
DETAILS D3

FB 444 PG 1

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SERVICE MANUAL
(Cleaning Procedures)

Bio Clean DOWNSPOUT FILTER
Screen Type With Hydrocarbon Boom



DETAIL OF PARTS

TOOLS AND EQUIPMENT NEEDED:

1. Medium size flat scred driver
2. BioSorb hydrocarbon boom. 25-1/2" X 2" dia. (Call Bio Clean to order)
3. Trash container or bag
4. Wooden dowel approx. 3' x 1/2' dia.

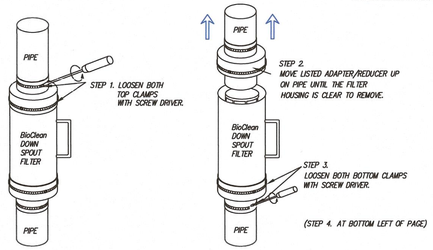
Bio Clean
A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.biocleanenvironmental.net

REMOVING FILTER

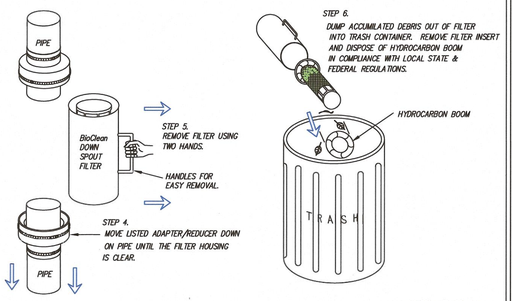
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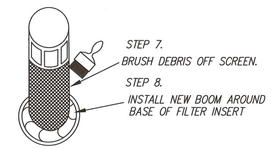
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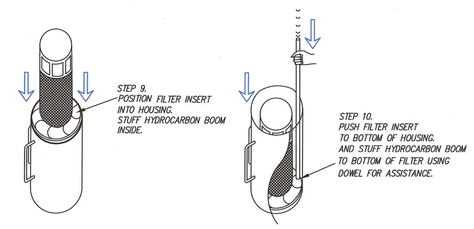


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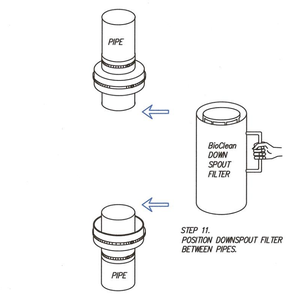
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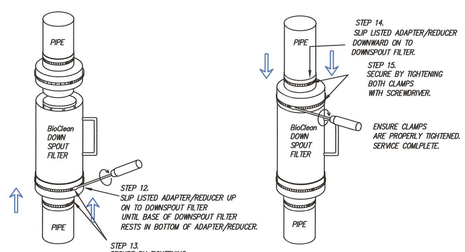


REPLACING FILTER

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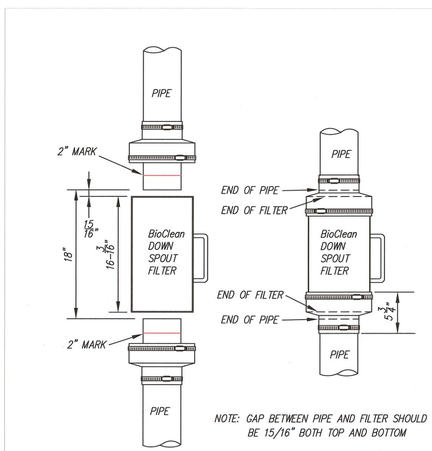
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APPROPRIATE INSTALLATION

FILTER CENTERED BETWEEN PIPES WITH EVEN GAPS ON TOP AND BOTTOM



NOTE: GAP BETWEEN PIPE AND FILTER SHOULD BE 15/16" BOTH TOP AND BOTTOM

Bio Clean
A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.biocleanenvironmental.net

DOWNSPOUT FILTER

MAINTENANCE:

THE FILTER IS DESIGNED TO ALLOW FOR THE USE OF MANUAL OR VACUUM REMOVAL OF CAPTURED MATERIALS IN THE FILTER
STRUCTURE. FILTERS CAN BE CLEANED EASILY BY SIMPLY LOOSENING THE METAL CLAMPS AND REMOVING THE FILTER. THE HYDROCARBON
ADSORBENT MEDIA THEN IS REMOVED AND THE TRASH AND DEBRIS CAN BE REMOVED FROM THE STRUCTURE. AT EACH CLEANING, NEW
HYDROCARBON ADSORBENT MEDIA SHOULD BE REINSTALLED.

MAINTENANCE NOTES:

1. BIO CLEAN ENVIRONMENTAL SERVICES, INC. RECOMMENDS CLEANING AND DEBRIS REMOVAL MAINTENANCE A MINIMUM OF TWO TO FOUR TIMES PER YEAR, AND REPLACEMENT OF MEDIA BOOMS A MINIMUM OF TWICE A YEAR.
2. THE DOWNSPOUT FILTER CAN BE CLEANED BY LOOSING THE METAL CLAMPS AT BOTTOM AND TOP OF RUBBER BOOTS. REMOVE
THE FILTER BY GRASPING THE HANDLES, SLIDE DOWN THE BOTTOM BOOT OVER THE OUTFLOW PIPE AND SLIDE UP THE TOP BOOT OVER
INFLOW PIPE. PLACE THE FILTER ON THE GROUND. DISPOSE OF ANY TRASH AND SEDIMENTS COLLECTED IN FILTER.
3. ONCE THE FILTER IS FREE, REMOVE THE INTERIOR INSERT. REMOVE THE HYDROCARBON ADSORBENT MEDIA BY UNWRAPPING IT
FROM THE INTERIOR INSERT AND REPLACING WITH A NEW MEDIA, WRAPPING IT THE SAME WAY.
4. PLACE THE INTERIOR INSERT BACK INTO THE FILTER.
5. PLACE THE FILTER BACK IN LINE WITH THE PIPE AND SLIDE BACK THE TOP AND BOTTOM BOOTS IN PLACE AND TIGHTEN THE METAL CLAMPS SECURELY.
6. EVALUATION OF THE HYDROCARBON MEDIA SHALL BE PERFORMED AT EACH CLEANING. IF THE MEDIA IS FILLED WITH
HYDROCARBONS AND OILS IT SHOULD BE REPLACED.
7. TRANSPORT ALL DEBRIS, TRASH, ORGANICS AND SEDIMENTS TO APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS.
8. THE HYDROCARBON MEDIA WITH ABSORBED HYDROCARBONS IS CONSIDERED HAZARDOUS WASTE AND NEEDS TO BE HANDLED
AND DISPOSED OF AS HAZARDOUS MATERIAL. PLEASE REFER TO STATE AND LOCAL REGULATIONS FOR THE PROPER DISPOSAL OF USED MOTOR OIL/FILTERS.
9. FOLLOWING MAINTENANCE AND/OR INSPECTION, THE MAINTENANCE OPERATOR SHALL PREPARE A MAINTENANCE/INSPECTION RECORD. THE RECORD SHALL INCLUDE ANY MAINTENANCE ACTIVITIES PERFORMED, AMOUNT AND DESCRIPTION OF DEBRIS COLLECTED, AND CONDITION OF FILTER.
10. THE OWNER SHALL RETAIN THE MAINTENANCE/INSPECTION RECORD FOR A MINIMUM OF FIVE YEARS FROM THE DATE OF MAINTENANCE. THESE RECORDS SHALL BE MADE AVAILABLE TO THE GOVERNING MUNICIPALITY FOR INSPECTION UPON REQUEST AT ANY TIME.
11. ANY TOXIC SUBSTANCE OR ITEM FOUND IN THE FILTER IS CONSIDERED AS HAZARDOUS MATERIAL AND CAN ONLY BE HANDLED BY A CERTIFIED HAZARDOUS WASTE TRAINED PERSON (MINIMUM 24-HOUR HAZWOPER).

STORMWATER TREATMENT MAINTENANCE

HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

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SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	3/14/25

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 7651
LICENSED
PROFESSIONAL ENGINEER

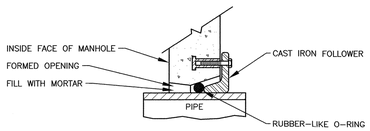
SCALE: AS SHOWN — MARCH 2025

DETAILS — **D4**

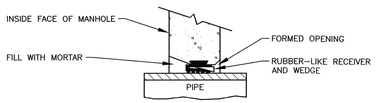
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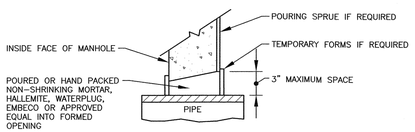
P:\NH\5010135-Hampshire, Development\2977.01-Hanover St., Portsmouth-JRC\IN 2977\2024 Site Plan\Plans & Specs\Site\2977.01 Details 2025.dwg, 3/14/2025 2:32:06 PM, \\VWBSM-FS01\Portsmouth Plotter Canon TX3000



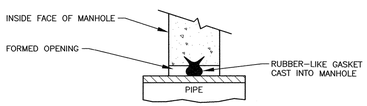
RES-SEAL
(OR ACCEPTABLE SUBSTITUTE)



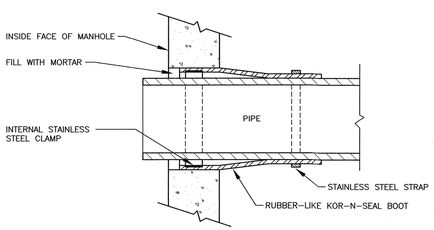
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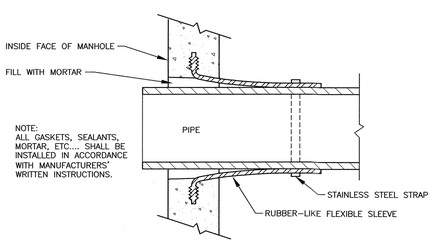
NON-SHRINKING MORTAR
(OR ACCEPTABLE SUBSTITUTE)



A-LOK
(OR ACCEPTABLE SUBSTITUTE)



KOR-N-SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

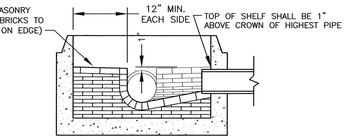


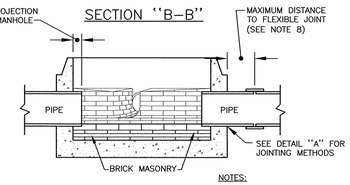
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

DETAIL "A" – PIPE TO MANHOLE JOINTS

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____





SECTION "B–B"

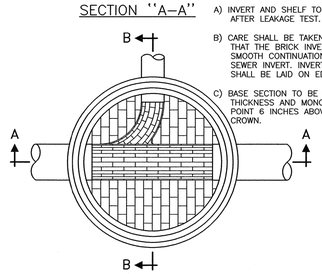
SECTION "A–A"

NOTES:

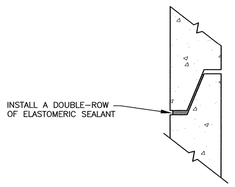
A) INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.

B) CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.

C) BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6 INCHES ABOVE THE PIPE CROWN.



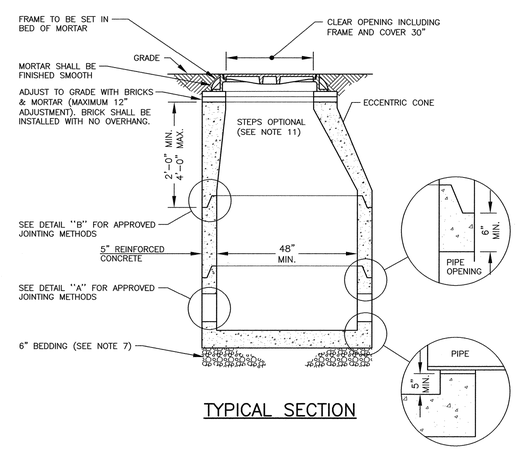
TYPICAL MANHOLE – PLAN VIEW



ELASTOMERIC SEALANT

NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

DETAIL "B" – HORIZONTAL JOINTS



TYPICAL SECTION

P
C4

SEWER MANHOLE DETAILS
INSTALL PER PORTSMOUTH REQUIREMENTS NTS

GENERAL NOTES

1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H–20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2) BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE IF POURED AS A COMPLETE MANHOLE.

3) PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.

4) LEAKAGE TEST MAY NOT BE FEASIBLE, BUT SHALL CONFORM TO ENV–WQ 704.17.

5) INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE AND TANGENT TO THE CENTERLINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

6) FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30–INCH CLEAR OPENING. A THREE INCH (MINIMUM HEIGHT) WORD "SEWER" FOR SEWERS AND "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. CASTINGS SHALL CONFORM TO CLASS 30, ASTM A48.

7) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90%–100% PASSING	3/4 INCH SCREEN
20%– 55% PASSING	3/8 INCH SCREEN
0%– 10% PASSING	#4 SIEVE
0%– 5% PASSING	#8 SIEVE

WHEN ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1–1/2 INCH SHALL BE USED.

8) FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
RCP & CI PIPE – ALL SIZES – 48"

9) SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H–20 LOADS.

10) MANHOLE STEPS MAY BE PERMITTED UPON REQUEST BY THE OWNER AS SECONDARY ADDITIONAL SAFETY FEATURE SUPPLEMENTARY TO THE PRIMARY PORTABLE LADDER ENTRY AND WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS:

1. THE STEPS SHALL BE MANUFACTURED OF 5/8ths INCH ROUND STAINLESS STEEL, PLASTIC COVERED STEEL OR PLASTIC. THEY SHALL BE SHAPED SO THAT THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED.
2. THE STEPS SHALL BE EMBEDDED IN THE CONCRETE BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF FORMS. SECURING THE STEPS WITH MORTAR IN DRILLED OR CAST HOLES, WILL NOT BE ACCEPTABLE.
3. THE STEPS SHALL BE OF THE DROP TYPE WITH A DEPRESSED SECTION FOR HANDHOLD. APPROXIMATELY 14" x 10" IN DIMENSION.

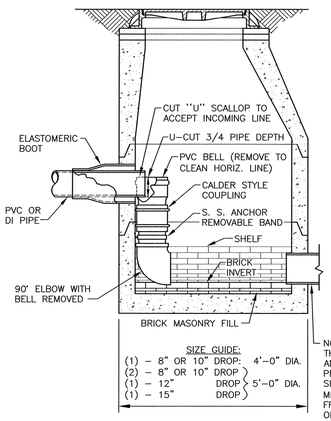
11) HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR MASTIC–LIKE GASKET, IN 2 ROWS.

12) PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON–SHRINKING MORTAR OR ELASTOMERIC SEALANT.

13) THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.

14) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV–WQ 704 DESIGN OF SEWERAGE.

15) BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE LARGEST INCOMING PIPE.



INSIDE DROP MANHOLE

GENERAL NOTES

1) MINIMUM PIPE SIZE FOR HOUSE SERVICE SHALL BE FOUR INCHES.

2) PIPE AND JOINT MATERIALS:

A. PLASTIC SEWER PIPE

1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T–1 & T–2)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
AWWA C900	PVC (SOLID WALL)	8" THROUGH 18"

*PVC: POLYVINYL CHLORIDE

2. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D–3212 AND SHALL BE PUSH–ON BELL AND SPIGOT TYPE.

3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND REFILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

6) THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7) TESTING: WHEN REQUIRED BY THE GOVERNING AUTHORITY, TESTING SHALL CONFORM TO ENV–WQ 704.09.

8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9) HOUSE WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE, UNLESS IT IS ON A SHELF 12" HIGHER, AND 18" APART.

10) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

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WHERE ORDERED BY THE ENGINEER, OVEREXCAVATE UNSTABLE TRENCH BOTTOM AND BACKFILL WITH CRUSHED STONE.

11) LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.

12) CAST–IN–PLACE CONCRETE: SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:

CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG OF CEMENT
MAXIMUM AGGREGATE SIZE: 3/4 INCH

13) BACKFILL UP TO SUBBASE GRAVEL SHALL BE WITH EXCAVATED SOIL FROM TRENCHING OPERATIONS. COMPACT IN 8" LIFTS WITH VIBRATORY PLATE COMPACTORS TO 90% OF MODIFIED PROCTOR DENSITY. IF FINE–GRAINED, COMPACT WITH POGO STICKS OR SHEEPSFOOT ROLLERS. PLACE NO LARGE ROCKS WITHIN 24" OF PIPE. TRENCHES THAT ARE NOT ADEQUATELY COMPACTED SHALL BE RE–EXCAVATED AND BACKFILLED UNDER THE SUPERVISION OF THE DESIGN ENGINEER OR GOVERNING BODY. UNSUITABLE BACKFILL MATERIAL INCLUDES CHUNKS OF PAVEMENT, TOPSOIL, ROCKS OVER 6" IN SIZE, MUCK, PEAT OR PIECES OF PAVEMENT.

14) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB–SITE SAFETY AND COMPLIANCE WITH GOVERNING REGULATIONS.

15) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE TRENCH DETAIL.

16) SAND BLANKET: CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90% – 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.

17) BASE COURSE GRAVEL, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:

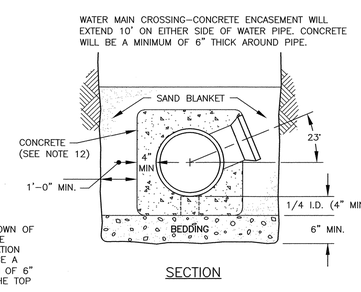
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.

18) IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.

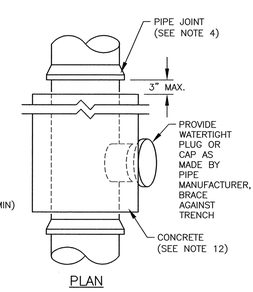
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21) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV–WQ 704 DESIGN OF SEWERAGE.



SECTION



PLAN

CONCRETE FULL ENCASEMENT
NOT TO SCALE

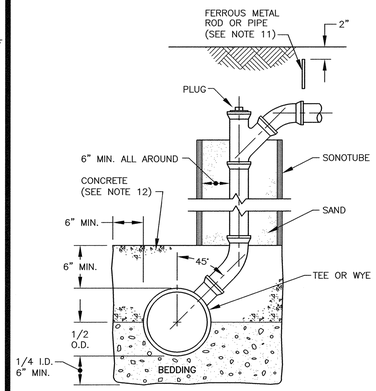
HALEYWARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

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NO BACKFILLING BEFORE CONCRETE HAS TAKEN INITIAL SET (7 HRS. MIN.). BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

CHIMNEY (SEE NOTE)
NOT TO SCALE

SITE REDEVELOPMENT
361 HANOVER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	3/14/25

REVISIONS

JOHN R. CHAGNON NO. 7651 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: AS SHOWN MARCH 2025

SEWER DETAILS

D5

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P:\Job\5010135 Hampshire_Development\2077.01 Hanover St., Portsmouth, NH\Civil\2977-2024 Site Plan\Plans & Specs\Dwg\ANR Details 2025.dwg, 3/14/2025 12:12:19 PM, Kevin Anderson, Plotted

Findings of Fact | Site Plan Review
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 1465 Woodbury Avenue
Application #: LU-25-93
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Site Plan Regulations Section 2.9 Evaluation Criteria - in order to grant site plan review approval, the TAC and the Planning Board shall find that the application satisfies evaluation criteria pursuant to NH State Law and listed herein. In making a finding, the TAC and the Planning Board shall consider all standards provided in Articles 3 through 11 of these regulations.

	Site Plan Review Regulations Section 2.9 Evaluation Criteria	**Finding** **(Meets Standard/Criteria)**	**Supporting Information**
1	Compliance with all City Ordinances and Codes and these regulations. Applicable standards:	**Meets** **Does Not Meet**	Applicable standards: The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
2	Provision for the safe development, change or expansion of use of the site.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
3	Adequate erosion control and stormwater management practices and other mitigative measures, if needed, to prevent adverse effects on downstream water quality and flooding of the property or that of another.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the erosion control and stormwater management practices and other mitigative measures for conformance with City design requirements. • A full drainage analysis report was submitted that included analysis of the predevelopment and post development drainage conditions. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
4	Adequate protection for the quality of groundwater.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the erosion control and stormwater management practices and other mitigative measures for conformance with City design requirements. • A full drainage analysis report was submitted that included analysis of the predevelopment and post development drainage conditions. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
5	Adequate and reliable water supply sources.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the water service design for conformance with City design requirements. • The site will be served by city water. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
6	Adequate and reliable sewage disposal facilities, lines, and connections.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed sewage disposal facilities, lines, and connections for conformance with City design requirements. • The site will be served by municipal sewer. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
7	Absence of undesirable and preventable elements of pollution such as smoke, soot, particulates, odor, wastewater, stormwater, sedimentation or any other discharge into the environment which might prove harmful to persons, structures, or adjacent properties.	**Meets** **Does Not Meet**	Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the erosion control and stormwater management practices and other mitigative measures for conformance with City design requirements. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
8	Adequate provision for fire safety, prevention and control.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
9	Adequate protection of natural features such as, but not limited to, wetlands.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
10	Adequate protection of historical features on the site.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • There are no on-site historical features that will be removed/disturbed. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
11	Adequate management of the volume and flow of traffic on the site and adequate traffic controls to protect public safety and prevent traffic congestion.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the management of the volume and flow of traffic on the site and adequate traffic controls to protect public safety and prevent traffic congestion. for conformance with City design requirements. • A full traffic impact study was submitted that included analysis of the no-build and build conditions. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
12	Adequate traffic controls and traffic management measures to prevent an unacceptable increase in safety hazards and traffic congestion off-site.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the management of the volume and flow of traffic on the site and adequate traffic controls to protect public safety and prevent traffic congestion. for conformance with City design requirements. • A full traffic impact study was submitted that included analysis of the no-build and build conditions. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
13	Adequate insulation from external noise sources.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
14	Existing municipal solid waste disposal, police, emergency medical, and other municipal services and facilities adequate to handle any new demands on infrastructure or services created by the project.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed that police, emergency medical, and other municipal services and facilities adequate to handle any new demands on infrastructure or services created by the project. • Project will not utilize municipal solid waste disposal. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
15	Provision of usable and functional open spaces of adequate proportions, including needed recreational facilities that can reasonably be provided on the site	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the community space areas proposed as part of the design plan. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
16	Adequate layout and coordination of on-site accessways and sidewalks in relationship to off-site existing or planned streets, accessways, bicycle paths, and sidewalks.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the layout and coordination of on-site accessways and sidewalks in relationship to off-site existing or planned streets, accessways, bicycle paths, and sidewalks. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
17	Demonstration that the land indicated on plans submitted with the application shall be of such character that it can be used for building purposes without danger to health.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
18	Adequate quantities, type or arrangement of landscaping and open space for the provision of visual, noise and air pollution buffers.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. • TAC reviewed the quantities, type or arrangement of landscaping and open space. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
19	Compliance with applicable City approved design standards.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum requirements of the Site Plan Regulations. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
	Other Board Findings:		

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Findings of Fact | Development Site Conditional Use Permit

City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 1465 Woodbury Avenue
Application #: LU-25-93
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:
Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Development Site Conditional Use Permit

10.5B43.10 For a development that contains multiple buildings in the Gateway District, the Planning Board may grant a conditional use permit, if all of the following criteria are met:

	Development Site Conditional Use Permit 10.5B43.10 Findings	Finding (Meets Criteria/Requirement)	Supporting Information
1	The development project is consistent with the Portsmouth Master Plan.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Development Site CUP. • TAC reviewed the proposed development's consistency with Goals 1.2, 2.1, & 3.1 of the City of Portsmouth Master Plan. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
2	The development project has been designed to allow uses that are appropriate for its context and consistent with City's planning goals and objectives for the area.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Development Site CUP. • TAC reviewed the proposed development's use relative to the City's planning goals and objectives for the area. The application was recommended for approval on July 1, 2025 at the Technical Advisory Meeting.

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	Development Site Conditional Use Permit 10.5B43.10 Findings	Finding (Meets Criteria/Requirement)	Supporting Information
3	The project includes measures to mitigate or eliminate anticipated impacts on traffic safety and circulation, demand on municipal services, stormwater runoff, natural resources, and adjacent neighborhood character.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Development Site CUP. • TAC reviewed the proposed project's anticipated impacts on traffic safety and circulation, demand on municipal services, stormwater runoff, natural resources, and adjacent neighborhood character. • The Project will have a negligible impact on traffic due to the existing large traffic volumes on Woodbury Avenue. A traffic study has been prepared. • The development site has been designed to mitigate stormwater runoff with the use of detention and filtration stormwater treatment practices. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
4	The project is consistent with the purpose and intent set forth in Section 10.5B11.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Development Site CUP. • TAC reviewed the proposed development's consistency with the purpose and intent set forth in Section 10.5B11. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting.
5	**<u>Other Board Findings:</u>**		

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Findings of Fact | Drive Through Facility Conditional Use Permit
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 1465 Woodbury Avenue
Application #: LU-25-93
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:
Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Drive Through Conditional Use Permit
10.242.10 The Planning Board may grant a conditional use permit if the application is found to be in compliance with the general criteria in Section 10.243 or, if applicable, the specific standards or criteria set forth in this Ordinance for the particular use or activity.

	Drive Through Conditional Use Permit 10.243 Requirements	**Finding** **(Meets Criteria/Requirement)**	**Supporting Information**
1	10.243.21 The design of proposed structures, their height and scale in relation to the site's surroundings, the nature and intensity of the proposed use or activity, and the layout and design of the site will be compatible with adjacent and nearby properties, buildings and uses, will complement or enhance the character of surrounding development, and will encourage the appropriate and orderly development and use of land and buildings in the surrounding area.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Drive Through Facility CUP. • TAC reviewed the proposed development's compatibility with adjacent and nearby properties, buildings & uses. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting

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	Drive Through Conditional Use Permit 10.243 Requirements	Finding (Meets Criteria/Requirement)	Supporting Information
2	10.243.22 All necessary public and private utility infrastructure and services will be available and adequate to serve the proposed use.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Drive Through Facility CUP. • TAC reviewed the water & sewage service design for conformance with City design requirements. • Eversource reviewed the electric service for conformance with electrical requirements. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting
3	10.243.23 The site and surrounding streets will have adequate vehicular and pedestrian infrastructure to serve the proposed use consistent with the City's Master Plan.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Drive Through Facility CUP. • TAC reviewed the proposed development's consistency with goals of the City of Portsmouth Master Plan to have adequate vehicular and pedestrian infrastructure. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting
4	10.243.24 The proposed structures, uses, or activities will not have significant adverse impacts on abutting and surrounding properties on account of traffic, noise, odors, vibrations, dust, fumes, hours of operation, and exterior lighting and glare.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Drive Through Facility CUP. • TAC reviewed the erosion control, the management of the volume and flow of traffic on the site and other mitigative measures for conformance with City design requirements. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting

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	Drive Through Conditional Use Permit 10.243 Requirements	Finding (Meets Criteria/Requirement)	Supporting Information
5	10.243.25 The proposed structures and uses will not have significant adverse impacts on natural or scenic resources surrounding the site, including wetlands, floodplains, and significant wildlife habitat.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Drive Through Facility CUP. • TAC reviewed the proposed development's minimal impacts on natural or scenic resources surrounding the site The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting
6	10.243.26 The proposed use will not cause or contribute to a significant decline in property values of adjacent properties.	**Meets** **Does Not Meet**	The application has been reviewed by the Technical Advisory Committee for conformance with the minimum criteria of the Drive Through Facility CUP. • TAC reviewed the proposed development's potential contribution to significant decline in property/adjacent property values. The application was recommended for approval on July 1, 2025 at the Technical Advisory Committee Meeting
6	**Other Board Findings:**		
7	**Additional Conditions of Approval:**		

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Q-5004-001
July 30, 2025

Mr. Rick Chellman, Planning Board Chair
City of Portsmouth Planning & Sustainability Department
1 Junkins Avenue
Portsmouth NH, 03801

Re: Request for Site Plan Review, & Conditional Use Permits
Proposed Bank Pad, 1465 Woodbury Ave, Portsmouth, NH

Dear Chairman Chellman,

On behalf of Bromley-Portsmouth, LLC & RCQ-Portsmouth, LLC c/o Quincy & Company, Inc. (owner/applicant), we are pleased to submit one (1) set of hard copies and one electronic file (.pdf) of the following information to support a request for a Site Review Permit and Conditional Use Permits for the above referenced project.

- One (1) 22x34 & one (1) 11x17 copy of the Site Plan Set, revised July 30, 2025;
- Owners Authorization, dated June 4, 2025
- TAC Conditions Response Tracker, dated July 30, 2025;
- Drainage Analysis, dated June 16, 2025;
- Long-Term Operation & Maintenance Plan, dated June 16, 2025;
- Open Space Exhibit, dated July 30, 2025;
- Community Space Exhibit, dated July 30, 2025;
- Community Space Site Plan
- Plaza Master Planting Plan
- Green Building Statement, dated June 13, 2025;
- Traffic Impact Study, dated June 25, 2025;
- Site Review Checklist, dated July 30, 2025;
- Building Renderings

PROJECT SUMMARY

Existing Conditions

The proposed project is located at 1465 Woodbury Ave, which is identified as Map 216 Lot 3 on the City of Portsmouth Tax Maps. The site currently functions as a significant retail hub and features a variety of co-tenants, including major retailers such as Market Basket, Marshalls, Burlington, Panera Bread, and Wendy's, among others. The property is a 19.76-acre parcel of land that is located in the Gateway District (G1). The property is bound to the southwest & southeast by Woodbury Ave, to the north-west by Commerce Way, & to the northeast by a wooded area, with an office park beyond.

Proposed Redevelopment

The proposed development entails the construction of a ±2,847 square-foot, single-story banking facility, inclusive of an integrated drive-through component. The project location within the lot is currently an undeveloped grassy parcel, so no demolition of existing structures

are required. Additional site improvements are proposed, including vehicular parking, pedestrian access, utility infrastructure, stormwater management systems, lighting and landscaping. Site access will be facilitated through the existing on-site parking lot.

LAND USE PERMIT APPLICATIONS
Site Plan Review Permit

The project will require a Site Plan Review Permit for the site improvements described above in the project summary. The project has previously met with the Technical Advisory Committee (TAC) for a review meeting. The TAC has provided their recommendations for approval for this project.

The proposed project will require the following site-related approvals from the Planning Board:

- Site Plan Review Permit
- Conditional Use Permit for Development Site
- Conditional Use Permit for Drive-Through Facility

Development Site Conditional Use Permit

Under Section 10.5B41.10 Development Site Standards are "allowed by Conditional Use Permit approval from the Planning Board, a development site is any lot or group of contiguous lots owned or controlled by the same person or entity, assembled for the purpose of a single development and including more than one principal building or building type". As the proposed development includes more than one principal building, a CUP to allow the use of the Development Site Standards is being requested for this proposed project.

Conditional Use Permit Criteria

Based on the above described and enclosed materials, the following addresses how the Project warrants the granting of a Conditional Use Permit for a Development Site by satisfying the following four (4) criteria for approval in Section 10.5B43.10 of the Zoning Ordinance:

(1) The development project is consistent with the Portsmouth Master Plan.

The Project is consistent with several goals identified in the Master Plan.

- Goal 2.1 is to ensure that new development complements and enhances its surroundings. The proposed bank pad will further enhance the continued success of the commercial, retail, and restaurants within the existing Plaza and surrounding parcels.
- Goal 3.3 is to ensure that the supply and character of commercial space can adapt to a changing economy.

(2) The development project has been designed to allow uses that are appropriate for its context and consistent with City's planning goals and objectives for the area.

The Project has been designed to be complementary to the abutting uses. Banks are an allowed use within the zone.

(3) The project includes measures to mitigate or eliminate anticipated impacts on traffic safety and circulation, demand on municipal services, stormwater runoff, natural resources, and adjacent neighborhood character.

The Project will have a negligible impact on traffic due to the existing large traffic volumes on Woodbury Avenue. A traffic study has been prepared as required under the Condition Use Permit request for a drive-through facility.

The development site has been designed to mitigate stormwater runoff with the use of detention and stormwater treatment practices.

The Project as designed will be complementary to the abutting commercial uses.

(4) The project is consistent with the purpose and intent set forth in Section 10.5B11.

Section 10.5B11.10 states that *"The purpose of Article 5B is to implement and support the goals of the City's Master Plan and Housing Policy to encourage walkable mixed-use development and continued economic vitality in the City's primary gateway areas, ensure that new development complements and enhances its surroundings, provide housing stock that is suited for changing demographics, and accommodate the housing needs of the City's current and future workforce."*

As described in Criteria 1 – 3 the Project is consistent with *the goals of the City's Master Plan* and will be providing a new location for an existing business in Portsmouth which aligns with providing *continued economic vitality in the City's primary gateway areas.*

Drive Through Conditional Use Permit

A listed in Section 10.440, Table of Uses 19.40 a drive-through facility as an accessory use to a permitted principal use is allowed in the G1 zone through a Conditional Use Permit. The principal use being sought in this application is for a retail bank, Use 5.32 which is permitted in the G1 zone.

The proposed Drive-Through facility meets the Performance Standards in Section 10.835.20:

10.835.21 - A drive-through canopy shall not project more than 26 feet from the principal building and shall be consistent with the architectural style of the building.

The proposed drive-through does not have a canopy.

10.835.22 - Illuminated menu boards or other signs associated with the drive-through facility shall be shielded from public streets and residential properties.

The proposed drive-through facility is on the Plaza side of the proposed bank building and is therefore shielded from the public street by the bank.

The proposed Drive-Through facility meets the Setbacks in Section 10.835.30:

10.835.31 - All outdoor service facilities (including transaction windows, menu boards, speakers, etc.) shall be located a minimum of 100 feet from any residential zoning district, and 50 feet from any lot line.

The proposed drive-through is 60 feet from the lot line and does not abut a residential zone.

10.835.32 - All drive-through lanes, bypass lanes, and stacking lanes shall be located a minimum of 50 feet from any residential zoning district, and 30 feet from any lot line.

The proposed drive-through is 60 feet from the lot line and does not abut a residential zone.

As required in Section 10.835.40, a Traffic Impact Study has been prepared for review and approval by the Planning Board as part of the CUP approval process showing that the level of service and traffic safety conditions of all streets and intersections to be impacted by the project will be the same as, or better than, predevelopment conditions.

CONCLUSION

We respectfully request to be placed on the Planning Board meeting agenda for August 21st, 2025. If you have any questions or need any additional information, please contact me by phone at (603) 294-9213 or by email at NAHansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

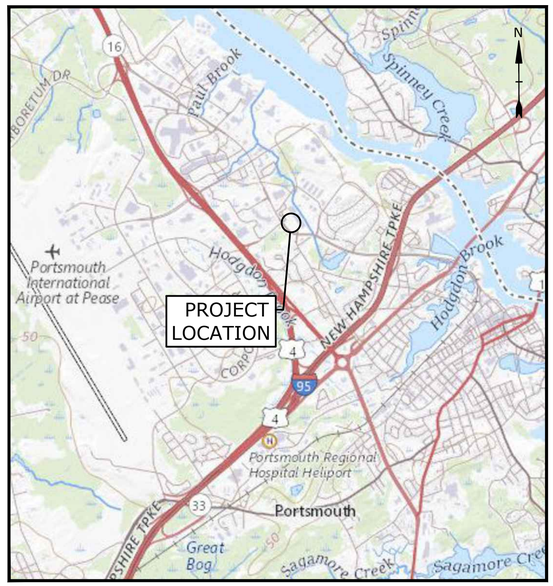
Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

Copy: Bromley-Portsmouth, LLC & RCQ-Portsmouth, LLC
c/o Quincy & Company

1465 WOODBURY AVENUE
PROPOSED BANK PAD
PORTSMOUTH, NEW HAMPSHIRE
JUNE 16, 2025
LAST REVISED: JULY 30, 2025

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	7/30/2025
1 OF 1	EXISTING CONDITIONS PLAN	4/16/2025
C-101	EXISTING CONDITIONS & DEMOLITION PLAN	7/30/2025
C-102	SITE PLAN	7/30/2025
C-103	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	7/30/2025
C-104	UTILITY PLAN	7/30/2025
C-301	COMMUNITY SPACE EASEMENT PLAN	7/30/2025
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	7/30/2025
C-502	DETAILS SHEET	7/30/2025
C-503	DETAILS SHEET	7/30/2025
C-504	DETAILS SHEET	7/30/2025
C-505	DETAILS SHEET	7/30/2025
C-506	DETAILS SHEET	7/30/2025
A01.0X	SITE LANDSCAPING PLAN	2/24/2025
A10.01	EXTERIOR ELEVATIONS	6/13/2025
TF-2	PROPOSED FLOOR PLAN	6/13/2025
1 OF 1	PHOTOMETRIC PLAN	7/22/2025



LOCATION MAP
SCALE: 1" = 3000'

PREPARED BY:

Tighe&Bond

177 CORPORATE DRIVE
PORTSMOUTH, NH 03801
603-433-8818

OWNER:

BROMLEY-PORTSMOUTH LLC &
RCQ-PORTSMOUTH LLC
c/o QUINCY & COMPANY, INC.
57 Dedham Avenue
Needham, MA 02492

SURVEYOR:

GREENMAN-PEDERSEN, INC.
44 Stiles Road, Suite One
Salem, NH 03079

ARCHITECT:

BISBANO + ASSOCIATES, INC.
188 Valley Street, Suite 100
Providence, RI 02909

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS – No. 12378 – LICENSED PROFESSIONAL ENGINEER – 7/30/25

STATE OF NEW HAMPSHIRE – NEIL A HANSEN – No. 15227 – LICENSED PROFESSIONAL ENGINEER – 07/30/2025

PLANNING BOARD SUBMISSION
COMPLETE SET 17 SHEETS

811 DigSafe MA-ME-NH-RI-VT

Last Save Date: July 11, 2025 3:46 PM By: NWILCOX
Plot Date: Monday, July 14, 2025 8:48 AM By: NWilcox
T&B File Location: J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001-CS.dwg Layout Tab: PB SUBMISSION 20250730

LEGEND

- SGC — SLOPED GRANITE CURB
- VGC — VERTICAL GRANITE CURB
- SSLW — SINGLE SOLID LINE WHITE
- 90 — CONTOUR ELEVATION
- TREE
- UTILITY POLE
- GUY WIRE
- OVERHEAD WIRE
- PB — PULL BOX
- SIGN
- SPOT ELEVATION
- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- LIGHT POLE
- EASEMENT LINE
- PROPERTY LINE
- ABUTTER PROPERTY LINE

NOTES:

1) ZONE: GATEWAY NEIGHBORHOOD MIXED USE CORRIDOR DISTRICT (G1)

   REFER TO THE CITY OF PORTSMOUTH ZONING ORDINANCE FOR VERIFICATION, ADDITIONAL RESTRICTIONS AND PERMITTED USES. THE ZONING INFORMATION SHOWN HEREON IS BASED ON A REVIEW OF THE PORTSMOUTH ZONING ORDINANCE.

2) THIS PLAN IS THE RESULT OF AN ON-THE-GROUND FIELD SURVEY PERFORMED BY THIS OFFICE BETWEEN DECEMBER 12 AND DECEMBER 13, 2024.

3) BEARINGS SHOWN HEREON ARE BASED ON NAD83 PER GPS OBSERVATIONS PERFORMED BY THIS OFFICE ON DECEMBER 12, 2024.

4) ELEVATIONS SHOWN HEREON ARE BASED ON NAVD88 PER GPS OBSERVATIONS PERFORMED BY THIS OFFICE ON DECEMBER 12, 2024.

5) THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OF OR TITLE TO LANDS SHOWN HEREON. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION AND NOT THOSE OF A BOUNDARY SURVEY.

NOTES (CONTINUED):

6) EASEMENTS SHOWN HEREON WERE IDENTIFIED THROUGH A SEARCH OF PUBLIC RECORDS. OTHER EASEMENTS MAY EXIST OTHER THAN THOSE SHOWN THAT WOULD BE IDENTIFIED THROUGH A TITLE EXAMINATION. NO TITLE EXAMINATION WAS PROVIDED TO THE SURVEYOR DURING THE PREPARATION OF THIS PLAN.

7) LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE ONLY. ADDITIONAL UNDERGROUND UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED.

8) THE SURVEY TRACT IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA (100 YEAR FLOOD) PER FLOOD INSURANCE RATE MAP NUMBER 33015C0260F, WITH AN EFFECTIVE DATE OF JANUARY 29, 2021.

UTILITY NOTES:

WATER SERVICE – PUBLIC WATER – CITY OF PORTSMOUTH

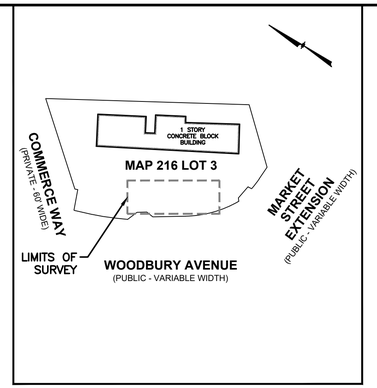
SEWER SERVICE – PUBLIC SEWER – CITY OF PORTSMOUTH

GAS SERVICE – NATURAL GAS – UNITIL

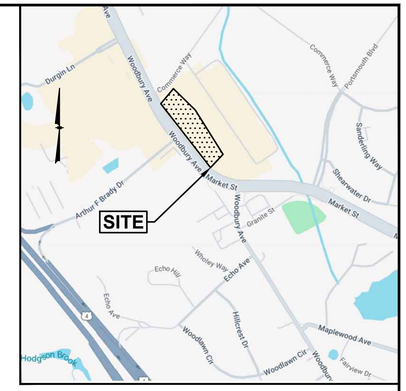
ELECTRICAL SERVICE – EVERSOURCE

OWNER OF RECORD:

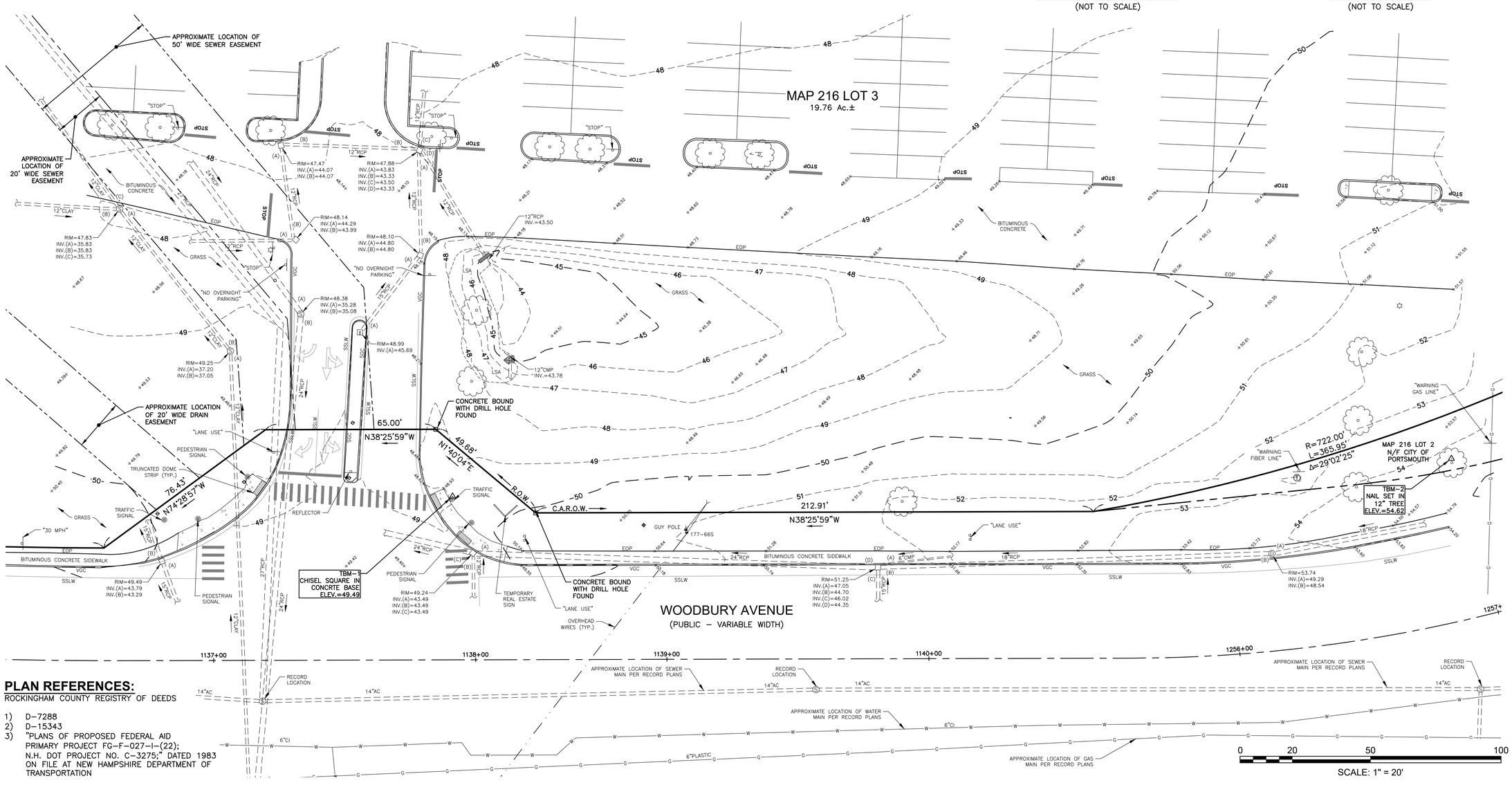
MAP 216 LOT 3
BROMLEY PORTSMOUTH LLC
144 GOULD ST SUITE 152
NEEDHAM, MA 02494
BOOK 4486 PAGE 2167



PROPERTY OVERVIEW
(NOT TO SCALE)



LOCATION MAP
(NOT TO SCALE)



PLAN REFERENCES:

ROCKINGHAM COUNTY REGISTRY OF DEEDS

1) D-7288
2) D-15343
3) "PLANS OF PROPOSED FEDERAL AID PRIMARY PROJECT FG-F-027-I-(22); N.H. DOT PROJECT NO. C-3275;" DATED 1983 ON FILE AT NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

GPI
Engineering
Design
Planning
Construction Inspection
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road, Suite One
Salem, NH 03079

PREPARED FOR
TIGHE & BOND, INC.
177 CORPORATE DRIVE
PORTSMOUTH, NH 03801

ASSESSOR MAP 216 LOT 3
1465 WOODBURY AVENUE
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
No. 1019
SCOTT M. L'ITALIEN
LICENSED LAND SURVEYOR
4/16/2025

NO.	REVISION	DATE
	REVISIONS	
	APRIL 16, 2025	
DRAWN BY: KAC	CHECKED BY: SML	

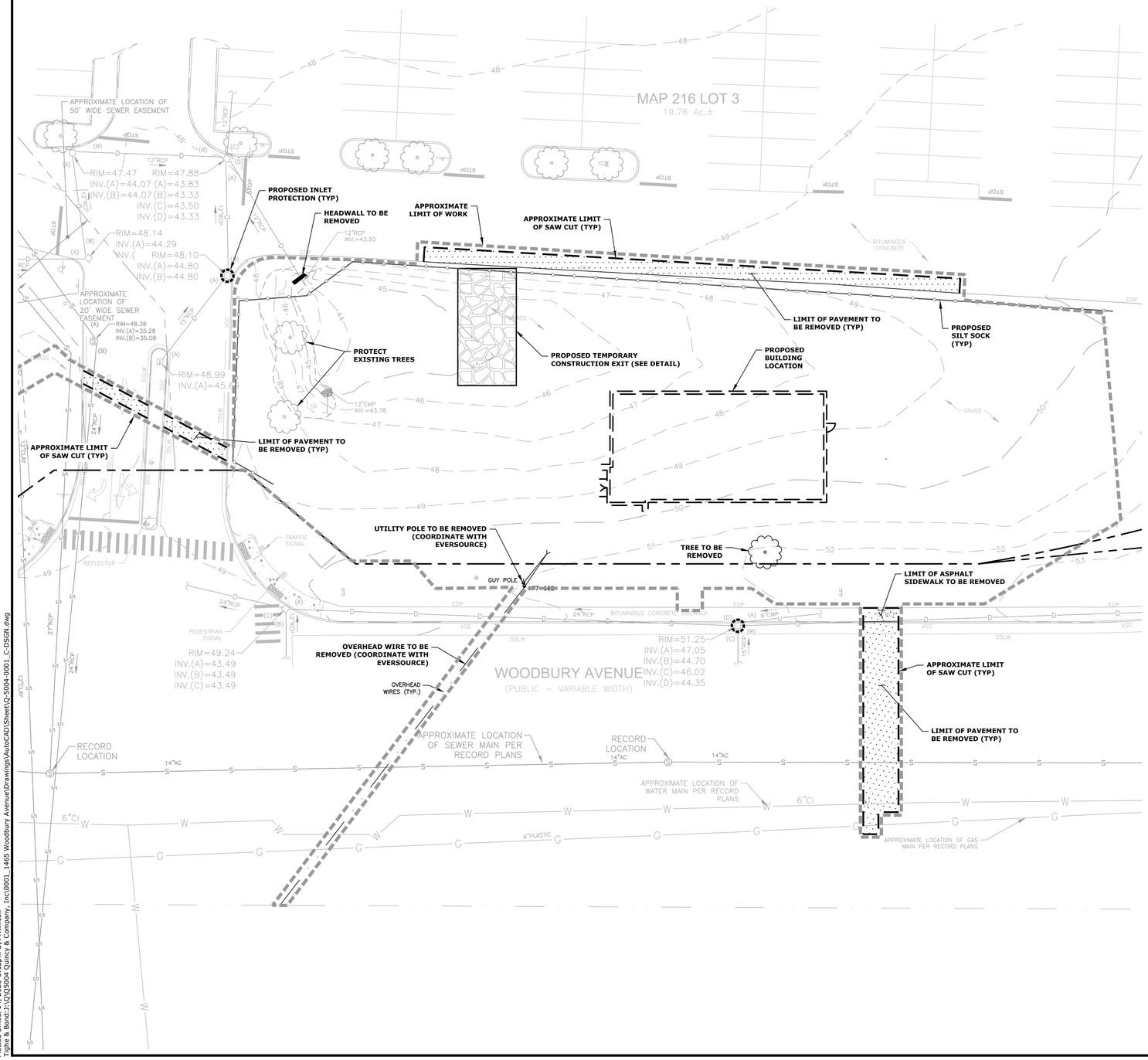
EXISTING CONDITIONS PLAN

SCALE: 1"=20'

NEX-2200150.43

1 OF 1

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EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY GREENMAN-PEDERSEN, INC. DATED 1/10/2025.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
4. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
5. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION (E.G., EXISTING UTILITIES) SHOWN ON THESE DRAWINGS IS NOT GUARANTEED AND SOME SUBSURFACE INFORMATION MAY NOT BE SHOWN. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL SUBSURFACE FEATURES WHICH MAY AFFECT CONSTRUCTION OPERATIONS BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND OTHER SUBSURFACE FEATURES, AND/OR INTERRUPTIONS IN UTILITY SERVICE. PROVIDE DATA COLLECTED THROUGH THESE INVESTIGATIONS TO THE ENGINEER PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
7. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER AND AT NO COST TO THE PROPERTY OWNER.
8. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
9. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
10. THE CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY ARE ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
11. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
12. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
14. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
15. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
16. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
17. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
18. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
19. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR AND PEDESTRIAN ACCESS THROUGH THE WORK AREA, OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA. PERFORM TRAFFIC CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN.
20. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
21. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
22. THE CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
23. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
24. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
25. THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
26. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
27. BEFORE ANY DEWATERING IS PERFORMED A TEMPORARY DISCHARGE PERMIT FROM THE NHDES IS REQUIRED.
28. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
29. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.

LEGEND

- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF WORK
- PROPOSED LIMIT OF SAW CUT
- PROPOSED SILT SOCK
- PROPOSED INLET PROTECTION
- PROPOSED BUILDING FOOTPRINT
- EXISTING DRAIN LINE
- EXISTING SEWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SEWER MANHOLE
- UTILITY POLE
- EXISTING HYDRANT
- TYP — TYPICAL
- COORD — COORDINATE

Tighe&Bond

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
7/30/25

NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
07/30/2025

0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

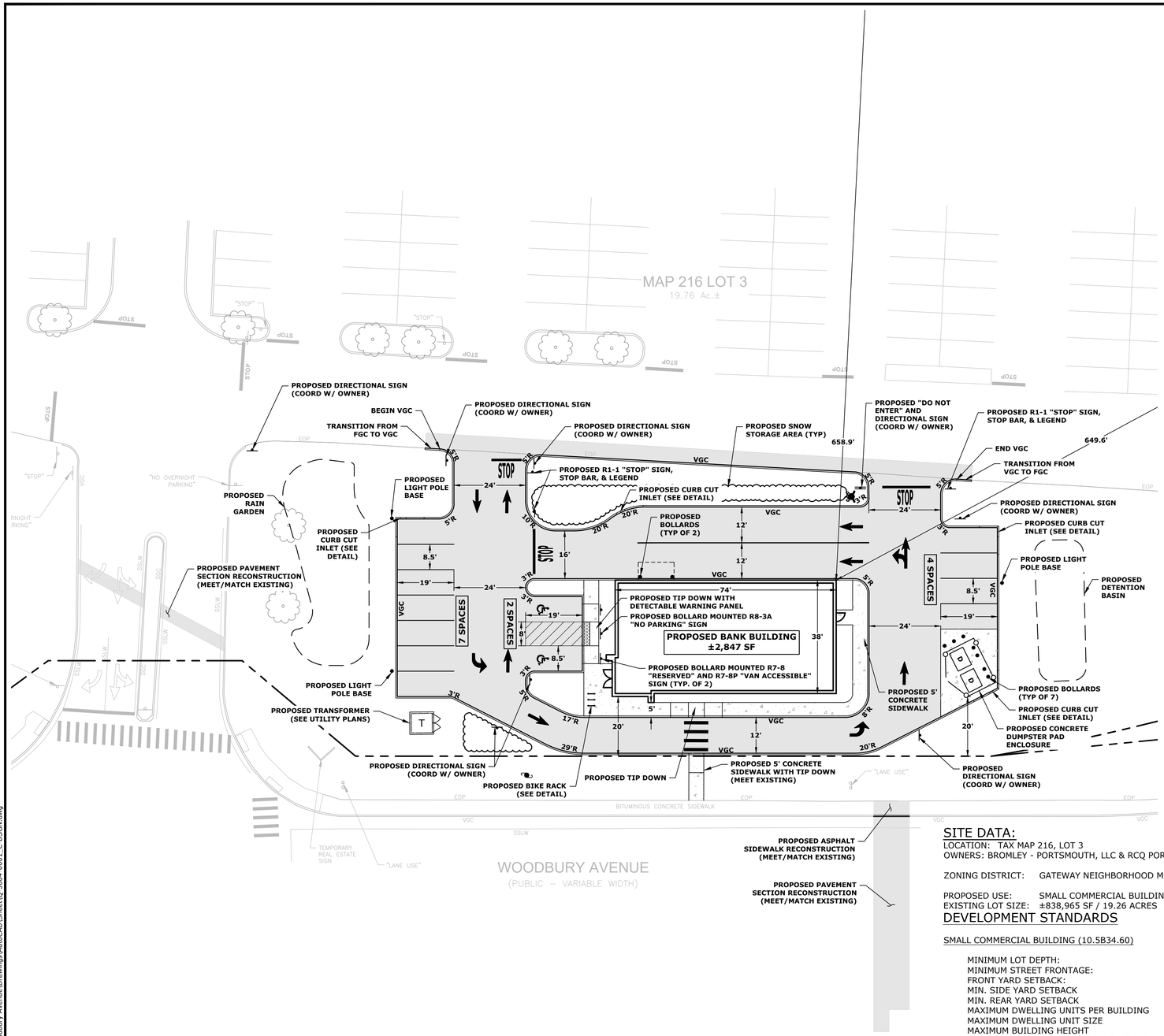
PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: AS SHOWN

C-101

Last Saved: 7/14/2025
Plotted: Jul 14, 2025 - 1:12pm By: NWilcox
Tighe & Bond:J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg



SITE NOTES:

1. PAVEMENT MARKINGS, INCLUDING BUT NOT LIMITED TO; PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS, AND CENTERLINES, SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS AND DETAILS, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
   - ALL ON-SITE PAVEMENT MARKINGS EXCEPT CENTERLINES & MEDIAN ISLANDS SHALL BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE "F".
   - ALL ON-SITE CENTERLINES AND MEDIAN ISLANDS SHALL BE CONSTRUCTED USING YELLOW TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE "F".
   - ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, AND APPLICABLE DEPARTMENT OF TRANSPORTATION (DOT), STANDARD SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" CURRENT EDITION, "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" CURRENT EDITION, AND THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), THE ARCHITECTURAL BARRIERS ACT (ABA), AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB), AS APPLICABLE.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
5. THE CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED.
6. COORDINATE ALL WORK ADJACENT TO BUILDINGS WITH BUILDING DRAWINGS/CONTRACTOR.
7. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
8. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
9. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
10. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
11. THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
13. THE CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
14. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND PARKING AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
15. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
16. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.

SITE RECORDING NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

LEGEND

	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE SECTION
	PROPOSED SNOW STORAGE
	PROPERTY LINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED SIGN
•	PROPOSED BOLLARD
TYP	TYPICAL
BLDG	BUILDING
COORD	COORDINATE
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB

SITE DATA:

LOCATION: TAX MAP 216, LOT 3
OWNERS: BROMLEY - PORTSMOUTH, LLC & RCQ PORTSMOUTH, LLC

ZONING DISTRICT: GATEWAY NEIGHBORHOOD MIXED USE CORRIDOR (G1)

PROPOSED USE: SMALL COMMERCIAL BUILDING (RETAIL BANK)
EXISTING LOT SIZE: ±838,965 SF / 19.26 ACRES

DEVELOPMENT STANDARDS

SMALL COMMERCIAL BUILDING (10.5B34.60)	REQUIRED	PROPOSED
MINIMUM LOT DEPTH:	NR	-
MINIMUM STREET FRONTAGE:	50 FT	2220.2 FT
FRONT YARD SETBACK:	0-20 FT	20 FT
MIN. SIDE YARD SETBACK	10 FT	649.6 FT
MIN. REAR YARD SETBACK	15 FT	658.9 FT
MAXIMUM DWELLING UNITS PER BUILDING	NR	-
MAXIMUM DWELLING UNIT SIZE	NR	-
MAXIMUM BUILDING HEIGHT	3 STORIES OR 40 FT	<40 FT
MINIMUM STREET-FACING FACADE HEIGHT	18 FT	
MAX. FINISH FLOOR ABOVE SIDEWALK	24"	
MAXIMUM BUILDING COVERAGE	70%	<1%
MAXIMUM BUILDING FOOTPRINT	10,000 SF	2,847 SF
MAXIMUM FACADE MODULATION LENGTH	50 FT	<50 FT
MINIMUM STREET FACING FACADE GLAZING	50% GROUND FLOOR	
MAXIMUM STREET FACING ENTRANCE SPACING	NR	-
ALLOWED ROOF TYPES	ALL	
ALLOWED FACADE TYPES: FORECOURT, RECESSED ENTRY, PORCH, OFFICEFRONT, SHOPFRONT, TERRACE, GALLERY, ARCADE		
COMMUNITY SPACE:	REQUIRED	PROPOSED
	10%	11.3%
	86,085 SF	96,975 SF
OPEN SPACE:		
	20%	21%
	172,171 SF	180,861 SF

PARKING REQUIREMENTS

FINANCIAL SERVICES
(1 PER 350 SF)

PARKING SPACES	REQUIRED	PROPOSED
	9 SPACES	13 SPACES
ADA PARKING SPACES	REQUIRED[2]	PROPOSED
	1 SPACES	2 SPACES

(2) - PER THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS, LATEST EDITION.

PARKING SPACE DIMENSIONAL REQUIREMENTS:

STANDARD 90° STALL :		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	19 FT MIN	19 FT
DRIVE AISLE WIDTH:		
90° (2-WAY TRAFFIC)	24 FT	24 FT

BICYCLE SPACES	REQUIRED	PROPOSED
1 BICYCLE SPACE / 10 PARKING SPACES:	2 SPACES	3 SPACES

Tighe&Bond

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
7/30/25

NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
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0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
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MARK	DATE	DESCRIPTION
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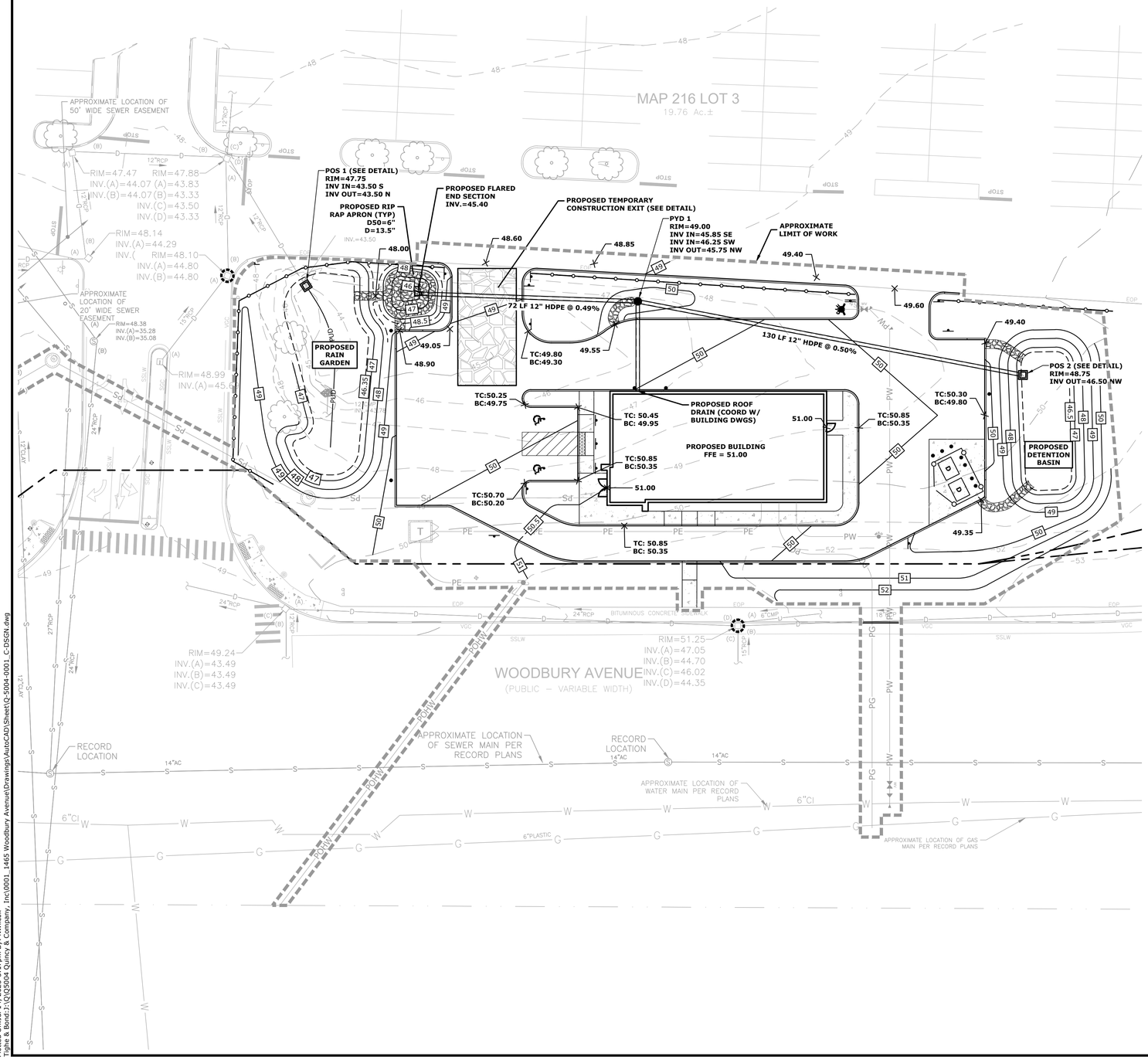
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FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102

Last Saved: 7/14/2025
Plot Date: 07/31/2025 3:16pm By: NWilcox
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GRADING AND DRAINAGE NOTES:

1. GENERAL COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS: 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL: 95%
   - BELOW LOAM AND SEED AREAS: 90%

   * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. PROVIDE SITE GRADING AT ACCESSIBLE SIDEWALK RAMPS, SIDEWALKS, AND BUILDING ENTRANCES THAT IS CONSISTENT WITH THE RELEVANT ACCESS REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA), THE AMERICANS WITH DISABILITIES ACT (ADA), AND MA ARCHITECTURAL ACCESS BOARD REQUIREMENTS (AAB). SMALL CHANGES IN GRADE OVER RELATIVELY SHORT DISTANCES (E.G. AT PARKING SPACES, ACCESSIBLE ROUTES, AND RAMPS) MIGHT NOT BE CLEARLY DEPICTED WITHIN THE CONTOUR INTERVAL SHOWN. COMPLY WITH THE CRITERIA IN THESE STANDARDS. SELECT MAXIMUM SLOPE CRITERIA ARE REPRODUCED BELOW:
   - ACCESSIBLE PARKING STALLS AND PASSENGER LOADING ZONES (IN ANY DIRECTION) SHALL BE < 2.0%
   - LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES SHALL BE < 5.0%
   - CROSS SLOPE ALONG ACCESSIBLE ROUTES SHALL BE < 2.0%
7. THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
9. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK AND STORM DRAIN CONSTRUCTION SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
12. THE CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN(S) FOR BENCH MARK INFORMATION.
14. THE CONTRACTOR SHALL VERIFY INVERTS OF EXISTING DRAIN LINES AND STRUCTURES AT PROPOSED DRAINAGE CONNECTION LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
15. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
16. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.

GENERAL EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION", PREPARED BY NHDES.
2. SEE SHEET C-501 AND C-502 FOR ADDITIONAL EROSION CONTROL REQUIREMENTS AND DETAILS.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL EROSION AND SEDIMENT CONTROL MEASURES FOR APPROVAL.
4. AS THE FIRST ORDER OF WORK, PRIOR TO ANY EARTH DISTURBANCE, THE CONTRACTOR SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BUT NOT LIMITED TO; INLET PROTECTION BARRIERS, SILT SOCKS, SILT FENCES, MULCH BERMS, AND STABILIZED CONSTRUCTION EXITS AS SHOWN ON THE DRAWINGS, AND AS REQUIRED BY ALL STATE AND LOCAL PERMITS AND APPROVALS.
5. INLET PROTECTION BARRIERS SHALL BE INSTALLED AT ALL EXISTING AND PROPOSED CATCH BASINS/CURB INLETS AND YARD DRAINS WITHIN THE LIMITS OF WORK AS WELL AS ANY CATCH BASINS/CURB INLETS AND YARD DRAINS THAT RECEIVE RUNOFF FROM ANY CONSTRUCTION ACTIVITIES. THESE MEASURES SHALL BE FULLY MAINTAINED FOR THE DURATION OF THE PROJECT.
6. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL ALL NON-PAVED AREAS HAVE BEEN STABILIZED.
7. THE CONTRACTOR SHALL INSTALL EROSION CONTROL BLANKETS ON ALL STEEP SLOPE AREA (3:1 OR GREATER).
8. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES INCLUDE, BUT NOT LIMITED TO; MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST, MECHANICAL SWEEPERS ON PAVED SURFACES, AND COVERING SURFACES WITH CRUSHED STONE OR COARSE GRAVEL.
9. THE CONTRACTOR SHALL HAVE ALL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING, BUT NOT LIMITED TO, INLET PROTECTION BARRIERS, PERIMETER SEDIMENT CONTROLS, AND STEEP SLOPE EROSION CONTROL BLANKETS INSPECTED BY A QUALIFIED PERSON AT LEAST ONCE A WEEK OR WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.25 INCHES OR GREATER. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED, REPAIRED, MODIFIED, OR ADDITIONAL MEASURES INSTALLED AS NECESSARY TO ADDRESS EVOLVING CONDITIONS DURING CONSTRUCTION.
10. SEDIMENT CONTROL FILTER MEASURES SHALL BE REPLACED WHEN SEDIMENT REACHES 1/3 THE HEIGHT OF THE FILTER.
11. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
12. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
13. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY STABILIZED.
14. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH SEDIMENT CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS. STOCKPILES OVER 10 FEET SHALL HAVE SAFETY FENCING PROVIDED AROUND THE STOCKPILES.
15. IF NECESSARY CONCRETE TRUCKS WILL BE REQUIRED TO WASHOUT THE SHOOTS. THIS ACTIVITY SHALL ONLY BE DONE WITHIN A DESIGNATED CONCRETE WASHOUT FACILITY ON-SITE.
16. IF NECESSARY TEMPORARY SEDIMENT TRAPS SHALL BE PROVIDED FOR GENERAL EXCAVATION DEWATERING PRACTICES PRIOR TO DIRECTING FLOW TO ANY OTHER EROSION AND SEDIMENT CONTROL MEASURES.
17. THE CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

LEGEND

50	PROPOSED MAJOR CONTOURS
49	PROPOSED MINOR CONTOURS
	APPROXIMATE LIMIT OF WORK
	PROPOSED DRAINLINE
	PROPOSED SILT SOCK
	PROPOSED DRAIN MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED INLET PROTECTION
	EXISTING CATCH BASIN
D	EXISTING DRAIN MANHOLE
D	EXISTING DRAIN LINE
S	EXISTING SEWER LINE
G	EXISTING GAS LINE
W	EXISTING WATER LINE
TYP	TYPICAL
COORD	COORDINATE

Tighe&Bond

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
7/30/25

NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
07/30/2025

0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

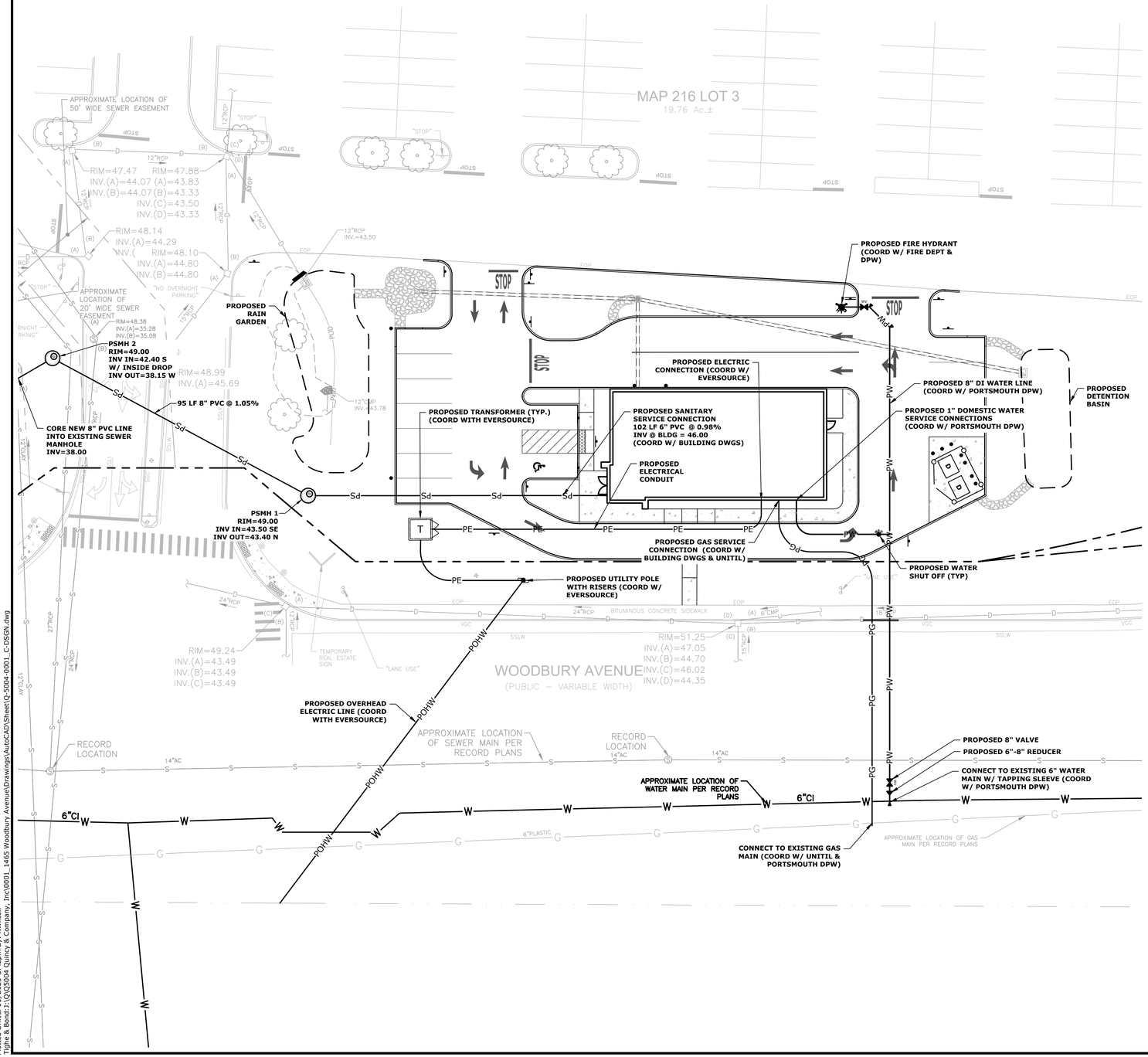
PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

GRADING, DRAINAGE, & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

Last Saved: 7/14/2025
Plotted: Jul 14, 2025 - 3:17pm By: NWilcox
Tighe & Bond:J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION (E.G., EXISTING UTILITIES) SHOWN ON THESE DRAWINGS IS NOT GUARANTEED AND SOME SUBSURFACE INFORMATION MAY NOT BE SHOWN. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL SUBSURFACE FEATURES WHICH MAY AFFECT CONSTRUCTION OPERATIONS BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND OTHER SUBSURFACE FEATURES, AND/OR INTERRUPTIONS IN UTILITY SERVICE. PROVIDE DATA COLLECTED THROUGH THESE INVESTIGATIONS TO THE ENGINEER PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
4. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH
   - SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMM/FAIRPOINT/COMCAST
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
7. ALL BELOW GRADE WATER VALVES AND FITTINGS SHALL HAVE MECHANICAL JOINT (MJ) ENDS. RESTRAIN ALL WATER VALVES AND FITTINGS JOINTS WITH RETAINER GLANDS, OR AS REQUIRED BY THE CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.
8. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO THE CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.
9. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH FIRE AND/OR WATER DEPARTMENT.
10. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
11. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
12. THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
13. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
14. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, CURRENT EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
15. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
16. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
17. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
18. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
19. THE CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
20. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
21. THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON-SITE AT ALL TIMES.
22. THE CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
23. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH SEWER DEPARTMENT.
25. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. THE CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
29. THE CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
30. FINAL LOCATION OF ALL WATER METER AND VALVE SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT PRIOR TO CONSTRUCTION.
31. THE CONTRACTOR SHALL VERIFY INVERTS OF EXISTING SEWER LINES AND STRUCTURES AT PROPOSED SEWER CONNECTION LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
32. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
33. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.

LEGEND

PS	PROPOSED SEWER LINE
PW	PROPOSED WATER LINE
PG	PROPOSED GAS LINE
PE	PROPOSED UNDERGROUND ELECTRIC LINE
POHW	PROPOSED OVERHEAD ELECTRIC LINE
	PROPOSED SANITARY MANHOLE
T	PROPOSED TRANSFORMER
	PROPOSED WATER VALVE
	PROPOSED THRUST BLOCK
	PROPOSED WATER SHUT OFF
D	EXISTING DRAIN LINE
S	EXISTING SEWER LINE
G	EXISTING GAS LINE
W	EXISTING WATER LINE
	PROPOSED DRAINLINE
	PROPOSED DRAIN MANHOLE
	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
D	EXISTING DRAIN MANHOLE
TYP	TYPICAL
COORD	COORDINATE
DWGS	DRAWINGS

Tighe&Bond

N

PATRICK CRIMMINS – STATE OF NEW HAMPSHIRE – No. 12378 LICENSED PROFESSIONAL ENGINEER
7/30/25

NEIL A HANSEN – STATE OF NEW HAMPSHIRE – No. 15227 LICENSED PROFESSIONAL ENGINEER
07/30/2025

0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

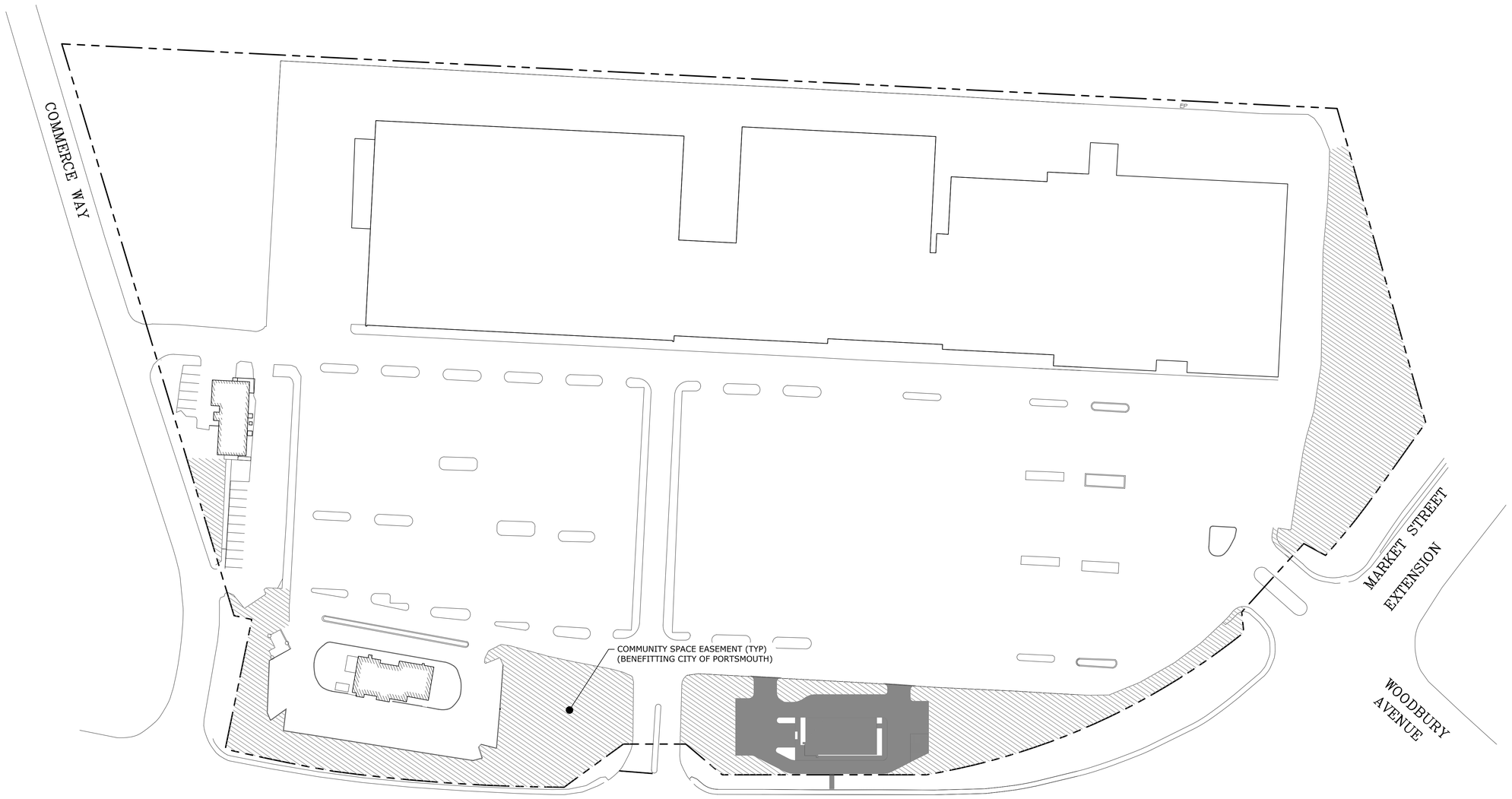
PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

UTILITY PLAN

SCALE: AS SHOWN

C-104

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EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS PRIOR TO ISSUING BUILDING PERMITS.

LEGEND

COMMUNITY SPACE EASEMENTS

Tighe&Bond

N

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
7/30/25

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
07/30/2025

0 60' 120'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001_C-DSGN.dwg
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DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

COMMUNITY SPACE EASEMENT PLAN

SCALE: AS SHOWN

C-301

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GENERAL PROJECT INFORMATION
PROJECT APPLICANT: BROMLEY-PORTSMOUTH, LLC

PROJECT NAME: PROPOSED BANK PAD
PROJECT MAP / LOT: MAP 216 / LOT 3

PROJECT ADDRESS: 1465 WOODNURY AVENUE
PORTSMOUTH, NH 03801
PROJECT LATITUDE: 43°-05'-15" N
PROJECT LONGITUDE: 70°-47'-20" W

PROJECT DESCRIPTION
THE PROJECT CONSISTS OF THE CONSTRUCTION OF A BANK PAD ALONG THE PARCEL FRONTAGE THAT CONSISTS OF A 2,500 SF BANK WITH A DRIVE-THROUGH AND ASSOCIATED SITE IMPROVEMENTS.
DISTURBED AREA
THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 0.78 ACRES.

SOIL CHARACTERISTICS
BASED ON THE NRCS WEB SOIL SURVEY FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE, THE SOILS ON SITE PRIMARILY CONSIST OF URBAN LAND SOILS.

NAME OF RECEIVING WATERS
THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM TO A DETENTION BASIN ON SITE, THAT WILL ULTIMATELY DISCHARGE INTO THE EXISTING CLOSED DRAINAGE SYSTEM WITHIN THE PROPERTY.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:
1. CUT AND CLEAR TREES ACROSS SITE.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   2.1. DISPOSAL OF SEDIMENT SPOIL, STUMP, AND OTHER SOLID WASTE
   2.2. CONSTRUCTION OF PARKING AREAS
   2.3. CONTROL OF DUST
   2.4. INSTALLATION OF UTILITIES AND BUILDING CONSTRUCTION
   2.5. CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE ENTIRETY OF CONSTRUCTION. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS NEEDED.
4. NOTE THAT ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS SHALL BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
5. DEMOLISH ALL SITE FEATURES AS DIRECTED ON THE DRAWINGS. CLEAR AND DISPOSE OF DEBRIS IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
6. CONSTRUCT TEMPORARY CULVERTS, DIVERSION CHANNELS, AND/OR BASINS AS REQUIRED. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
7. COMPLETE MASS GRADING AND EARTHWORK IN ORDER TO ESTABLISH SITE SUBGRADE ELEVATIONS, AS WELL AS EXCAVATION NECESSARY TO CONSTRUCT FOUNDATIONS FOR PROPOSED STRUCTURES.
8. CONSTRUCT UNDERGROUND DRAINAGE, UTILITY AND LIGHTING INFRASTRUCTURE NECESSARY TO SUPPORT TEMPORARY AND PERMANENT CONDITIONS. ALL TRENCHES TO BE BACKFILLED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
9. ALL AREAS OF UNSTABILIZED SOIL SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE, BUT IN ALL CASES WITHIN 45 DAYS OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT, OR AN INDEPENDENT MONITOR. ALL AREAS OF TEMPORARILY STABILIZED SOIL SHALL PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT IN ALL CASES WITHIN 3 DAYS OF FINAL GRADING.
10. CONSTRUCT BASE COURSE GRAVELS FOR ALL ROADWAYS AND PARKING AREAS. ALL ROADS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
11. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES THAT HAVE NOT BEEN OTHERWISE STABILIZED BY GRAVELS SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
13. FINISH PAVING ALL ROADWAYS AND PARKING LOTS. CONSTRUCT ALL HARDSCAPE AND SITE AMENITIES/FEATURES.
14. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
15. REMOVE TRAPPED SEDIMENTS FROM ALL EROSION CONTROL MEASURES AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:
1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:
1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. TEMPORARY WATER DIVERSION AND PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:
1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:
1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:
1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:
1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:
1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
   A. FOR PERMANENT MEASURES AND PLANTINGS:
      a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
      b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
      c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
      d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
      e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
      f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
      g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
      h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 LBS/ACRE

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

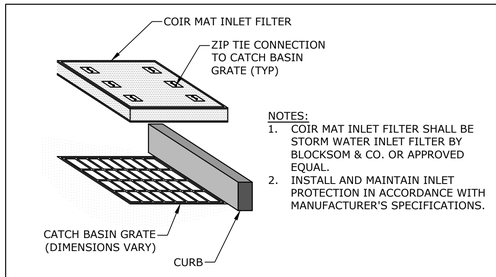
CONCRETE WASHOUT AREA:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:
1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   1.1. FIRE-FIGHTING ACTIVITIES;
   1.2. FIRE HYDRANT FLUSHING;
   1.3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
   1.4. WATER USED TO CONTROL DUST;
   1.5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
   1.6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
   1.7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
   1.8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
   1.9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
   1.10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
   1.11. UNCONTAMINATED EXCAVATION DEWATERING;
   1.12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

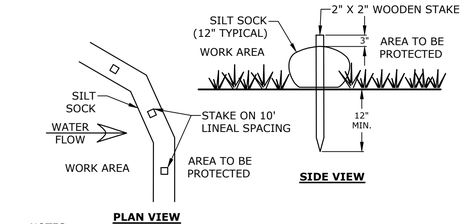
SPILL PREVENTION:
1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
      i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
      ii. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
      iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
      iv. INSPECT FUEL STORAGE AREAS WEEKLY;
      v. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
      vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
      vii. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
      viii. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
         (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
         (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
         (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
         (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
         (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
      ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
      HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
      b. FERTILIZERS:
      i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
      ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
      iii. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      c. PAINTS:
      i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
      ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
      iii. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES
   A. THIS PROJECT DOES NOT EXCEED ONE (1) ACRE OF DISTURBANCE AND THUS DOES NOT REQUIRES A SWPPP.



NOTES:
1. COIR MAT INLET FILTER SHALL BE STORM WATER INLET FILTER BY BLOCKSOM & CO. OR APPROVED EQUAL.
2. INSTALL AND MAINTAIN INLET PROTECTION IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

INLET PROTECTION BARRIER
NO SCALE



NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

SILT SOCK
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS – No. 12378 – LICENSED PROFESSIONAL ENGINEER
7/30/25

STATE OF NEW HAMPSHIRE – NEIL A HANSEN – No. 15227 – LICENSED PROFESSIONAL ENGINEER
07/30/2025

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

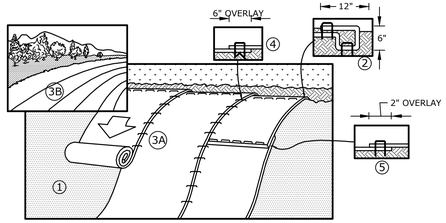
PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001-C-DTLS.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

EROSION CONTROL NOTES AND DETAILS SHEET

SCALE: AS SHOWN

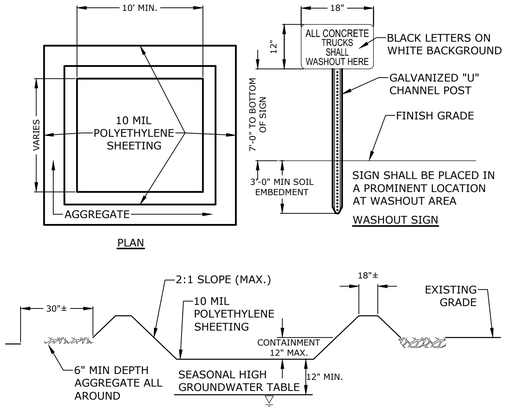
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Printed: 6/16/2025 - 3:48pm By: NWilcox
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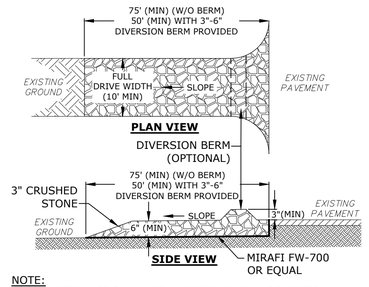
NOTES:
1. EROSION CONTROL BLANKET SHALL BE AN ALL NATURAL PRODUCT WITH NO PHOTO DEGRADABLE COMPONENTS, NORTH AMERICAN GREEN SC150BN OR APPROVED EQUAL.
2. STAKES SHALL BE BIODEGRADABLE BIOSTAKES OR ALL NATURAL WOOD ECOSTAKES OR APPROVED EQUAL. THE LENGTH OF STAKES SHALL BE BASED OFF OF THE MANUFACTURERS RECOMMENDATION.
3. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, COMPOST AND SEED.
4. BEGIN AT THE TOP OF THE SLOPE, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAKES IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAKES ACROSS THE WIDTH OF THE BLANKET.
5. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAKES IN APPROPRIATE LOCATIONS AS SHOWN ON THE MANUFACTURERS PATTERN GUIDE.
6. THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES MATERIAL UTILIZED.

EROSION CONTROL BLANKET
NO SCALE



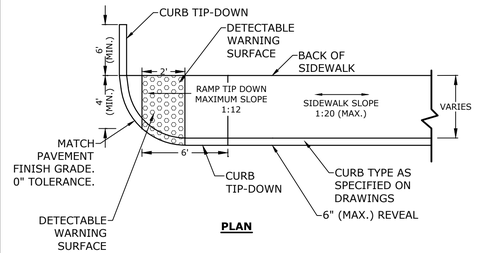
NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

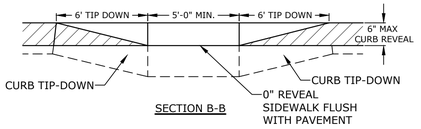
CONCRETE WASHOUT AREA
NO SCALE

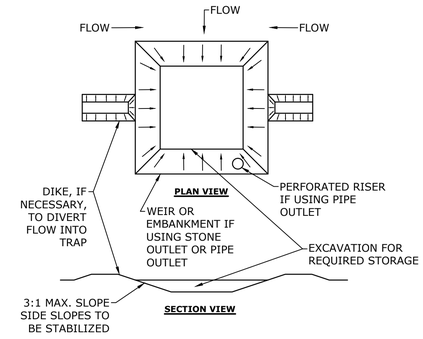


NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE

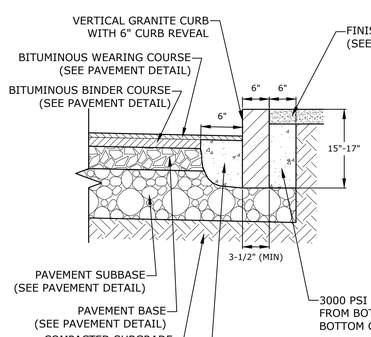






NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

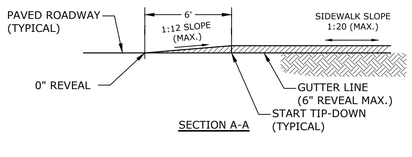
SEDIMENT TRAP
NO SCALE

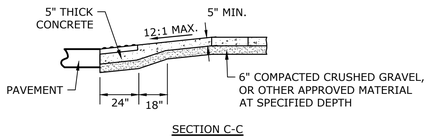


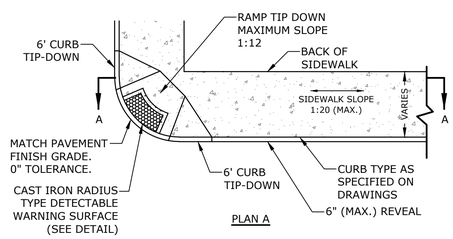
CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

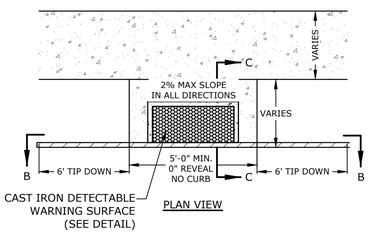
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE



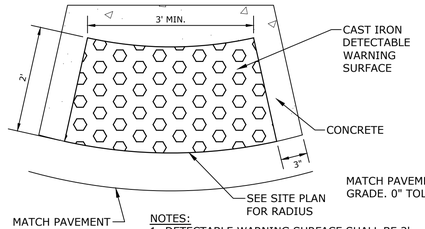


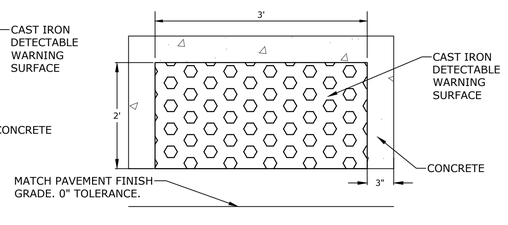




NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
4. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
5. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
6. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
7. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
8. DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
9. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

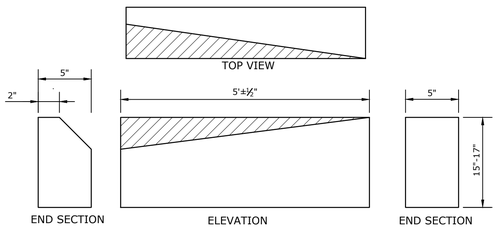
CONCRETE WHEELCHAIR ACCESSIBLE RAMP
NO SCALE





NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

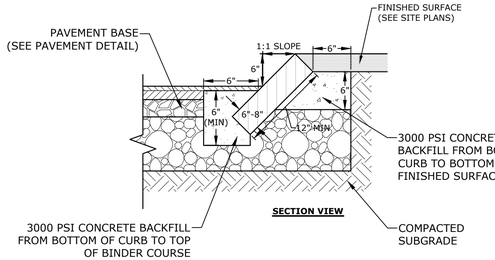
CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



MOUNTABLE VERTICAL GRANITE CURB TO VERTICAL GRANITE CURB

NOTES:
1. THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN VERTICAL GRANITE CURB AND MOUNTABLE VERTICAL GRANITE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE MOUNTABLE VERTICAL GRANITE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

CURB TRANSITION
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

SLOPED GRANITE CURB
NO SCALE

Tighe&Bond

PATRICK CRIMMINS — No. 12378 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE
7/30/25

NEIL A HANSEN — No. 15227 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE
07/30/2025

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001-C-DTLS.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-502

Last Saved: 6/16/2025
Printed: Jul 16, 2025 - 3:08pm By: NWilcox
Tighe & Bond:J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001-C-DTLS.dwg



R7-8P
18" X 9"
GREEN ON WHITE



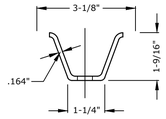
R7-8
12" X 18"
BLUE AND GREEN
ON WHITE



R5-1
30"X30"
WHITE ON RED
BORDERED BY WHITE



R1-1
30"X30"
WHITE ON RED



SECTION A-A



R8-3a
18"X24"
RED ON WHITE



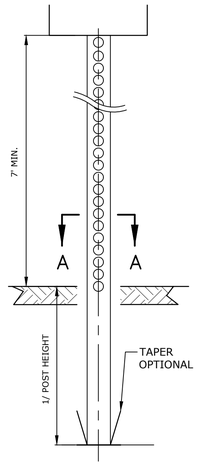
PKE-31426
18"X12"
RED ON WHITE
BORDERED BY RED



PKE-31424
18"X12"
RED ON WHITE
BORDERED BY RED



R6-1L
36"X12"
BLACK ON WHITE ARROW
ON BLACK BACKGROUND
BORDERED BY WHITE



* IN LEDGE DRILL & GROUT TO A MIN OF 2'

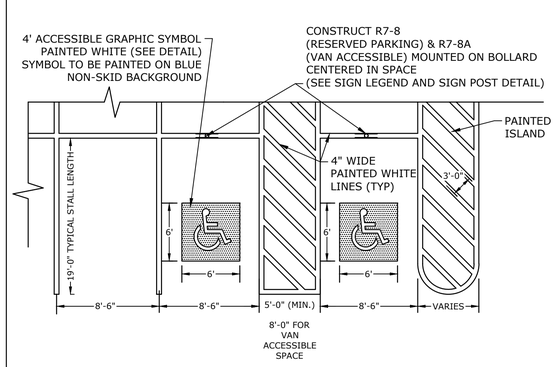
LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)

FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED BLACK BAKED ON OR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTE:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

SIGN LEGEND AND SIGN POST

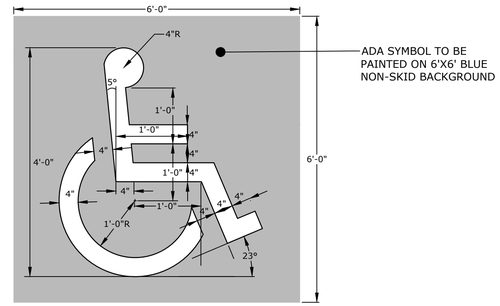
NO SCALE



NOTES:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING STALL/PAINTED ISLAND STRIPING

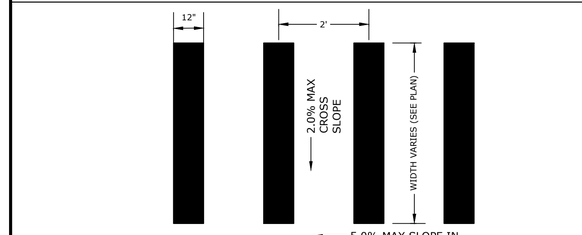
NO SCALE



NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL

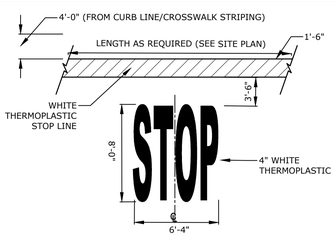
NO SCALE



NOTE:
1. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING

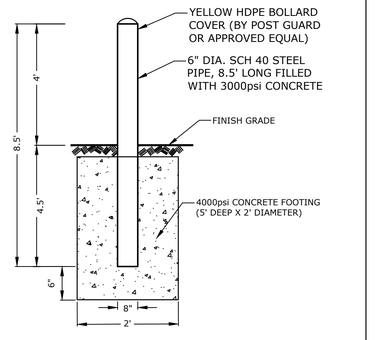
NO SCALE



NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR AND LEGEND

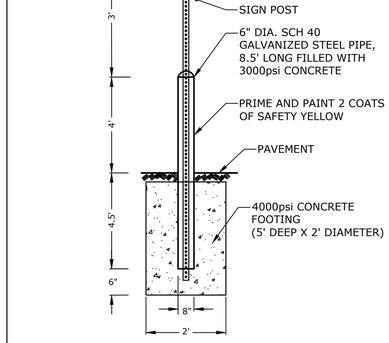
NO SCALE



NOTE:
1. COORDINATE WITH EVERSOURCE TO VERIFY THAT BOLLARD, FOOTING, AND BOLLARD COVER MEET EVERSOURCE REQUIREMENTS.

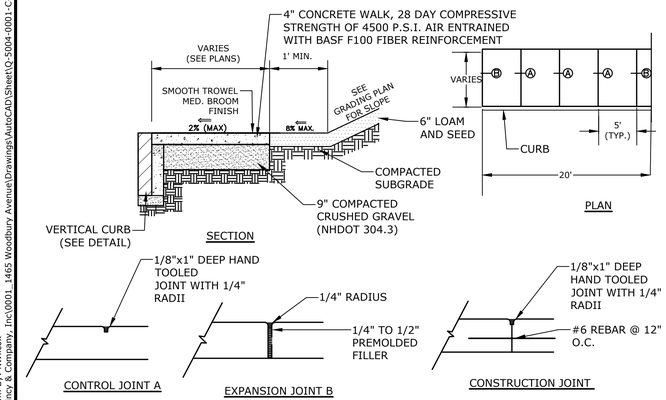
BOLLARD DETAIL

NO SCALE



BOLLARD MOUNTED SIGN DETAIL

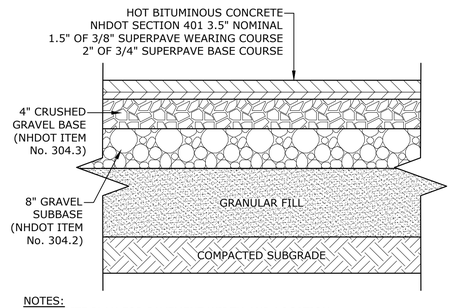
NO SCALE



NOTES:
1. SIDEWALK SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS

CONCRETE SIDEWALK WITH GRANITE CURB

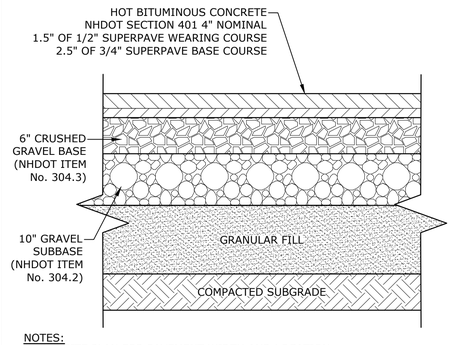
NO SCALE



NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

ON-SITE PAVEMENT SECTION

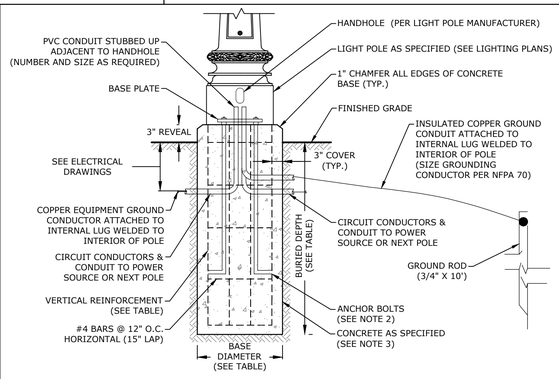
NO SCALE



NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

OFF-SITE PAVEMENT SECTION

NO SCALE



POLE HEIGHT	DEPTH (BURIED)	BASE DIAMETER	VERTICAL REINFORCEMENT
<16'	72" (MIN.)	18"	6 - #6
>16'	72" (MIN.)	24"	6 - #8

NOTES:
1. ALL LIGHT POLES, LUMINARIES AND WIRE TO BE FURNISHED BY THE CONTRACTOR UNLESS OTHERWISE DIRECTED.
2. CONTRACTOR SHALL VERIFY BOLT TEMPLATE AND ANCHOR BOLT SIZE WITH POLE MANUFACTURER PRIOR TO CONSTRUCTION.
3. CONCRETE SHALL BE 4,000 PSI CLASS A, PRE-CAST CONCRETE.
4. REINFORCEMENT SHALL BE ASTM A615, GRADE 60.
5. FOR LIGHT POLES GREATER THAN 20' IN HEIGHT, THE LIGHT POLE BASE SHALL BE DESIGNED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.

TYPICAL LIGHT POLE BASE

NO SCALE

Tighe&Bond

PATRICK CRIMMINS — No. 12378 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE
7/30/25

NEIL A HANSEN — No. 15227 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE
07/30/2025

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
A	6/16/2025	TAC Submission

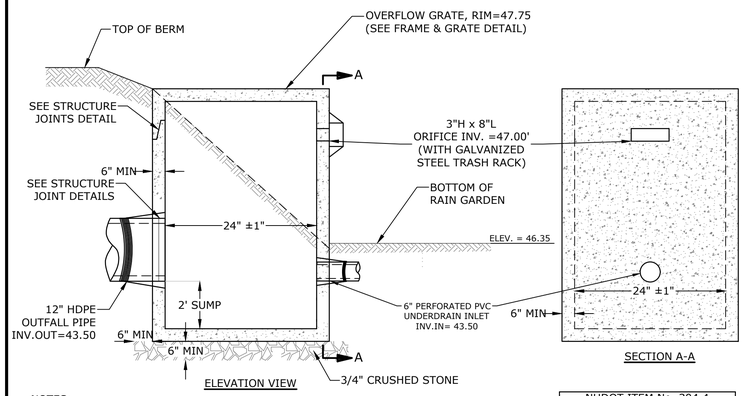
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DATE:	6/16/2025
FILE:	Q-5004-0001-C-DTLS.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-503

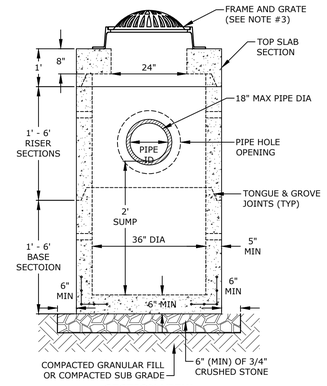
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Tighe & Bond: J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001-C-DTLS.dwg



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5

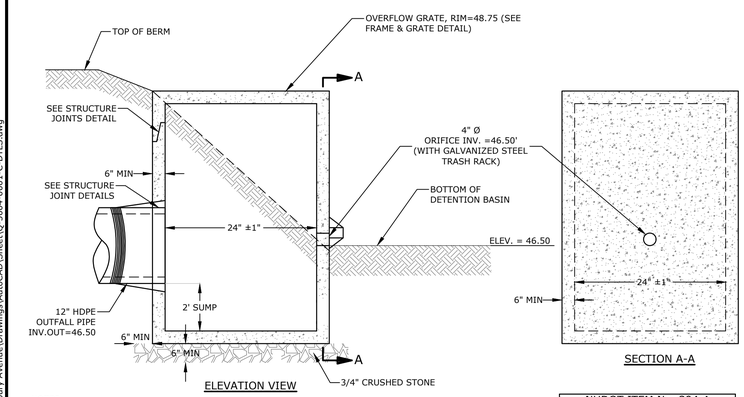
OUTLET CONTROL STRUCTURE 1 (POS 1)
NO SCALE



SECTION VIEW

NOTES:
1. ALL PRECAST SECTIONS SHALL BE 4,000 PSI (MIN) CONCRETE DESIGNED FOR AASHTO H-20 LOADING CONFORMING TO ASTM C-478 AND AASHTO M-199.
2. STEEL REINFORCEMENT SHALL BE 0.12-IN^2/LF AND 0.12-IN^2 (BOTH WAYS) BASE BOTTOM CONFORMING TO ASTM A-615 AND ASTM A-185.
3. YARD / AREA DRAIN FRAME AND GRATES SHALL BE AS FOLLOWS:
   - NEENAH FOUNDRY R-2561 FRAME, WITH BEEHIVE GRATE (±1.2 SF OPEN AREA OR EQUAL), FOR DRAINS LOCATED IN GRASSED AREAS;
4. ADJUSTING AND COVERS TO FINISHED GRADE SHALL BE DONE USING PRECAST REINFORCED CONCRETE GRADE RINGS OR CLAY BRICKS.
5. HORIZONTAL SECTION JOINTS SHALL BE TONGUE AND GROOVE JOINTS SEALED WITH ONE (1) STRIP OF FLEXIBLE BUTYL RUBBER JOINT SEALANT CONFORMING TO ASTM C-990.
   - JOINT SEALANT SHALL BE CONSEAL CS-102 (OR EQUAL)
6. PIPE TO MANHOLE CONNECTION JOINTS SHALL BE FLEXIBLE SLEEVE CONFORMING TO ASTM C-923.
   - FLEXIBLE SLEEVES SHALL BE KOR-N-SEAL (OR EQUAL).
7. PIPE HOLE OPENING(S) WITHIN PRECAST SECTIONS VARIES DEPENDING ON PIPE SIZE. PIPE OPENING SIZES SHALL BE COORDINATED WITH PRECASTER AND FLEXIBLE PIPE SLEEVE MANUFACTURERS
8. PRECAST CONCRETE YARD / AREA DRAINS SHALL BE PHOENIX PRECAST PRODUCTS - 3' DIA CATCH BASIN (OR EQUAL).

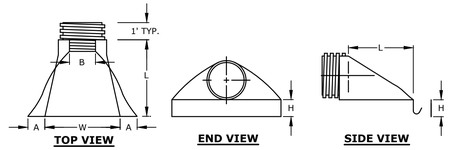
TYPICAL PRECAST CONCRETE YARD DRAIN
NO SCALE



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5

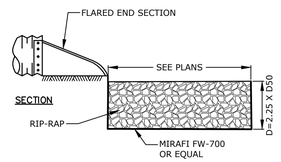
OUTLET CONTROL STRUCTURE 2 (POS 2)
NO SCALE



TOP VIEW **END VIEW** **SIDE VIEW**

PIPE Ø	DIMENSION (INCHES)					
	PART NO.	A(1±)	B MAX	H(1±)	L(1/2±)	W(2±)
12"	1210 NP	6.5	10	6.5	25	29

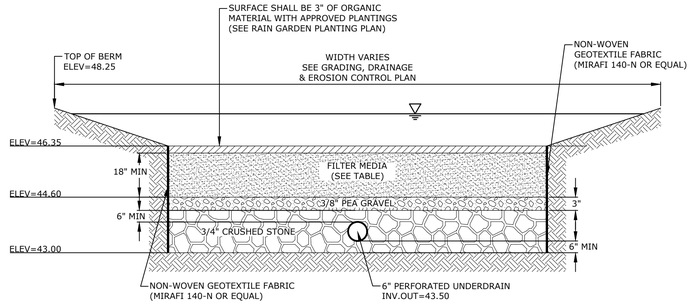
HDPE END SECTION DIMENSIONS
NO SCALE



NOTES:
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.

RIP-RAP APPRON DETAIL
NO SCALE

RAIN GARDEN INSPECTION/MAINTENANCE REQUIREMENTS		
INSPECTION / MAINTENANCE	FREQUENCY	ACTION
MONITOR TO ENSURE THAT RAIN GARDENS FUNCTION EFFECTIVELY AFTER STORMS	TWO (2) TIMES ANNUALLY AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	• TRASH AND DEBRIS TO BE REMOVED • ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED
INSPECT VEGETATION	ANNUALLY	• INSPECT THE CONDITION OF ALL RAIN GARDEN VEGETATION • PRUNE BACK OVERGROWTH • REPLACE DEAD VEGETATION • REMOVE ANY INVASIVE SPECIES
INSPECT DRAWDOWN TIME: • THE SYSTEM SHALL DRAWDOWN WITHIN 48-HOURS FOLLOWING A RAINFALL EVENT.	ANNUALLY	• ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER



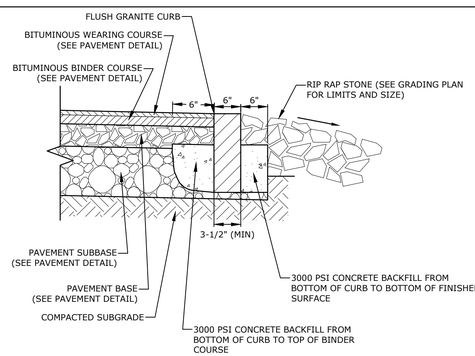
SECTION VIEW

FILTER MEDIA COMPOSITION:			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE #	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE # 5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

NOTES
1. BARK MULCH SHALL BE AGED A MINIMUM OF 12 MONTHS AND SHALL NOT FLOAT.
2. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
5. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

RAIN GARDEN SECTION
NO SCALE



NOTES:
1. SEE SITE PLAN FOR LIMITS OF CURB CUT INLET.
2. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

CURB CUT INLET DETAIL
NO SCALE

Tighe&Bond

PATRICK CRIMMINS — STATE OF NEW HAMPSHIRE — No. 12378 — LICENSED PROFESSIONAL ENGINEER — 7/30/25

NEIL A HANSEN — STATE OF NEW HAMPSHIRE — No. 15227 — LICENSED PROFESSIONAL ENGINEER — 07/30/2025

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
B	7/30/2025	PB Submission
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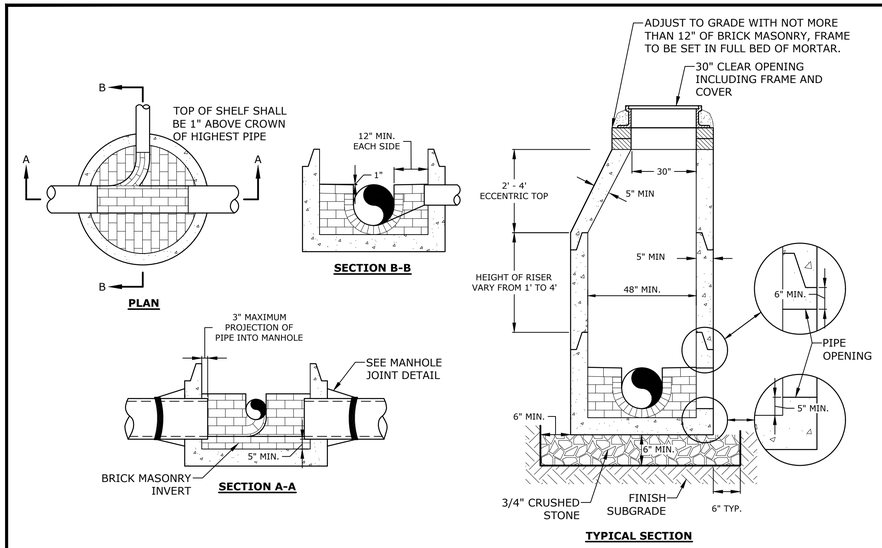
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DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

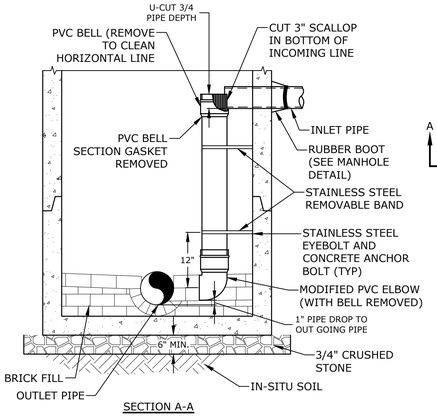
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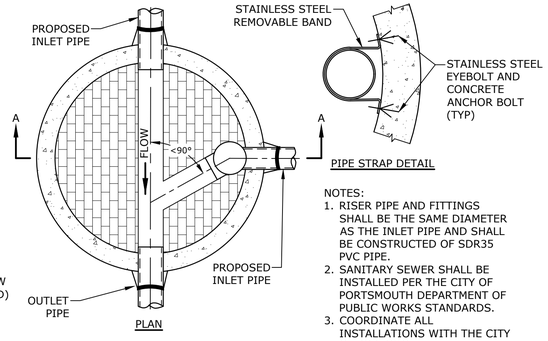
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NOTES:
1. ALL SEWER MANHOLES SHALL BE CONSTRUCTED TO CITY AND STATE STANDARDS.
2. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
3. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
4. INVERT BRICKS SHALL BE LAID ON EDGE.
5. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
7. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
8. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

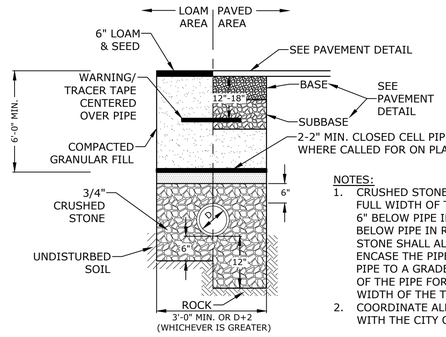
SEWER MANHOLE
NO SCALE





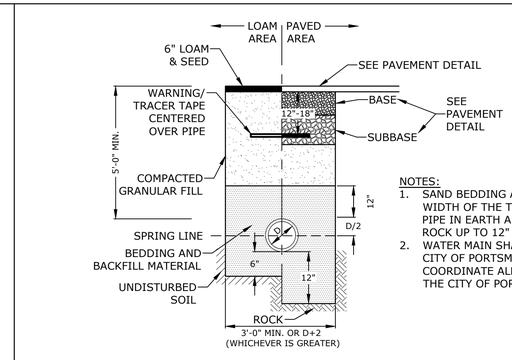
NOTES:
1. RISER PIPE AND FITTINGS SHALL BE THE SAME DIAMETER AS THE INLET PIPE AND SHALL BE CONSTRUCTED OF SDR35 PVC PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS.
3. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

INSIDE DROP MANHOLE
NO SCALE



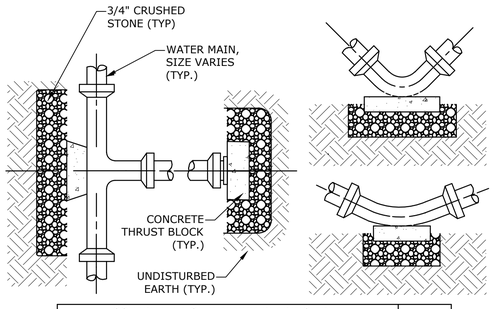
NOTES:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER SERVICE TRENCH
NO SCALE



NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

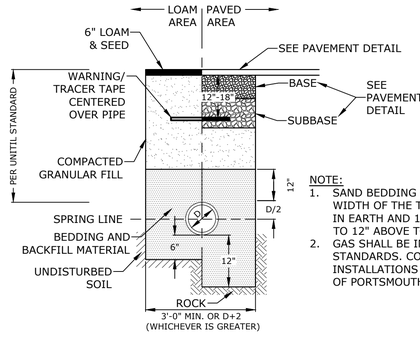
WATER TRENCH
NO SCALE



SQUARE FEET OF MINIMUM BEARING AREA						
NOMINAL DIA. (in)	PIPE SIZE					
	4"	6"	8"	10"	12"	16"
PIPE FITTINGS	*	*	5.18	7.96	11.43	20.29
A 90°	*	4.11	7.33	11.26	16.17	28.69
C 45°	*	*	*	6.10	8.75	15.53
D 22-1/2°	*	*	*	*	4.46	7.92
E 11-1/4°	*	*	*	*	*	*
*SEE NOTE 2	SYSTEM PRESSURE: 125 psi SAFETY FACTOR: 1.5 SOIL BEARING CAPACITY: 2,000 psf					

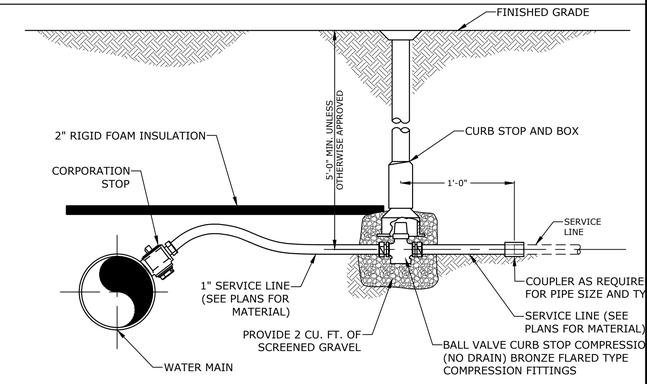
NOTES:
1. ALL THRUST BLOCKS SHALL BE PRE-CAST CONCRETE UNLESS APPROVED BY THE CITY ENGINEER.
2. 2'X2'X2' MINIMUM THRUST BLOCK REQUIRED, ANY BEARING AREA OVER 4 SF REQUIRES THRUST BLOCKS, RESTRAINED JOINTS AND CALCULATIONS ASSOCIATED WITH THE JOINT.
4. FOR MINIMUM BEARING AREAS OVER 4 SF, THE LENGTH (L) OF THE BLOCK IS APPROXIMATELY TWICE AS LONG AS THE HEIGHT (H).
5. THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 125 PSI. IF THE SYSTEM PRESSURE IS ABOVE 125 PSI, INCREASE THE NOTED AREAS PROPORTIONALLY TO THE ACTUAL SYSTEM PRESSURE.
6. PLACE CRUSHED STONE BEHIND THRUST BLOCK AGAINST UNDISTURBED SOIL.
7. PLACE THRUST BLOCK ALONG MAXIMUM LENGTH OF THE FITTING TO MAXIMIZE BEARING AREA.
8. CONCRETE COMPRESSIVE STRENGTH: 2,000 PSI MINIMUM.
9. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
10. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE



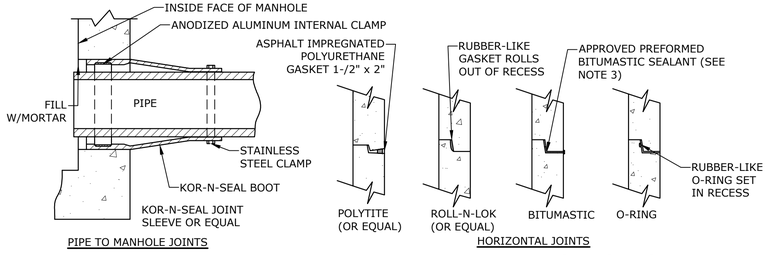
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

GAS TRENCH
NO SCALE



NOTE: ALL WATER SERVICE CONNECTIONS SHALL CONFORM TO CITY OF PORTSMOUTH STANDARDS.

WATER SERVICE CONNECTION
NO SCALE



NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

MANHOLE JOINTS
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
7/30/25

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
07/30/2025

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC & RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

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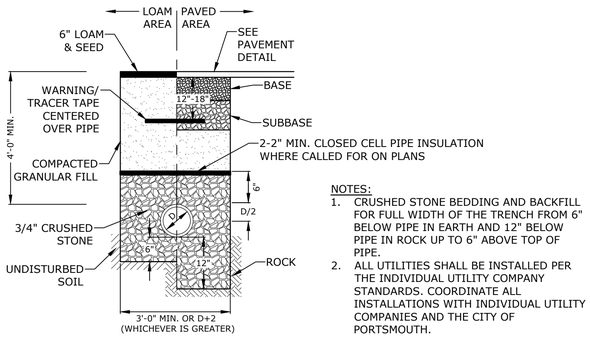
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DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

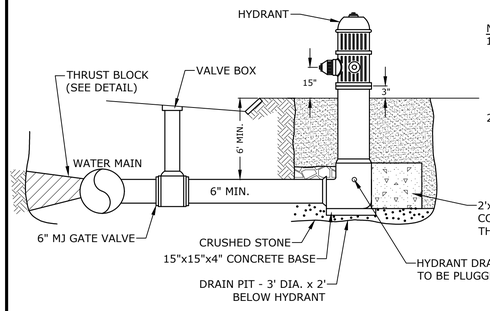
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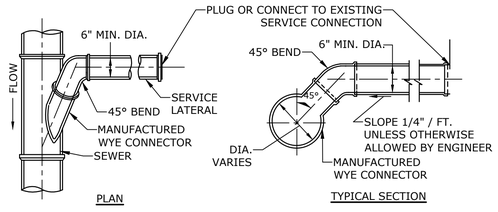
NOTES:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE

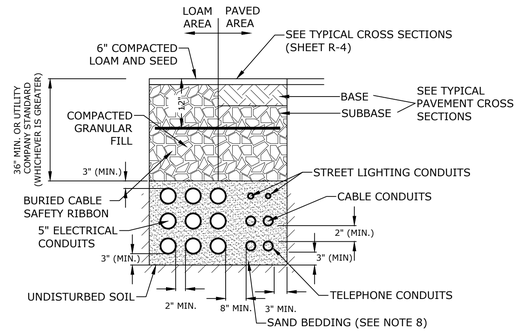


NOTES:
1. HYDRANT TO BE KENNEDY TYPE K-81, RIGHT OPEN (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER DEPARTMENT AND CITY OF PORTSMOUTH FIRE DEPARTMENT.
2. PAINT HYDRANT IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AFTER INSTALLATION AND TESTING.

FIRE HYDRANT
NO SCALE

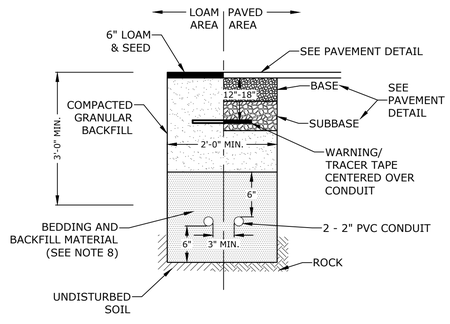


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.
9. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW CONDUIT UP TO 6" ABOVE TOP OF CONDUIT.

LIGHTING CONDUIT TRENCH
NO SCALE

Tighe&Bond

PATRICK CRIMMINS — STATE OF NEW HAMPSHIRE — No. 12378 — LICENSED PROFESSIONAL ENGINEER
7/30/25

NEIL A HANSEN — STATE OF NEW HAMPSHIRE — No. 15227 — LICENSED PROFESSIONAL ENGINEER
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APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

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LANDSCAPING KEYNOTES

L01 PROVIDE NEW 1-1/2" - 3" RIVERJACK RIVERSTONE.

L02 PROVIDE NEW PINE BARK MULCH.

LEGEND

PERMEABLE SURFACE

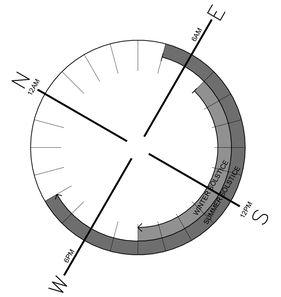
NEW CONCRETE SIDEWALK/CURBING

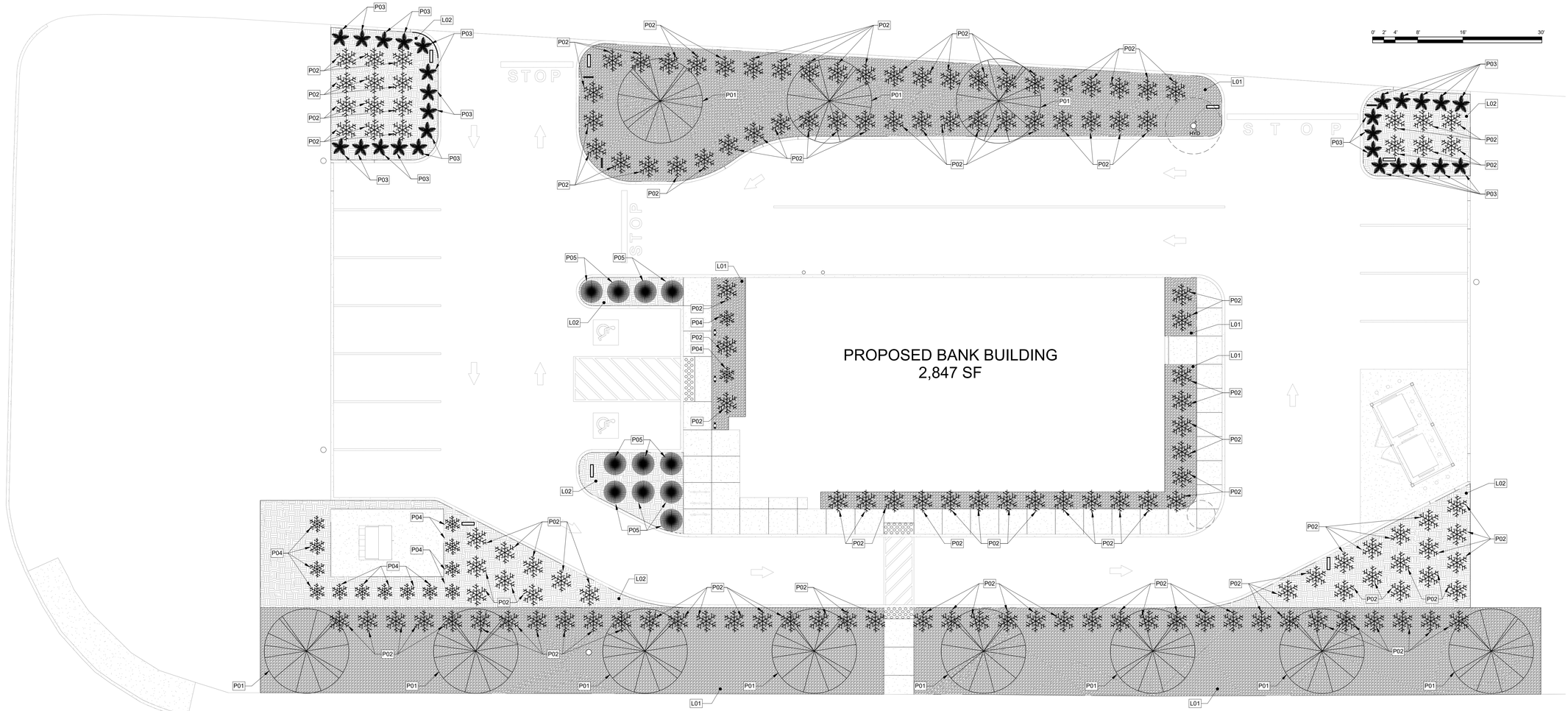
NEW 1 1/2" - 3" RIVERJACK RIVERSTONE

BUILDING FOOTPRINT

PLANTING SCHEDULE

NUMBER	COMMON NAME (BOTANICAL)	MATURE PLANT SIZE	QTY
PLANTINGS			
P01	KOUSA DOGWOOD (CORNUS KOUSA)	HEIGHT: 15'-30' SPREAD: 15'-30'	11
P02	GREEN VELVET BOXWOOD (BUXUS x 'GREEN VELVET')	HEIGHT: 3'-4' SPREAD: 3'-4'	150
P03	HOSTA (HOSTA PLANTAGINEA)	HEIGHT: 1'-3' SPREAD: 1'-3'	27
P04	THREADLEAF TICKSEED (COREOPSIS VERTICILLATA)	HEIGHT: 1'-2' SPREAD: 1'-2'	15
P05	BLACK-EYED SUSAN (RUDBECKIA HIRTA)	HEIGHT: 2'-4' SPREAD: 1'-2'	11





SITE LANDSCAPING PLAN

ARCHITECTURE
INTERIOR ARCHITECTURE
SPACE PLANNING
FACILITIES MANAGEMENT
PROJECT MANAGEMENT

BISBANO + ASSOCIATES, INC.

RISING SUN MILLS | 188 VALLEY STREET | PROVIDENCE, RI | 02909
VOICE 401.404.8310 FAX 401.404.8311 WWW.BISBANO.COM

PORTSMOUTH PLAZA
EXTERIOR SHELL
1465 Woodbury Avenue
Portsmouth, NH
03801

SITE LANDSCAPING PLAN

ISSUE TYPE:
SCHEMATIC DESIGN

ISSUE DATE:
09/24/2025

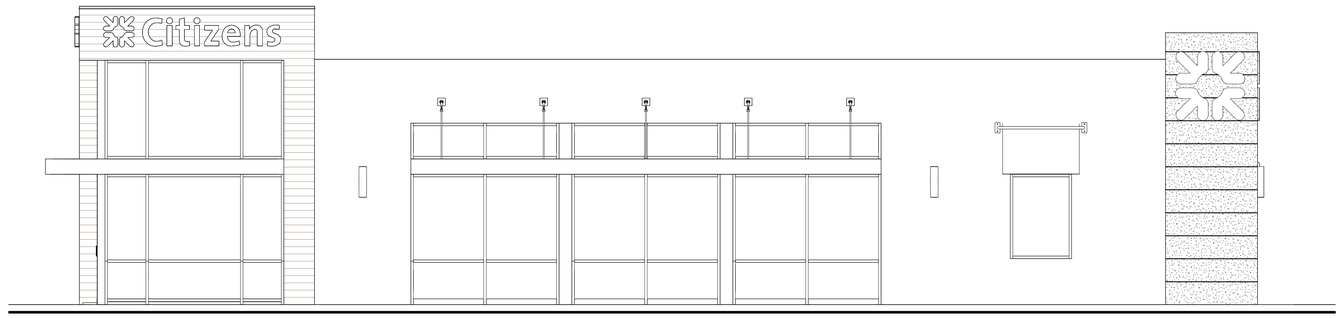
DRAWN BY:
TJ | JC

REVISED:

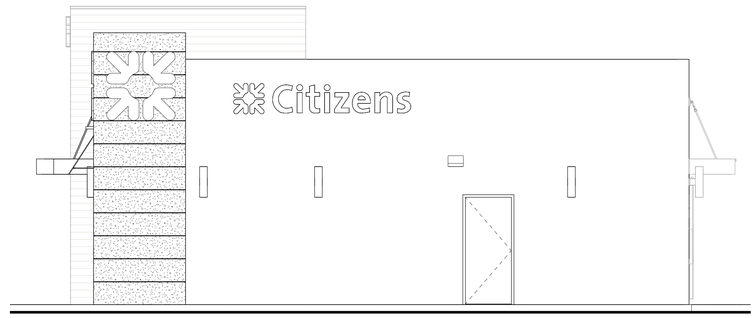
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1/8" = 1'-0"

B+A PROJECT NO.:
2024.103

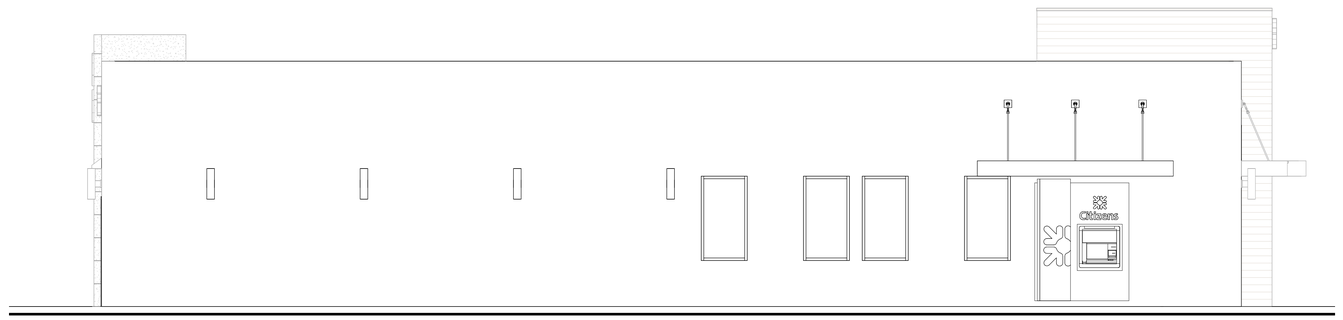
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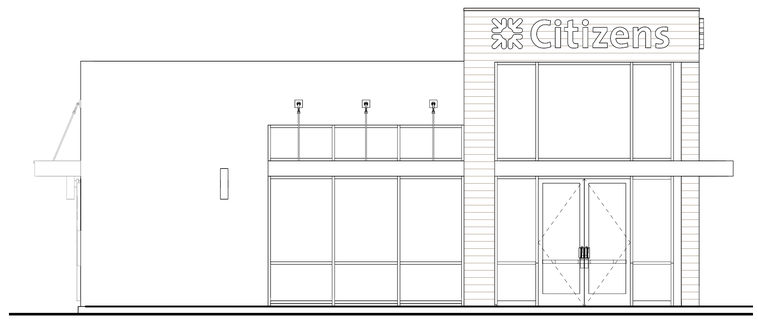
01 SOUTHWEST ELEVATION
1/4" = 1'-0"



02 SOUTHEAST ELEVATION
1/4" = 1'-0"



03 NORTHEAST ELEVATION
1/4" = 1'-0"



04 NORTHWEST ELEVATION
1/4" = 1'-0"

EXTERIOR ELEVATIONS

ARCHITECTURE
INTERIOR ARCHITECTURE
SPACE PLANNING
FACILITIES MANAGEMENT
PROJECT MANAGEMENT

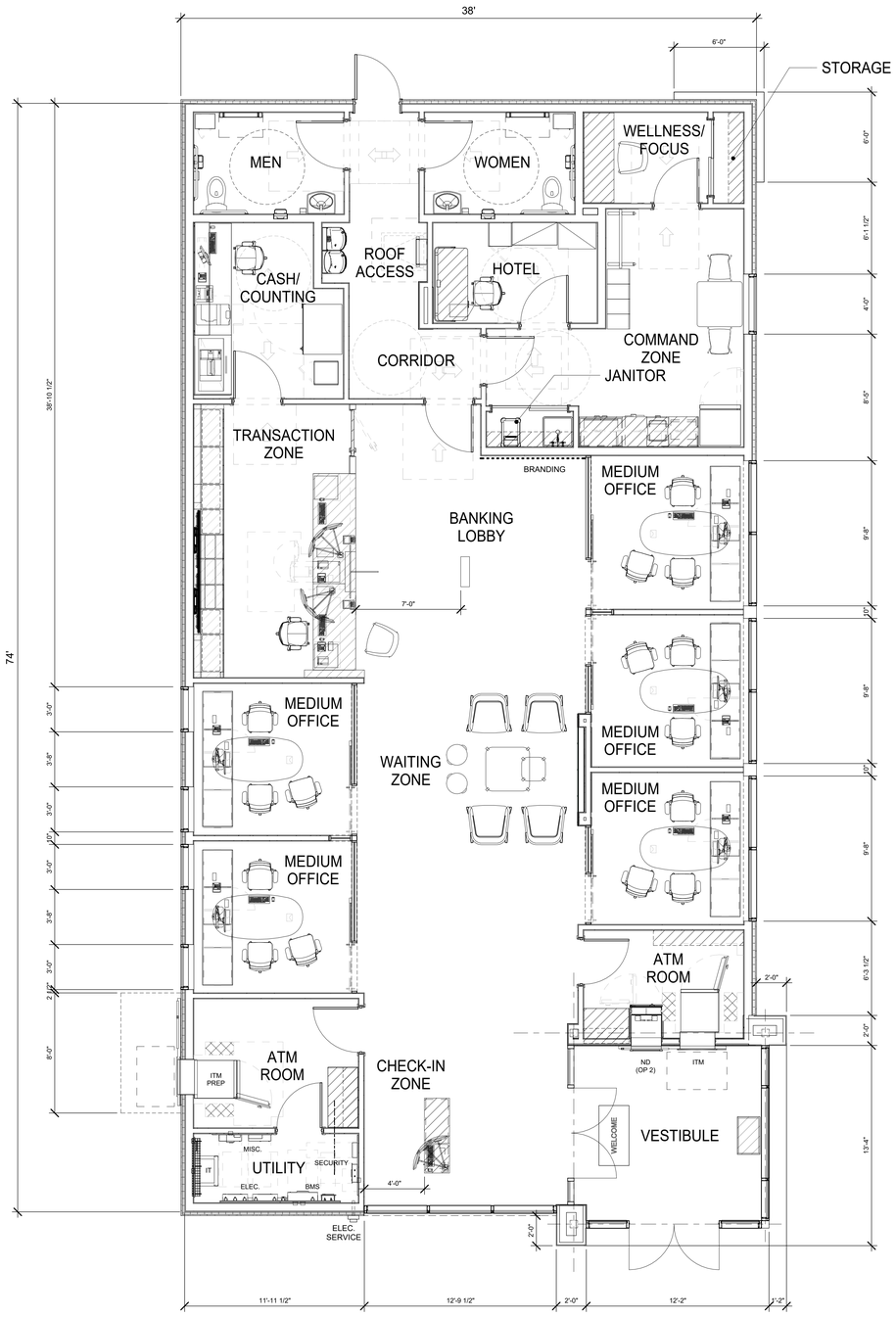
BISBANO + ASSOCIATES, INC.
RISING SUN MILLS | 188 VALLEY STREET | PROVIDENCE, RI | 02909
VOICE 401.404.8310 FAX 401.404.8311 WWW.BISBANO.COM

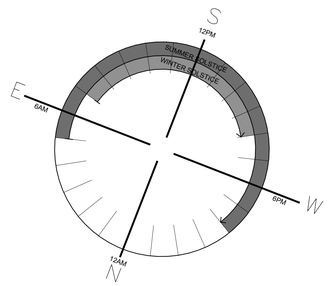
Citizens™
PORTSMOUTH

1465 Woodbury Avenue
Portsmouth, NH 03801

EXTERIOR ELEVATIONS

ISSUE TYPE: TAC MEETING SUBMISSION #1	REVISED:
ISSUE DATE: 06/13/25	
DRAWN BY: RS	
	SCALE: 1/4" = 1'-0"
	B+A PROJECT NO.: 2024.103
	A10.01





PROPOSED PLAN

ARCHITECTURE
INTERIOR ARCHITECTURE
SPACE PLANNING
FACILITIES MANAGEMENT
PROJECT MANAGEMENT

BISBANO + ASSOCIATES, INC.
RISING SUN MILLS | 188 VALLEY STREET | PROVIDENCE, RI | 02909
VOICE 401.404.8310 FAX 401.404.8311 WWW.BISBANO.COM

PORTSMOUTH

1465 Woodbury Avenue
Portsmouth, NH 03801

PROPOSED PLAN

ISSUE TYPE: TEST FIT V01.2	REVISED:
ISSUE DATE: 06/13/25	
DRAWN BY: JC, MS, RS	
	SCALE 1/4" = 1'-0"
	B+A PROJECT NO.: 2024.103
	TF-2

ALL TYPES: 20'0" MOUNTING HEIGHT

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Manufacturer	Description	Luminaire Lumens	Luminaire Watts	LLF
	3	L4F-S	Single	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-IV-FT-40LED-875mA-40K-HS	11123	110.8	0.920

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	2.3	4.3	0.6	3.9	7.2



NOTES:
See schedule for luminaire specifications.
Luminaire Symbols are not to scale.
Varying the position, mounting height,
or orientation from what is specified in this
drawing will invalidate the calculation performed.

DRAWN BY: L.C.P.
AGENCY: Apex Lighting Solutions
Date:7/22/2025
SCALE: 1" = 10'0"

Point-By-Point Illuminance Calculation
(At Grade)

Citizens Bank
Portsmouth, NH

Owner Letter of Authorization

This letter is to authorize Tighe & Bond, Inc. (Civil Engineer), to represent and submit on behalf of Bromley-Portsmouth LLC & RCQ-Portsmouth LLC c/o Quincy & Company, Inc. (Owner/Applicant), applications and materials in all site design and permitting matters for the proposed development project located at 1465 Woodbury Avenue in Portsmouth, New Hampshire on parcel of land identified as Map 216 Lot 3. This project includes the construction of a bank pad and associated on-site improvements. This authorization shall relate to those activities that are required for local, state and federal permitting for the above project and include any required signatures for those applications.

Signature	Chris Quincy Print Name	6/4/2025 Date

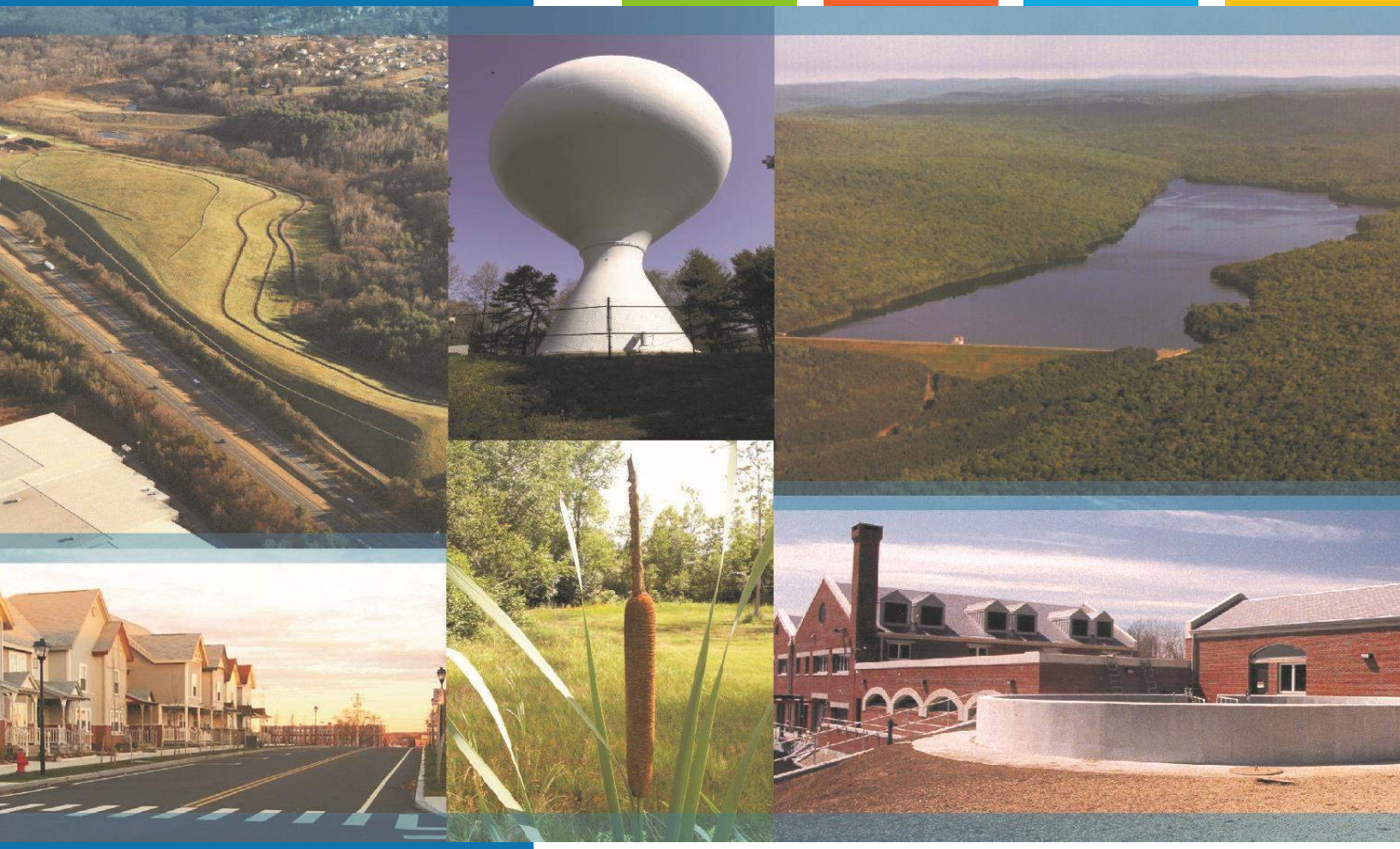
1465 Woodbury Ave - Site Plan Review - TAC STIPULATIONS OF APPROVAL (7/8/25)

1465 Woodbury Avenue
Portsmouth, New Hampshire
July 30, 2025

Prepared by: NAH/NHW
Project # Q5004-001

	CHANGES TO BE MADE PRIOR TO PLANNING BOARD SUBMISSION	Response	Corresponding Plan Sheet #
1	The hydrant valve should be placed next to the hydrant, not at the split.	The hydrant valve has been moved and is now represented next to the hydrant.	C-104
2	The hydrant connection needs to face the entrance.	The hydrant connection has been rotated to face the entrance.	C-104
3	Existing and proposed hydrants much be shown on the landscaping plans.	Existing and proposed hydrants are now shown on the landscaping plans.	A01.0X

	Internal Use Only		

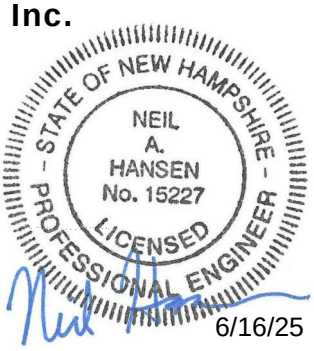


Proposed Bank Pad
1465 Woodbury Avenue
Portsmouth, NH

Drainage Analysis

Bromley-Portsmouth, LLC
RCQ-Portsmouth, LLC
c/o Quincy & Company, Inc.

June 16, 2025



Tighe&Bond

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1.2 Pre- and Post-Development Comparison 1-2
1.3 Calculation Methods.....1-2

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2.1 Pre-Development Calculations.....2-1
2.2 Pre-Development Watershed Plan 2-1

Section 3 Post-Development Conditions

3.1 Post-Development Calculations 3-1
3.2 Post-Development Watershed Plan 3-1

Section 4 Peak Rate Comparison

Section 5 Mitigation Description

5.1 Pre-Treatment Methods for Protecting Water Quality 5-1
5.2 Treatment Methods for Protecting Water Quality. 5-1

Section 6 BMP Worksheet

Appendices

A Web Soil Survey Report
B Extreme Precipitation Tables

Section 1
Project Description

The proposed project is located at 1465 Woodbury Ave, which is identified as Map 216 Lot 3 on the City of Portsmouth Tax Maps. The site currently functions as a significant retail hub and features a variety of co-tenants including major retailers such as Market Basket, Marshalls, Burlington, Panera Bread, and Wendy's, among others. The property is a 19.76-acre parcel of land that is located in the Gateway District (G1). The property is bound to the southwest & southeast by Woodbury Ave, to the north-west by Commerce Way, & to the northeast by a wooded area, with an office park beyond.

1.1 On-Site Soil Description

The project site consists of terrain that is generally sloping from the south to the north at grades below 10%. The site has an approximate high point of elevation 53 located along the property line, abutting Woodbury Ave.

A web soil survey was completed for the project and can be found in Appendix A of this report. Based on the soil survey, all soil on site is classified as "Urban Land". The runoff analyzed within this study has been modeled using Hydrologic Soil Group D soils.

1.2 Pre- and Post-Development Comparison

The pre-development and post-development watershed areas have been analyzed at one (1) distinct point of analysis (PA-1.) While the point of analysis has remained unchanged, the contributing sub-catchment areas varied between pre-development and post-development conditions. These adjustments were made to reflect the differences in drainage patterns between the existing and proposed conditions. The overall area analyzed as part of this drainage analysis was held constant. PA-1 is located at the point at which the stormwater from the sites watershed enters the existing closed drainage system located within the lot.

The peak discharge rates at this point of analysis were determined by analyzing Type III, 24-hour storm events. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University, which can be found in Appendix B.

Furthermore, the site is located within a Coastal and Great Bay Community, therefore an added factor of safety of 15% was included as required by Env-Wq 1503.08(l).

1.3 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. The peak discharge rates were determined by analyzing Type III 24-hour storm events. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(l).

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow, and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.
2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

Section 2
Pre-Development Conditions

To analyze the pre-development condition, the site has been modeled utilizing (1) distinct point of analysis (PA-1). This point of analysis and watershed are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

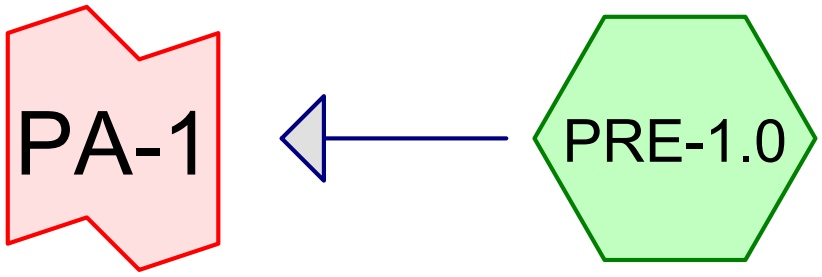
The point of analysis and its contributing watershed area is described below:

Point of Analysis (PA-1)

Point of analysis 1 is comprised of one subcatchment area (PRE 1.0). This area currently exists as a fully grassed area. Runoff from this watershed sheet flows untreated stormwater into a grading depression, which discharges stormwater from the watershed into a closed drainage system on site, through a 12" culvert.

2.1 Pre-Development Calculations

2.2 Pre-Development Watershed Plan



Subcat Reach Pond Link

Routing Diagram for Q-5004-001_PRE
Prepared by Tighe & Bond, Printed 5/28/2025
HydroCAD® 10.20-4c s/n 03436 © 2024 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
37,535	80	>75% Grass cover, Good, HSG D (PRE-1.0)
37,535	**80**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
37,535	HSG D	PRE-1.0
0	Other	
37,535		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE-1.0: Runoff Area=37,535 sf 0.00% Impervious Runoff Depth>1.78"
Flow Length=358' Tc=5.2 min CN=80 Runoff=1.79 cfs 5,564 cf

Link PA-1: Inflow=1.79 cfs 5,564 cf
Primary=1.79 cfs 5,564 cf

Total Runoff Area = 37,535 sf Runoff Volume = 5,564 cf Average Runoff Depth = 1.78"
100.00% Pervious = 37,535 sf 0.00% Impervious = 0 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE-1.0: Runoff Area=37,535 sf 0.00% Impervious Runoff Depth>3.40"
Flow Length=358' Tc=5.2 min CN=80 Runoff=3.42 cfs 10,642 cf

Link PA-1: Inflow=3.42 cfs 10,642 cf
Primary=3.42 cfs 10,642 cf

Total Runoff Area = 37,535 sf Runoff Volume = 10,642 cf Average Runoff Depth = 3.40"
100.00% Pervious = 37,535 sf 0.00% Impervious = 0 sf

Summary for Subcatchment PRE-1.0:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.42 cfs @ 12.08 hrs, Volume= 10,642 cf, Depth> 3.40"
Routed to Link PA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

Area (sf)	CN	Description
37,535	80	>75% Grass cover, Good, HSG D
37,535		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0700	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"
2.0	308	0.0260	2.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.2	358	Total			

Summary for Link PA-1:

Inflow Area = 37,535 sf, 0.00% Impervious, Inflow Depth > 3.40" for 10-Yr event
Inflow = 3.42 cfs @ 12.08 hrs, Volume= 10,642 cf
Primary = 3.42 cfs @ 12.08 hrs, Volume= 10,642 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE-1.0: Runoff Area=37,535 sf 0.00% Impervious Runoff Depth>4.76"
Flow Length=358' Tc=5.2 min CN=80 Runoff=4.73 cfs 14,876 cf

Link PA-1: Inflow=4.73 cfs 14,876 cf
Primary=4.73 cfs 14,876 cf

Total Runoff Area = 37,535 sf Runoff Volume = 14,876 cf Average Runoff Depth = 4.76"
100.00% Pervious = 37,535 sf 0.00% Impervious = 0 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE-1.0: Runoff Area=37,535 sf 0.00% Impervious Runoff Depth>6.05"
Flow Length=358' Tc=5.2 min CN=80 Runoff=5.97 cfs 18,936 cf

Link PA-1: Inflow=5.97 cfs 18,936 cf
Primary=5.97 cfs 18,936 cf

Total Runoff Area = 37,535 sf Runoff Volume = 18,936 cf Average Runoff Depth = 6.05"
100.00% Pervious = 37,535 sf 0.00% Impervious = 0 sf

PRE-DEVELOPMENT WATERSHED LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

MAP 216 LOT 3
19.76 Ac.±

APPROXIMATE LOCATION OF 50' WIDE SEWER EASEMENT

APPROXIMATE LOCATION OF 20' WIDE SEWER EASEMENT

PA-1

PRE 1.0

RIM=47.47
INV.(A)=44.07
INV.(B)=44.07
INV.(C)=43.50
INV.(D)=43.33

RIM=47.88
INV.(A)=43.83
INV.(B)=43.33

RIM=48.14
INV.(A)=44.29

RIM=48.10
INV.(A)=44.80
INV.(B)=44.80

RIM=48.38
INV.(A)=35.28
INV.(B)=35.08

RIM=48.99
INV.(A)=45.6

12"RCP INV.=43.50

12"CMP INV.=43.78

RIM=49.24
INV.(A)=43.49
INV.(B)=43.49
INV.(C)=43.49

RIM=51.25
INV.(A)=47.05
INV.(B)=44.70
INV.(C)=46.02
INV.(D)=44.35

RIM=53.74
INV.(A)=49.29
INV.(B)=48.54

WOODBURY AVENUE
(PUBLIC – VARIABLE WIDTH)

BITUMINOUS CONCRETE

BITUMINOUS CONCRETE SIDEWALK

GRASS

TRAFFIC SIGNAL

PEDESTRIAN SIGNAL

REFLECTOR

GUY POLE

OVERHEAD WIRES (TYP.)

RECORD LOCATION

APPROXIMATE LOCATION OF SEWER MAIN PER RECORD PLANS

APPROXIMATE LOCATION OF WATER MAIN PER RECORD PLANS

APPROXIMATE LOCATION OF GAS MAIN PER RECORD PLANS

6"CI

6"PLASTIC

Tighe&Bond

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0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	Q5004-0001
DATE:	5/6/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Saved: 5/27/2025
Printed: May 28, 2025-1:19pm By: NWilcox
Tighe & Bond:J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg

PRE-DEVELOPMENT WATERSHED LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

MAP 216 LOT 3
19.76 Ac.±

WOODBURY AVENUE
(PUBLIC – VARIABLE WIDTH)

PA-1

PRE 1.0

APPROXIMATE LOCATION OF 50' WIDE SEWER EASEMENT

APPROXIMATE LOCATION OF 20' WIDE SEWER EASEMENT

RIM=47.47 RIM=47.88
INV.(A)=44.07 (A)=43.83
INV.(B)=44.07 (B)=43.33
INV.(C)=43.50
INV.(D)=43.33

RIM=48.14
INV.(A)=44.29
INV.(RIM=48.10
INV.(A)=44.80
INV.(B)=44.80

RIM=48.38
INV.(A)=35.28
INV.(B)=35.08

RIM=48.99
INV.(A)=45.6

RIM=49.24
INV.(A)=43.49
INV.(B)=43.49
INV.(C)=43.49

RIM=51.25
INV.(A)=47.05
INV.(B)=44.70
INV.(C)=46.02
INV.(D)=44.35

RIM=53.74
INV.(A)=49.29
INV.(B)=48.54

12"RCP INV.=43.50
12"CMP INV.=43.78
GUY POLE #177-66S
OVERHEAD WIRES (TYP.)
TRAFFIC SIGNAL
PEDESTRIAN SIGNAL
REFLECTOR
BITUMINOUS CONCRETE
BITUMINOUS CONCRETE SIDEWALK
GRASS
STOP
EOP
VGC
SSLW

RECORD LOCATION
APPROXIMATE LOCATION OF SEWER MAIN PER RECORD PLANS
APPROXIMATE LOCATION OF WATER MAIN PER RECORD PLANS
APPROXIMATE LOCATION OF GAS MAIN PER RECORD PLANS
6"CI
6"PLASTIC

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0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION

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DATE:	5/6/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Saved: 5/27/2025
Plotted: Date/Time: 5/27/2025 1:19pm By: NWilcox
Tighe & Bond J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg

Section 3
Post-Development Conditions

The post-development condition was analyzed by dividing the pre-development watersheds into two (2) post development watershed areas. Stormwater runoff from these sub-catchment areas flow via subsurface drainage systems prior to discharging to a proposed rain garden, and ultimately entering the existing closed drainage system on site. Like the pre-development condition, flows from these sub-catchment areas are modeled at the same point of analysis (PA-1).

A detention basin is also included within the development site for the purpose of mitigating peak flowrates and providing additional storage upstream of the proposed rain garden. The rain garden has been sized to treat the water quality volume for the proposed development area.

The point of analysis and its sub-catchment areas are depicted on the plan entitled "Post-Development Watershed Plan," Sheet C-802. The point of analysis and it's contributing watershed areas are described below:

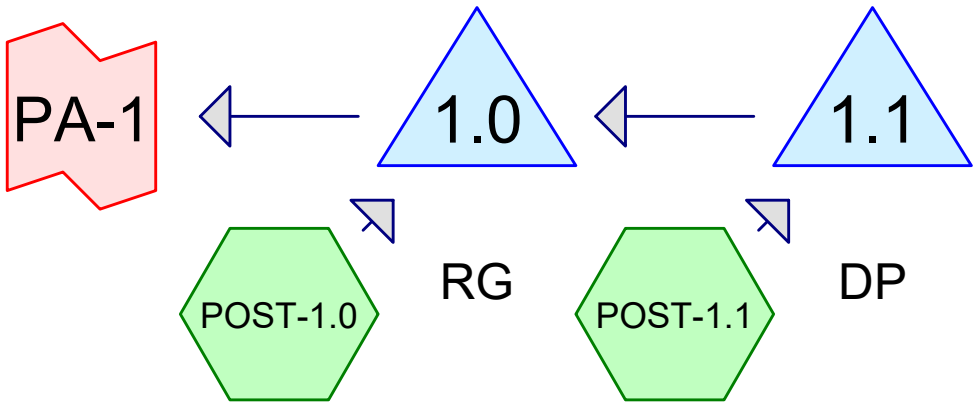
Point of Analysis (PA-1)

Post-development Watershed 1.0 (POST 1.0) consists of the north half of the proposed redevelopment area and contains a portion of the paved parking area, concrete sidewalk, & landscaped areas. This watershed also contains the roof runoff of the proposed building. Runoff from this watershed is travels via sheet flow to a sediment forebay prior to discharging into the proposed rain garden. The rain garden discharges to the existing closed drainage system.

Post-development Watershed 1.1 (POST 1.1) is comprised of the remainder of the proposed parking area and a fully grassed area to the south of the proposed redevelopment, including the proposed detention basin. Runoff in this watershed area sheet flows directly into the proposed detention basin, before entering a proposed yard drain which ultimately flows into the rain garden via the proposed closed drainage system.

3.1 Post-Development Calculations

3.2 Post-Development Watershed Plan



Subcat Reach Pond Link

Routing Diagram for Q-5004-001_POST
Prepared by Tighe & Bond, Printed 6/16/2025
HydroCAD® 10.20-4c s/n 01453 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
25,418	80	>75% Grass cover, Good, HSG D (POST-1.0, POST-1.1)
3,970	98	Paved parking, HSG D (POST-1.0)
5,297	98	Paved parking/Concrete, HSG D (POST-1.1)
2,850	98	Roofs, HSG D (POST-1.0)
37,535	**86**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
37,535	HSG D	POST-1.0, POST-1.1
0	Other	
37,535		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST-1.0: Runoff Area=19,481 sf 35.01% Impervious Runoff Depth>2.26"
Flow Length=147' Tc=5.0 min CN=86 Runoff=1.18 cfs 3,664 cf

SubcatchmentPOST-1.1: Runoff Area=18,054 sf 29.34% Impervious Runoff Depth>2.17"
Flow Length=108' Slope=0.0310 '/' Tc=5.0 min CN=85 Runoff=1.06 cfs 3,269 cf

Pond 1.0: RG Peak Elev=46.84' Storage=1,680 cf Inflow=1.50 cfs 6,892 cf
Outflow=0.41 cfs 6,833 cf

Pond 1.1: DP Peak Elev=47.53' Storage=761 cf Inflow=1.06 cfs 3,269 cf
Outflow=0.39 cfs 3,228 cf

Link PA-1: Inflow=0.41 cfs 6,833 cf
Primary=0.41 cfs 6,833 cf

Total Runoff Area = 37,535 sf Runoff Volume = 6,932 cf Average Runoff Depth = 2.22"
67.72% Pervious = 25,418 sf 32.28% Impervious = 12,117 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST-1.0: Runoff Area=19,481 sf 35.01% Impervious Runoff Depth>4.01"
Flow Length=147' Tc=5.0 min CN=86 Runoff=2.07 cfs 6,509 cf

SubcatchmentPOST-1.1: Runoff Area=18,054 sf 29.34% Impervious Runoff Depth>3.91"
Flow Length=108' Slope=0.0310 '/' Tc=5.0 min CN=85 Runoff=1.88 cfs 5,876 cf

Pond 1.0: RG Peak Elev=47.34' Storage=2,638 cf Inflow=2.50 cfs 12,333 cf
Outflow=0.86 cfs 12,259 cf

Pond 1.1: DP Peak Elev=48.36' Storage=1,682 cf Inflow=1.88 cfs 5,876 cf
Outflow=0.47 cfs 5,824 cf

Link PA-1: Inflow=0.86 cfs 12,259 cf
Primary=0.86 cfs 12,259 cf

Total Runoff Area = 37,535 sf Runoff Volume = 12,384 cf Average Runoff Depth = 3.96"
67.72% Pervious = 25,418 sf 32.28% Impervious = 12,117 sf

Summary for Subcatchment POST-1.0:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.07 cfs @ 12.07 hrs, Volume= 6,509 cf, Depth> 4.01"
Routed to Pond 1.0 : RG

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

Area (sf)	CN	Description
12,661	80	>75% Grass cover, Good, HSG D
2,850	98	Roofs, HSG D
3,970	98	Paved parking, HSG D
19,481	86	Weighted Average
12,661		64.99% Pervious Area
6,820		35.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0180	1.41		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
0.3	47	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	147	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST-1.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.88 cfs @ 12.07 hrs, Volume= 5,876 cf, Depth> 3.91"
Routed to Pond 1.1 : DP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	12,757	80	>75% Grass cover, Good, HSG D
*	5,297	98	Paved parking/Concrete, HSG D
	18,054	85	Weighted Average
	12,757		70.66% Pervious Area
	5,297		29.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.0310	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"
0.4	58	0.0310	2.64		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.8	108	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond 1.0: RG

Inflow Area = 37,535 sf, 32.28% Impervious, Inflow Depth > 3.94" for 10-Yr event
Inflow = 2.50 cfs @ 12.08 hrs, Volume= 12,333 cf
Outflow = 0.86 cfs @ 12.50 hrs, Volume= 12,259 cf, Atten= 66%, Lag= 25.2 min
Primary = 0.86 cfs @ 12.50 hrs, Volume= 12,259 cf
Routed to Link PA-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 47.34' @ 12.50 hrs Surf.Area= 2,128 sf Storage= 2,638 cf
Flood Elev= 48.25' Surf.Area= 2,634 sf Storage= 4,218 cf

Plug-Flow detention time= 46.8 min calculated for 12,233 cf (99% of inflow)
Center-of-Mass det. time= 43.1 min (860.9 - 817.8)

Volume	Invert	Avail.Storage	Storage Description
#1	43.50'	4,218 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.50	1,443	0.0	0	0
44.60	1,443	40.0	635	635
46.35	1,443	10.0	253	887
47.00	1,872	100.0	1,077	1,965
48.00	2,634	100.0	2,253	4,218

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**12.0" Round Culvert** L= 49.0' Ke= 0.500 Inlet / Outlet Invert= 43.50' / 43.33' S= 0.0035 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	43.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 2	43.50'	**10.000 in/hr Exfiltration over Surface area**
#4	Device 1	47.00'	**8.0" W x 3.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	47.75'	**13.9" x 13.9" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.86 cfs @ 12.50 hrs HW=47.34' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.86 cfs of 6.27 cfs potential flow)
  - **2=Orifice/Grate** (Passes 0.49 cfs of 1.79 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.49 cfs)
  - **4=Orifice/Grate** (Orifice Controls 0.36 cfs @ 2.18 fps)
  - **5=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 1.1: DP

Inflow Area = 18,054 sf, 29.34% Impervious, Inflow Depth > 3.91" for 10-Yr event
Inflow = 1.88 cfs @ 12.07 hrs, Volume= 5,876 cf
Outflow = 0.47 cfs @ 12.12 hrs, Volume= 5,824 cf, Atten= 75%, Lag= 3.1 min
Primary = 0.47 cfs @ 12.12 hrs, Volume= 5,824 cf
Routed to Pond 1.0 : RG

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 48.36' @ 12.48 hrs Surf.Area= 1,291 sf Storage= 1,682 cf
Flood Elev= 49.35' Surf.Area= 1,581 sf Storage= 2,604 cf

Plug-Flow detention time= 42.1 min calculated for 5,824 cf (99% of inflow)
Center-of-Mass det. time= 36.7 min (838.7 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	46.50'	2,604 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
46.50	553	0	0
47.00	727	320	320
48.00	1,130	929	1,249
49.00	1,581	1,356	2,604

Device	Routing	Invert	Outlet Devices
#1	Primary	46.50'	**12.0" Round Culvert** L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.50' / 45.85' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	46.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.75'	**16.0" x 16.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.43 cfs @ 12.12 hrs HW=47.96' TW=46.93' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.43 cfs of 2.71 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.43 cfs @ 4.89 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 37,535 sf, 32.28% Impervious, Inflow Depth > 3.92" for 10-Yr event
Inflow = 0.86 cfs @ 12.50 hrs, Volume= 12,259 cf
Primary = 0.86 cfs @ 12.50 hrs, Volume= 12,259 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST-1.0: Runoff Area=19,481 sf 35.01% Impervious Runoff Depth>5.43"
Flow Length=147' Tc=5.0 min CN=86 Runoff=2.77 cfs 8,815 cf

SubcatchmentPOST-1.1: Runoff Area=18,054 sf 29.34% Impervious Runoff Depth>5.32"
Flow Length=108' Slope=0.0310 '/' Tc=5.0 min CN=85 Runoff=2.53 cfs 7,999 cf

Pond 1.0: RG Peak Elev=47.73' Storage=3,532 cf Inflow=3.25 cfs 16,755 cf
Outflow=1.18 cfs 16,671 cf

Pond 1.1: DP Peak Elev=48.83' Storage=2,336 cf Inflow=2.53 cfs 7,999 cf
Outflow=0.82 cfs 7,940 cf

Link PA-1: Inflow=1.18 cfs 16,671 cf
Primary=1.18 cfs 16,671 cf

Total Runoff Area = 37,535 sf Runoff Volume = 16,814 cf Average Runoff Depth = 5.38"
67.72% Pervious = 25,418 sf 32.28% Impervious = 12,117 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST-1.0: Runoff Area=19,481 sf 35.01% Impervious Runoff Depth>6.77"
Flow Length=147' Tc=5.0 min CN=86 Runoff=3.42 cfs 10,997 cf

SubcatchmentPOST-1.1: Runoff Area=18,054 sf 29.34% Impervious Runoff Depth>6.65"
Flow Length=108' Slope=0.0310 '/' Tc=5.0 min CN=85 Runoff=3.13 cfs 10,011 cf

Pond 1.0: RG Peak Elev=47.95' Storage=4,099 cf Inflow=3.90 cfs 20,943 cf
Outflow=2.74 cfs 20,852 cf

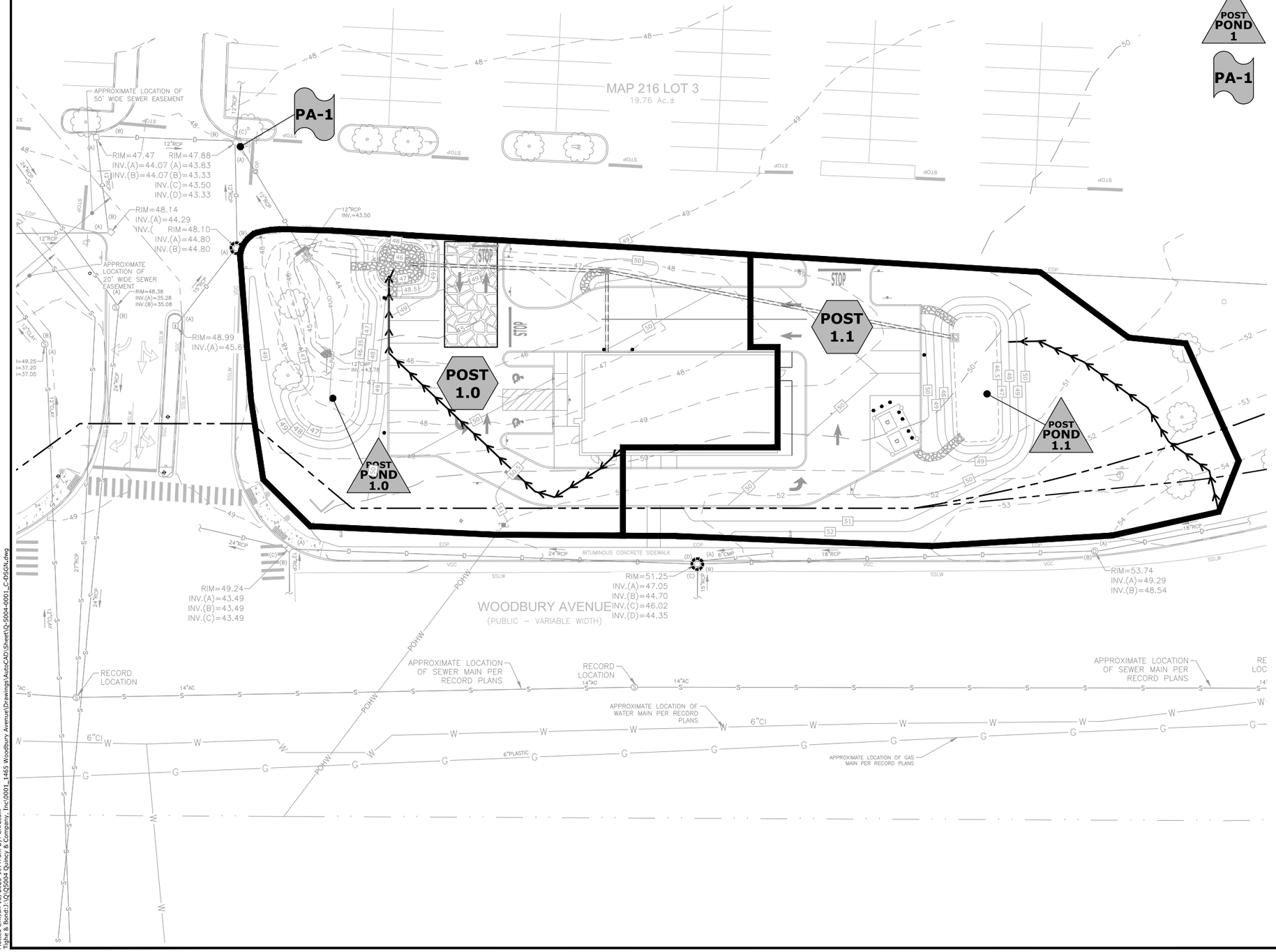
Pond 1.1: DP Peak Elev=48.93' Storage=2,487 cf Inflow=3.13 cfs 10,011 cf
Outflow=1.73 cfs 9,946 cf

Link PA-1: Inflow=2.74 cfs 20,852 cf
Primary=2.74 cfs 20,852 cf

Total Runoff Area = 37,535 sf Runoff Volume = 21,009 cf Average Runoff Depth = 6.72"
67.72% Pervious = 25,418 sf 32.28% Impervious = 12,117 sf

POST-DEVELOPMENT WATERSHED LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- POST-DEVELOPMENT LONGEST FLOW PATH
- POST 1.0 — POST-DEVELOPMENT WATERSHED AREA DESIGNATION
- POST POND 1 — POST-DEVELOPMENT POND DESIGNATION
- PA-1 — POINT OF ANALYSIS



0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
A	6/16/2025	TAC Submission

PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Saved: 6/13/2025
Printed: Jun 13, 2025-16:47am By: CKrzciuk
Tighe & Bond:J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg

POST-DEVELOPMENT WATERSHED LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- POST-DEVELOPMENT LONGEST FLOW PATH
- POST 1.0 — POST-DEVELOPMENT WATERSHED AREA DESIGNATION
- POST POND 1 — POST-DEVELOPMENT POND DESIGNATION
- PA-1 — POINT OF ANALYSIS

MAP 216 LOT 3
19.76 Ac.±

WOODBURY AVENUE
(PUBLIC – VARIABLE WIDTH)

APPROXIMATE LOCATION OF 50' WIDE SEWER EASEMENT

APPROXIMATE LOCATION OF 20' WIDE SEWER EASEMENT

RIM=47.47 RIM=47.88
INV.(A)=44.07 (A)=43.83
INV.(B)=44.07(B)=43.33
INV.(C)=43.50
INV.(D)=43.33

RIM=48.14
INV.(A)=44.29
INV.(RIM=48.10
INV.(A)=44.80
INV.(B)=44.80

RIM=48.38
INV.(A)=35.28
INV.(B)=35.08

RIM=48.99
INV.(A)=45.6

RIM=49.24
INV.(A)=43.49
INV.(B)=43.49
INV.(C)=43.49

RIM=51.25
INV.(A)=47.05
INV.(B)=44.70
INV.(C)=46.02
INV.(D)=44.35

RIM=53.74
INV.(A)=49.29
INV.(B)=48.54

12"RCP INV.=43.50

12"CMP INV.=43.78

BITUMINOUS CONCRETE SIDEWALK

RECORD LOCATION

APPROXIMATE LOCATION OF SEWER MAIN PER RECORD PLANS

APPROXIMATE LOCATION OF WATER MAIN PER RECORD PLANS

APPROXIMATE LOCATION OF GAS MAIN PER RECORD PLANS

POST 1.0

POST POND 1.0

POST 1.1

POST POND 1.1

PA-1

Tighe&Bond

N

0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

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DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Saved: 6/13/2025
Printed: June 13, 2025 - 10:47am By: CKrzculik
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Section 4
Peak Rate Comparison

The following table summarizes and compares the pre- and post-development peak runoff rates from the 2-year, 10-year, 25-year and 50-year storm events at the point of analysis.

Table 4.1
Comparison of Pre- and Post-Development Flows (CFS)

	2-Year Storm	10-Year Storm	25-Year Storm	50-Year Storm
Pre-Development Watershed				
PA-1	1.79	3.42	4.73	5.97
Post-Development Watershed				
PA-1	0.41	0.86	1.18	2.74

Section 5
Mitigation Description

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations.

5.1 Pre-Treatment Methods for Protecting Water Quality

Pre-treatment for the rain garden consists of a sediment forebay.

5.2 Treatment Methods for Protecting Water Quality.

The runoff from proposed impervious areas will be treated by a Rain Garden bioretention system. The Rain Garden is sized to treat the Water Quality Volume of the developments sub catchment areas. A BMP worksheets for the treatment practice has been included in Section 6 of this report.

The proposed stormwater management system is required to remove 80% of the annual Total Suspended Soils (TSS) loads and 50% of the annual Total Nitrogen (TN) loads per the City of Portsmouth's Site Plan regulations, Section 7.6.2.1.a.i. As shown in table 5.1 the pollutant removal efficiencies for the proposed treatment system exceeds the City of Portsmouth's removal requirements.

Table 5.1 – Pollutant Removal Efficiencies

BMP	Total Suspended Solids	Total Nitrogen	Total Phosphorus
Rain Garden w/Pretreatment[1]	95%	65%	65%

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix E.

Section 6
BMP Worksheet

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **Rain Garden 1**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.86	ac	A = Area draining to the practice	
0.35	ac	A_I = Impervious area draining to the practice	
0.41	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.42	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.36	ac-in	WQV= 1" x Rv x A	
1,300	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
325	cf	25% x WQV (check calc for sediment forebay volume)	
975	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
361	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
1,443	sf	A_{SA} = Surface area of the practice	
N/A	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
Yes	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
47.00	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
0.43	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
1.68	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
44.60	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
43.50	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
N/A	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
N/A	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.10	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
47.95	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
48.25	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
1,330	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet	C-504	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet	C-504	Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Stage-Area-Storage for Pond 1.0: RG

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
43.50	1,443	0
43.55	1,443	29
43.60	1,443	58
43.65	1,443	87
43.70	1,443	115
43.75	1,443	144
43.80	1,443	173
43.85	1,443	202
43.90	1,443	231
43.95	1,443	260
44.00	1,443	289
44.05	1,443	317
44.10	1,443	346
44.15	1,443	375
44.20	1,443	404
44.25	1,443	433
44.30	1,443	462
44.35	1,443	491
44.40	1,443	519
44.45	1,443	548
44.50	1,443	577
44.55	1,443	606
44.60	1,443	635
44.65	1,443	642
44.70	1,443	649
44.75	1,443	657
44.80	1,443	664
44.85	1,443	671
44.90	1,443	678
44.95	1,443	685
45.00	1,443	693
45.05	1,443	700
45.10	1,443	707
45.15	1,443	714
45.20	1,443	722
45.25	1,443	729
45.30	1,443	736
45.35	1,443	743
45.40	1,443	750
45.45	1,443	758
45.50	1,443	765
45.55	1,443	772
45.60	1,443	779
45.65	1,443	786
45.70	1,443	794
45.75	1,443	801
45.80	1,443	808
45.85	1,443	815
45.90	1,443	823
45.95	1,443	830
46.00	1,443	837
46.05	1,443	844

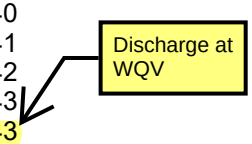
Volume Below Filter Media

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
46.10	1,443	851
46.15	1,443	859
46.20	1,443	866
46.25	1,443	873
46.30	1,443	880
46.35	1,443	887
46.40	1,476	960
46.45	1,509	1,035
46.50	1,542	1,111
46.55	1,575	1,189
46.60	1,608	1,269
46.65	1,641	1,350
46.70	1,674	1,433
46.75	1,707	1,517
46.80	1,740	1,604
46.85	1,773	1,691
46.90	1,806	1,781
46.95	1,839	1,872
47.00	1,872	1,965
47.05	1,910	2,059
47.10	1,948	2,156
47.15	1,986	2,254
47.20	2,024	2,354
47.25	2,063	2,457
47.30	2,101	2,561
47.35	2,139	2,667
47.40	2,177	2,775
47.45	2,215	2,884
47.50	2,253	2,996
47.55	2,291	3,110
47.60	2,329	3,225
47.65	2,367	3,343
47.70	2,405	3,462
47.75	2,444	3,583
47.80	2,482	3,706
47.85	2,520	3,831
47.90	2,558	3,958
47.95	2,596	4,087
48.00	**2,634**	**4,218**
48.05	2,634	4,218
48.10	2,634	4,218
48.15	2,634	4,218
48.20	2,634	4,218
48.25	2,634	4,218

Water Quality Volume

Stage-Discharge for Pond 1.0: RG

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
43.50	0.00	46.10	0.33
43.55	0.01	46.15	0.33
43.60	0.02	46.20	0.33
43.65	0.06	46.25	0.33
43.70	0.10	46.30	0.33
43.75	0.16	46.35	0.33
43.80	0.23	46.40	0.34
43.85	0.30	46.45	0.35
43.90	0.33	46.50	0.36
43.95	0.33	46.55	0.36
44.00	0.33	46.60	0.37
44.05	0.33	46.65	0.38
44.10	0.33	46.70	0.39
44.15	0.33	46.75	0.40
44.20	0.33	46.80	0.40
44.25	0.33	46.85	0.41
44.30	0.33	46.90	0.42
44.35	0.33	46.95	0.43
44.40	0.33	47.00	0.43
44.45	0.33	47.05	0.47
44.50	0.33	47.10	0.52
44.55	0.33	47.15	0.58
44.60	0.33	47.20	0.66
44.65	0.33	47.25	0.74
44.70	0.33	47.30	0.81
44.75	0.33	47.35	0.87
44.80	0.33	47.40	0.92
44.85	0.33	47.45	0.97
44.90	0.33	47.50	1.01
44.95	0.33	47.55	1.05
45.00	0.33	47.60	1.09
45.05	0.33	47.65	1.13
45.10	0.33	47.70	1.16
45.15	0.33	47.75	1.20
45.20	0.33	47.80	1.40
45.25	0.33	47.85	1.74
45.30	0.33	47.90	2.18
45.35	0.33	47.95	2.68
45.40	0.33	48.00	3.25
45.45	0.33	48.05	3.87
45.50	0.33	48.10	4.54
45.55	0.33	48.15	5.25
45.60	0.33	48.20	5.78
45.65	0.33	48.25	**6.03**
45.70	0.33		
45.75	0.33		
45.80	0.33		
45.85	0.33		
45.90	0.33		
45.95	0.33		
46.00	0.33		
46.05	0.33		



APPENDIX A

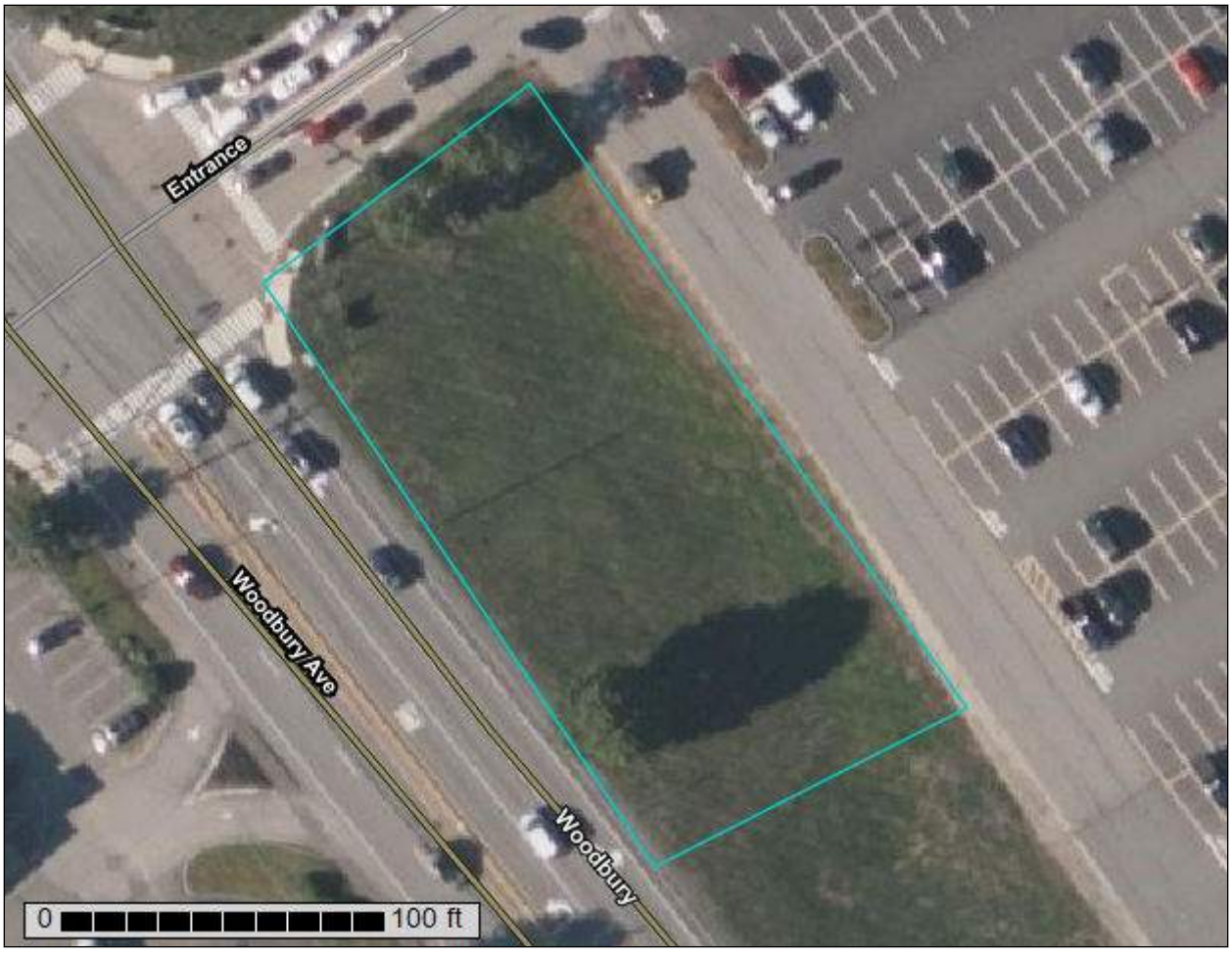
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire



May 5, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:514 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 27, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
699	Urban land	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

699—Urban land

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

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Tighe&Bond

APPENDIX B

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	
Location	
Latitude	43.088 degrees North
Longitude	70.788 degrees West
Elevation	10 feet
Date/Time	Wed May 21 2025 13:32:51 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.02	2.65	2.91	**1yr**	2.35	2.80	3.20	3.93	4.53	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.20	3.56	**2yr**	2.83	3.42	3.92	4.66	5.31	**2yr**
5yr	0.37	0.58	0.73	0.97	1.24	1.60	**5yr**	1.07	1.46	1.88	2.42	3.13	4.05	4.56	**5yr**	3.59	4.38	5.02	5.91	6.68	**5yr**
10yr	0.41	0.64	0.81	1.11	1.44	1.88	**10yr**	1.24	1.72	2.22	2.88	3.73	4.85	5.51	**10yr**	4.29	5.30	6.05	7.08	7.95	**10yr**
25yr	0.47	0.75	0.96	1.32	1.76	2.32	**25yr**	1.52	2.13	2.76	3.61	4.71	6.15	7.07	**25yr**	5.44	6.80	7.75	8.98	10.01	**25yr**
50yr	0.53	0.85	1.09	1.52	2.05	2.73	**50yr**	1.77	2.51	3.26	4.29	5.63	7.36	8.55	**50yr**	6.51	8.22	9.36	10.76	11.93	**50yr**
100yr	0.59	0.95	1.23	1.75	2.39	3.22	**100yr**	2.06	2.95	3.87	5.12	6.73	8.82	10.33	**100yr**	7.80	9.94	11.30	12.89	14.22	**100yr**
200yr	0.67	1.09	1.41	2.02	2.79	3.79	**200yr**	2.41	3.49	4.57	6.08	8.03	10.57	12.50	**200yr**	9.35	12.02	13.64	15.45	16.96	**200yr**
500yr	0.79	1.30	1.69	2.45	3.43	4.70	**500yr**	2.96	4.34	5.70	7.63	10.15	13.43	16.08	**500yr**	11.88	15.46	17.52	19.65	21.42	**500yr**

Lower Confidence Limits

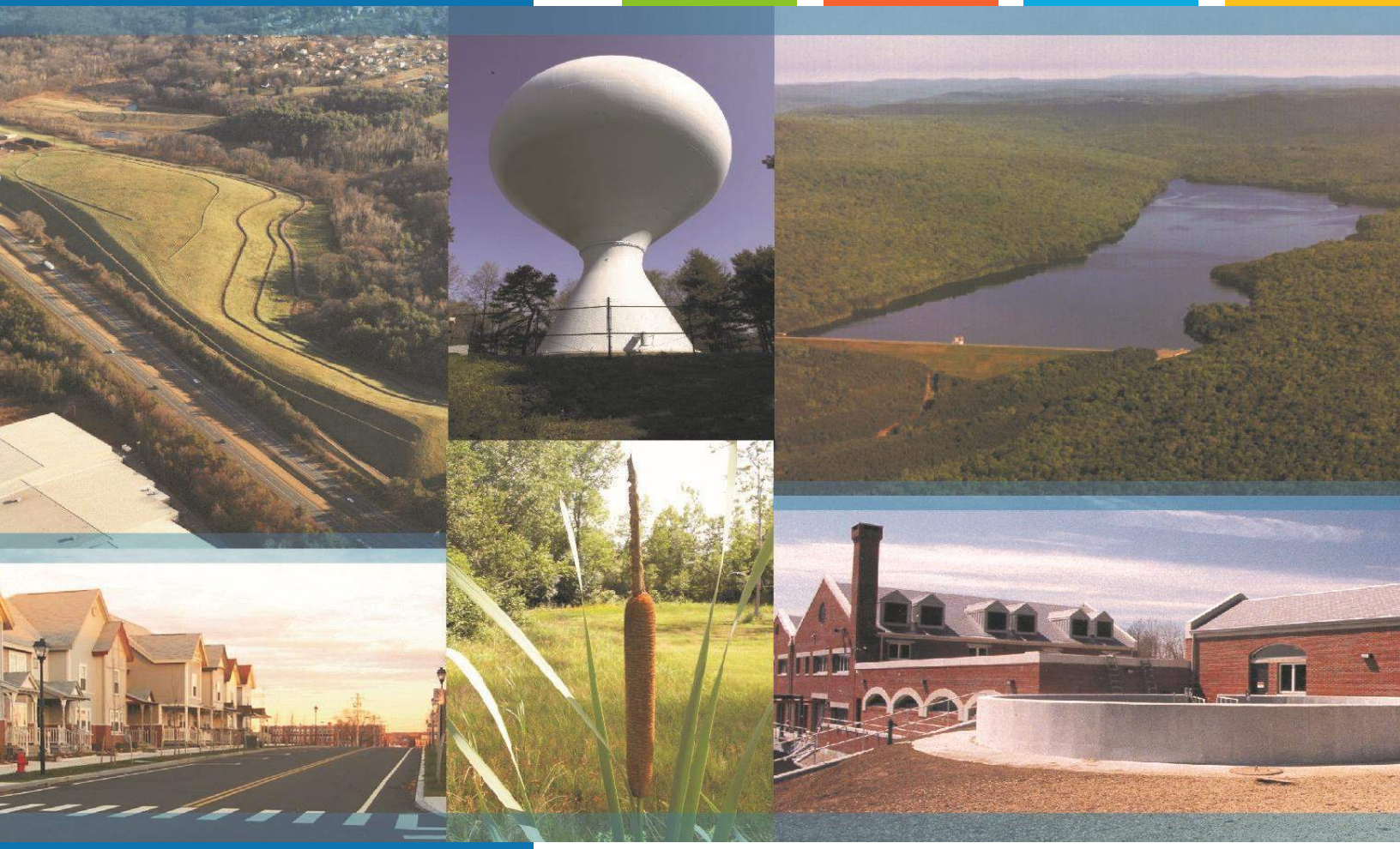
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.89	**1yr**	0.63	0.87	0.92	1.32	1.67	2.22	2.49	**1yr**	1.96	2.39	2.84	3.16	3.87	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.36	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.81	4.53	5.05	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.74	3.78	4.18	**5yr**	3.34	4.02	4.69	5.51	6.22	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.81	2.40	3.07	4.36	4.85	**10yr**	3.86	4.66	5.42	6.38	7.17	**10yr**
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.34	1.86	2.10	2.77	3.56	4.67	5.88	**25yr**	4.14	5.65	6.61	7.76	8.65	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.35	3.10	3.96	5.28	6.79	**50yr**	4.67	6.53	7.69	9.00	9.98	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.45	4.39	5.92	7.84	**100yr**	5.24	7.54	8.93	10.45	11.51	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.82	**200yr**	1.96	2.75	2.93	3.83	4.85	6.63	9.05	**200yr**	5.86	8.70	10.37	12.15	13.30	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.37	**500yr**	2.33	3.29	3.40	4.38	5.54	7.69	10.93	**500yr**	6.81	10.51	12.63	14.85	16.08	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.76	1.06	1.25	1.75	2.21	2.99	3.14	**1yr**	2.64	3.02	3.57	4.37	5.03	**1yr**
2yr	0.33	0.52	0.64	0.86	1.06	1.26	**2yr**	0.92	1.24	1.48	1.96	2.51	3.42	3.68	**2yr**	3.02	3.54	4.07	4.82	5.62	**2yr**
5yr	0.40	0.61	0.76	1.04	1.33	1.61	**5yr**	1.15	1.58	1.88	2.53	3.24	4.32	4.94	**5yr**	3.83	4.75	5.35	6.34	7.12	**5yr**
10yr	0.46	0.71	0.89	1.24	1.60	1.96	**10yr**	1.38	1.92	2.27	3.10	3.94	5.32	6.17	**10yr**	4.71	5.93	6.77	7.80	8.71	**10yr**
25yr	0.57	0.87	1.08	1.54	2.03	2.55	**25yr**	1.75	2.49	2.94	4.05	5.12	7.77	8.29	**25yr**	6.87	7.97	9.07	10.28	11.35	**25yr**
50yr	0.66	1.01	1.26	1.81	2.44	3.10	**50yr**	2.10	3.03	3.58	4.97	6.26	9.73	10.39	**50yr**	8.61	9.99	11.33	12.65	13.89	**50yr**
100yr	0.78	1.18	1.48	2.13	2.92	3.77	**100yr**	2.52	3.68	4.35	6.12	7.68	12.17	13.01	**100yr**	10.77	12.51	14.16	15.60	17.01	**100yr**
200yr	0.91	1.37	1.74	2.51	3.50	4.59	**200yr**	3.02	4.49	5.30	7.53	9.41	15.28	16.32	**200yr**	13.52	15.70	17.71	19.22	20.82	**200yr**
500yr	1.13	1.68	2.16	3.13	4.45	5.95	**500yr**	3.84	5.82	6.87	9.93	12.35	20.64	22.03	**500yr**	18.27	21.19	23.82	25.34	27.23	**500yr**

Powered by ACIS Northeast Regional Climate Center

Coastal and Great Bay Region Precipitation Increase		
	24-hr Storm Event (in.)	24-hr Storm Event + 15% (in.)
2 Year	3.20	3.68
10 Year	4.85	5.58
25 Year	6.15	7.07
50 Year	7.36	8.46



Proposed Bank Pad
1465 Woodbury Avenue
Portsmouth, NH

Long-Term Operation & Maintenance Plan

Bromley-Portsmouth, LLC &
RCQ-Portsmouth, LLC
c/o Quincy & Company, Inc.

June 16, 2025

Tighe&Bond

100% Recyclable

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Section 1
Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

1.1 Contact/Responsible Party

Bromley-Portsmouth, LLC & RCQ-Portsmouth, LLC
c/o Quincy & Co, Inc.
57 Dedham Avenue
Needham, MA 02492

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

1.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Pavement Sweeping
- Detention Basin
- Rain Garden

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect site for trash and debris
- Inspect/Maintain Rain Garden for trash and debris
- Inspect/Maintain Detention Basin for trash and debris

1.3 Overall Site Operation & Maintenance Schedule

Overall Site Operation and Maintenance Schedule	
Maintenance Item	Frequency of Maintenance
Litter/Debris Removal	Weekly
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	2 – 4 times annually
Rip Rap Aprons - Trash and debris to be removed. - Repair damages. - Remove vegetation as necessary.	Annually
Landscaping - Landscaped areas to be maintained and mulched.	Maintained as required and mulched each Spring
Culverts - Remove debris / sediment build up	Spring and Fall
Drain Manholes (DMH) Cleaning - DMH to be cleaned of solids and oils	Annually
Detention Basin - Remove debris / sediment build up. - Embankment to be mowed. - Any required maintenance should be addressed.	Periodically (At least 2 times annually)
-Rain Garden - Trash and debris to be removed. - Any required maintenance shall be addressed.	Two (2) times annually and after any rainfall event exceeding 2.5” in a 24-hr period

Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

1.4 Rain Garden Requirements

Rain Garden Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor to ensure that Rain Gardens function effectively after storms	Two (2) times annually and after any rainfall event exceeding 2.5" in a 24-hr period	- Trash and debris to be removed - Any required maintenance shall be addressed
Inspect Vegetation	Annually	- Inspect the condition of all Rain Garden vegetation - Prune back overgrowth - Replace dead vegetation - Remove any invasive species
Inspect Drawdown Time - The system shall drawdown within 48-hours following a rainfall event.	Annually	- Assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.

1.5 Rip Rap Apron Requirements

Rip Rap Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Visual Inspection	Annually	- Visually inspect for damage and deterioration - Repair damages immediately

1.6 Snow & Ice Management for Standard Asphalt and Walkways

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). The property manager will be responsible for timely snow removal from all private sidewalks, driveways, and parking areas. Any snow accumulation beyond a height of 3' in the snow storage areas will be hauled off-site and legally disposed of. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical (refer to the attached for de-icing application rate guideline from the New Hampshire Stormwater Management Manual, Volume 2,).

Deicing Application Rate Guidelines

24' of pavement (typcial two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Anti-icing Route Data Form				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

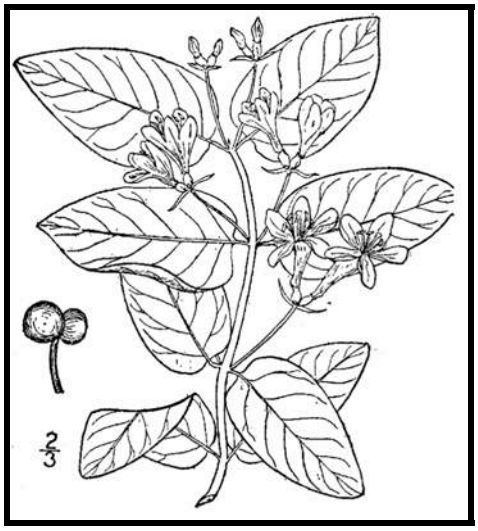
Section 2
Invasive Species

With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem is classified as an invasive species. Refer to the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plants for recommended methods to dispose of invasive plant species.

UNIVERSITY of NEW HAMPSHIRE COOPERATIVE EXTENSION

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

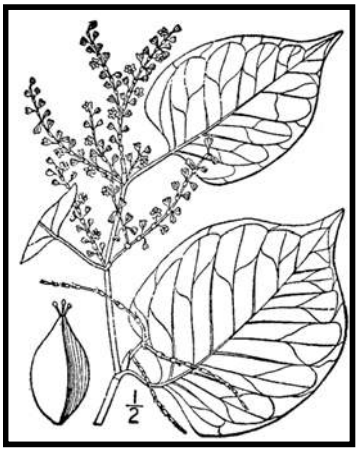
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**Fruits and Seeds** 	**Prior to flowering** Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. **During and following flowering** Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**Fruits, Seeds, Plant Fragments** Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	**Small infestation** ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. **Large infestation** ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

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Managing Invasive Plants
Methods of Control

by Christopher Mattrick

They're out there. The problem of invasive plants is as close as your own backyard.

Maybe a favorite dogwood tree is struggling in the clutches of an Oriental bittersweet vine. Clawlike canes of multiflora rose are scratching at the side of your house. That handsome burning bush you planted few years ago has become a whole clump in practically no time … but what happened to the azalea that used to grow right next to it?

If you think controlling or managing invasive plants on your property is a daunting task, you're not alone. Though this topic is getting lots of attention from federal, state, and local government agencies, as well as the media, the basic question for most homeowners is simply, "How do I get rid of the invasive plants in my own landscape?" Fortunately, the best place to begin to tackle this complex issue is in our own backyards and on local conservation lands. We hope the information provided here will help you take back your yard. We won't kid you—there's some work involved, but the payoff in beauty, wildlife habitat, and peace of mind makes it all worthwhile.

PLAN OF ATTACK

Three broad categories cover most invasive plant control: mechanical, chemical, and biological. Mechanical control means physically removing plants from the environment through cutting or pulling. Chemical control uses herbicides to kill plants and inhibit regrowth. Techniques and chemicals used will vary depending on the species. Biological controls use plant diseases or insect predators, typically from the targeted species' home range. Several techniques may be effective in controlling a single species, but there is usually one preferred method—the one that is most resource efficient with minimal impact on non-target species and the environment.



Spraying chemicals to control invasive plants.

MECHANICAL CONTROL METHODS

Mechanical treatments are usually the first ones to look at when evaluating an invasive plant removal project. These procedures do not require special licensing or introduce chemicals into the environment. They do require permits in some situations, such as wetland zones. [See sidebar on page 23.] Mechanical removal is highly labor intensive and creates a significant amount of site disturbance, which can lead to rapid reinvasion if not handled properly.

Pulling and digging

Many herbaceous plants and some woody species (up to about one inch in diameter), if present in limited quantities, can be pulled out or dug up. It's important to remove as much of the root system as possible; even a small portion can restart the infestation. Pull plants by hand or use a digging fork, as shovels can shear off portions of the root system, allowing for regrowth. To remove larger woody stems (up to about three inches in diameter), use a Weed Wrench™, Root Jack, or Root Talon. These tools, available from several manufacturers, are designed to remove the aboveground portion of the plant as well as the entire root system. It's easiest to undertake this type of control in the spring or early summer when soils are moist and plants come out more easily.



Using tools to remove woody stems.





Volunteers hand pulling invasive plants.

Suffocation

Try suffocating small seedlings and herbaceous plants. Place double or triple layers of thick UV-stabilized plastic sheeting, either clear or black (personally I like clear), over the infestation and secure the plastic with stakes or weights. Make sure the plastic extends at least five feet past the edge of infestation on all sides. Leave the plastic in place for at least two years. This technique will kill everything beneath the plastic—invasive and non-invasive plants alike. Once the plastic is removed, sow a cover crop such as annual rye to prevent new invasions.

Cutting or mowing

This technique is best suited for locations you can visit and treat often. To be effective, you will need to mow or cut infested areas three or four times a year for up to five years. The goal is to interrupt the plant's ability to photosynthesize by removing as much leafy material as possible. Cut the plants at ground level and remove all resulting debris from the site. With this treatment, the infestation may actually appear to get worse at first, so you will need to be as persistent as the invasive plants themselves. Each time you cut the plants back, the root system gets slightly larger, but must also rely on its energy reserves to push up new growth. Eventually, you will exhaust these reserves and the plants will die. This may take many years, so you have to remain committed to this process once you start; otherwise the treatment can backfire, making the problem worse.

CHEMICAL CONTROL METHODS

Herbicides are among the most effective and resource-efficient tools to treat invasive species. Most of the commonly known invasive plants can be treated using only two herbicides—glyphosate (the active ingredient in Roundup™ and Rodeo™) and triclopyr (the active ingredient in Brush-B-Gone™ and Garlon™). Glyphosate is non-selective, meaning it kills everything it contacts. Triclopyr is selective and does not injure monocots (grasses, orchids, lilies, etc.). Please read labels and follow directions precisely for both environmental and personal safety. These are relatively benign herbicides, but improperly used they can still cause both short- and long-term health and environmental problems. Special aquatic formulations are required when working in wetland zones. You are required to have a state-issued pesticide applicator license when applying these chemicals on land you do not own. To learn more about the pesticide regulations in your state, visit or call your state's pesticide control division, usually part of the state's Department of Agriculture. In wetland areas, additional permits are usually required by the Wetlands Protection Act. [See sidebar on page 23.]

Foliar applications

When problems are on a small scale, this type of treatment is usually applied with a backpack sprayer or even a small handheld spray bottle. It is an excellent way to treat large monocultures of herbaceous plants, or to spot-treat individual plants that are difficult to remove mechanically, such as goutweed, swallowwort, or purple loosestrife. It is also an effective treatment for some woody species, such as Japanese barberry, multiflora rose, Japanese honeysuckle, and Oriental bittersweet that grow in dense masses or large numbers over many acres. The herbicide mixture should contain no more than five percent of the active ingredient, but it is important to follow the instructions on the product label. This treatment is most effective when the plants are actively growing, ideally when they are flowering or beginning to form fruit. It has been shown that plants are often more susceptible to this type of treatment if the existing stems are cut off and the regrowth is treated. This is especially true for Japanese knotweed. The target plants should be thoroughly wetted with the herbicide on a day when there is no rain in the forecast for the next 24 to 48 hours.

Cut stem treatments

There are several different types of cut stem treatments, but here we will review only the one most commonly used. All treatments of this type require a higher concentration of the active ingredient than is used in foliar applications. A 25 to 35 percent solution of the active ingredient should be used for cut stem treatments, but read and follow all label instructions. In most cases, the appropriate herbicide is glyphosate, except for Oriental bittersweet, on which triclopyr should be used. This treatment can be used on all woody stems, as well as phragmites and Japanese knotweed.

For woody stems, treatments are most effective when applied in the late summer and autumn—between late August and November. Stems should be cut close to the ground, but not so close that you will lose track of them. Apply herbicide directly to the cut surface as soon as possible after cutting. Delaying the application will reduce the effectiveness of the treatment. The herbicide can be applied with a sponge, paintbrush, or spray bottle.



Cut stem treatment tools.

For phragmites and Japanese knotweed, treatment is the same, but the timing and equipment are different. Plants should be treated anytime from mid-July through September, but the hottest, most humid days of the summer are best for this method. Cut the stems halfway between two leaf nodes at a comfortable height. Inject (or squirt) herbicide into the exposed hollow stem. All stems in an infestation should be treated. A wash bottle is the most effective application tool, but you can also use an eyedropper, spray bottle, or one of the recently developed high-tech injection systems.

It is helpful to mix a dye in with the herbicide solution. The dye will stain the treated surface and mark the areas that have been treated, preventing unnecessary reapplication. You can buy a specially formulated herbicide dye, or use food coloring or laundry dye.

There is not enough space in this article to describe all the possible ways to control invasive plants. You can find other treatments, along with more details on the above-described methods, and species-specific recommendations on The Nature Conservancy Web site (tncweeds.ucdavis.edu). An upcoming posting on the Invasive Plant Atlas of New England (www.ipane.org) and the New England Wild Flower Society (www.newfs.org) Web sites will also provide further details.



Hollow stem injection tools.

Biological controls—still on the horizon

Biological controls are moving into the forefront of control methodology, but currently the only widely available and applied biocontrol relates to purple loosestrife. More information on purple loosestrife and other biological control projects can be found at www.invasiveplants.net.

DISPOSAL OF INVASIVE PLANTS

Proper disposal of removed invasive plant material is critical to the control process. Leftover plant material can cause new infestations or reinfest the existing project area. There are many appropriate ways to dispose of invasive plant debris. I've listed them here in order of preference.

1. **Burn it**—Make a brush pile and burn the material following local safety regulations and restrictions, or haul it to your town's landfill and place it in their burn pile.

2. **Pile it**—Make a pile of the woody debris. This technique will provide shelter for wildlife as well.

3. **Compost it**—Place all your herbaceous invasive plant debris in a pile and process as compost. Watch the pile closely for resprouts and remove as necessary. Do not use the resulting compost in your garden. The pile is for invasive plants only.



Injecting herbicide into the hollow stem of phragmites.

4. **Dry it/cook it**—Place woody debris out on your driveway or any asphalt surface and let it dry out for a month. Place herbaceous material in a doubled-up black trash bag and let it cook in the sun for one month. At the end of the month, the material should be non-viable and you can dump it or dispose of it with the trash. The method assumes there is no viable seed mixed in with the removed material.

Care should be taken in the disposal of all invasive plants, but several species need extra attention. These are the ones that have the ability to sprout vigorously from plant fragments and should ideally be burned or dried prior to disposal: Oriental bittersweet, multiflora rose, Japanese honeysuckle, phragmites, and Japanese knotweed.

Christopher Mattrick is the former Senior Conservation Programs Manager for New England Wild Flower Society, where he managed conservation volunteer and invasive and rare plant management programs. Today, Chris and his family work and play in the White Mountains of New Hampshire, where he is the Forest Botanist and Invasive Species Coordinator for the White Mountain National Forest.



Controlling Invasive Plants in Wetlands

Special concerns; special precautions

Control of invasive plants in or around wetlands or bodies of water requires a unique set of considerations. Removal projects in wetland zones can be legal and effective if handled appropriately. In many cases, herbicides may be the least disruptive tools with which to remove invasive plants. You will need a state-issued pesticide license to apply herbicide on someone else's property, but all projects in wetland or aquatic systems fall under the jurisdiction of the Wetlands Protection Act and therefore require a permit. ***Yes, even hand-pulling that colony of glossy buckthorn plants from your own swampland requires a permit.*** Getting a permit for legal removal is fairly painless if you plan your project carefully.

1. Investigate and understand the required permits and learn how to obtain them. The entity charged with the enforcement of the Wetlands Protection Act varies from state to state. For more information in your state, contact:

   ME: Department of Environmental Protection
   www.state.me.us/dep/blwq/docstand/nrpapage.htm

   NH: Department of Environmental Services
   www.des.state.nh.us/wetlands/

   VT: Department of Environmental Conservation
   www.anr.state.vt.us/dec/waterq/permits/htm/pm_cud.htm

   MA: Consult your local town conservation commission

   RI: Department of Environmental Management
   www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm

   CT: Consult your local town Inland Wetland and Conservation Commission

2. Consult an individual or organization with experience in this area. Firsthand experience in conducting projects in wetland zones and navigating the permitting process is priceless. Most states have wetland scientist societies whose members are experienced in working in wetlands and navigating the regulations affecting them. A simple Web search will reveal the contact point for these societies. Additionally, most environmental consulting firms and some nonprofit organizations have skills in this area.

3. Develop a well-written and thorough project plan. You are more likely to be successful in obtaining a permit for your project if you submit a project plan along with your permit application. The plan should include the reasons for the project, your objectives in completing the project, how you plan to reach those objectives, and how you will monitor the outcome.

4. Ensure that the herbicides you plan to use are approved for aquatic use. Experts consider most herbicides harmful to water quality or aquatic organisms, but rate some formulations as safe for aquatic use. Do the research and select an approved herbicide, and then closely follow the instructions on the label.

5. If you are unsure—research, study, and most of all, ask for help. Follow the rules. The damage caused to aquatic systems by the use of an inappropriate herbicide or the misapplication of an appropriate herbicide not only damages the environment, but also may reduce public support for safe, well-planned projects.

Section 3
Annual Updates and Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including NHDES.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth on an annual basis.

Stormwater Management Report						
Proposed Bank Pad		**1465 Woodbury Avenue – Tax Map 216 Lot 3**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
Detention Basin			❑Yes ❑No			
Rain Garden 1			❑Yes ❑No			
Rip Rap Apron			❑Yes ❑No			

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PROPOSED BANK PAD
1465 WOODBURY AVENUE
PORTSMOUTH, NEW HAMPSHIRE

OPEN SPACE EXHIBIT

COMMERCE WAY

MARKET STREET EXTENSION

WOODBURY AVENUE

WOODBURY AVENUE

ARTHUR BRADY DRIVE

PROPOSED OPEN SPACE:

		REQUIRED	PROVIDED
	OPEN SPACE	172,171 SF (20%) (3.95 ACRES)	173,844 SF (3.99 ACRES)
	TOTAL DEVELOPMENT LOT 860,856 SF (19.76 ACRES)		
TOTAL OPEN SPACE AREA		172,171 SF (3.95 ACRES)	173,844SF (20.2%) (3.99 ACRES)

N

0 80' 160'

GRAPHIC SCALE

Tighe&Bond

July 30, 2025
Q-5004-0001_C-DSGN.dwg

Last Save Date: July 11, 2025 3:34 PM By: NWILCOX
Plot Date: Monday, July 14, 2025 Plotted By: Noah Wilcox
Xref File Location: J:\QQ\5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg Layout Tab: OPEN SPACE EXHIBIT

PROPOSED BANK PAD
1465 WOODBURY AVENUE
PORTSMOUTH, NEW HAMPSHIRE

COMMUNITY SPACE EXHIBIT

COMMERCE WAY

WOODBURY AVENUE

ARTHUR BRADY DRIVE

MARKET STREET EXTENSION

WOODBURY AVENUE

POTENTIAL COMMUNITY SPACE



An area of natural, semi-natural, or planted space set aside for human enjoyment and recreation or for the protection of wildlife or natural habitats. A **park** may consist of grassy areas, trees and other natural or planted landscape features, and may also contain walking **path**s and trails, monuments, fountains, playground equipment, benches, picnic tables and similar amenities.

Permitted Districts: All Districts

PROPOSED COMMUNITY SPACE:

		REQUIRED	PROVIDED
	POTENTIAL COMMUNITY SPACE	86,085 SF (10%) (1.98 ACRES)	87,737 SF (2.01 ACRES)
	TOTAL DEVELOPMENT LOT 860,856 SF (19.76 ACRES)		
TOTAL COMMUNITY SPACE AREA		86,085 SF (1.98 ACRES)	87,737 SF (10.2%) (2.01 ACRES)

N

0 80' 160'

GRAPHIC SCALE

Tighe&Bond

July 30, 2025
Q-5004-0001_C-DSGN.dwg

Last Save Date: July 11, 2025 3:34 PM By: NWILCOX
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File Location: J:\NQ\5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg Layout Tab: COMM SPACE EXHIBIT

OUTDOOR PICNIC AREA

WALKING PATH WITH BENCH SEATING

WALKING PATH WITH CENTRALIZED SEATING

OUTDOOR PICNIC AREA

BISBANO

LEGEND

- NEW PLANTING BY CITIZENS
- NEW PLANTING AS PART OF MASTER PLAN
- EXISTING PLANTING TO REMAIN

BISBANO

BISBANO + ASSOCIATES, INC.

13 June 2025

Portsmouth Planning & Sustainability
1 Junkins Avenue, 3rd Floor
Portsmouth, NH 03801

Re: Citizens Bank New Development
1465 Woodbury Avenue
Portsmouth, NH 03801

Green Building Statement

Site & Landscaping Design:

- In its current state, the project location is a vacant parcel comprised primarily of all pervious surfaces. The area is surrounded by the plaza's main drive aisle along the east, one of the plaza's main entrances along the north, and Woodbury Avenue along the west. At the northern corner of the site there is a detention pond that will be modified but not relocated as part of the proposed design. The proposed design includes (2) entrances and exits into the proposed site with ample vegetated buffer zones between the main plaza drive aisle to the east and the ATM drive-thru lane along with street trees along Woodbury Avenue. Site equipment such as the dumpster and the pad mounted transformer will be discreetly hidden by decorative fencing and tall screening arborvitaes, respectively.

Building Design:

- Exterior Wall Systems:
    - The exterior wall systems for this building have been designed utilizing the 2018 IECC and will meet or exceed the requirements included in this document for energy efficiency. The wood framed structure will maintain a combination of wood bearing walls with elements of steel construction at the main entrance portal. Cavities will

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be filled with batt insulation and will maintain continuous rigid insulation throughout. The finish systems include a mix of fiber cement panels and EIFS used at select locations. The fiber cement panels function as a form of rainscreen allowing moisture to pass through and collect at the landscaped beds along the base of the building.

- Window & Fenestration Systems:
    - All window and fenestration systems will meet or exceed the requirements set forth in the 2018 IECC. The standards for u-values, shading coefficients, solar heat gain coefficients, insulative requirements , and thermal transfer requirements will meet or exceed the requirements noted in the 2018 IECC. The selected storefront system maintains a thermal break application to mitigate and prevent thermal transfer.

- Roofing Systems:
    - The roofing system will provide a light colored EPDM to reduce amount of reflected heat. The roofing system will provide a mix of tapered rigid insulation and either spray foam insulation or batts included between the structure below the roof deck. The insulation values of the selected system will meet or exceed the requirements set forth in the 2018 IECC.

- HVAC Systems:
    - The building will be heated via gas-fired RTUs and an electric split system to maintain year-round comfort for customers utilizing the ATM vestibule after branch hours. At the interior, VAV boxes with electric reheats will be provided and connected to the Citizens main BMS interface for monitoring.

- Plumbing Systems:
    - Plumbing systems and fixtures specified for this project will utilize low flow flushometer applications and automatic faucets for flow control. Hot water heaters will be energy star rated.

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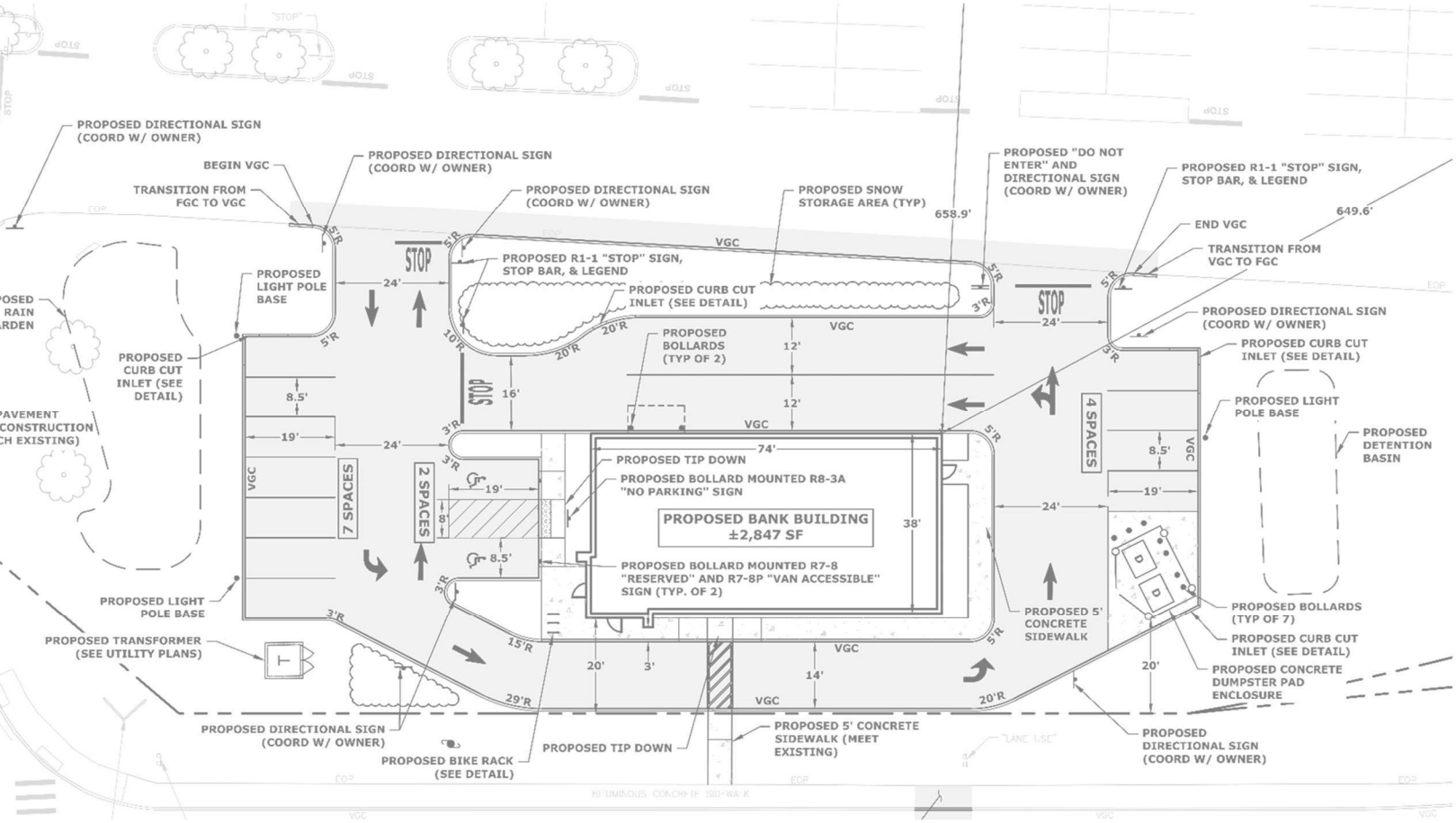
- Lighting Systems:
  - All lighting throughout the project will utilize energy efficient LED fixtures requiring a low power supply. Fixtures throughout the interior of the branch will be installed on an occupancy sensor for areas that do not pose a security concern to either branch colleagues or customers. Exterior lighting will similarly follow low power supply LED specification. Lighting and illuminated signage will be tied into the Citizens main BMS interface for monitoring and for setup of the timeclock for signage and site illumination.

- Appliances:
  - All appliances specified for this location will be Energy Star rated.



Matthew C. Silva, NCARB, AIA

Rising Sun Mills, 188 Valley Street, Suite 100, Providence RI 02909 | 404.404.8310 office
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1465 Woodbury Avenue Proposed Bank Pad
Portsmouth, NH

TRAFFIC IMPACT STUDY

Bromley-Portsmouth, LLC & RCQ-Portsmouth, LLC c/o Quincy & Company, Inc.

June 25, 2024

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Section 1
Study Overview

This Traffic Impact Study (TIS) evaluates the potential traffic impact of the proposed bank located at 1465 Woodbury Avenue within the Portsmouth Plaza, in the City of Portsmouth, New Hampshire. The Portsmouth Plaza is an approximate 191,000 square foot (SF) retail plaza containing a supermarket and a mix of large and small retailers, along with restaurant tenants. The proposed bank will be constructed along the Woodbury Avenue frontage, located southeast of the Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza intersection on a currently undeveloped portion of the property. Figure 1 shows the Site location relative to the surrounding roadway network.

The project proposes to construct a 2,847+/- square foot (SF) bank with drive-through. Parking will be provided on site with 13 parking spaces. Site access will be provided via two driveways that are each accessible via the existing perimeter plaza driveway. The proposed northeastern site driveway will be full access; the proposed southeastern driveway will be exit only. The project is expected to be completed in 2027.

Based on the analyses conducted, it is the professional opinion of Tighe & Bond that the additional traffic expected to be generated by the proposed bank is not expected to have a significant impact on traffic operations within the study area.

Section 2
Existing Conditions

The proposed bank site is located along the Woodbury Avenue frontage of the Portsmouth Plaza parcel. The existing shopping plaza is accessible via two signalized intersections at Woodbury Avenue at Arthur F Brady Drive and on Market Street at Woodbury Avenue. Secondary access to the shopping plaza is provided via an unsignalized intersection on Commerce Way to the north. The following sections provide details on the adjacent roadways within the study area.

2.1 Roadways

2.1.1 Woodbury Avenue

Woodbury Avenue is classified as an urban minor arterial from Market Street to Gosling Road and is maintained by the City of Portsmouth. South of the Market Street intersection, Woodbury Road is classified as an urban major collector. The roadway is located east of the site location and primarily runs north-south in the study area. Woodbury Avenue runs from the Spaulding Turnpike interchange in Newington to the north and terminates at an intersection with Bartlett Street in the south. Woodbury Avenue and Market Street form a continuous corridor providing access to a primary commercial corridor between an interchange of Market Street with I-95 to the east and the interchange of Woodbury Avenue with Spaulding Turnpike to the north.

Within the study area, northbound and southbound traffic are divided by an approximately 10-foot wide raised concrete median. Woodbury Avenue typically provides two travel lanes in each direction with two- to four-foot wide marked shoulders, widening at intersections to provide additional turning lanes. An approximately five- to seven-foot sidewalk is provided along both sides of Woodbury Avenue throughout the entire study area. Woodbury Avenue has a posted speed limit of 30 mph in both directions in the vicinity of the Site.

2.1.2 Arthur F Brady Drive

Arthur F Brady Drive is classified as local roadway and is maintained by the City of Portsmouth. The roadway runs east-west, providing access to and from US Route 4 Northbound (Spaulding Turnpike) at the roadway's western terminus and access to Woodbury Avenue to the east. The roadway generally provides one 15-foot travel lane with a one-to two-foot shoulder in each direction. The eastbound and westbound travel lanes split as they approach US Route 4, and the eastbound travel lane opens to provide a dedicated right turn at the intersection with Woodbury Avenue. An approximately six-foot wide sidewalk is provided on the north side of the roadway between the Woodbury Avenue intersection to the Home Depot driveway.

2.2 Study Area Intersections

2.2.1 Woodbury Avenue at Arthur F Brady Drive

Woodbury Avenue intersects Arthur F Brady Drive and the Portsmouth Plaza driveway from the north and south to form a four-way signalized intersection. Woodbury Avenue forms the north and south legs, Arthur F Brady Drive forms the west leg, and the

Portsmouth Plaza driveway forms the east leg. The northbound and southbound approaches provide a dedicated left turn lane, through lane, and shared through and right turn lane. The eastbound and westbound approaches provide a shared through and left turn lane and dedicated right turn lane. The north, south, and east legs are divided by a raised median. Four-foot shoulders are provided on the Woodbury Avenue northbound and southbound approaches; narrow 1 to 2-foot shoulders are provided on the eastbound and westbound approaches. Protected only left turn phasing is provided on the Woodbury Avenue northbound and southbound approaches with a right turn overlap provided on both the eastbound and westbound approaches. The Arthur F Brady eastbound approach and Portsmouth Plaza driveway westbound approaches operate under split phasing.

Sidewalks are provided at all four intersection corners with marked crosswalks provided across all intersection legs. An exclusive pedestrian phase is provided for the intersection.

2.2.2 Woodbury Avenue at Market Street/ Market Basket Driveway

Woodbury Avenue becomes Market Street at its intersection with the Market Basket driveway, while Woodbury Avenue turns to the south, all meeting to form a four-way signalized intersection. Woodbury Avenue forms the north and west legs, Market Street forms the south leg, and the Market Basket driveway forms the east leg. The southbound Woodbury Avenue approach provides a dedicated right turn lane, two through lanes, and a dedicated left turn lane. The eastbound Woodbury Avenue approach provides a shared right turn and through lane and two dedicated left turn lanes. The northbound Market Street approach provides a shared through and right turn lane, a through lane, and a dedicated left turn lane. The westbound Portsmouth Plaza/ Market Basket Driveway approach provides a shared right and through lane and a dedicated left turn lane. The north, south, and west legs are divided by a raised concrete median while the east leg is divided by a raised median with landscaping. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb. Protected only left turn phasing is provided on the Market Street northbound and Woodbury Avenue southbound approaches. A right turn overlap is provided on the Woodbury Avenue southbound approach. The Woodbury Avenue eastbound and Market Basket driveway westbound approaches operate under split phasing.

Sidewalks are provided at all four intersection corners with marked crosswalks provided across all intersection legs. An exclusive pedestrian phase is provided for the intersection.

2.3 Traffic Volumes

Turning movement counts (TMCs) were collected at the study area intersections on Thursday, May 29, 2025, during the weekday morning (7:00 AM to 9:00 AM) and weekday afternoon peak periods (4:00 PM to 6:00 PM) and on Saturday, May 31, 2025, during the Saturday midday peak period (11:00 AM to 2:00 PM).

The weekday morning, weekday afternoon, and Saturday midday TMCs were seasonally adjusted to a peak month per NHDOT guidelines based on 2024 Seasonal Adjustment Data available from NHDOT. A seasonal adjustment factor of 1.02 was applied to the traffic volumes based on Group 4 Averages: Urban Highways for the month of May. The adjusted 2025 existing traffic volumes for the weekday morning, weekday afternoon,

and Saturday midday peak hours are shown in Figure 2. The raw TMC data is provided in Appendix A. The NHDOT seasonal adjustment factors are enclosed in Appendix B.

2.4 Capacity and Queue Analyses - Existing Condition

Capacity and queue analyses were performed for the study intersections for the 2025 Existing Conditions during the weekday morning, weekday afternoon, and Saturday midday peak hours. Analyses were conducted using Trafficware Synchro Studio 11 software, which conducts the analysis based on *Highway Capacity Manual (HCM)* methodology. Consistent with NHDOT guidelines, analyses for signalized intersections were conducted using methods of the 2000 HCM, while analysis for unsignalized intersections utilized the HCM 6th Edition methodology. The analysis results are categorized in terms of Level of Service (LOS), which describes the qualitative intersection operational conditions based on the calculated average delay per vehicle. A summary of the HCM capacity analysis methodology and a detailed definition of LOS is provided in Appendix D. The queue analysis results are summarized based upon the length of vehicle queueing on an intersection approach. For unsignalized intersections, queues are quantified for 95th percentile (design queues). For signalized intersections, queues are quantified by 95th percentile (design) and 50th percentile (average) queues. Tables 1 and 2 in Section 7 summarize the capacity and queue analyses results, respectively. Capacity analysis worksheets with full inputs, settings, and results are provided in Appendix E.

As shown in Table 1, all of the overall intersections and a majority of the individual intersection approaches operate at acceptable at LOS D or better during the peak hours with the following exceptions:

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The Woodbury Avenue northbound left turn movement onto Arthur F Brady Drive operates at LOS F during the weekday afternoon and Saturday midday peak hour.
    - The Arthur F Brady Drive eastbound shared through and left turn movement onto Woodbury Avenue operates at LOS E during the weekday afternoon peak hour and LOS F during the Saturday midday peak hour.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Market Street northbound left turn movement operates at LOS E during the weekday afternoon peak hour.
    - The Woodbury Avenue southbound left turn movement operates at LOS E during the weekday afternoon peak hour.

A review of the queueing results in Table 2 shows design queues on all study intersection movements are accommodated within the available storage within turn bays and between intersections during each peak period with the following exceptions:

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The Woodbury Avenue northbound left turn exceeds the available storage by approximately six vehicle lengths during the weekday afternoon peak hour and four vehicle lengths during the Saturday midday peak hour.

- The Woodbury Avenue southbound shared through and right turn exceeds the available storage by approximately four vehicle lengths during the Saturday midday peak hour.
- The Portsmouth Plaza westbound shared through and left turn exceeds the available storage by approximately four vehicle lengths during the weekday afternoon peak hour and seven vehicle lengths during the Saturday midday peak hour.

- **Woodbury Avenue at Market Street/ Market Basket Driveway**
  - The Portsmouth Plaza/ Market Basket Driveway westbound left turn exceeds the available storage by approximately one vehicle length during the weekday morning peak hour, seven vehicle lengths during the weekday afternoon peak hour, and six vehicle lengths during the Saturday midday peak hour.
  - The Portsmouth Plaza/ Market Basket Driveway westbound shared through and right turn exceeds the available storage by approximately two vehicle lengths during the weekday afternoon peak hour and three vehicle lengths during the Saturday midday peak hour.

2.5 Collision History

Vehicle collision data for the study intersections was requested from the Portsmouth Police Department. However, as of this time, vehicle accident reports were not able to be provided due to reported staffing shortages.

2.6 Alternative Travel Modes

The study area is in built up commercial area in the City of Portsmouth where many multimodal travel options are available. The following summarizes the details of various alternative travel modes supported within the study area.

Pedestrian facilities are generally present throughout the study area. Existing sidewalks are present on both sides of Woodbury Avenue within the study area. Marked crosswalks are provided across all legs and exclusive pedestrian phasing with countdown pedestrian signal heads are provided at both the Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza driveway and Woodbury Avenue at Market Street/ Market Basket intersections. Limited sidewalks are provided on either side of the Market Basket driveway with no internal sidewalks provided within the existing Portsmouth Plaza.

The Cooperative Alliance for Seacoast Transportation (COAST) provides transit service within the study area. Bus Route 43 is the primary bus route in the study area which runs between Hanover Station to the south and Fox Run Mall to the north. Bus stops are located along Woodbury Avenue and Commerce Way in the vicinity of the Site. The route operates from 6:30 AM to 8:57 PM Monday through Saturday. The Route 43 map and schedule are included in Appendix H.

Section 3
No-Build Conditions

The No-Build Condition represents the projection of traffic volumes and operating conditions without the anticipated additional site generated traffic. Consistent with NHDOT guidelines, the study area is analyzed for an Opening Year (2027) and Design Year (2037). This section describes the growth and development considerations included in the 2027 and 2037 No-Build traffic volumes.

3.1 Traffic Growth

To develop the traffic volumes for the 2027 and 2037 No-Build Conditions, the 2025 Existing traffic volumes were grown by one percent per year to represent the general growth of traffic on the study area roadways. This growth rate is consistent with the average growth rate in NHDOT Region E - Southeast, the region in which Portsmouth is located and previously approved studies in the area. Background NHDOT growth data is included in Appendix B.

NHDOT, the City of Portsmouth, and the Pease Development Authority were contacted about other approved developments in the area that may add new traffic to the study area prior to 2027. The following developments were identified:

- **100 Durgin Lane Multi-Family Development:** The project proposes to construct a 360-unit residential development. The project has been approved by the City and is anticipated to be occupied in 2027. Estimated site traffic volumes outlined in the project's Traffic Impact Study are included in the development of the 2027 and 2037 No-Build traffic volumes.

It is assumed that other smaller developments or small vacancies in existing developments are also captured by the background traffic growth rate. The 2027 and 2037 No-Build traffic volumes for the weekday morning, weekday afternoon, and Saturday midday peak hours are shown in Figures 3 and 4, respectively.

3.2 Capacity and Queue Analyses – No-Build Conditions

Capacity and queue analyses were conducted for the 2027 and 2037 No-Build Conditions traffic volumes for all peak periods using the methodology described in Section 2.4. Tables 1 and 2 in Section 7 summarize the capacity and queue results, respectively. Capacity analysis worksheets with full inputs, settings, and results are provided in Appendix E.

The increase in expected future traffic based on the one percent per year compounded growth rate and background development traffic volumes that were added to the existing 2025 traffic volumes resulted in some degradations in operations when compared to existing conditions for the 2027 No-Build Condition. The following intersection showed degradation in level of service between the existing conditions and 2027 No Build Condition:

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The overall intersection degrades from LOS D to LOS E during the Saturday midday peak hour in 2027.
    - The Portsmouth Plaza Driveway westbound shared through and left turn movement degrades from LOS D to LOS E during the Saturday midday peak hour in 2027.

The 2037 No-Build Condition resulted in additional degradation of level of service and increases in delay when compared to the 2027 No-Build Condition due to the addition of ten years of compounded annual growth. The following intersections showed additional degradation of operations from the 2027 to 2037 No-Build Condition:

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The Arthur F Brady Drive eastbound shared through and left turn movement degrades from LOS E to LOS F during the weekday afternoon peak hour in 2037.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Market Street northbound left turn movement degrades from LOS E to LOS F during the weekday afternoon peak hour in 2037.

Design queues that were accommodated in the existing conditions continue to be accommodated within available storage in the 2027 No-Build condition or increased by less than two vehicle lengths.

While some intersections experience increases in design queue length of greater than two vehicle lengths in 2037 due to the compounded annual growth rate and approved developments in the area, design queues in 2037 are predicted to remain within available storage as shown in Table 2 with the following exceptions:

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The shared Woodbury Avenue northbound through and right turn movement design queue is estimated to is predicted to increase by approximately three vehicle lengths in the weekday afternoon peak hour and four vehicle lengths during the Saturday midday peak hour in 2037.
    - The shared Woodbury Avenue southbound through and right turn movement is predicted to increase by five vehicle lengths during the weekday afternoon peak hour and six vehicle lengths during the Saturday midday peak hour in 2037.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The shared Market Street northbound through and right turn movement design queue is estimated to is predicted to increase by approximately five vehicle lengths during both the weekday afternoon and Saturday midday peak hours in 2037.
    - The Woodbury Avenue southbound through movement design queue is predicted to increase by four vehicle lengths during both the weekday afternoon and Saturday midday peak hours in 2037.

Section 4
Proposed Conditions

The project proposes to construct a 2,847+/- SF bank with drive-through on a currently undeveloped portion of the existing Portsmouth Plaza property. A total of 13 parking spaces, including two accessible spaces, are proposed on site. The proposed development is expected to be complete and occupied in 2027. The Site Plan is presented in Appendix F.

4.1 Site Access

Primary access to Portsmouth Plaza is provided via two signalized intersections along Woodbury Avenue: one at Arthur F Brady Drive/ Portsmouth Plaza driveway, and a second at Market Street/ Market Basket driveway. Direct access to the site will be provided via two driveways off the perimeter driveway: one full access driveway located approximately 200 feet southeast of the Portsmouth Plaza driveway; one exit-only driveway located 125 feet southeast of the full access driveway. The Site will provide counterclockwise circulation with a two-lane drive-through on the northeastern side of the building. Pedestrian access will be provided via a proposed sidewalk and crosswalk connecting the building entrance to the existing sidewalk that runs along the northeastern side of Woodbury Avenue.

4.2 Trip Generation

Trips expected to be generated by the proposed development were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021. Drive-in bank (LUC-912) was used to estimate vehicle trips based on the proposed 2,847 SF bank with drive-through.

Based on the location of the site in relation to a major roadway and the nature of the proposed bank, it is reasonable to assume the site may generate pass-by trips. Pass-by trips were estimated to account for the proportion of vehicles already on the adjacent roadway (Market Street) who will access the bank. Pass-by trips are not new trips added to the roadway network; rather these trips will divert from their route, access the site, and re-enter the network to continue on their route. The average pass-by rate as established by data maintained by ITE and included in the Trip Generation Manual Appendices, 11th Edition, 2021 for LUC 912 is 29% during the weekday morning peak hour, 35% during the weekday afternoon peak hour, and 38% during the Saturday midday peak hour. ITE Pass-By Rate data is included in Appendix G.

Based on the ITE data and the application of the pass-by rates, the proposed bank is estimated to generate 18 new trips (11 entering, 7 exiting) during the weekday morning peak hour, 38 new trips (19 entering, 19 exiting) during the weekday afternoon peak hour, and 47 new trips (24 entering, 23 exiting) during the Saturday midday peak hour. Table 3 provides a detailed summary of the trip generation.

4.3 Arrival and Departure Distribution

The distribution of the proposed site-generated traffic entering and exiting the Site was applied to the roadway network based on existing traffic patterns and anticipated travel patterns to and from the site. The following arrival/departure distributions are anticipated:

- 20% to/ from the South to Portsmouth Center via Market Street
- 20% to/ from the South via US Route 1 Bypass
- 10% to/ from the North via Woodbury Avenue
- 10% to/ from the South via Woodbury Avenue
- 10% to/ from the South via Maplewood Avenue
- 10% to/ from the North via US Route 4 (Spaulding Turnpike)
- 10% to/ from the South to I-95 South
- 5% to/ from the North to I-95 North
- 5% to/ from the South to Route 33

Based on the regional distribution and surrounding roadway network, it is estimated that that 80% of site traffic will enter and exit the site via the Market Basket driveway and the remaining 20% will utilize the plaza driveway opposite Arthur F Brady Drive.

Figure 5 presents the arrival and departure distributions of the traffic through the study area by intersection movement. Figure 6 shows the proposed new site generated traffic distributed to the study area roadways for the weekday morning, weekday afternoon, and Saturday midday peak periods. The pass-by trips for the weekday morning, weekday afternoon, and Saturday midday peak periods are shown in Figure 7.

4.4 Multi-Modal Accommodations

Internal sidewalks are proposed adjacent to all parking areas and buildings on site. A proposed crosswalk and sidewalk section will connect to the existing sidewalk on the north side of Woodbury Avenue.

Section 5
Build Conditions

The anticipated site generated traffic volumes associated with the proposed development were added to the 2027 and 2037 No-Build Conditions traffic volumes to develop the 2027 and 2037 Build Conditions traffic volumes, which are presented in Figures 8 and 9, respectively.

5.1 Capacity and Queue Analyses - Build Condition

Capacity and queue analyses were conducted for the 2027 and 2037 Build Conditions for the peak hours using the methodology described in Section 2.4. Tables 1 and 2 in Section 7 summarize the capacity and queue results, respectively. Capacity analysis worksheets with full inputs, settings, and results are provided in Appendix D.

The majority of the individual intersection approaches continue to operate at acceptable LOS D or better during the peak hours in the 2027 and 2037 Build Conditions. All study area intersections that were identified in Section 2.4 and 3.2 to operate at LOS E or LOS F in the 2027 No-Build Conditions continue to operate at the same LOS under 2027 Build Conditions. The study area intersections identified to operate at LOS E or LOS F in the 2037 No-Build Conditions continue to operate at the same LOS under the 2037 Build Conditions, with the exception of the following:

- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Woodbury Avenue eastbound shared through and right turn movement degrades from LOS D to LOS E during the weekday afternoon peak hour in 2037, representing an increase in delay of less than one second.

Design queues on all intersection approaches in the Build Conditions increased by less than two vehicle lengths. All intersection approaches that were identified in Section 3.2 to be accommodated within the available storage in the 2027 and 2037 No-Build Conditions continue to be accommodated by the available storage in the 2027 and 2037 Build Conditions.

Section 6
Conclusions & Recommendations

1. The project proposes to construct a 2,847+/- SF bank with drive-through. Approximately 13 parking spaces are proposed. The development is expected to be complete and occupied in 2027.

2. Access to the site will be provided via two driveways that connect to the existing Portsmouth Plaza perimeter driveway: the northeastern driveway will be full access while the second driveway located 200 feet to the southeast will be exit only. Portsmouth Plaza is accessible via the Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza driveway and the Woodbury Avenue at Market Street/ Market Basket driveway signalized intersections.

3. The proposed bank is estimated to generate 18 new trips (11 entering, 7 exiting) during the weekday morning peak hour, 38 new trips (19 entering, 19 exiting) during the weekday afternoon peak hour, and 47 new trips (24 entering, 23 exiting) during the Saturday midday peak hour. The trip generation estimate includes a pass-by credit for the proposed bank use based on data available from ITE.

4. The project proposes sidewalks on-site to/ from parking spaces to the building entrances as well as a new connection to the existing sidewalk along Woodbury Avenue to provide safe access to the Site.

5. Consistent with NHDOT guidelines, existing traffic volumes have been seasonally adjusted to the peak month condition.

6. The capacity analyses show that the study area intersections will generally continue to operate at the same LOS under the Build Conditions as compared to the No-Build Conditions for both the 2027 opening year and 2037 design year, except for the intersection of Woodbury Avenue at Market Street/ Market Basket Driveway which experiences a degradation in LOS from D to E on the eastbound shared through and right turn movement during the weekday afternoon peak hour in 2037, representing an increase in delay of less than one second. A review of design queues indicates minor increases of two vehicles of less in the 2027 and 2037 Build Conditions compared to the corresponding No Build Conditions.

7. Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the addition of site-generated traffic is expected to have a negligible effect on traffic operations within the study area as compared to the existing condition.

Section 7
Tables

TABLE 1
Intersection Operation Summary - Capacity

	Lane Use	2025 Existing			2027 No Build			2027 Build			2037 No Build			2037 Build		
		Weekday Morning Peak Hour														
		LOS	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive / Portsmouth Plaza Driveway																
Overall		**C**	**20.8**	**0.62**	**C**	**20.5**	**0.65**	**C**	**20.6**	**0.65**	**C**	**21.0**	**0.67**	**C**	**21.9**	**0.69**
Woodbury Avenue	NBL	C	22.7	0.46	C	22.9	0.47	C	22.9	0.47	C	23.9	0.52	C	24.6	0.53
	NBTR	B	17.2	0.38	B	16.0	0.36	B	16.2	0.36	B	16.0	0.38	B	16.9	0.39
	SBL	C	24.5	0.17	C	24.8	0.17	C	24.7	0.20	C	25.5	0.20	C	26.2	0.22
	SBTR	C	21.1	0.62	C	20.4	0.65	C	20.4	0.65	C	20.5	0.67	C	21.3	0.69
Arthur F Brady Drive	EBLT	C	25.2	0.41	C	25.6	0.41	C	25.6	0.41	C	26.6	0.46	C	27.3	0.47
	EBR	B	15.7	0.07	B	15.8	0.07	B	15.8	0.07	B	16.6	0.08	B	17.2	0.08
Portsmouth Plaza Driveway	WBLT	C	26.0	0.23	C	27.8	0.25	C	27.7	0.26	C	28.5	0.28	C	27.8	0.22
	WBR	B	15.4	0.03	B	16.8	0.03	B	16.6	0.03	B	17.3	0.03	B	16.8	0.03
Traffic Signal - Woodbury Avenue at Market Street / Market Basket Driveway																
Overall		**C**	**23.2**	**0.55**	**C**	**22.9**	**0.56**	**C**	**23.3**	**0.56**	**C**	**23.7**	**0.59**	**C**	**24.1**	**0.60**
Market Street	NBL	C	30.8	0.55	C	31.3	0.56	C	31.4	0.56	D	31.9	0.59	D	32.3	0.60
	NBTR	B	16.8	0.40	B	16.7	0.40	B	17.0	0.41	B	17.0	0.44	B	17.4	0.44
Woodbury Avenue	SBL	D	38.4	0.29	D	38.7	0.26	D	38.9	0.26	D	39.8	0.33	D	40.2	0.33
	SBT	C	23.8	0.38	C	23.7	0.42	C	24.1	0.42	C	24.6	0.45	C	24.9	0.45
	SBR	B	12.6	0.12	B	12.5	0.15	B	12.6	0.15	B	13.0	0.17	B	12.9	0.17
	EBL	C	32.2	0.26	C	32.6	0.29	C	32.5	0.28	C	33.5	0.31	C	33.4	0.30
	EBTR	C	32.2	0.25	C	32.5	0.26	C	32.8	0.36	C	33.6	0.33	D	33.9	0.43
Market Basket Driveway	WBL	D	33.8	0.44	D	34.3	0.40	D	34.4	0.42	D	35.2	0.44	D	35.6	0.46
	WBTR	C	33.2	0.22	C	33.7	0.20	C	33.8	0.23	D	34.5	0.21	D	34.9	0.25

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 1 (CONTINUED)
Intersection Operation Summary - Capacity

	Lane Use	Weekday Afternoon Peak Hour														
		2025 Existing			2027 No Build			2027 Build			2037 No Build			2037 Build		
		LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive / Portsmouth Plaza Driveway																
Overall		**D**	**41.2**	**1.08**	**D**	**42.8**	**1.13**	**D**	**42.9**	**1.13**	**D**	**53.7**	**1.32**	**D**	**53.8**	**1.32**
Woodbury Avenue	NBL	F	36.2	1.08	F	37.0	1.13	F	37.0	1.13	F	39.1	1.32	F	39.0	1.32
	NBTR	C	24.3	0.58	C	24.2	0.60	C	24.7	0.62	C	24.5	0.63	C	25.0	0.64
	SBL	D	34.2	0.41	D	34.9	0.42	D	34.7	0.46	D	36.7	0.47	D	36.4	0.49
	SBTR	C	27.2	0.79	C	26.9	0.80	C	27.0	0.80	C	27.0	0.81	C	27.1	0.81
Arthur F Brady Drive	EBLT	E	37.8	0.87	E	38.5	0.85	E	38.5	0.85	F	41.1	0.99	F	41.0	0.99
	EBR	C	26.2	0.16	C	27.0	0.16	C	27.0	0.16	C	29.2	0.17	C	29.1	0.17
Portsmouth Plaza Driveway	WBLT	D	34.3	0.55	D	35.3	0.54	D	35.2	0.55	D	37.3	0.60	D	37.2	0.61
	WBR	C	24.1	0.07	C	25.0	0.06	C	24.5	0.07	C	26.2	0.07	C	25.7	0.07
Traffic Signal - Woodbury Avenue at Market Street / Market Basket Driveway																
Overall		**C**	**31.9**	**0.82**	**C**	**32.4**	**0.85**	**C**	**33.2**	**0.86**	**D**	**36.3**	**0.98**	**D**	**37.3**	**0.98**
Market Street	NBL	E	41.5	0.82	E	42.3	0.85	E	42.5	0.86	F	44.7	0.98	F	44.9	0.98
	NBTR	C	22.7	0.62	C	22.9	0.64	C	23.3	0.65	C	24.2	0.70	C	24.6	0.71
	SBL	E	47.8	0.48	E	48.4	0.48	E	48.7	0.50	E	50.0	0.55	E	50.3	0.55
Woodbury Avenue	SBT	C	29.7	0.64	C	29.8	0.66	C	30.1	0.66	C	30.8	0.70	C	31.1	0.70
	SBR	B	15.5	0.22	B	15.4	0.24	B	15.7	0.24	B	15.7	0.27	B	16.0	0.27
	EBL	D	41.6	0.54	D	42.2	0.59	D	42.4	0.59	D	43.8	0.65	D	44.1	0.65
	EBTR	D	41.5	0.52	D	42.0	0.54	D	42.6	0.63	D	43.6	0.61	E	44.4	0.71
Market Basket Driveway	WBL	D	39.6	0.71	D	40.2	0.71	D	40.3	0.73	D	41.6	0.76	D	41.6	0.78
	WBTR	D	37.1	0.31	D	37.8	0.30	D	37.8	0.33	D	38.8	0.33	D	38.8	0.36

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 1 (CONTINUED)
Intersection Operation Summary - Capacity

	Lane Use	Saturday Midday Peak Hour														
		2025 Existing			2027 No Build			2027 Build			2037 No Build			2037 Build		
		LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive / Portsmouth Plaza Driveway																
Overall		**D**	**54.0**	**1.40**	**E**	**59.6**	**1.52**	**E**	**58.9**	**1.50**	**E**	**73.4**	**1.73**	**E**	**73.6**	**1.73**
Woodbury Avenue	NBL	F	39.1	1.03	F	41.3	1.11	F	41.1	1.11	F	43.0	1.28	F	43.0	1.28
	NBTR	C	26.4	0.66	C	25.7	0.64	C	26.3	0.65	C	26.2	0.67	C	26.5	0.68
	SBL	D	35.9	0.58	D	38.1	0.62	D	37.7	0.65	D	39.7	0.67	D	39.6	0.71
	SBTR	C	27.4	0.82	C	26.8	0.81	C	26.9	0.81	C	27.1	0.84	C	27.0	0.83
Arthur F Brady Drive	EBLT	F	41.1	1.40	F	43.4	1.52	F	43.1	1.50	F	45.1	1.73	F	45.1	1.73
	EBR	C	29.7	0.26	C	32.2	0.28	C	31.9	0.28	D	34.5	0.38	D	34.5	0.38
Portsmouth Plaza Driveway	WBLT	D	37.7	0.74	E	40.0	0.76	E	39.9	0.77	E	42.4	0.88	E	42.5	0.89
	WBR	C	24.6	0.11	C	26.6	0.11	C	26.0	0.11	C	27.8	0.12	C	27.5	0.12
Traffic Signal - Woodbury Avenue at Market Street / Market Basket Driveway																
Overall		**C**	**29.5**	**0.69**	**C**	**29.9**	**0.70**	**C**	**30.9**	**0.72**	**C**	**32.7**	**0.79**	**C**	**33.6**	**0.80**
Market Street	NBL	D	40.1	0.59	D	40.9	0.60	D	41.3	0.61	D	41.7	0.65	D	42.1	0.65
	NBTR	C	23.8	0.69	C	24.0	0.70	C	24.7	0.72	C	25.9	0.79	C	26.4	0.80
Woodbury Avenue	SBL	D	45.3	0.38	D	46.1	0.39	D	46.5	0.39	D	47.0	0.43	D	47.3	0.43
	SBT	C	28.2	0.66	C	28.5	0.68	C	29.0	0.69	C	30.5	0.77	C	30.8	0.77
	SBR	B	14.1	0.24	B	14.2	0.27	B	14.5	0.27	B	15.0	0.29	B	15.3	0.29
	EBL	D	40.2	0.53	D	41.0	0.58	D	41.2	0.56	D	41.9	0.62	D	42.2	0.62
	EBTR	D	40.1	0.51	D	40.8	0.52	D	41.4	0.61	D	41.7	0.58	D	42.4	0.68
Market Basket Driveway	WBL	D	38.9	0.66	D	39.8	0.67	D	39.9	0.70	D	40.2	0.71	D	40.3	0.73
	WBTR	D	37.2	0.34	D	38.0	0.35	D	38.1	0.39	D	38.2	0.37	D	38.2	0.40

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 2
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	Weekday Morning Peak Hour									
			2025 Existing		2027 No Build		2027 Build		2037 No Build		2037 Build	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive / Portsmouth Plaza Driveway												
Woodbury Avenue	NBL	300	47	107	50	112	50	112	59	138	59	138
	NBTR	625	58	98	61	103	61	103	69	115	69	115
	SBL	250	12	36	12	38	14	42	14	42	16	45
	SBTR	375	85	132	106	160	105	160	118	176	117	175
Arthur F Brady Drive	EBLT	975	31	72	30	76	30	76	35	95	35	95
	EBR	100	0	11	0	12	0	12	0	16	0	16
Portsmouth Plaza Driveway	WBLT	75	12	30	10	33	10	34	11	36	12	37
	WBR	75	0	0	0	0	0	1	0	1	0	2
Traffic Signal - Woodbury Avenue at Market Street / Market Basket Driveway												
Market Street	NBL	300	51	199	51	203	52	204	60	237	62	239
	NBTR	600	66	233	66	240	68	242	77	272	81	274
Woodbury Avenue	SBL	275	2	16	2	16	2	16	2	19	2	19
	SBT	675	63	158	72	176	73	175	82	194	83	193
	SBR	675	0	46	0	50	0	50	0	52	0	52
	EBL	275	17	57	19	61	19	61	21	67	21	67
	EBTR	275	12	82	12	82	20	101	17	96	27	127
Market Basket Driveway	WBL	50	27	80	23	86	25	91	27	93	30	98
	WBTR	50	13	50	11	55	13	60	13	58	16	64

Legend

50th & 95th - 50th and 95th percentile queue lengths in feet

TABLE 2 (CONTINUED)
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	Weekday Afternoon Peak Hour									
			2025 Existing		2027 No Build		2027 Build		2037 No Build		2037 Build	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive / Portsmouth Plaza Driveway												
Woodbury Avenue	NBL	300	125	458	145	468	144	468	188	519	187	519
	NBTR	625	125	300	140	328	140	330	159	377	159	394
	SBL	250	36	112	39	113	43	124	45	122	50	133
	SBTR	375	173	369	192	406	190	403	218	489	216	484
Arthur F Brady Drive	EBLT	975	62	239	62	251	62	251	73	279	72	279
	EBR	100	0	28	0	36	0	36	0	38	0	38
Portsmouth Plaza Driveway	WBLT	75	54	167	52	180	53	186	62	206	63	211
	WBR	75	0	19	0	22	0	25	0	25	0	26
Traffic Signal - Woodbury Avenue at Market Street / Market Basket Driveway												
Market Street	NBL	300	98	292	102	300	103	300	116	337	118	337
	NBTR	600	165	490	175	526	180	530	207	608	214	613
Woodbury Avenue	SBL	275	5	26	5	26	6	26	6	28	6	28
	SBT	675	171	354	181	383	182	377	210	445	211	440
	SBR	675	0	61	0	63	0	63	0	67	0	67
	EBL	275	48	108	55	119	56	119	62	138	63	138
	EBTR	275	42	145	45	151	56	184	53	176	65	210
Market Basket Driveway	WBL	50	107	237	107	248	114	272	119	287	126	309
	WBTR	50	45	110	44	114	50	126	49	124	56	136

Legend

50th & 95th - 50th and 95th percentile queue lengths in feet

TABLE 2 (CONTINUED)
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	Saturday Midday Peak Hour									
			2025 Existing		2027 No Build		2027 Build		2037 No Build		2037 Build	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive / Portsmouth Plaza Driveway												
Woodbury Avenue	NBL	300	117	400	138	409	137	409	176	455	176	455
	NBTR	625	158	386	171	424	171	416	196	495	196	488
	SBL	250	67	171	74	174	80	189	84	190	91	205
	SBTR	375	216	483	240	550	237	542	276	638	273	631
Arthur F Brady Drive	EBLT	975	134	396	154	406	152	406	184	443	184	443
	EBR	100	9	52	12	54	12	54	21	74	21	74
Portsmouth Plaza Driveway	WBLT	75	80	257	84	267	84	272	98	303	99	308
	WBR	75	0	26	0	30	0	31	0	32	0	32
Traffic Signal - Woodbury Avenue at Market Street / Market Basket Driveway												
Market Street	NBL	300	58	160	59	164	60	164	67	185	68	185
	NBTR	600	172	550	182	578	187	583	217	668	224	673
Woodbury Avenue	SBL	275	10	38	10	38	10	38	11	41	11	41
	SBT	675	183	411	196	443	197	436	230	511	231	504
	SBR	675	0	63	0	65	0	65	0	69	0	69
	EBL	275	49	110	54	118	54	118	61	138	61	138
	EBTR	275	44	141	46	146	57	180	53	170	65	204
Market Basket Driveway	WBL	50	90	203	92	205	100	222	104	239	112	263
	WBTR	50	46	118	47	120	55	136	53	131	60	146

Legend

50th & 95th - 50th and 95th percentile queue lengths in feet

TABLE 3
Site-Generated Traffic Summary

Proposed - 2,847 SF Drive-Thru Bank **Peak Hour Period**	**Enter**	**Exit**	**Total**
Weekday Morning	16	12	28
Weekday Afternoon	30	30	60
Saturday Midday	38	37	75

Pass-By Trip Credit[1] **Peak Hour Period (Rate)**	**Enter**	**Exit**	**Total**
Weekday Morning *(29%)*	5	5	10
Weekday Afternoon *(35%)*	11	11	22
Saturday Midday *(38%)*	14	14	28

Net Vehicular Trips (Total minus Pass-by Trips) **Peak Hour Period**	**Enter**	**Exit**	**Total**
Weekday Morning	**11**	**7**	**18**
Weekday Afternoon	**19**	**19**	**38**
Saturday Midday	**24**	**23**	**47**

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 912 [Drive-in Bank]
[1]Vehicle Pass-By Rates and Rate Tables by Land Use, LUC 912 (Drive-In Bank)

Section 8
Figures



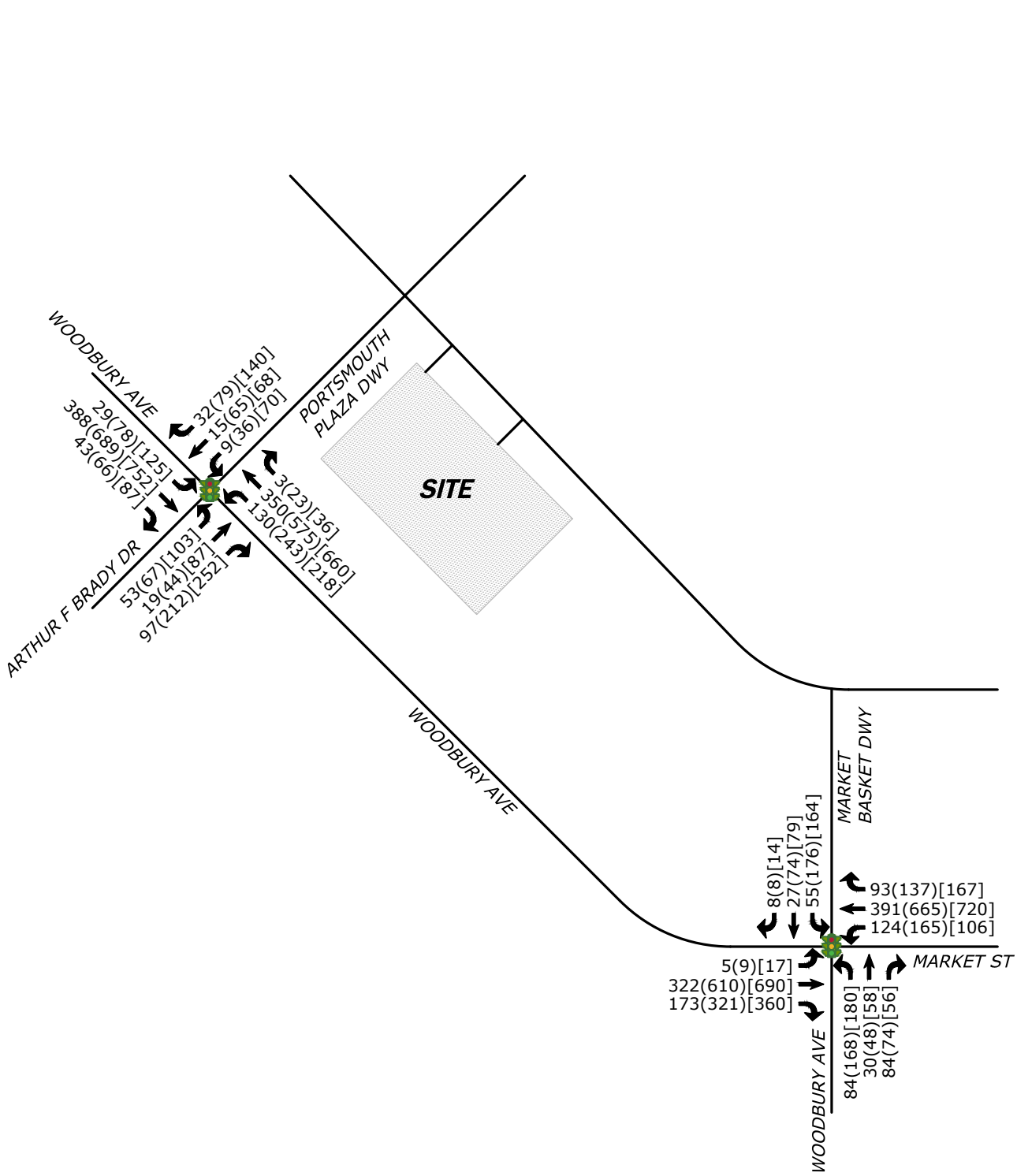
1465 WOODBURY AVENUE
PORTSMOUTH, NH

STUDY AREA

DATE:	6/23/2025
SCALE:	1" = 1000'
FIGURE:	1

Tighe&Bond

Jun 23, 2025-4:26pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Study Area Figure.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

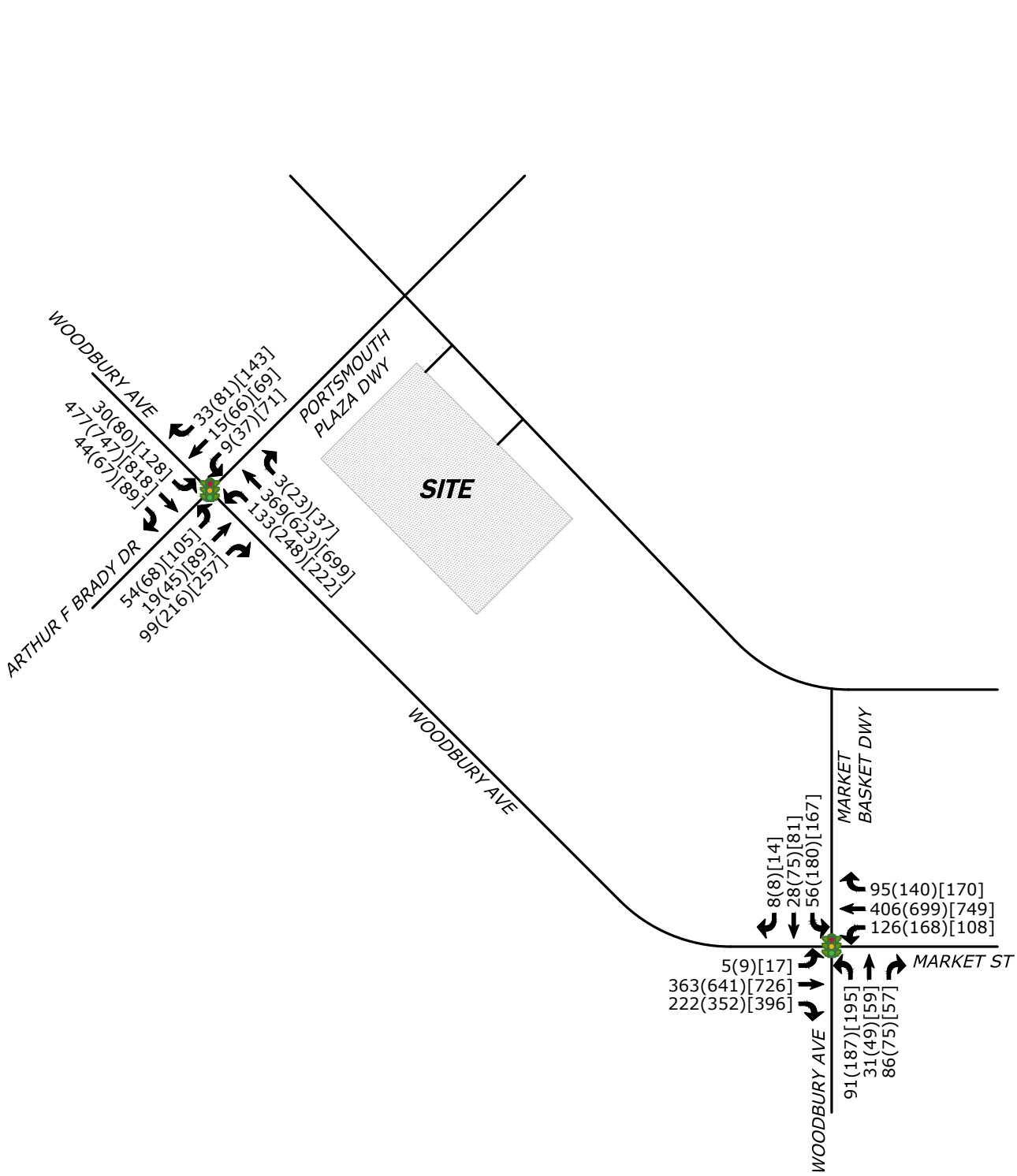
1465 WOODBURY AVENUE
PORTSMOUTH, NH

2025 EXISTING CONDITIONS
TRAFFIC VOLUMES

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	2

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

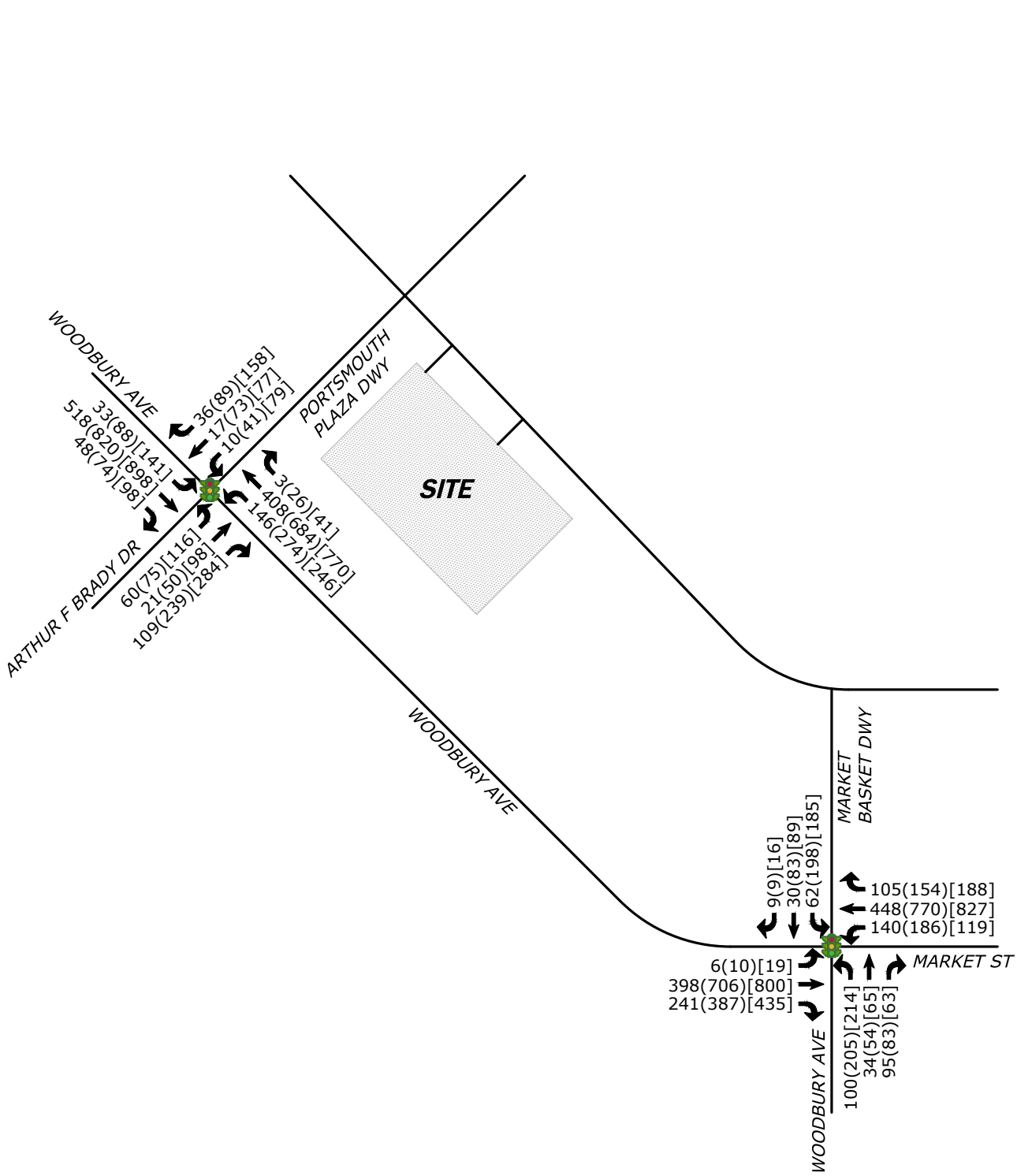
1465 WOODBURY AVENUE
PORTSMOUTH, NH

2027 NO-BUILD CONDITIONS
TRAFFIC VOLUMES

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	3

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

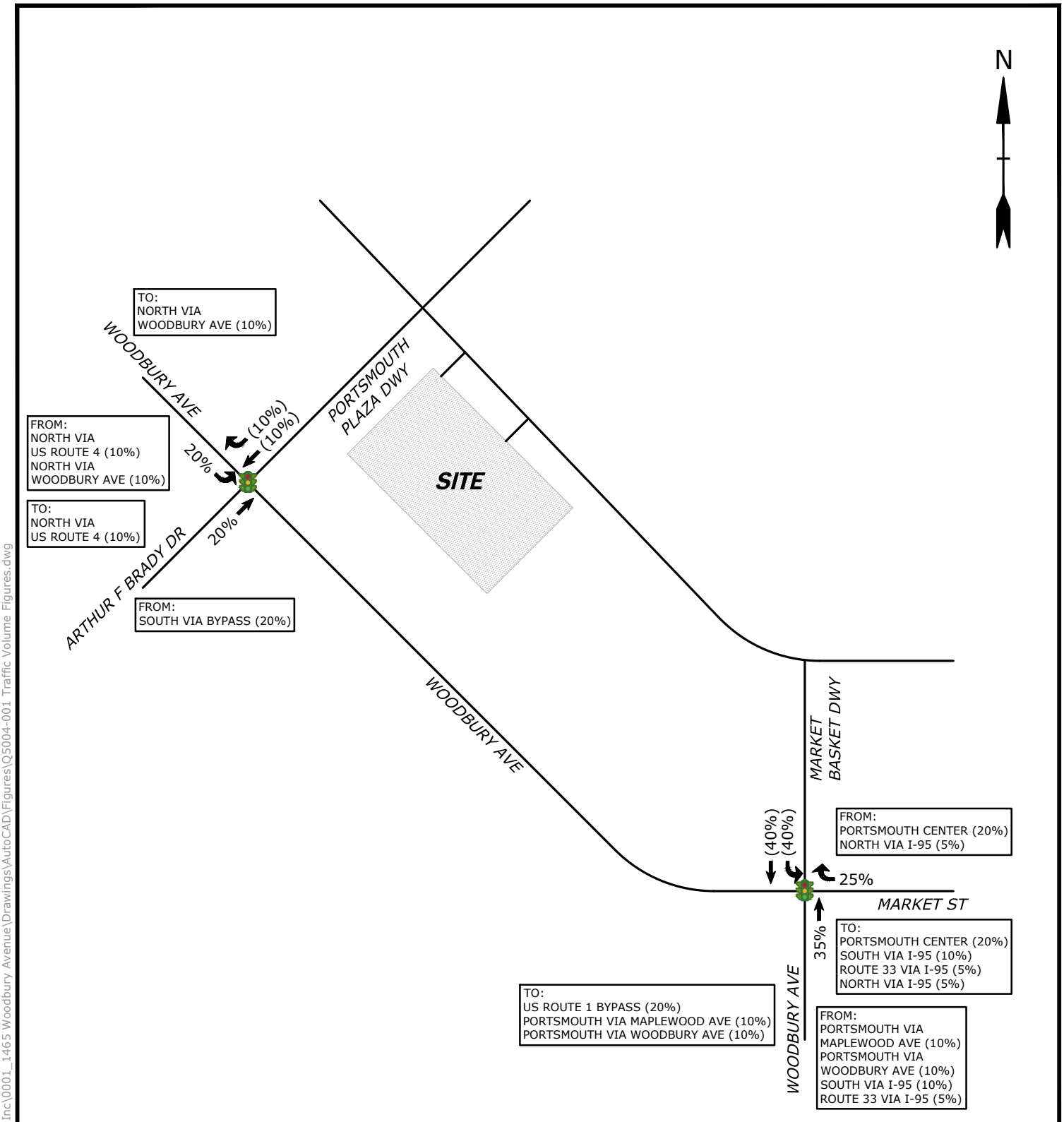
1465 WOODBURY AVENUE
PORTSMOUTH, NH

2037 NO-BUILD CONDITIONS
TRAFFIC VOLUMES

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	4

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: ENTERING (EXITING)

TRAFFIC SIGNAL

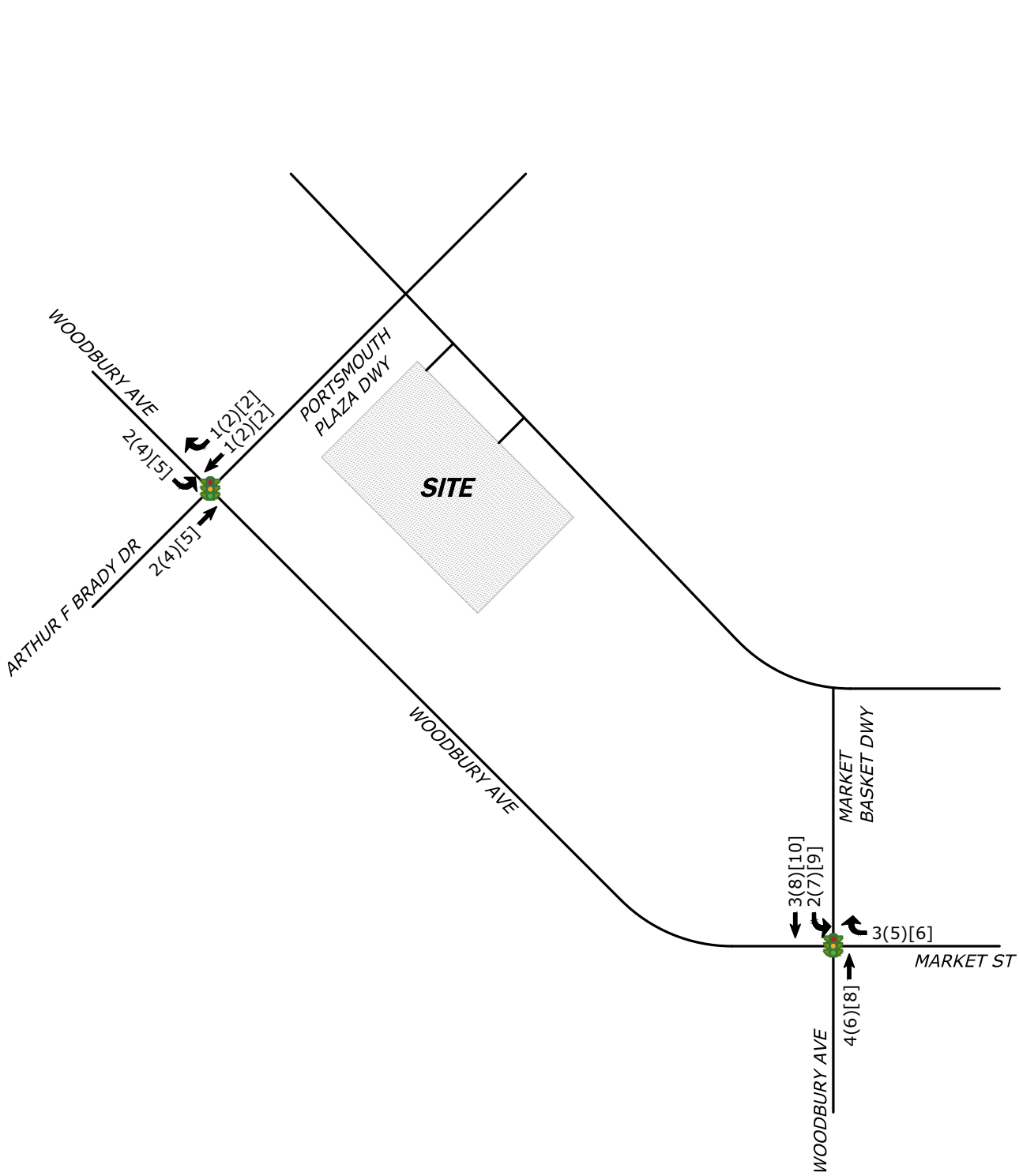
1465 WOODBURY AVENUE
PORTSMOUTH, NH

ARRIVAL & DEPARTURE
TRIP DISTRIBUTION

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	5

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

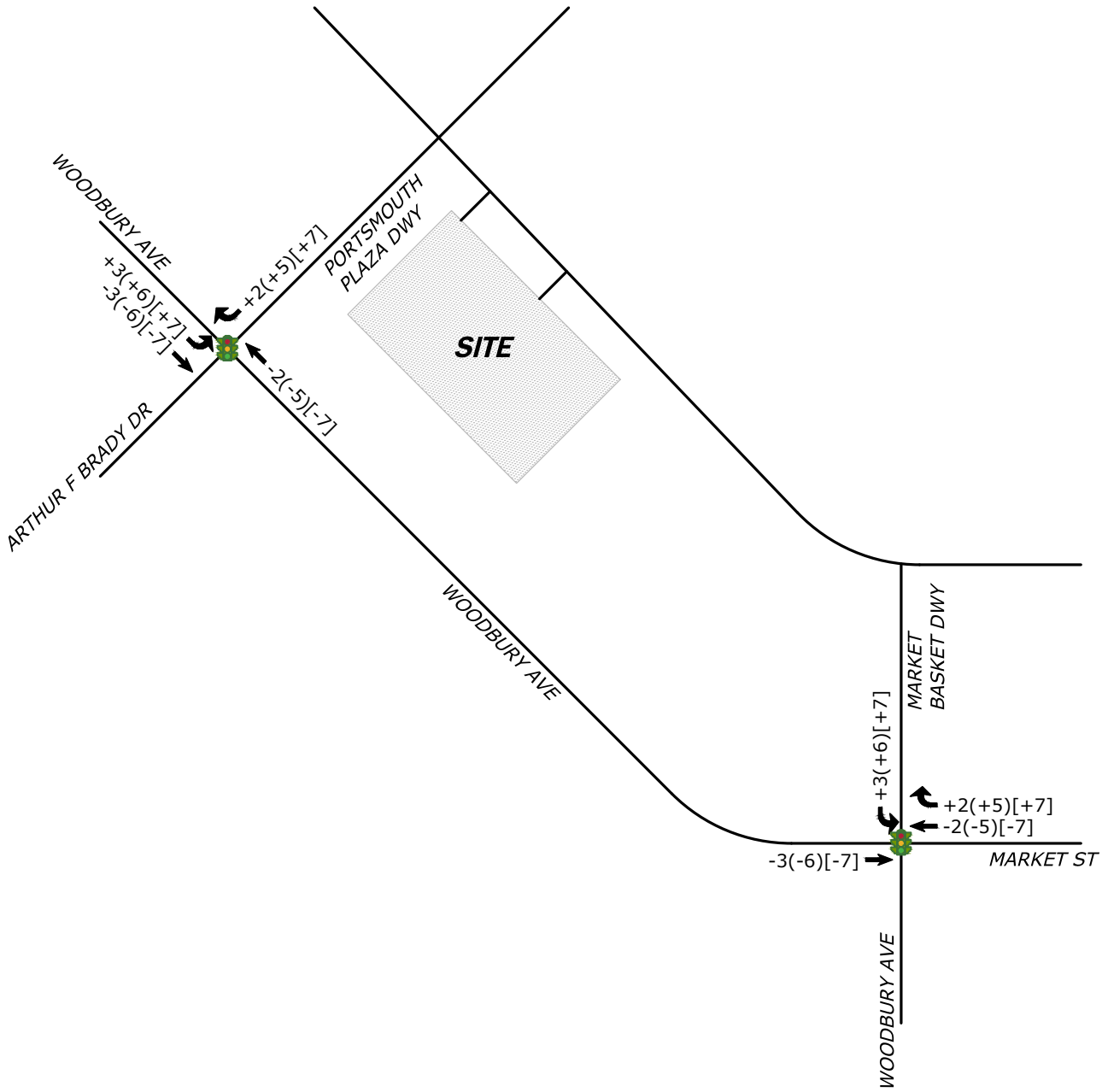
1465 WOODBURY AVENUE
PORTSMOUTH, NH

SITE GENERATED
TRAFFIC VOLUMES (NEW TRIPS)

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	6

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

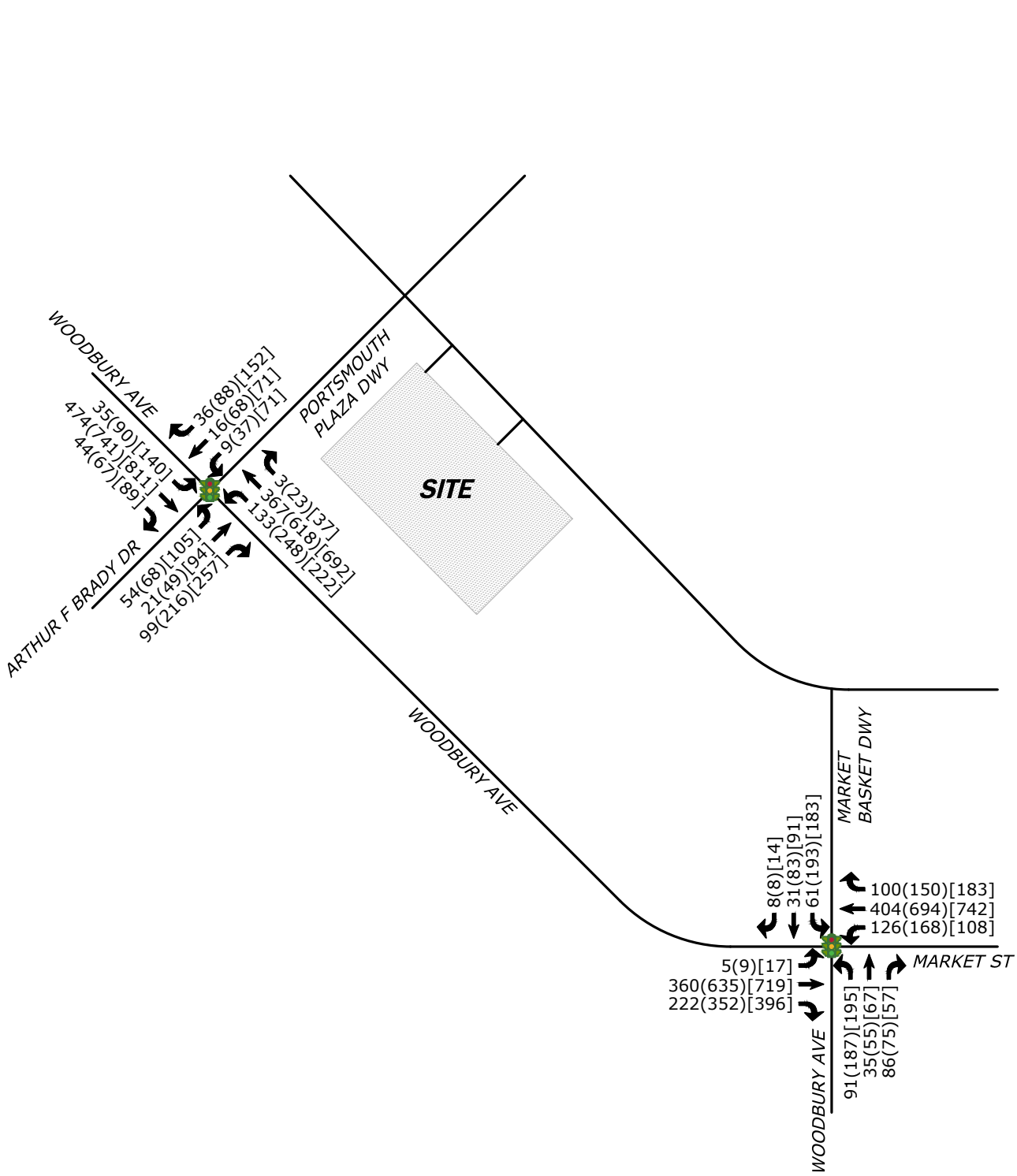
1465 WOODBURY AVENUE
PORTSMOUTH, NH

SITE GENERATED PASS-BY TRAFFIC VOLUMES

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	7

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

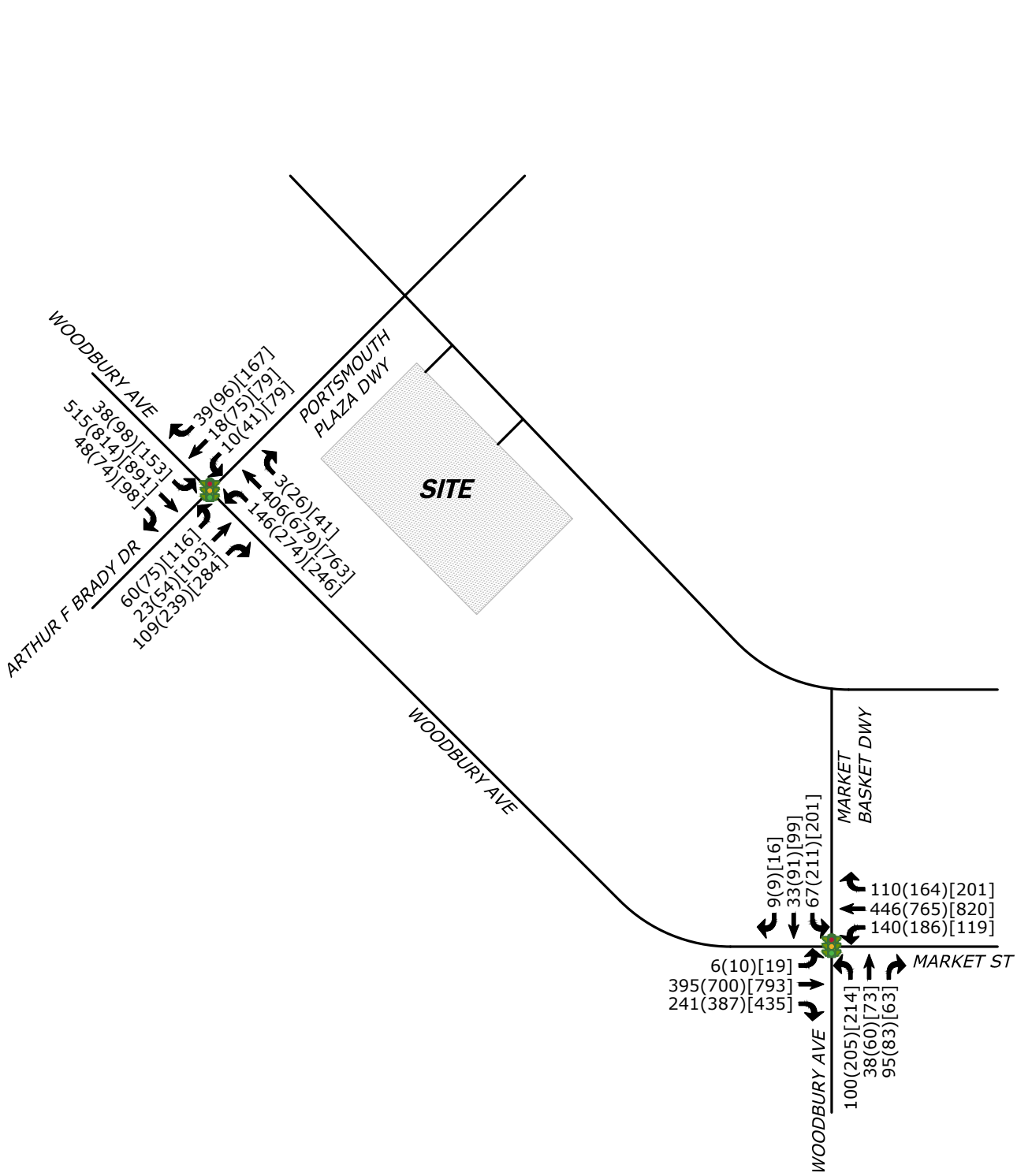
1465 WOODBURY AVENUE
PORTSMOUTH, NH

2027 BUILD CONDITIONS
TRAFFIC VOLUMES

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	8

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

1465 WOODBURY AVENUE
PORTSMOUTH, NH

2037 BUILD CONDITIONS
TRAFFIC VOLUMES

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	9

Tighe&Bond

Jun 24, 2025-4:24pm Plotted By: RCase
Tighe & Bond, Inc. J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Figures\Q5004-001 Traffic Volume Figures.dwg

APPENDIX A

Traffic Count Data

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	5/29/2025
Day of Week:	Thursday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	4	4	12	0	2	3	7	0	15	55	9	0	12	51	1
7:15 AM	0	8	2	12	0	1	3	6	0	6	73	7	0	23	67	1
7:30 AM	0	11	5	21	0	1	6	5	1	8	83	9	0	33	75	2
7:45 AM	0	12	4	19	0	1	2	8	0	6	97	10	1	40	72	1
8:00 AM	0	13	7	21	0	2	6	11	0	8	87	7	0	26	89	1
8:15 AM	0	17	7	24	0	4	4	5	0	7	104	15	0	29	88	1
8:30 AM	0	10	1	31	0	2	3	7	0	7	92	10	0	31	94	0
8:45 AM	0	8	7	27	0	1	6	7	0	7	92	11	1	31	74	0

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	23	10	61	0	7	15	22	0	19	153	22	0	63	127	1
4:15 PM	0	14	9	57	0	13	18	23	0	18	171	15	0	64	146	8
4:30 PM	0	11	13	45	0	9	13	13	0	16	185	14	0	54	144	6
4:45 PM	0	18	11	45	0	6	18	19	0	23	166	14	1	56	147	8
5:00 PM	0	10	16	51	0	8	14	18	0	12	160	21	0	56	135	7
5:15 PM	0	7	6	41	0	13	13	19	1	21	182	6	0	56	139	5
5:30 PM	0	14	21	46	0	8	16	25	0	16	163	11	1	42	124	3
5:45 PM	0	11	4	30	0	13	10	22	0	18	131	13	0	41	88	4

AM PEAK HOUR 7:45 AM to 8:45 AM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**52**	**19**	**95**	**0**	**9**	**15**	**31**	**0**	**28**	**380**	**42**	**1**	**126**	**343**	**3**
PHF		**0.86**				**0.72**				**0.89**				**0.95**		
HV %	**0.0%**	**1.9%**	**5.3%**	**1.1%**	**0.0%**	**0.0%**	**6.7%**	**3.2%**	**0.0%**	**0.0%**	**4.7%**	**2.4%**	**0.0%**	**4.8%**	**4.1%**	**0.0%**
			1.8%				3.6%				4.2%				4.2%	

PM PEAK HOUR 4:00 PM to 5:00 PM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**66**	**43**	**208**	**0**	**35**	**64**	**77**	**0**	**76**	**675**	**65**	**1**	**237**	**564**	**23**
PHF		**0.84**				**0.81**				**0.95**				**0.95**		
HV %	**0.0%**	**0.0%**	**2.3%**	**1.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**3.1%**	**0.0%**	**1.7%**	**1.1%**	**0.0%**
			1.6%				0.0%				0.9%				1.2%	

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	5/29/2025
Day of Week:	Thursday
Weather:	Clouds & Sun, 60°F

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HEAVY VEHICLES

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	0	0	0	0	0	0	0	6	0	0	0	1	0
7:15 AM	0	0	0	1	0	0	0	0	0	0	3	0	0	0	4	0
7:30 AM	0	1	2	1	0	0	0	0	0	0	2	1	0	2	3	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	2	4	0
8:00 AM	0	1	0	0	0	0	0	1	0	0	5	0	0	0	2	0
8:15 AM	0	0	1	1	0	0	1	0	0	0	5	1	0	3	3	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	1	5	0
8:45 AM	0	0	0	1	0	0	0	0	0	0	2	1	0	0	1	0

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	1	2	0	0	0	0	0	0	2	1	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0
4:45 PM	0	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**3**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**16**	**2**	**0**	**7**	**12**	**1**
PHF	**0.44**				**0.50**				**0.75**				**0.83**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**0**	**4**	**6**	**0**
PHF	**0.42**				**0.00**				**0.58**				**0.63**			

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	5/29/2025
Day of Week:	Thursday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	2	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0

AM PEAK HOUR[1] 7:45 AM to 8:45 AM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0

PM PEAK HOUR[1] 4:00 PM to 5:00 PM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	2	0	1	0	0	0	0	1	2	4	0	0	0	2	0	0

[1]*NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	5/31/2025
Day of Week:	Saturday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	14	19	48	0	8	9	30	0	25	182	22	0	40	134	5
11:15 AM	0	18	15	63	0	9	11	34	0	26	161	17	1	45	156	7
11:30 AM	0	19	18	46	0	16	9	25	0	26	151	21	1	53	142	14
11:45 AM	0	19	26	48	0	11	13	33	0	29	205	16	0	40	161	13
12:00 PM	0	25	22	76	0	24	11	27	1	30	163	15	0	44	137	11
12:15 PM	0	25	17	69	0	17	20	35	1	27	172	17	0	36	129	8
12:30 PM	0	25	14	57	0	12	10	30	0	26	216	15	1	50	166	9
12:45 PM	0	29	21	64	0	14	13	36	0	24	162	17	1	49	172	10
1:00 PM	0	26	21	64	0	23	16	30	0	34	174	19	1	60	152	10
1:15 PM	0	20	21	60	0	20	21	38	0	34	205	24	0	49	164	8
1:30 PM	0	26	22	59	0	12	17	33	0	31	196	25	0	54	159	7
1:45 PM	0	14	15	56	0	14	20	52	0	23	203	22	0	40	118	10

MID PEAK HOUR 12:45 PM to 1:45 PM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**101**	**85**	**247**	**0**	**69**	**67**	**137**	**0**	**123**	**737**	**85**	**2**	**212**	**647**	**35**
PHF	**0.95**				**0.86**				**0.90**				**0.97**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.5%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**0.5%**	**0.8%**	**0.0%**
	0.0%				0.4%				0.5%				0.7%			

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	5/31/2025
Day of Week:	Saturday
Weather:	Clouds & Sun, 60°F

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HEAVY VEHICLES

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0
11:15 AM	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	2	2	0	0	0	1	0
12:00 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
12:45 PM	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

MID PEAK HOUR 11:00 AM to 12:00 PM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**2**	**0**	**1**	**2**	**0**
PHF	**0.50**				**0.00**				**0.50**				**0.75**			

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	5/31/2025
Day of Week:	Saturday
Weather:	Clouds & Sun, 60°F

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PEDESTRIANS & BICYCLES

	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
12:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:45 PM to 1:45 PM	Arthur Brady Drive Northbound				Shopping Center Driveway Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Woodbury Ave/Market Basket Drive
Count Date:	5/29/2025
Day of Week:	Thursday
Weather:	Clouds & Sun, 60°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	11	6	3	0	4	5	1	0	2	52	17	0	8	56	11
7:15 AM	0	16	5	5	0	14	6	1	0	2	58	30	0	16	74	17
7:30 AM	0	28	6	13	0	15	6	3	0	0	55	43	0	14	81	21
7:45 AM	0	18	5	13	0	13	6	4	0	1	69	49	0	35	90	13
8:00 AM	0	24	3	21	0	9	7	3	0	0	77	39	0	25	94	25
8:15 AM	0	20	9	18	0	14	8	0	0	2	79	44	0	31	94	23
8:30 AM	0	16	7	23	0	12	3	3	0	1	87	38	0	40	111	17
8:45 AM	0	21	10	20	0	19	8	2	0	2	73	49	0	26	80	26

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	45	10	23	0	51	14	5	1	5	139	81	0	35	151	35
4:15 PM	0	31	15	20	0	46	26	2	0	1	171	75	1	34	182	36
4:30 PM	0	40	16	16	0	41	14	3	0	3	132	84	0	39	154	34
4:45 PM	0	55	4	18	0	48	15	2	0	2	147	88	0	33	157	19
5:00 PM	1	38	12	19	0	38	18	1	0	3	148	68	0	55	158	45
5:15 PM	0	48	12	25	0	54	19	3	0	4	153	78	1	34	152	33
5:30 PM	0	40	15	17	0	44	13	1	1	6	154	64	2	36	125	32
5:45 PM	0	24	11	12	0	45	25	5	0	3	114	53	0	28	109	27

AM PEAK HOUR 8:00 AM to 9:00 AM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**81**	**29**	**82**	**0**	**54**	**26**	**8**	**0**	**5**	**316**	**170**	**0**	**122**	**379**	**91**
PHF		**0.94**				**0.76**				**0.97**				**0.88**		
HV %	**0.0%**	**1.2%**	**0.0%**	**2.4%**	**0.0%**	**5.6%**	**3.8%**	**12.5%**	**0.0%**	**0.0%**	**4.1%**	**3.5%**	**0.0%**	**0.0%**	**3.4%**	**0.0%**
			1.6%				5.7%				3.9%				2.2%	

PM PEAK HOUR 4:15 PM to 5:15 PM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	1	**164**	**47**	**73**	**0**	**173**	**73**	**8**	**0**	**9**	**598**	**315**	**1**	**161**	**651**	**134**
PHF		**0.93**				**0.86**				**0.93**				**0.92**		
HV %	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**0.0%**	**0.6%**	**1.4%**	**12.5%**	**0.0%**	**0.0%**	**0.3%**	**1.3%**	**0.0%**	**0.6%**	**1.5%**	**1.5%**
			0.4%				1.2%				0.7%				1.4%	

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Woodbury Ave/Market Basket Drive
Count Date:	5/29/2025
Day of Week:	Thursday
Weather:	Clouds & Sun, 60°F

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HEAVY VEHICLES

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	1	0	0	0	4	1	0	1	1	0
7:15 AM	0	0	0	2	0	2	0	0	0	0	3	1	0	0	4	0
7:30 AM	0	2	0	2	0	0	1	0	0	0	2	1	0	2	4	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	4	0	0	1	5	0
8:00 AM	0	1	0	1	0	0	0	0	0	0	4	1	0	0	1	0
8:15 AM	0	0	0	0	0	2	1	0	0	0	4	1	0	0	6	0
8:30 AM	0	0	0	0	0	1	0	1	0	0	3	1	0	0	5	0
8:45 AM	0	0	0	1	0	0	0	0	0	0	2	3	0	0	1	0

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	1	0	0	0	0	3	1	0	0	2	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	4	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	1	3	1
4:45 PM	0	0	0	0	0	0	0	1	0	0	2	1	0	0	0	1
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**4**	**0**	**3**	**0**	**2**	**2**	**0**	**0**	**0**	**14**	**3**	**0**	**3**	**16**	**0**
PHF	**0.44**				**0.33**				**0.85**				**0.79**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**0**	**0**	**5**	**4**	**0**	**1**	**9**	**2**
PHF	**0.00**				**1.00**				**0.56**				**0.60**			

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Woodbury Ave/Market Basket Drive
Count Date:	5/29/2025
Day of Week:	Thursday
Weather:	Clouds & Sun, 60°F

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PEDESTRIANS & BICYCLES

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

PM PEAK HOUR[1] 4:15 PM to 5:15 PM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	1	0	0	3	0	2	1	0	0	0	0	3

[1]*NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Woodbury Ave/Market Basket Drive
Count Date:	5/31/2025
Day of Week:	Saturday
Weather:	Clouds & Sun, 60°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	23	9	11	0	44	27	6	0	1	142	81	0	26	146	39
11:15 AM	0	29	15	11	0	31	17	7	0	4	162	80	1	21	176	30
11:30 AM	0	46	15	13	0	32	15	5	0	4	128	73	0	24	160	47
11:45 AM	0	45	13	16	0	41	13	4	0	0	159	96	0	22	163	42
12:00 PM	0	31	17	7	0	39	8	8	0	2	172	92	3	21	151	26
12:15 PM	0	33	16	14	0	42	27	3	0	2	187	79	0	25	150	43
12:30 PM	0	40	16	9	0	36	18	3	0	5	182	93	0	32	171	37
12:45 PM	0	39	12	16	0	42	20	3	1	4	141	87	0	23	188	40
1:00 PM	0	41	15	16	0	42	21	3	0	3	186	84	0	20	193	43
1:15 PM	0	44	20	10	0	39	17	5	1	3	179	87	2	25	158	29
1:30 PM	0	51	10	13	0	38	19	3	0	5	170	95	3	31	163	52
1:45 PM	0	34	13	13	0	49	22	2	0	1	165	118	0	22	134	43

MID PEAK HOUR 12:45 PM to 1:45 PM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**175**	**57**	**55**	**0**	**161**	**77**	**14**	**2**	**15**	**676**	**353**	**5**	**99**	**702**	**164**
PHF	**0.97**				**0.95**				**0.96**				**0.95**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.6%**	**0.3%**	**0.0%**	**4.0%**	**0.9%**	**0.0%**
	0.0%				0.4%				0.5%				1.0%			

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Woodbury Ave/Market Basket Drive
Count Date:	5/31/2025
Day of Week:	Saturday
Weather:	Clouds & Sun, 60°F

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HEAVY VEHICLES

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
11:45 AM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0
12:00 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
12:30 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	0	0	0	1	1	0	0	3	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0

MID PEAK HOUR 12:45 PM to 1:45 PM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**4**	**6**	**0**
PHF	**0.00**				**0.25**				**0.63**				**0.83**			

Client:	Matthew Stoutz
Project #:	1692_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Woodbury Ave/Market Basket Drive
Count Date:	5/31/2025
Day of Week:	Saturday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
12:30 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0
12:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:45 PM to 1:45 PM	Woodbury Ave Northbound				Market Basket Driveway Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	1	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

APPENDIX B

NHDOT Traffic Data

Group 4 Averages: Urban Highways

Month	MADT	Adjustment to Average	Adjustment to Peak
January	14,556	1.04	1.09
February	15,385	0.98	1.03
March	14,276	1.06	1.11
April	14,515	1.04	1.10
May	15,571	0.97	1.02
June	15,918	0.95	1.00
July	15,765	0.96	1.01
August	15,856	0.95	1.00
September	15,571	0.97	1.02
October	15,698	0.96	1.01
November	14,429	1.05	1.10
December	13,960	1.08	1.14

Average ADT: 15,125
Peak ADT: 15,918

GROUP	Station	TOWN	LOCATION
04	02051003	Bow	NH 3A south of Robinson Rd
04	02089001	Chichester	NH 28 (Suncook Valley Rd) north of Bear Hill Rd
04	02091001	Claremont	NH 12/103 east of Vermont SL
04	02125001	Dover	Dover Point Rd south of Thornwood Ln
04	02133021	Durham	US 4 east of NH 108
04	02229022	Hudson	Circumferential Hwy east of Nashua TL
04	02253025	Lebanon	NH 120 1 mile south of Hanover TL (south of Lahaye Dr)
04	02255001	Barrington	NH 125 (Calef Hwy) north of Pinkham Rd
04	02287001	Marlborough	NH 12 at Swanzey TL
04	02297001	Merrimack	US 3 (Daniel Webster Hwy) north of Hilton Dr
04	*02303001*	*Amherst*	*NH 101A at Amherst TL (west of Overlook Dr)*
04	*02315051*	*Hudson*	*NH 111 (Bridge / Ferry St) at Hudson TL*
04	02339001	Newport	NH 10 1 mile south of Croydon TL (north of Corbin Rd)
04	02345001	North Hampton	US 1 (Lafayette Rd) north of North Rd
04	02445001	Wilton	NH 101 at Wilton TL (west of Old County Farm Rd)
04	*02489001*	*Windham*	*NH 28 at Derry TL (north of Northland Rd)*
04	*62099056*	*Concord*	*NH 106 (Sheep Davis Rd) at Loudon TL (north of Ashby Rd)*
04	*62099059*	*Concord*	*Clinton St Rte: NH 13*
04	*62387052*	*Rindge*	*US 202 at Jaffrey TL (north of County Rd)*
04	62389040	Rochester	Spaulding Tpke N
04	72099278	Concord	US 3 (Fisherville Rd) north of Sewalls Falls Rd
04	82037087	Bedford	New Boston Rd
04	*82101031*	*Conway*	*White Mountain Hwy at Washington St*
04	*82101032*	*Conway*	*Pleasent St*
04	*82101033*	*Conway*	*White Mountain Hwy at Pleasant St*
04	*82169060*	*Gilford*	*Weirs Rd Rte: NH 11B*
04	82197076	Hampton Falls	US 1 (Lafayette Rd) south of Ramp to NH 101
04	*82213067*	*Henniker*	*Rush Rd*
04	*82237075*	*Keene*	*Keene By-Pass Rte: NH 101*
04	82243052	Kingston	NH Route 125 Rte: NH 107
04	82253117	Lebanon	Meriden Rd Rte: NH 120
04	*82253119*	*Lebanon*	*Etna Rd*
04	*82303020*	*Milford*	*NH 101 (Milford Bypass) North of Phelan Rd*
04	*82303066*	*Milford*	*NH 101 (Milford Bypass) East of NH 13*

** denotes Station that is not included in calculation*

	Region E	
Year	VPY	Annual Change
2004	1,353,263	
2005	1,336,129	-1.27%
2006	1,340,011	0.29%
2007	1,341,995	0.15%
2008	1,285,116	-4.24%
2009	1,303,948	1.47%
2010	1,312,251	0.64%
2011	1,279,824	-2.47%
2012	1,284,314	0.35%
2013	1,298,171	1.08%
2014	1,320,862	1.75%
2015	1,353,486	2.47%
2016	1,385,361	2.36%
2017	1,396,932	0.84%
2018	1,408,237	0.81%
2019	1,422,176	0.99%
2020	1,176,424	-17.28%
2021	1,326,889	12.79%
2022	1,367,310	3.05%
2023	1,409,876	3.11%
2024	1,439,862	2.13%

20 Year CAGR:	0.31%	10 Year CAGR:	0.87%
20 Year EXP:	0.24%	10 Year EXP:	0.25%
20-Average:	0.27%	10-Average:	0.56%

APPENDIX C

Capacity Analysis Methodology

CAPACITY ANALYSIS METHODOLOGY

A primary result of capacity analysis is the assignment of levels of service to traffic facilities under various traffic flow conditions. The capacity analysis methodology is based on the concepts and procedures in the *Highway Capacity Manual* (HCM).[1] The concept of level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year. A description of the operating condition under each level of service is provided below:

- *LOS A* describes conditions with little to no delay to motorists.
- *LOS B* represents a desirable level with relatively low delay to motorists.
- *LOS C* describes conditions with average delays to motorists.
- *LOS D* describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.
- *LOS E* represents operating conditions with high delay values. This level is considered by many agencies to be the limit of acceptable delay.
- *LOS F* is considered to be unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.

Signalized Intersections

Levels of service for signalized intersections are also calculated using the operational analysis methodology of the HCM. The methodology for signalized intersections assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on average *control* delay. Control delay is used to establish the operating characteristics for an intersection or an approach to an intersection. Volume-to-capacity (v/c) ratios are also used to help signify the utilization of a lane group's capacity at an intersection. A v/c ratio of ≥1.00 represents conditions when the traffic signal cycle capacity is fully utilized and indicates a capacity failure. The level-of-service criteria for signalized intersections are shown in Table A-1.

[1] *Highway Capacity Manual, 6TH Edition: A Guide for Multimodal Mobility Analysis.* Washington, D.C.: Transportation Research Board, 2016.

Unsignalized Intersections

Levels of service for unsignalized intersections are calculated using the operational analysis methodology of the HCM. The procedure accounts for lane configuration on both the minor and major street approaches, conflicting traffic stream volumes, and the type of intersection control (STOP, YIELD, or all-way STOP control). The definition of level of service for unsignalized intersections is a function of average *control* delay. Control delay at an unsignalized intersection is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

Volume-to-capacity (v/c) ratios are also used to help signify the utilization of a movement's capacity at an intersection. A v/c ratio of ≥1.00 represents conditions when the movement is fully utilized and indicates a capacity failure. The capacity of the movements is based on the distribution of gaps in the major street traffic stream, the selection of gaps to complete the desired movement, and the follow-up headways for each driver in the queue. When an unsignalized intersection is located within 0.25 miles of a signalized intersection, traffic flows may not be random and some platoon structure may exist, thereby affecting the minor street operations. The level-of-service criteria for unsignalized intersections are shown in Table A-1.

TABLE A-1
Level-of-Service Criteria for Intersections

Level of Service	**Signalized Intersection Criteria** Average Control Delay (Seconds per Vehicle)	**Unsignalized Intersection Criteria** Average Control Delay (Seconds per Vehicle)	**V/C Ratio >1.00[a]**
A	≤10	≤10	F
B	>10 and ≤20	>10 and ≤15	F
C	>20 and ≤35	>15 and ≤25	F
D	>35 and ≤55	>25 and ≤35	F
E	>55 and ≤80	>35 and ≤50	F
F	>80	>50	F

Note: [a]For approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Source: *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis.* Washington, D.C.: Transportation Research Board, 2016. Exhibit 19-8, Pg. 19-16.

For signalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to the entire intersection. For unsignalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups on the minor street approaches or to the left turns from the major street approaches.

APPENDIX D

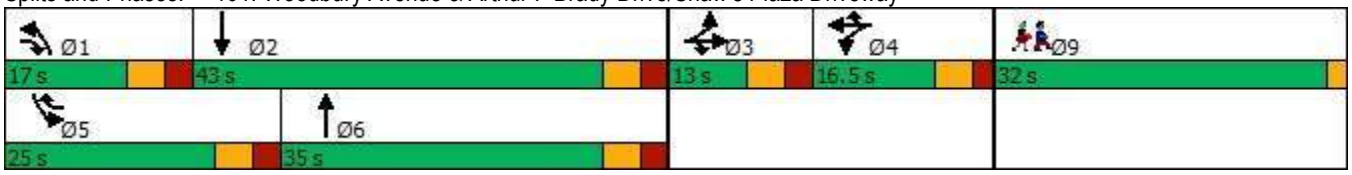
Capacity Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	19	97	9	15	32	130	350	3	29	388	43
Future Volume (vph)	53	19	97	9	15	32	130	350	3	29	388	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	1 3	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 60.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

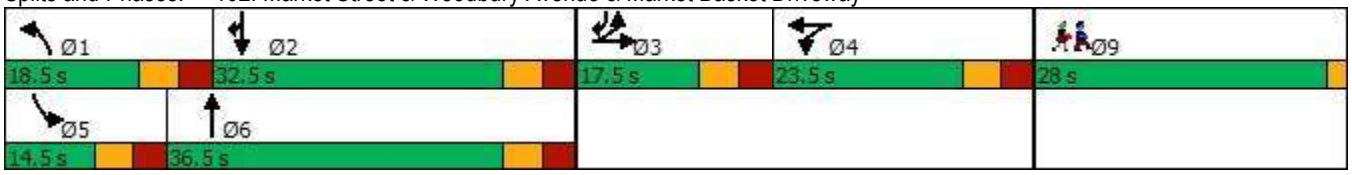
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	30	84	55	27	8	124	391	93	5	322	173
Future Volume (vph)	84	30	84	55	27	8	124	391	93	5	322	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 70.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	19	97	9	15	32	130	350	3	29	388	43
Future Volume (vph)	53	19	97	9	15	32	130	350	3	29	388	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1737	1531		1673	1449	1678	3351		1620	3306	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1737	1531		1673	1449	1678	3351		1620	3306	
Peak-hour factor, PHF	0.86	0.86	0.86	0.72	0.72	0.72	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	62	22	113	12	21	44	137	368	3	33	436	48
RTOR Reduction (vph)	0	0	80	0	0	31	0	1	0	0	8	0
Lane Group Flow (vph)	0	84	33	0	34	13	137	370	0	33	476	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.1		5.5	18.2	10.9	18.1		7.2	14.4	
Effective Green, g (s)		7.2	18.1		5.5	18.2	10.9	18.1		7.2	14.4	
Actuated g/C Ratio		0.12	0.29		0.09	0.30	0.18	0.29		0.12	0.23	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		203	450		149	428	297	986		189	774	
v/s Ratio Prot		c0.05	0.02		c0.02	0.01	c0.08	c0.11		0.02	c0.14	
v/s Ratio Perm												
v/c Ratio		0.41	0.07		0.23	0.03	0.46	0.38		0.17	0.62	
Uniform Delay, d1		25.2	15.7		26.0	15.4	22.7	17.2		24.5	21.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.1		0.8	0.0	1.1	0.2		0.4	1.5	
Delay (s)		26.6	15.7		26.8	15.4	23.8	17.5		24.9	22.5	
Level of Service		C	B		C	B	C	B		C	C	
Approach Delay (s)		20.3			20.4			19.2			22.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	30	84	55	27	8	124	391	93	5	322	173
Future Volume (vph)	84	30	84	55	27	8	124	391	93	5	322	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.89		1.00	0.96		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3236	1562		1862	1891		1711	3322		1678	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3236	1562		1862	1891		1711	3322		1678	3355	1501
Peak-hour factor, PHF	0.94	0.94	0.94	0.76	0.76	0.76	0.88	0.88	0.88	0.97	0.97	0.97
Adj. Flow (vph)	89	32	89	72	36	11	141	444	106	5	332	178
RTOR Reduction (vph)	0	80	0	0	10	0	0	14	0	0	0	98
Lane Group Flow (vph)	89	41	0	72	37	0	141	536	0	5	332	80
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.2	8.2		6.9	6.9		11.7	31.2		0.8	20.3	35.0
Effective Green, g (s)	8.2	8.2		6.9	6.9		11.7	31.2		0.8	20.3	35.0
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.15	0.40		0.01	0.26	0.45
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	339	163		164	166		255	1325		17	870	671
v/s Ratio Prot	c0.03	0.03		c0.04	0.02		c0.08	c0.16		0.00	0.10	0.05
v/s Ratio Perm												
v/c Ratio	0.26	0.25		0.44	0.22		0.55	0.40		0.29	0.38	0.12
Uniform Delay, d1	32.2	32.2		33.8	33.2		30.8	16.8		38.4	23.8	12.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.8		1.9	0.7		2.6	0.2		9.4	0.3	0.1
Delay (s)	32.6	33.0		35.7	33.8		33.4	17.0		47.8	24.1	12.7
Level of Service	C	C		D	C		C	B		D	C	B
Approach Delay (s)		32.8			35.0			20.4			20.4	
Approach LOS		C			C			C			C	

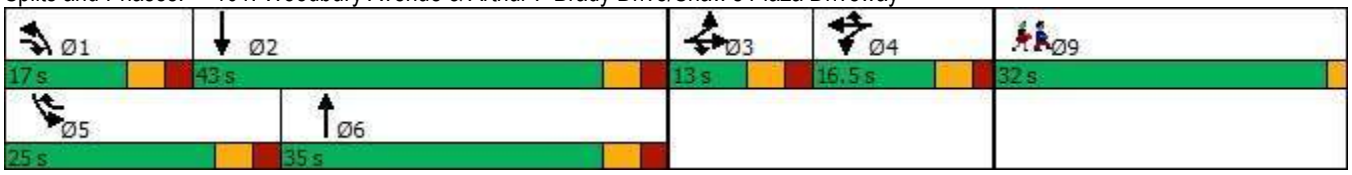
Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	28.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	44	212	36	65	79	243	575	23	78	689	66
Future Volume (vph)	67	44	212	36	65	79	243	575	23	78	689	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 83.2
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

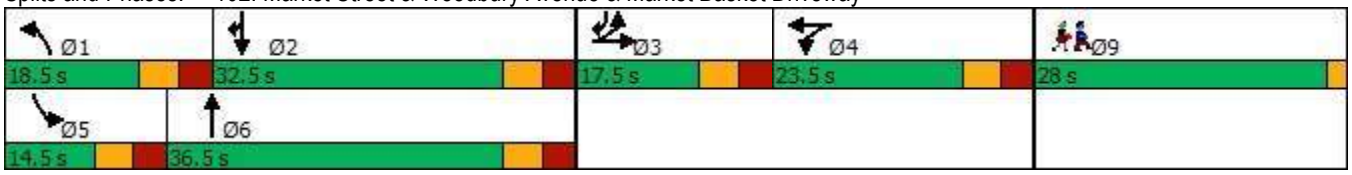
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	48	74	176	74	8	165	665	137	9	610	321
Future Volume (vph)	168	48	74	176	74	8	165	665	137	9	610	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 90.8
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	44	212	36	65	79	243	575	23	78	689	66
Future Volume (vph)	67	44	212	36	65	79	243	575	23	78	689	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1748	1531		1742	1507	1728	3435		1668	3410	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1748	1531		1742	1507	1728	3435		1668	3410	
Peak-hour factor, PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	52	252	44	80	98	256	605	24	82	725	69
RTOR Reduction (vph)	0	0	196	0	0	74	0	2	0	0	6	0
Lane Group Flow (vph)	0	132	56	0	124	24	256	627	0	82	788	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.8		10.8	20.8	11.5	26.2		10.0	24.7	
Effective Green, g (s)		7.3	18.8		10.8	20.8	11.5	26.2		10.0	24.7	
Actuated g/C Ratio		0.09	0.22		0.13	0.25	0.14	0.31		0.12	0.29	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		152	343		224	373	236	1072		198	1003	
v/s Ratio Prot		c0.08	0.04		c0.07	0.02	c0.15	0.18		0.05	c0.23	
v/s Ratio Perm												
v/c Ratio		0.87	0.16		0.55	0.07	1.08	0.58		0.41	0.79	
Uniform Delay, d1		37.8	26.2		34.3	24.1	36.2	24.3		34.2	27.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		37.2	0.2		2.9	0.1	83.0	0.8		1.4	4.1	
Delay (s)		75.1	26.5		37.2	24.2	119.2	25.1		35.6	31.3	
Level of Service		E	C		D	C	F	C		D	C	
Approach Delay (s)		43.2			31.5			52.3			31.7	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	25.5
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	48	74	176	74	8	165	665	137	9	610	321
Future Volume (vph)	168	48	74	176	74	8	165	665	137	9	610	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3268	1612		1954	2028		1728	3367		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3268	1612		1954	2028		1728	3367		1728	3455	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	181	52	80	205	86	9	179	723	149	10	656	345
RTOR Reduction (vph)	0	46	0	0	3	0	0	11	0	0	0	184
Lane Group Flow (vph)	181	86	0	205	92	0	179	861	0	10	656	161
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.0	10.0		14.4	14.4		12.3	40.1		1.2	29.0	45.5
Effective Green, g (s)	10.0	10.0		14.4	14.4		12.3	40.1		1.2	29.0	45.5
Actuated g/C Ratio	0.10	0.10		0.15	0.15		0.13	0.41		0.01	0.30	0.47
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	335	165		288	299		217	1384		21	1027	721
v/s Ratio Prot	c0.06	0.05		c0.10	0.05		c0.10	c0.26		0.01	0.19	0.10
v/s Ratio Perm												
v/c Ratio	0.54	0.52		0.71	0.31		0.82	0.62		0.48	0.64	0.22
Uniform Delay, d1	41.6	41.5		39.6	37.1		41.5	22.7		47.8	29.7	15.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.8	3.0		8.1	0.6		21.8	0.9		16.0	1.3	0.2
Delay (s)	43.3	44.5		47.6	37.7		63.3	23.6		63.9	31.0	15.6
Level of Service	D	D		D	D		E	C		E	C	B
Approach Delay (s)		43.8			44.5			30.4			26.1	
Approach LOS		D			D			C			C	

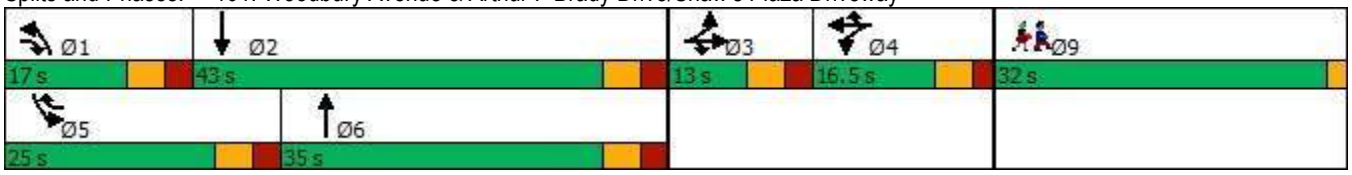
Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	97.5	Sum of lost time (s)	28.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	87	252	70	68	140	218	660	36	125	752	87
Future Volume (vph)	103	87	252	70	68	140	218	660	36	125	752	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		11.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 88.5
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

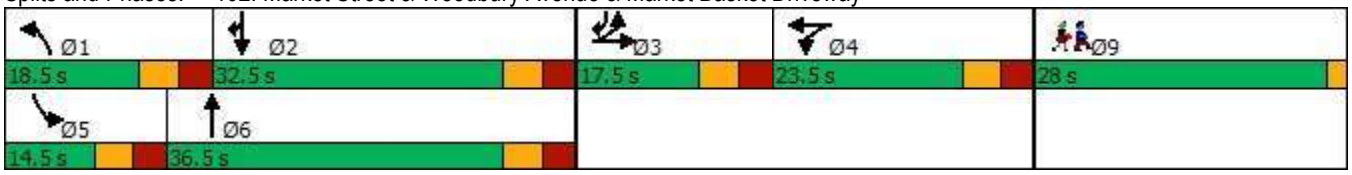
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	58	56	164	79	14	106	720	167	17	690	360
Future Volume (vph)	180	58	56	164	79	14	106	720	167	17	690	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 89.4
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	87	252	70	68	140	218	660	36	125	752	87
Future Volume (vph)	103	87	252	70	68	140	218	660	36	125	752	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788	1561		1712	1492	1728	3428		1668	3401	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1788	1561		1712	1492	1728	3428		1668	3401	
Peak-hour factor, PHF	0.95	0.95	0.95	0.86	0.86	0.86	0.97	0.97	0.97	0.90	0.90	0.90
Adj. Flow (vph)	108	92	265	81	79	163	225	680	37	139	836	97
RTOR Reduction (vph)	0	0	182	0	0	119	0	3	0	0	7	0
Lane Group Flow (vph)	0	200	83	0	160	44	225	714	0	139	926	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.5		11.3	24.1	11.3	28.3		12.8	29.8	
Effective Green, g (s)		7.2	18.5		11.3	24.1	11.3	28.3		12.8	29.8	
Actuated g/C Ratio		0.08	0.21		0.13	0.27	0.13	0.32		0.14	0.33	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		143	322		216	401	218	1083		238	1132	
v/s Ratio Prot		c0.11	0.05		c0.09	0.03	c0.13	0.21		0.08	c0.27	
v/s Ratio Perm												
v/c Ratio		1.40	0.26		0.74	0.11	1.03	0.66		0.58	0.82	
Uniform Delay, d1		41.1	29.7		37.7	24.6	39.1	26.4		35.9	27.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		216.0	0.4		12.8	0.1	69.6	1.5		3.6	4.7	
Delay (s)		257.2	30.2		50.5	24.7	108.7	27.9		39.5	32.1	
Level of Service		F	C		D	C	F	C		D	C	
Approach Delay (s)		127.8			37.5			47.2			33.0	
Approach LOS		F			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	89.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	58	56	164	79	14	106	720	167	17	690	360
Future Volume (vph)	180	58	56	164	79	14	106	720	167	17	690	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3300	1659		1954	2010		1728	3357		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3300	1659		1954	2010		1728	3357		1728	3455	1546
Peak-hour factor, PHF	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	186	60	58	173	83	15	112	758	176	18	719	375
RTOR Reduction (vph)	0	29	0	0	5	0	0	13	0	0	0	192
Lane Group Flow (vph)	186	89	0	173	93	0	112	921	0	18	719	183
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.0	10.0		12.8	12.8		10.5	37.6		2.6	29.7	46.2
Effective Green, g (s)	10.0	10.0		12.8	12.8		10.5	37.6		2.6	29.7	46.2
Actuated g/C Ratio	0.11	0.11		0.14	0.14		0.11	0.40		0.03	0.31	0.49
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	348	175		263	271		191	1331		47	1082	753
v/s Ratio Prot	c0.06	0.05		c0.09	0.05		c0.06	c0.27		0.01	0.21	0.12
v/s Ratio Perm												
v/c Ratio	0.53	0.51		0.66	0.34		0.59	0.69		0.38	0.66	0.24
Uniform Delay, d1	40.2	40.1		38.9	37.2		40.1	23.8		45.3	28.2	14.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	2.5		5.8	0.8		4.5	1.6		5.1	1.6	0.2
Delay (s)	41.8	42.6		44.8	37.9		44.6	25.4		50.4	29.8	14.3
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		42.1			42.3			27.4			24.9	
Approach LOS		D			D			C			C	

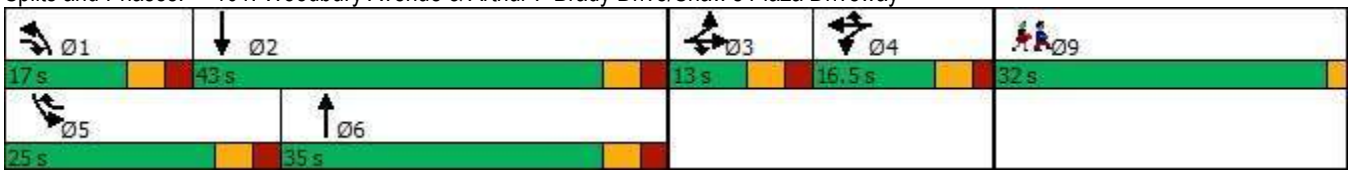
Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	94.8	Sum of lost time (s)	28.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	19	99	9	15	33	133	369	3	30	477	44
Future Volume (vph)	54	19	99	9	15	33	133	369	3	30	477	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	1 3	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 60.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

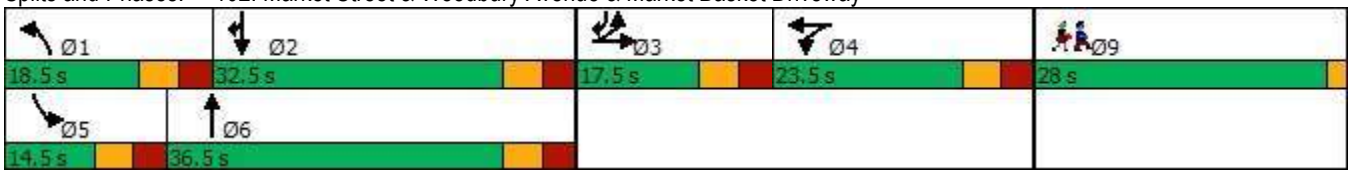
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	31	86	56	28	8	126	406	95	5	363	222
Future Volume (vph)	91	31	86	56	28	8	126	406	95	5	363	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 71.1
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	19	99	9	15	33	133	369	3	30	477	44
Future Volume (vph)	54	19	99	9	15	33	133	369	3	30	477	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1736	1531		1674	1449	1678	3352		1620	3313	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1736	1531		1674	1449	1678	3352		1620	3313	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	60	21	110	10	17	37	140	388	3	33	530	49
RTOR Reduction (vph)	0	0	78	0	0	27	0	1	0	0	6	0
Lane Group Flow (vph)	0	81	32	0	27	10	140	390	0	33	573	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.4		4.0	16.8	11.2	20.4		7.3	16.5	
Effective Green, g (s)		7.2	18.4		4.0	16.8	11.2	20.4		7.3	16.5	
Actuated g/C Ratio		0.12	0.29		0.06	0.27	0.18	0.33		0.12	0.26	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		200	451		107	390	301	1095		189	876	
v/s Ratio Prot		c0.05	0.02		c0.02	0.01	c0.08	c0.12		0.02	c0.17	
v/s Ratio Perm												
v/c Ratio		0.41	0.07		0.25	0.03	0.47	0.36		0.17	0.65	
Uniform Delay, d1		25.6	15.8		27.8	16.8	22.9	16.0		24.8	20.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.1		1.2	0.0	1.1	0.2		0.4	1.8	
Delay (s)		27.0	15.9		29.0	16.8	24.1	16.2		25.3	22.2	
Level of Service		C	B		C	B	C	B		C	C	
Approach Delay (s)		20.6			22.0			18.3			22.3	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	25.5
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	31	86	56	28	8	126	406	95	5	363	222
Future Volume (vph)	91	31	86	56	28	8	126	406	95	5	363	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.89		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3236	1562		1862	1894		1711	3324		1678	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3236	1562		1862	1894		1711	3324		1678	3355	1501
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	97	33	91	62	31	9	140	451	106	5	374	229
RTOR Reduction (vph)	0	81	0	0	8	0	0	14	0	0	0	125
Lane Group Flow (vph)	97	43	0	62	32	0	140	543	0	5	374	104
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.3	8.3		6.6	6.6		11.6	31.9		0.9	21.2	36.0
Effective Green, g (s)	8.3	8.3		6.6	6.6		11.6	31.9		0.9	21.2	36.0
Actuated g/C Ratio	0.11	0.11		0.08	0.08		0.15	0.40		0.01	0.27	0.46
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	340	164		155	158		251	1343		19	901	684
v/s Ratio Prot	c0.03	0.03		c0.03	0.02		c0.08	c0.16		0.00	0.11	0.07
v/s Ratio Perm												
v/c Ratio	0.29	0.26		0.40	0.20		0.56	0.40		0.26	0.42	0.15
Uniform Delay, d1	32.6	32.5		34.3	33.7		31.3	16.7		38.7	23.7	12.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.8		1.7	0.6		2.7	0.2		7.3	0.3	0.1
Delay (s)	33.0	33.3		36.0	34.3		33.9	16.9		46.0	24.1	12.6
Level of Service	C	C		D	C		C	B		D	C	B
Approach Delay (s)		33.2			35.3			20.4			19.9	
Approach LOS		C			D			C			B	

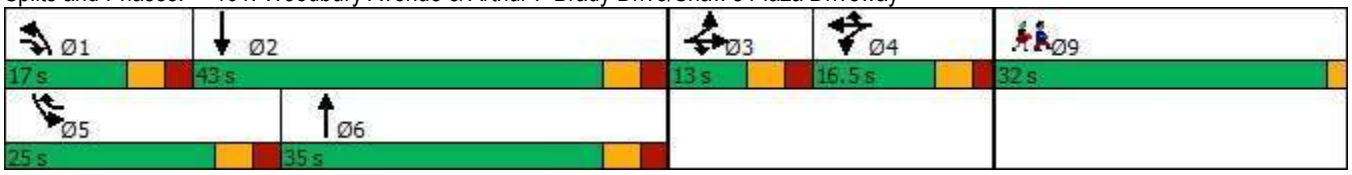
Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	28.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	45	216	37	66	81	248	623	23	80	747	67
Future Volume (vph)	68	45	216	37	66	81	248	623	23	80	747	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 84.7
Natural Cycle: 125
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

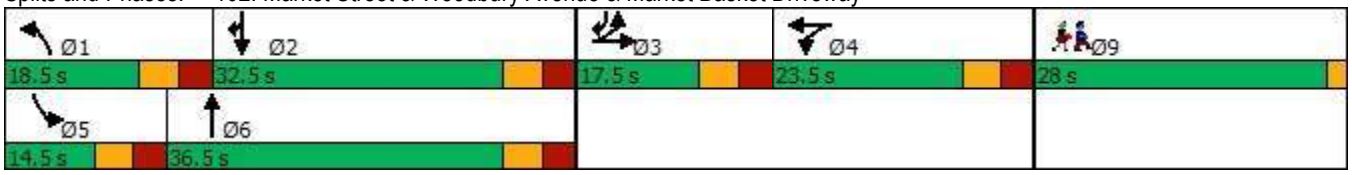
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	49	75	180	75	8	168	699	140	9	641	352
Future Volume (vph)	187	49	75	180	75	8	168	699	140	9	641	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 91.9
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	45	216	37	66	81	248	623	23	80	747	67
Future Volume (vph)	68	45	216	37	66	81	248	623	23	80	747	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1748	1531		1742	1507	1728	3437		1668	3412	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1748	1531		1742	1507	1728	3437		1668	3412	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	76	50	240	41	73	90	261	656	24	84	786	71
RTOR Reduction (vph)	0	0	188	0	0	68	0	2	0	0	6	0
Lane Group Flow (vph)	0	126	52	0	114	22	261	678	0	84	851	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.7		10.4	20.6	11.4	27.9		10.2	26.7	
Effective Green, g (s)		7.3	18.7		10.4	20.6	11.4	27.9		10.2	26.7	
Actuated g/C Ratio		0.09	0.22		0.12	0.24	0.13	0.33		0.12	0.31	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		149	334		211	363	230	1121		198	1065	
v/s Ratio Prot		c0.07	0.03		c0.07	0.01	c0.15	0.20		0.05	c0.25	
v/s Ratio Perm												
v/c Ratio		0.85	0.16		0.54	0.06	1.13	0.60		0.42	0.80	
Uniform Delay, d1		38.5	27.0		35.3	25.0	37.0	24.2		34.9	26.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		33.3	0.2		2.8	0.1	100.4	0.9		1.5	4.3	
Delay (s)		71.8	27.2		38.1	25.1	137.5	25.1		36.4	31.2	
Level of Service		E	C		D	C	F	C		D	C	
Approach Delay (s)		42.6			32.4			56.3			31.7	
Approach LOS		D			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	49	75	180	75	8	168	699	140	9	641	352
Future Volume (vph)	187	49	75	180	75	8	168	699	140	9	641	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3268	1612		1954	2027		1728	3369		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3268	1612		1954	2027		1728	3369		1728	3455	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	201	53	81	200	83	9	183	760	152	10	689	378
RTOR Reduction (vph)	0	45	0	0	3	0	0	11	0	0	0	199
Lane Group Flow (vph)	201	89	0	200	89	0	183	901	0	10	689	179
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.2	10.2		14.2	14.2		12.3	41.1		1.2	30.0	46.7
Effective Green, g (s)	10.2	10.2		14.2	14.2		12.3	41.1		1.2	30.0	46.7
Actuated g/C Ratio	0.10	0.10		0.14	0.14		0.12	0.42		0.01	0.30	0.47
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	338	166		281	291		215	1404		21	1051	732
v/s Ratio Prot	c0.06	0.06		c0.10	0.04		c0.11	c0.27		0.01	0.20	0.12
v/s Ratio Perm												
v/c Ratio	0.59	0.54		0.71	0.30		0.85	0.64		0.48	0.66	0.24
Uniform Delay, d1	42.2	42.0		40.2	37.8		42.3	22.9		48.4	29.8	15.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	3.3		8.2	0.6		26.2	1.0		16.0	1.5	0.2
Delay (s)	45.0	45.3		48.5	38.4		68.4	23.9		64.4	31.3	15.6
Level of Service	D	D		D	D		E	C		E	C	B
Approach Delay (s)		45.1			45.3			31.3			26.1	
Approach LOS		D			D			C			C	

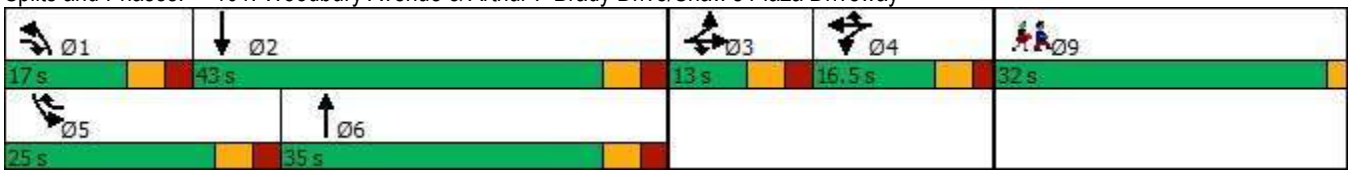
Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	98.6	Sum of lost time (s)	28.0
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	89	257	71	69	143	222	699	37	128	818	89
Future Volume (vph)	105	89	257	71	69	143	222	699	37	128	818	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		11.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 92.7
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

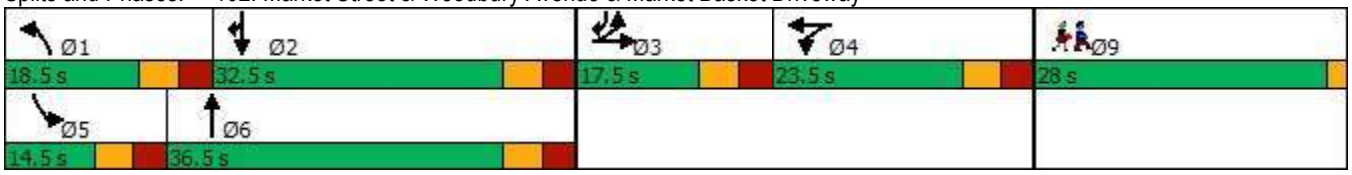
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	59	57	167	81	14	108	749	170	17	726	396
Future Volume (vph)	195	59	57	167	81	14	108	749	170	17	726	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 91
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	89	257	71	69	143	222	699	37	128	818	89
Future Volume (vph)	105	89	257	71	69	143	222	699	37	128	818	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788	1561		1712	1492	1728	3429		1668	3404	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1788	1561		1712	1492	1728	3429		1668	3404	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.97	0.97	0.97	0.90	0.90	0.90
Adj. Flow (vph)	111	94	271	79	77	159	229	721	38	142	909	99
RTOR Reduction (vph)	0	0	185	0	0	118	0	3	0	0	6	0
Lane Group Flow (vph)	0	205	86	0	156	41	229	756	0	142	1002	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.1	18.3		11.2	24.1	11.2	32.5		12.9	34.2	
Effective Green, g (s)		7.1	18.3		11.2	24.1	11.2	32.5		12.9	34.2	
Actuated g/C Ratio		0.08	0.20		0.12	0.26	0.12	0.35		0.14	0.36	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		135	304		204	383	206	1188		229	1241	
v/s Ratio Prot		c0.11	0.06		c0.09	0.03	c0.13	0.22		0.09	c0.29	
v/s Ratio Perm												
v/c Ratio		1.52	0.28		0.76	0.11	1.11	0.64		0.62	0.81	
Uniform Delay, d1		43.4	32.2		40.0	26.6	41.3	25.7		38.1	26.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		267.4	0.5		15.6	0.1	95.8	1.1		5.1	3.9	
Delay (s)		310.8	32.7		55.6	26.7	137.1	26.8		43.3	30.8	
Level of Service		F	C		E	C	F	C		D	C	
Approach Delay (s)		152.4			41.0			52.4			32.3	
Approach LOS		F			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	59.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	25.5
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	59	57	167	81	14	108	749	170	17	726	396
Future Volume (vph)	195	59	57	167	81	14	108	749	170	17	726	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3300	1659		1954	2010		1728	3359		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3300	1659		1954	2010		1728	3359		1728	3455	1546
Peak-hour factor, PHF	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	201	61	59	176	85	15	114	788	179	18	756	412
RTOR Reduction (vph)	0	29	0	0	5	0	0	13	0	0	0	209
Lane Group Flow (vph)	201	91	0	176	95	0	114	954	0	18	756	204
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.2	10.2		12.9	12.9		10.6	38.9		2.6	30.9	47.6
Effective Green, g (s)	10.2	10.2		12.9	12.9		10.6	38.9		2.6	30.9	47.6
Actuated g/C Ratio	0.11	0.11		0.13	0.13		0.11	0.40		0.03	0.32	0.49
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	349	175		261	268		190	1355		46	1107	763
v/s Ratio Prot	c0.06	0.06		c0.09	0.05		c0.07	c0.28		0.01	0.22	0.13
v/s Ratio Perm												
v/c Ratio	0.58	0.52		0.67	0.35		0.60	0.70		0.39	0.68	0.27
Uniform Delay, d1	41.0	40.8		39.8	38.0		40.9	24.0		46.1	28.5	14.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	2.8		6.7	0.8		5.0	1.7		5.4	1.8	0.2
Delay (s)	43.3	43.6		46.5	38.8		45.9	25.6		51.5	30.2	14.4
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		43.4			43.7			27.8			25.1	
Approach LOS		D			D			C			C	

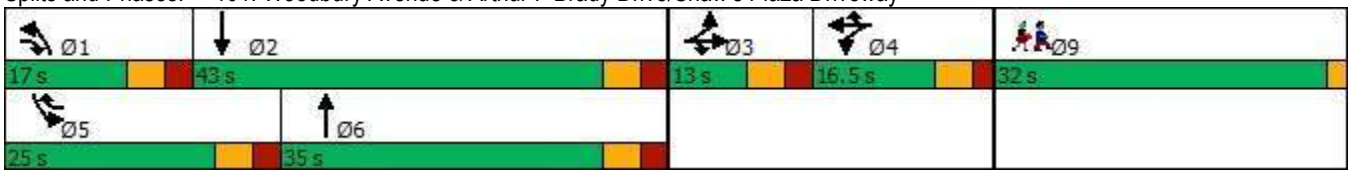
Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	96.4	Sum of lost time (s)	28.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	21	109	10	17	36	146	408	3	33	518	48
Future Volume (vph)	60	21	109	10	17	36	146	408	3	33	518	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	1 3	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 62
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

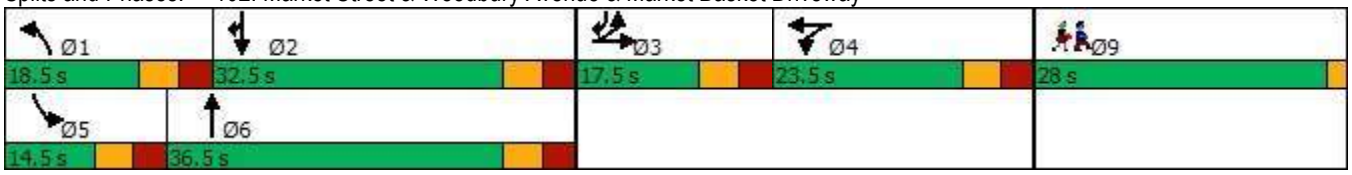
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	34	95	62	30	9	140	448	105	6	398	241
Future Volume (vph)	100	34	95	62	30	9	140	448	105	6	398	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 73.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	21	109	10	17	36	146	408	3	33	518	48
Future Volume (vph)	60	21	109	10	17	36	146	408	3	33	518	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1736	1531		1674	1449	1678	3352		1620	3313	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1736	1531		1674	1449	1678	3352		1620	3313	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	67	23	121	11	19	40	154	429	3	37	576	53
RTOR Reduction (vph)	0	0	86	0	0	29	0	1	0	0	6	0
Lane Group Flow (vph)	0	90	35	0	30	11	154	431	0	37	623	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.5		4.1	17.1	11.3	21.7		7.5	17.9	
Effective Green, g (s)		7.2	18.5		4.1	17.1	11.3	21.7		7.5	17.9	
Actuated g/C Ratio		0.11	0.29		0.06	0.27	0.18	0.34		0.12	0.28	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		195	442		107	387	296	1136		189	926	
v/s Ratio Prot		c0.05	0.02		c0.02	0.01	c0.09	c0.13		0.02	c0.19	
v/s Ratio Perm												
v/c Ratio		0.46	0.08		0.28	0.03	0.52	0.38		0.20	0.67	
Uniform Delay, d1		26.6	16.6		28.5	17.3	23.9	16.0		25.5	20.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.1		1.4	0.0	1.6	0.2		0.5	1.9	
Delay (s)		28.3	16.6		30.0	17.3	25.5	16.3		26.0	22.4	
Level of Service		C	B		C	B	C	B		C	C	
Approach Delay (s)		21.6			22.8			18.7			22.6	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	34	95	62	30	9	140	448	105	6	398	241
Future Volume (vph)	100	34	95	62	30	9	140	448	105	6	398	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.89		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3236	1561		1862	1891		1711	3324		1678	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3236	1561		1862	1891		1711	3324		1678	3355	1501
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	106	36	101	69	33	10	156	498	117	6	410	248
RTOR Reduction (vph)	0	83	0	0	9	0	0	13	0	0	0	135
Lane Group Flow (vph)	106	54	0	69	34	0	156	602	0	6	410	113
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.5	8.5		6.9	6.9		12.5	33.5		0.9	21.9	36.9
Effective Green, g (s)	8.5	8.5		6.9	6.9		12.5	33.5		0.9	21.9	36.9
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.15	0.41		0.01	0.27	0.46
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	339	163		158	161		264	1374		18	907	683
v/s Ratio Prot	0.03	c0.03		c0.04	0.02		c0.09	c0.18		0.00	0.12	0.08
v/s Ratio Perm												
v/c Ratio	0.31	0.33		0.44	0.21		0.59	0.44		0.33	0.45	0.17
Uniform Delay, d1	33.5	33.6		35.2	34.5		31.9	17.0		39.8	24.6	13.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.2		1.9	0.7		3.5	0.2		10.6	0.4	0.1
Delay (s)	34.1	34.8		37.1	35.2		35.4	17.2		50.4	24.9	13.1
Level of Service	C	C		D	D		D	B		D	C	B
Approach Delay (s)		34.5			36.4			20.9			20.7	
Approach LOS		C			D			C			C	

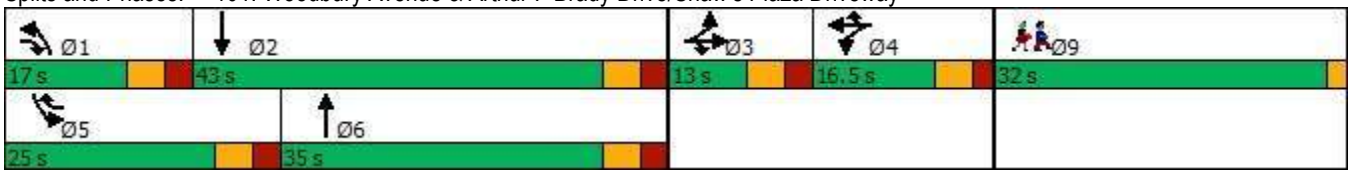
Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	50	239	41	73	89	274	684	26	88	820	74
Future Volume (vph)	75	50	239	41	73	89	274	684	26	88	820	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 88.5
Natural Cycle: 135
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

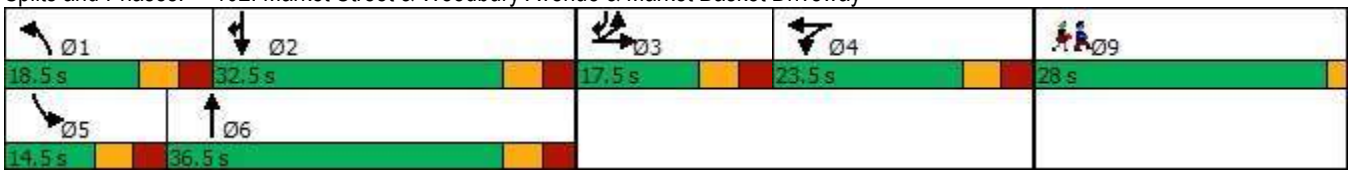
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	54	83	198	83	9	186	770	154	10	706	387
Future Volume (vph)	205	54	83	198	83	9	186	770	154	10	706	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94.9
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	50	239	41	73	89	274	684	26	88	820	74
Future Volume (vph)	75	50	239	41	73	89	274	684	26	88	820	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1748	1531		1742	1507	1728	3436		1668	3412	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1748	1531		1742	1507	1728	3436		1668	3412	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	56	266	46	81	99	288	720	27	93	863	78
RTOR Reduction (vph)	0	0	211	0	0	75	0	2	0	0	5	0
Lane Group Flow (vph)	0	139	55	0	127	24	288	745	0	93	936	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.5		10.8	21.5	11.3	30.8		10.7	30.2	
Effective Green, g (s)		7.2	18.5		10.8	21.5	11.3	30.8		10.7	30.2	
Actuated g/C Ratio		0.08	0.21		0.12	0.24	0.13	0.34		0.12	0.34	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		140	316		210	362	218	1183		199	1152	
v/s Ratio Prot		c0.08	0.04		c0.07	0.02	c0.17	0.22		0.06	c0.27	
v/s Ratio Perm												
v/c Ratio		0.99	0.17		0.60	0.07	1.32	0.63		0.47	0.81	
Uniform Delay, d1		41.1	29.2		37.3	26.2	39.1	24.5		36.7	27.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		73.6	0.3		4.9	0.1	172.9	1.1		1.7	4.5	
Delay (s)		114.7	29.4		42.1	26.3	211.9	25.6		38.4	31.5	
Level of Service		F	C		D	C	F	C		D	C	
Approach Delay (s)		58.7			35.2			77.4			32.1	
Approach LOS		E			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	25.5
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

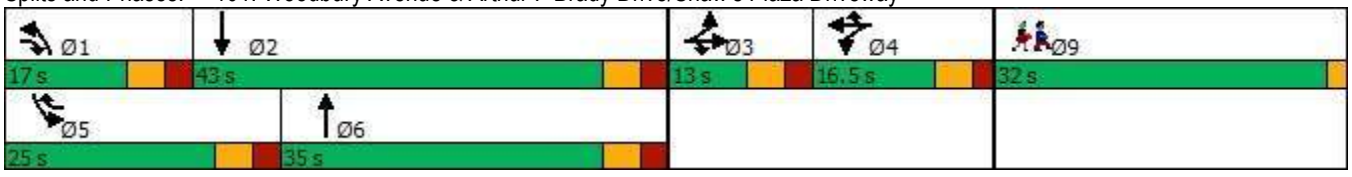
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	54	83	198	83	9	186	770	154	10	706	387
Future Volume (vph)	205	54	83	198	83	9	186	770	154	10	706	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3268	1612		1954	2027		1728	3369		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3268	1612		1954	2027		1728	3369		1728	3455	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	220	58	89	220	92	10	202	837	167	11	759	416
RTOR Reduction (vph)	0	46	0	0	3	0	0	11	0	0	0	216
Lane Group Flow (vph)	220	101	0	220	99	0	202	993	0	11	759	200
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.6	10.6		15.1	15.1		12.2	42.9		1.2	31.9	49.0
Effective Green, g (s)	10.6	10.6		15.1	15.1		12.2	42.9		1.2	31.9	49.0
Actuated g/C Ratio	0.10	0.10		0.15	0.15		0.12	0.42		0.01	0.31	0.48
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	340	167		289	300		207	1419		20	1082	744
v/s Ratio Prot	c0.07	0.06		c0.11	0.05		c0.12	c0.29		0.01	0.22	0.13
v/s Ratio Perm												
v/c Ratio	0.65	0.61		0.76	0.33		0.98	0.70		0.55	0.70	0.27
Uniform Delay, d1	43.8	43.6		41.6	38.8		44.7	24.2		50.0	30.8	15.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.2	6.1		11.2	0.6		55.1	1.5		28.9	2.1	0.2
Delay (s)	48.0	49.7		52.8	39.5		99.8	25.7		78.9	32.8	15.9
Level of Service	D	D		D	D		F	C		E	C	B
Approach Delay (s)		48.7			48.6			38.1			27.3	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	101.8	Sum of lost time (s)	28.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	98	284	79	77	158	246	770	41	141	898	98
Future Volume (vph)	116	98	284	79	77	158	246	770	41	141	898	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		11.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 121.5	
Actuated Cycle Length: 95.9	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

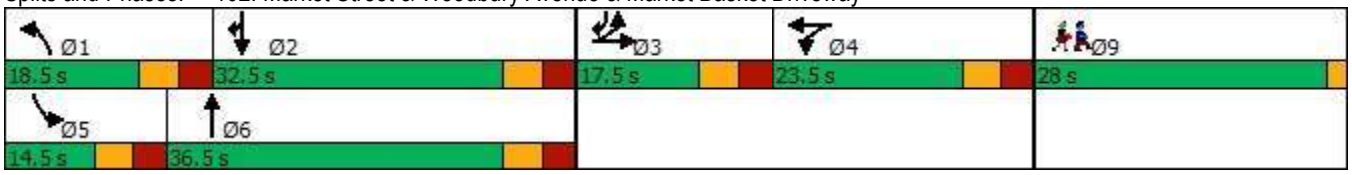
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	65	63	185	89	16	119	827	188	19	800	435
Future Volume (vph)	214	65	63	185	89	16	119	827	188	19	800	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 92.7
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	98	284	79	77	158	246	770	41	141	898	98
Future Volume (vph)	116	98	284	79	77	158	246	770	41	141	898	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788	1561		1712	1492	1728	3429		1668	3404	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1788	1561		1712	1492	1728	3429		1668	3404	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.97	0.97	0.97	0.90	0.90	0.90
Adj. Flow (vph)	122	103	299	88	86	176	254	794	42	157	998	109
RTOR Reduction (vph)	0	0	188	0	0	131	0	3	0	0	6	0
Lane Group Flow (vph)	0	225	111	0	174	45	254	833	0	157	1101	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.1	18.3		11.2	24.8	11.2	35.2		13.6	37.6	
Effective Green, g (s)		7.1	18.3		11.2	24.8	11.2	35.2		13.6	37.6	
Actuated g/C Ratio		0.07	0.19		0.12	0.25	0.12	0.36		0.14	0.39	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		130	293		197	380	198	1240		233	1315	
v/s Ratio Prot		c0.13	0.07		c0.10	0.03	c0.15	0.24		0.09	c0.32	
v/s Ratio Perm												
v/c Ratio		1.73	0.38		0.88	0.12	1.28	0.67		0.67	0.84	
Uniform Delay, d1		45.1	34.5		42.4	27.8	43.0	26.2		39.7	27.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		358.9	0.8		33.9	0.1	160.1	1.4		7.5	4.8	
Delay (s)		404.0	35.4		76.3	28.0	203.1	27.6		47.2	31.9	
Level of Service		F	D		E	C	F	C		D	C	
Approach Delay (s)		193.7			52.0			68.5			33.8	
Approach LOS		F			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	73.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	97.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	65	63	185	89	16	119	827	188	19	800	435
Future Volume (vph)	214	65	63	185	89	16	119	827	188	19	800	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3300	1658		1954	2010		1728	3359		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3300	1658		1954	2010		1728	3359		1728	3455	1546
Peak-hour factor, PHF	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	221	67	65	195	94	17	125	871	198	20	833	453
RTOR Reduction (vph)	0	29	0	0	5	0	0	13	0	0	0	232
Lane Group Flow (vph)	221	103	0	195	106	0	125	1056	0	20	833	221
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.6	10.6		13.9	13.9		11.0	39.1		2.7	30.8	47.9
Effective Green, g (s)	10.6	10.6		13.9	13.9		11.0	39.1		2.7	30.8	47.9
Actuated g/C Ratio	0.11	0.11		0.14	0.14		0.11	0.40		0.03	0.31	0.49
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	356	178		276	284		193	1337		47	1083	754
v/s Ratio Prot	c0.07	0.06		c0.10	0.05		c0.07	c0.31		0.01	0.24	0.14
v/s Ratio Perm												
v/c Ratio	0.62	0.58		0.71	0.37		0.65	0.79		0.43	0.77	0.29
Uniform Delay, d1	41.9	41.7		40.2	38.2		41.7	25.9		47.0	30.5	15.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.3	4.8		8.0	0.8		7.3	3.2		6.1	3.3	0.2
Delay (s)	45.2	46.5		48.2	39.0		49.0	29.1		53.1	33.8	15.2
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		45.7			44.9			31.2			27.7	
Approach LOS		D			D			C			C	

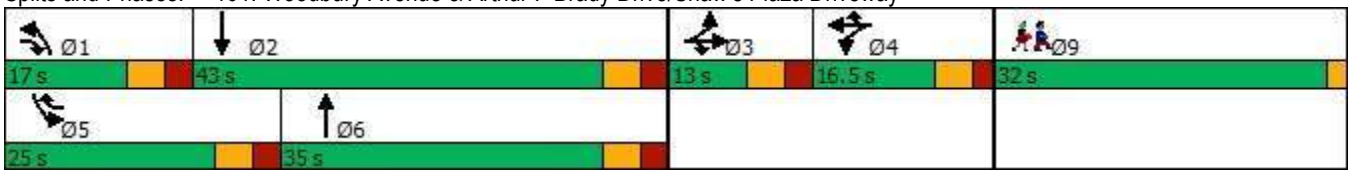
Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	98.2	Sum of lost time (s)	28.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	21	99	9	16	36	133	367	3	35	474	44
Future Volume (vph)	54	21	99	9	16	36	133	367	3	35	474	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	1 3	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 60.2
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

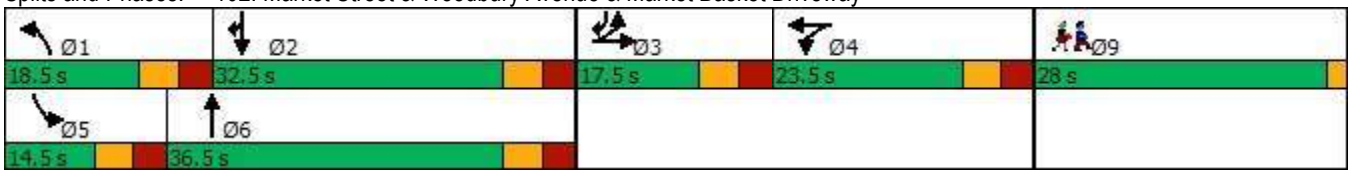
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	35	86	61	31	8	126	404	100	5	360	222
Future Volume (vph)	91	35	86	61	31	8	126	404	100	5	360	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 71.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	21	99	9	16	36	133	367	3	35	474	44
Future Volume (vph)	54	21	99	9	16	36	133	367	3	35	474	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1738	1531		1675	1449	1678	3352		1620	3313	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1738	1531		1675	1449	1678	3352		1620	3313	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	60	23	110	10	18	40	140	386	3	39	527	49
RTOR Reduction (vph)	0	0	78	0	0	29	0	1	0	0	6	0
Lane Group Flow (vph)	0	83	32	0	28	11	140	388	0	39	570	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.4		4.0	17.0	11.2	20.1		7.5	16.4	
Effective Green, g (s)		7.2	18.4		4.0	17.0	11.2	20.1		7.5	16.4	
Actuated g/C Ratio		0.12	0.30		0.06	0.27	0.18	0.32		0.12	0.26	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		200	452		107	395	301	1081		195	872	
v/s Ratio Prot		c0.05	0.02		c0.02	0.01	c0.08	c0.12		0.02	c0.17	
v/s Ratio Perm												
v/c Ratio		0.41	0.07		0.26	0.03	0.47	0.36		0.20	0.65	
Uniform Delay, d1		25.6	15.8		27.7	16.6	22.9	16.2		24.7	20.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.1		1.3	0.0	1.1	0.2		0.5	1.8	
Delay (s)		27.0	15.9		29.1	16.6	24.0	16.4		25.2	22.2	
Level of Service		C	B		C	B	C	B		C	C	
Approach Delay (s)		20.7			21.7			18.4			22.4	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	35	86	61	31	8	126	404	100	5	360	222
Future Volume (vph)	91	35	86	61	31	8	126	404	100	5	360	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.89		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3236	1568		1862	1898		1711	3320		1678	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3236	1568		1862	1898		1711	3320		1678	3355	1501
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	97	37	91	68	34	9	140	449	111	5	371	229
RTOR Reduction (vph)	0	72	0	0	8	0	0	14	0	0	0	125
Lane Group Flow (vph)	97	56	0	68	35	0	140	546	0	5	371	104
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.4	8.4		6.8	6.8		11.7	32.0		0.9	21.2	36.1
Effective Green, g (s)	8.4	8.4		6.8	6.8		11.7	32.0		0.9	21.2	36.1
Actuated g/C Ratio	0.11	0.11		0.09	0.09		0.15	0.40		0.01	0.27	0.46
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	343	166		159	162		252	1341		19	898	684
v/s Ratio Prot	0.03	c0.04		c0.04	0.02		c0.08	c0.16		0.00	0.11	0.07
v/s Ratio Perm												
v/c Ratio	0.28	0.33		0.43	0.21		0.56	0.41		0.26	0.41	0.15
Uniform Delay, d1	32.6	32.8		34.4	33.7		31.3	16.8		38.8	23.9	12.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.2		1.8	0.7		2.6	0.2		7.3	0.3	0.1
Delay (s)	33.1	34.0		36.2	34.4		34.0	17.0		46.1	24.2	12.7
Level of Service	C	C		D	C		C	B		D	C	B
Approach Delay (s)		33.6			35.5			20.4			20.0	
Approach LOS		C			D			C			C	

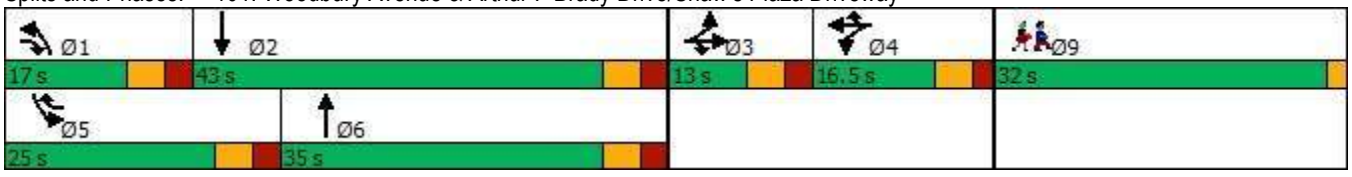
Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	28.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	49	216	37	68	88	248	618	23	90	741	67
Future Volume (vph)	68	49	216	37	68	88	248	618	23	90	741	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 84.6
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

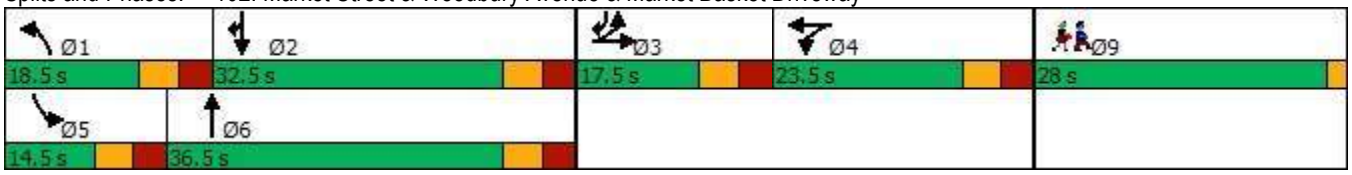
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	55	75	193	83	8	168	694	150	9	635	352
Future Volume (vph)	187	55	75	193	83	8	168	694	150	9	635	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 92.4
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	49	216	37	68	88	248	618	23	90	741	67
Future Volume (vph)	68	49	216	37	68	88	248	618	23	90	741	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1531		1743	1507	1728	3437		1668	3412	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1750	1531		1743	1507	1728	3437		1668	3412	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	76	54	240	41	76	98	261	651	24	95	780	71
RTOR Reduction (vph)	0	0	187	0	0	74	0	2	0	0	6	0
Lane Group Flow (vph)	0	130	53	0	117	24	261	673	0	95	845	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.7		10.5	21.2	11.4	27.2		10.7	26.5	
Effective Green, g (s)		7.3	18.7		10.5	21.2	11.4	27.2		10.7	26.5	
Actuated g/C Ratio		0.09	0.22		0.12	0.25	0.13	0.32		0.13	0.31	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		149	335		214	374	230	1094		208	1058	
v/s Ratio Prot		c0.07	0.03		c0.07	0.02	c0.15	0.20		0.06	c0.25	
v/s Ratio Perm												
v/c Ratio		0.87	0.16		0.55	0.07	1.13	0.62		0.46	0.80	
Uniform Delay, d1		38.6	27.0		35.2	24.5	37.0	24.7		34.7	27.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		39.0	0.2		2.8	0.1	100.4	1.0		1.6	4.3	
Delay (s)		77.6	27.2		38.1	24.6	137.4	25.7		36.2	31.3	
Level of Service		E	C		D	C	F	C		D	C	
Approach Delay (s)		44.9			31.9			56.9			31.8	
Approach LOS		D			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	43.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	85.4	Sum of lost time (s)	25.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	55	75	193	83	8	168	694	150	9	635	352
Future Volume (vph)	187	55	75	193	83	8	168	694	150	9	635	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3268	1619		1954	2029		1728	3363		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3268	1619		1954	2029		1728	3363		1728	3455	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	201	59	81	214	92	9	183	754	163	10	683	378
RTOR Reduction (vph)	0	40	0	0	3	0	0	12	0	0	0	200
Lane Group Flow (vph)	201	100	0	214	98	0	183	905	0	10	683	178
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.2	10.2		14.8	14.8		12.3	41.0		1.2	29.9	46.6
Effective Green, g (s)	10.2	10.2		14.8	14.8		12.3	41.0		1.2	29.9	46.6
Actuated g/C Ratio	0.10	0.10		0.15	0.15		0.12	0.41		0.01	0.30	0.47
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	166		291	303		214	1391		20	1042	726
v/s Ratio Prot	0.06	c0.06		c0.11	0.05		c0.11	c0.27		0.01	0.20	0.11
v/s Ratio Perm												
v/c Ratio	0.60	0.60		0.74	0.32		0.86	0.65		0.50	0.66	0.24
Uniform Delay, d1	42.5	42.5		40.3	37.7		42.5	23.3		48.7	30.1	15.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.9	6.0		9.3	0.6		26.8	1.1		18.3	1.5	0.2
Delay (s)	45.3	48.5		49.6	38.3		69.3	24.4		67.0	31.6	15.9
Level of Service	D	D		D	D		E	C		E	C	B
Approach Delay (s)		46.6			46.0			31.9			26.4	
Approach LOS		D			D			C			C	

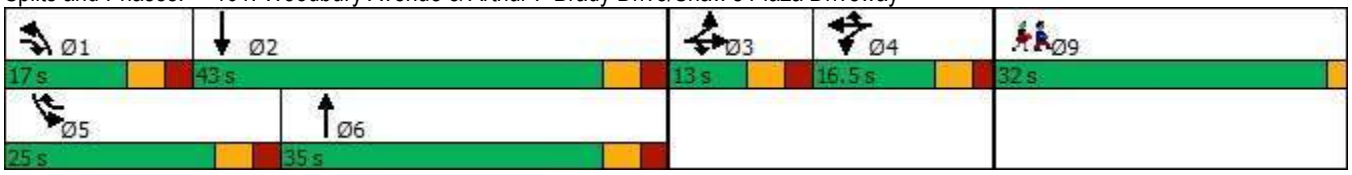
Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	99.1	Sum of lost time (s)	28.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	94	257	71	71	152	222	692	37	140	811	89
Future Volume (vph)	105	94	257	71	71	152	222	692	37	140	811	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		11.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 92.2
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

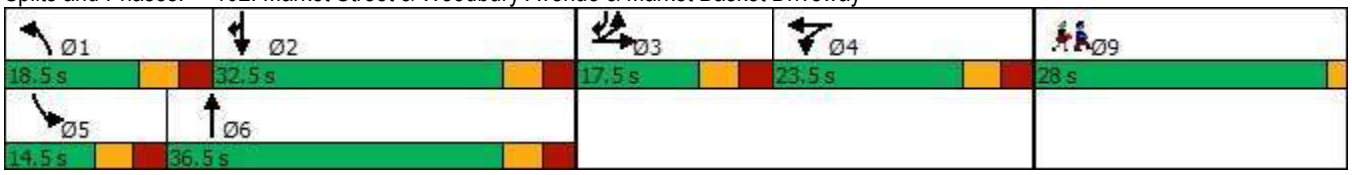
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	67	57	183	91	14	108	742	183	17	719	396
Future Volume (vph)	195	67	57	183	91	14	108	742	183	17	719	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 92
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	94	257	71	71	152	222	692	37	140	811	89
Future Volume (vph)	105	94	257	71	71	152	222	692	37	140	811	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1789	1561		1713	1492	1728	3429		1668	3404	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1789	1561		1713	1492	1728	3429		1668	3404	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.97	0.97	0.97	0.90	0.90	0.90
Adj. Flow (vph)	111	99	271	79	79	169	229	713	38	156	901	99
RTOR Reduction (vph)	0	0	180	0	0	124	0	3	0	0	6	0
Lane Group Flow (vph)	0	210	91	0	158	45	229	748	0	156	994	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.4		11.2	24.7	11.2	31.4		13.5	33.7	
Effective Green, g (s)		7.2	18.4		11.2	24.7	11.2	31.4		13.5	33.7	
Actuated g/C Ratio		0.08	0.20		0.12	0.26	0.12	0.34		0.14	0.36	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		137	307		205	394	207	1152		241	1228	
v/s Ratio Prot		c0.12	0.06		c0.09	0.03	c0.13	0.22		0.09	c0.29	
v/s Ratio Perm												
v/c Ratio		1.53	0.30		0.77	0.11	1.11	0.65		0.65	0.81	
Uniform Delay, d1		43.1	32.0		39.9	26.0	41.1	26.3		37.7	26.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		273.0	0.5		16.3	0.1	93.9	1.3		5.9	4.0	
Delay (s)		316.1	32.5		56.1	26.2	135.0	27.6		43.6	31.0	
Level of Service		F	C		E	C	F	C		D	C	
Approach Delay (s)		156.3			40.6			52.7			32.7	
Approach LOS		F			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	60.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	93.4	Sum of lost time (s)	25.5
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	67	57	183	91	14	108	742	183	17	719	396
Future Volume (vph)	195	67	57	183	91	14	108	742	183	17	719	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3300	1667		1954	2015		1728	3352		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3300	1667		1954	2015		1728	3352		1728	3455	1546
Peak-hour factor, PHF	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	201	69	59	193	96	15	114	781	193	18	749	412
RTOR Reduction (vph)	0	25	0	0	4	0	0	14	0	0	0	211
Lane Group Flow (vph)	201	103	0	193	107	0	114	960	0	18	749	202
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.4	10.4		13.8	13.8		10.6	38.8		2.6	30.8	47.7
Effective Green, g (s)	10.4	10.4		13.8	13.8		10.6	38.8		2.6	30.8	47.7
Actuated g/C Ratio	0.11	0.11		0.14	0.14		0.11	0.40		0.03	0.32	0.49
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	352	177		276	285		187	1333		46	1091	756
v/s Ratio Prot	0.06	c0.06		c0.10	0.05		c0.07	c0.29		0.01	0.22	0.13
v/s Ratio Perm												
v/c Ratio	0.57	0.58		0.70	0.37		0.61	0.72		0.39	0.69	0.27
Uniform Delay, d1	41.4	41.5		39.9	37.9		41.5	24.8		46.7	29.1	14.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	4.8		7.5	0.8		5.5	1.9		5.4	1.8	0.2
Delay (s)	43.7	46.3		47.4	38.8		47.0	26.7		52.1	30.9	14.8
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		44.7			44.2			28.8			25.6	
Approach LOS		D			D			C			C	

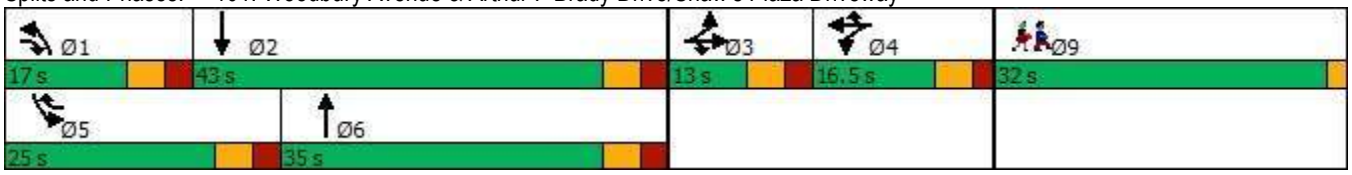
Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	97.5	Sum of lost time (s)	28.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	23	109	10	18	39	146	406	3	38	515	48
Future Volume (vph)	60	23	109	10	18	39	146	406	3	38	515	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	1 3	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary

Area Type: Other
Cycle Length: 121.5
Actuated Cycle Length: 64.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

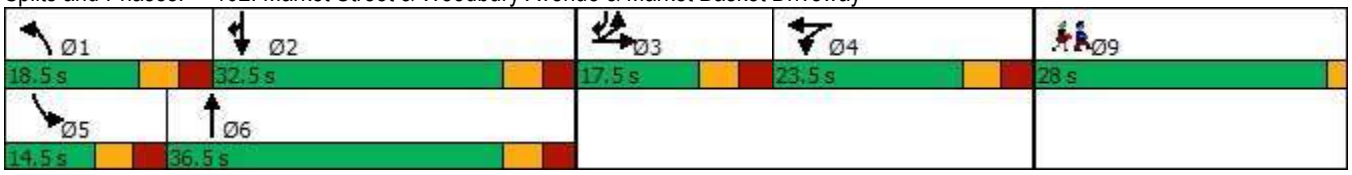
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	38	95	67	33	9	140	446	110	6	395	241
Future Volume (vph)	100	38	95	67	33	9	140	446	110	6	395	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 73.8
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	23	109	10	18	39	146	406	3	38	515	48
Future Volume (vph)	60	23	109	10	18	39	146	406	3	38	515	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1738	1531		1675	1449	1678	3352		1620	3313	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1738	1531		1675	1449	1678	3352		1620	3313	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	67	26	121	11	20	43	154	427	3	42	572	53
RTOR Reduction (vph)	0	0	87	0	0	31	0	1	0	0	6	0
Lane Group Flow (vph)	0	93	34	0	31	12	154	429	0	42	619	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.5		5.6	18.7	11.3	21.4		7.6	17.7	
Effective Green, g (s)		7.2	18.5		5.6	18.7	11.3	21.4		7.6	17.7	
Actuated g/C Ratio		0.11	0.28		0.09	0.29	0.17	0.33		0.12	0.27	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		191	433		143	414	290	1098		188	898	
v/s Ratio Prot		c0.05	0.02		c0.02	0.01	c0.09	c0.13		0.03	c0.19	
v/s Ratio Perm												
v/c Ratio		0.49	0.08		0.22	0.03	0.53	0.39		0.22	0.69	
Uniform Delay, d1		27.3	17.2		27.8	16.8	24.6	16.9		26.2	21.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0	0.1		0.8	0.0	1.9	0.2		0.6	2.2	
Delay (s)		29.3	17.2		28.6	16.8	26.5	17.2		26.8	23.6	
Level of Service		C	B		C	B	C	B		C	C	
Approach Delay (s)		22.5			21.7			19.6			23.8	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

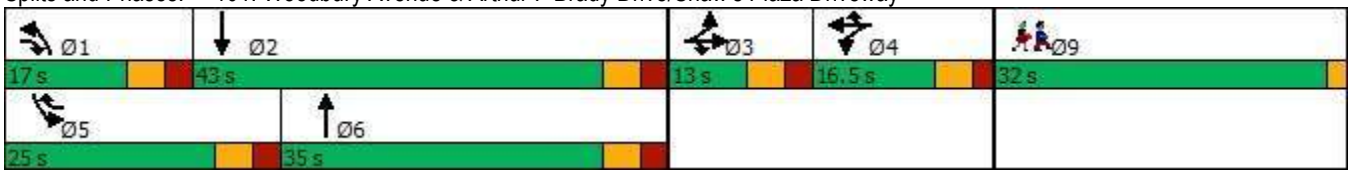
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	38	95	67	33	9	140	446	110	6	395	241
Future Volume (vph)	100	38	95	67	33	9	140	446	110	6	395	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.89		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3236	1567		1862	1897		1711	3320		1678	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3236	1567		1862	1897		1711	3320		1678	3355	1501
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	106	40	101	74	37	10	156	496	122	6	407	248
RTOR Reduction (vph)	0	74	0	0	8	0	0	14	0	0	0	135
Lane Group Flow (vph)	106	67	0	74	39	0	156	604	0	6	407	113
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.8	8.8		7.1	7.1		12.5	33.6		0.9	22.0	37.3
Effective Green, g (s)	8.8	8.8		7.1	7.1		12.5	33.6		0.9	22.0	37.3
Actuated g/C Ratio	0.11	0.11		0.09	0.09		0.15	0.41		0.01	0.27	0.46
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	348	168		162	165		262	1367		18	904	686
v/s Ratio Prot	0.03	c0.04		c0.04	0.02		c0.09	c0.18		0.00	0.12	0.08
v/s Ratio Perm												
v/c Ratio	0.30	0.40		0.46	0.24		0.60	0.44		0.33	0.45	0.17
Uniform Delay, d1	33.6	33.9		35.4	34.7		32.2	17.3		40.1	24.8	13.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.6		2.0	0.7		3.6	0.2		10.6	0.4	0.1
Delay (s)	34.1	35.5		37.5	35.5		35.8	17.5		50.7	25.1	13.1
Level of Service	C	D		D	D		D	B		D	C	B
Approach Delay (s)		34.9			36.7			21.2			20.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	28.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	54	239	41	75	96	274	679	26	98	814	74
Future Volume (vph)	75	54	239	41	75	96	274	679	26	98	814	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		9.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 121.5	
Actuated Cycle Length: 88.3	
Natural Cycle: 135	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

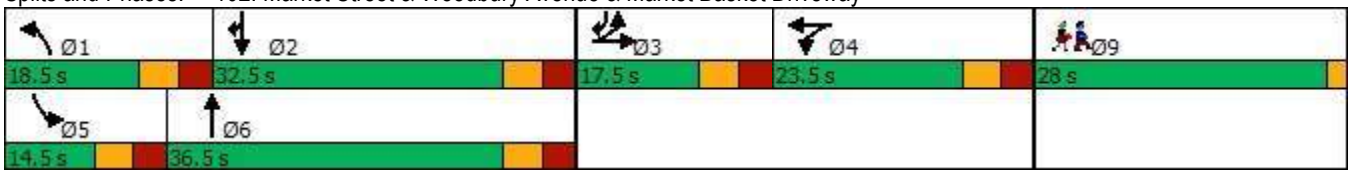
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	60	83	211	91	9	186	765	164	10	700	387
Future Volume (vph)	205	60	83	211	91	9	186	765	164	10	700	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 95.6
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	54	239	41	75	96	274	679	26	98	814	74
Future Volume (vph)	75	54	239	41	75	96	274	679	26	98	814	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1531		1742	1507	1728	3436		1668	3412	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1750	1531		1742	1507	1728	3436		1668	3412	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	60	266	46	83	107	288	715	27	103	857	78
RTOR Reduction (vph)	0	0	211	0	0	81	0	2	0	0	5	0
Lane Group Flow (vph)	0	143	55	0	129	26	288	740	0	103	930	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.5		10.9	22.1	11.3	30.1		11.2	30.0	
Effective Green, g (s)		7.2	18.5		10.9	22.1	11.3	30.1		11.2	30.0	
Actuated g/C Ratio		0.08	0.21		0.12	0.25	0.13	0.34		0.13	0.34	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		141	317		212	372	218	1158		209	1146	
v/s Ratio Prot		c0.08	0.04		c0.07	0.02	c0.17	0.22		0.06	c0.27	
v/s Ratio Perm												
v/c Ratio		1.01	0.17		0.61	0.07	1.32	0.64		0.49	0.81	
Uniform Delay, d1		41.0	29.1		37.2	25.7	39.0	25.0		36.4	27.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		79.6	0.3		4.9	0.1	172.9	1.2		1.8	4.5	
Delay (s)		120.6	29.4		42.1	25.8	211.9	26.2		38.2	31.5	
Level of Service		F	C		D	C	F	C		D	C	
Approach Delay (s)		61.3			34.7			78.1			32.2	
Approach LOS		E			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	54.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

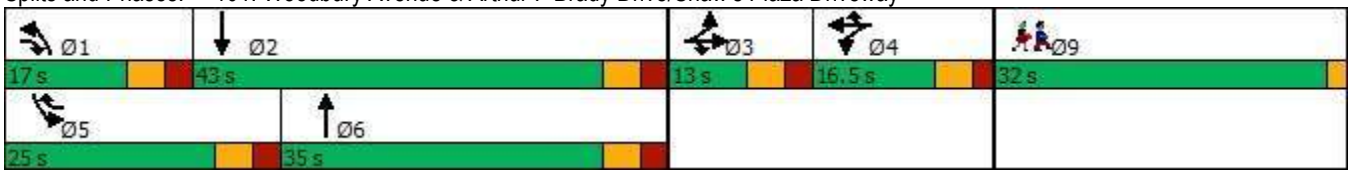
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	60	83	211	91	9	186	765	164	10	700	387
Future Volume (vph)	205	60	83	211	91	9	186	765	164	10	700	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3268	1619		1954	2029		1728	3364		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3268	1619		1954	2029		1728	3364		1728	3455	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	220	65	89	234	101	10	202	832	178	11	753	416
RTOR Reduction (vph)	0	40	0	0	3	0	0	12	0	0	0	217
Lane Group Flow (vph)	220	114	0	234	108	0	202	998	0	11	753	199
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.6	10.6		15.8	15.8		12.2	42.8		1.2	31.8	48.9
Effective Green, g (s)	10.6	10.6		15.8	15.8		12.2	42.8		1.2	31.8	48.9
Actuated g/C Ratio	0.10	0.10		0.15	0.15		0.12	0.42		0.01	0.31	0.48
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	338	167		301	313		205	1406		20	1072	738
v/s Ratio Prot	0.07	c0.07		c0.12	0.05		c0.12	c0.30		0.01	0.22	0.13
v/s Ratio Perm												
v/c Ratio	0.65	0.68		0.78	0.35		0.99	0.71		0.55	0.70	0.27
Uniform Delay, d1	44.1	44.3		41.6	38.7		45.0	24.7		50.3	31.1	16.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	10.8		11.9	0.7		58.2	1.7		28.9	2.1	0.2
Delay (s)	48.6	55.1		53.5	39.4		103.2	26.4		79.2	33.2	16.2
Level of Service	D	E		D	D		F	C		E	C	B
Approach Delay (s)		51.3			49.0			39.2			27.7	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	102.4	Sum of lost time (s)	28.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	103	284	79	79	167	246	763	41	153	891	98
Future Volume (vph)	116	103	284	79	79	167	246	763	41	153	891	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		0	300		0	250		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			125			50		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		432			159			782			407	
Travel Time (s)		11.8			4.3			17.8			9.3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Detector Phase	3	3	3 1	4	4	4 5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.0	12.0		11.5	11.5		12.0	16.0		12.0	16.0	
Total Split (s)	13.0	13.0		16.5	16.5		17.0	35.0		25.0	43.0	
Total Split (%)	10.7%	10.7%		13.6%	13.6%		14.0%	28.8%		20.6%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.0	2.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 121.5	
Actuated Cycle Length: 95.9	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 101: Woodbury Avenue & Arthur F Brady Drive/Shaw's Plaza Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	32.0
Total Split (s)	32.0
Total Split (%)	26%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

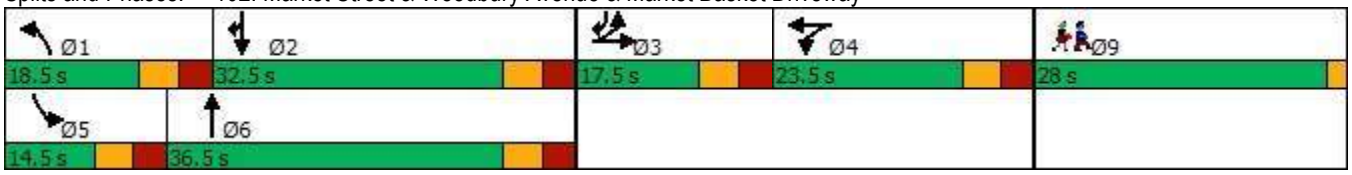
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	73	63	201	99	16	119	820	201	19	793	435
Future Volume (vph)	214	73	63	201	99	16	119	820	201	19	793	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Storage Length (ft)	275		0	0		0	300		0	275		275
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	100			25			100			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		707			198			600			782	
Travel Time (s)		16.1			5.4			13.6			17.8	
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Detector Phase	3	3		4	4		1	6		5	2	2 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	12.5	12.5		12.5	12.5		12.5	16.5		12.5	16.5	
Total Split (s)	17.5	17.5		23.5	23.5		18.5	36.5		14.5	32.5	
Total Split (%)	14.6%	14.6%		19.6%	19.6%		15.4%	30.4%		12.1%	27.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 93.5
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 102: Market Street & Woodbury Avenue & Market Basket Driveway



Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	103	284	79	79	167	246	763	41	153	891	98
Future Volume (vph)	116	103	284	79	79	167	246	763	41	153	891	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1789	1561		1713	1492	1728	3429		1668	3404	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1789	1561		1713	1492	1728	3429		1668	3404	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.97	0.97	0.97	0.90	0.90	0.90
Adj. Flow (vph)	122	108	299	88	88	186	254	787	42	170	990	109
RTOR Reduction (vph)	0	0	183	0	0	138	0	3	0	0	6	0
Lane Group Flow (vph)	0	230	116	0	176	48	254	826	0	170	1093	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	3 1	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.1	18.3		11.2	25.3	11.2	34.7		14.1	37.6	
Effective Green, g (s)		7.1	18.3		11.2	25.3	11.2	34.7		14.1	37.6	
Actuated g/C Ratio		0.07	0.19		0.12	0.26	0.12	0.36		0.14	0.39	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		130	293		197	387	198	1222		241	1315	
v/s Ratio Prot		c0.13	0.07		c0.10	0.03	c0.15	0.24		0.10	c0.32	
v/s Ratio Perm												
v/c Ratio		1.77	0.39		0.89	0.12	1.28	0.68		0.71	0.83	
Uniform Delay, d1		45.1	34.6		42.5	27.5	43.0	26.5		39.6	27.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		375.5	0.9		36.0	0.1	160.1	1.5		9.0	4.6	
Delay (s)		420.6	35.5		78.5	27.7	203.1	28.0		48.7	31.6	
Level of Service		F	D		E	C	F	C		D	C	
Approach Delay (s)		202.9			52.4			69.1			33.9	
Approach LOS		F			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	75.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	97.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

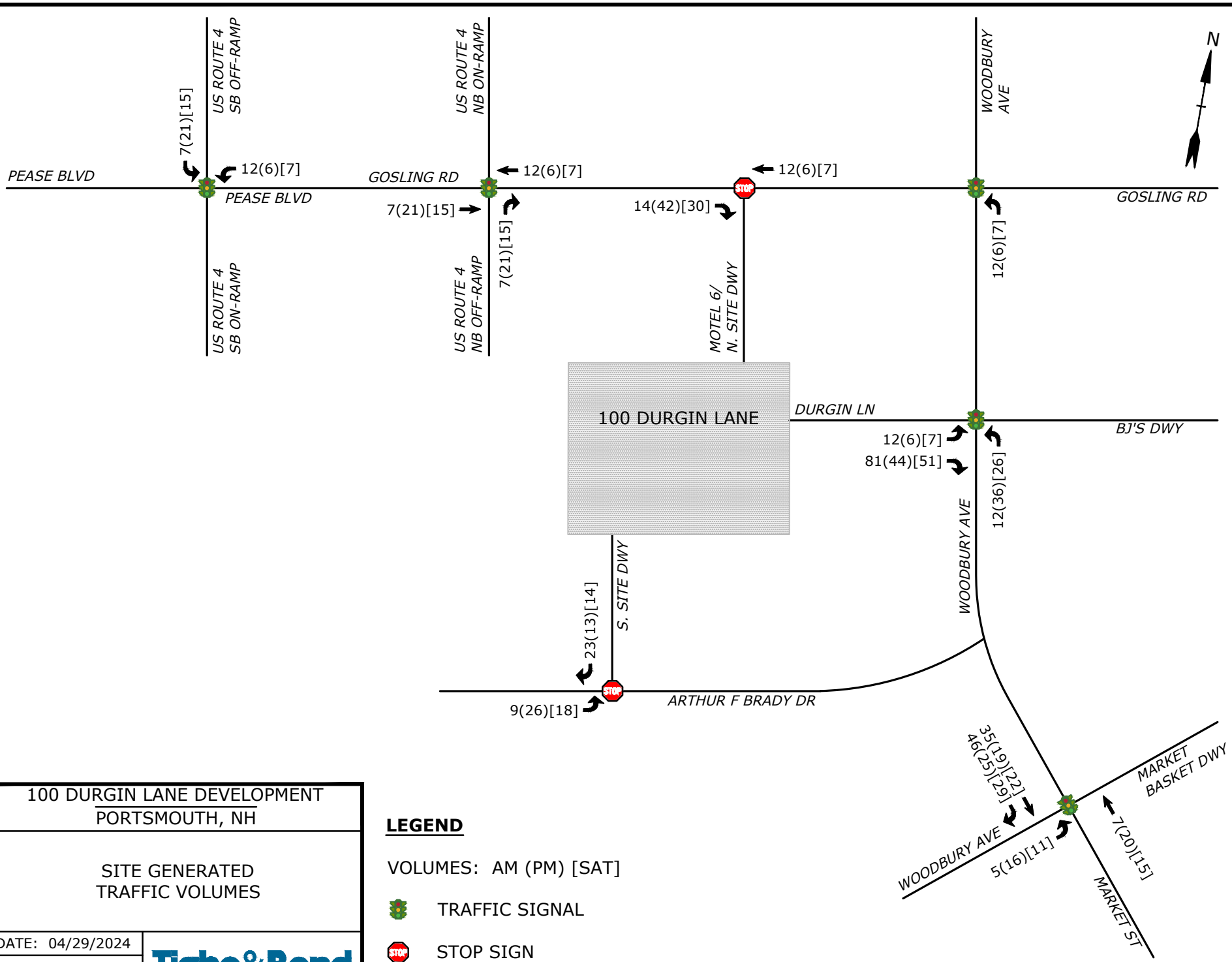
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	73	63	201	99	16	119	820	201	19	793	435
Future Volume (vph)	214	73	63	201	99	16	119	820	201	19	793	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Grade (%)		5%			-5%			0%			0%	
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3300	1666		1954	2013		1728	3353		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3300	1666		1954	2013		1728	3353		1728	3455	1546
Peak-hour factor, PHF	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	221	75	65	212	104	17	125	863	212	20	826	453
RTOR Reduction (vph)	0	26	0	0	5	0	0	15	0	0	0	234
Lane Group Flow (vph)	221	114	0	212	116	0	125	1060	0	20	826	219
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.6	10.6		14.7	14.7		11.0	39.1		2.7	30.8	47.9
Effective Green, g (s)	10.6	10.6		14.7	14.7		11.0	39.1		2.7	30.8	47.9
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.11	0.39		0.03	0.31	0.48
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	353	178		290	298		192	1324		47	1074	748
v/s Ratio Prot	0.07	c0.07		c0.11	0.06		c0.07	c0.32		0.01	0.24	0.14
v/s Ratio Perm												
v/c Ratio	0.63	0.64		0.73	0.39		0.65	0.80		0.43	0.77	0.29
Uniform Delay, d1	42.3	42.4		40.3	38.1		42.2	26.5		47.4	30.9	15.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.4	7.7		9.1	0.8		7.7	3.6		6.1	3.4	0.2
Delay (s)	45.7	50.0		49.4	38.9		49.8	30.1		53.5	34.3	15.6
Level of Service	D	D		D	D		D	C		D	C	B
Approach Delay (s)		47.4			45.6			32.1			28.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	99.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX E

Background Development Traffic Volumes



100 DURGIN LANE DEVELOPMENT
PORTSMOUTH, NH

SITE GENERATED
TRAFFIC VOLUMES

DATE: 04/29/2024
SCALE: NTS
FIGURE 6

Tighe&Bond

LEGEND

VOLUMES: AM (PM) [SAT]

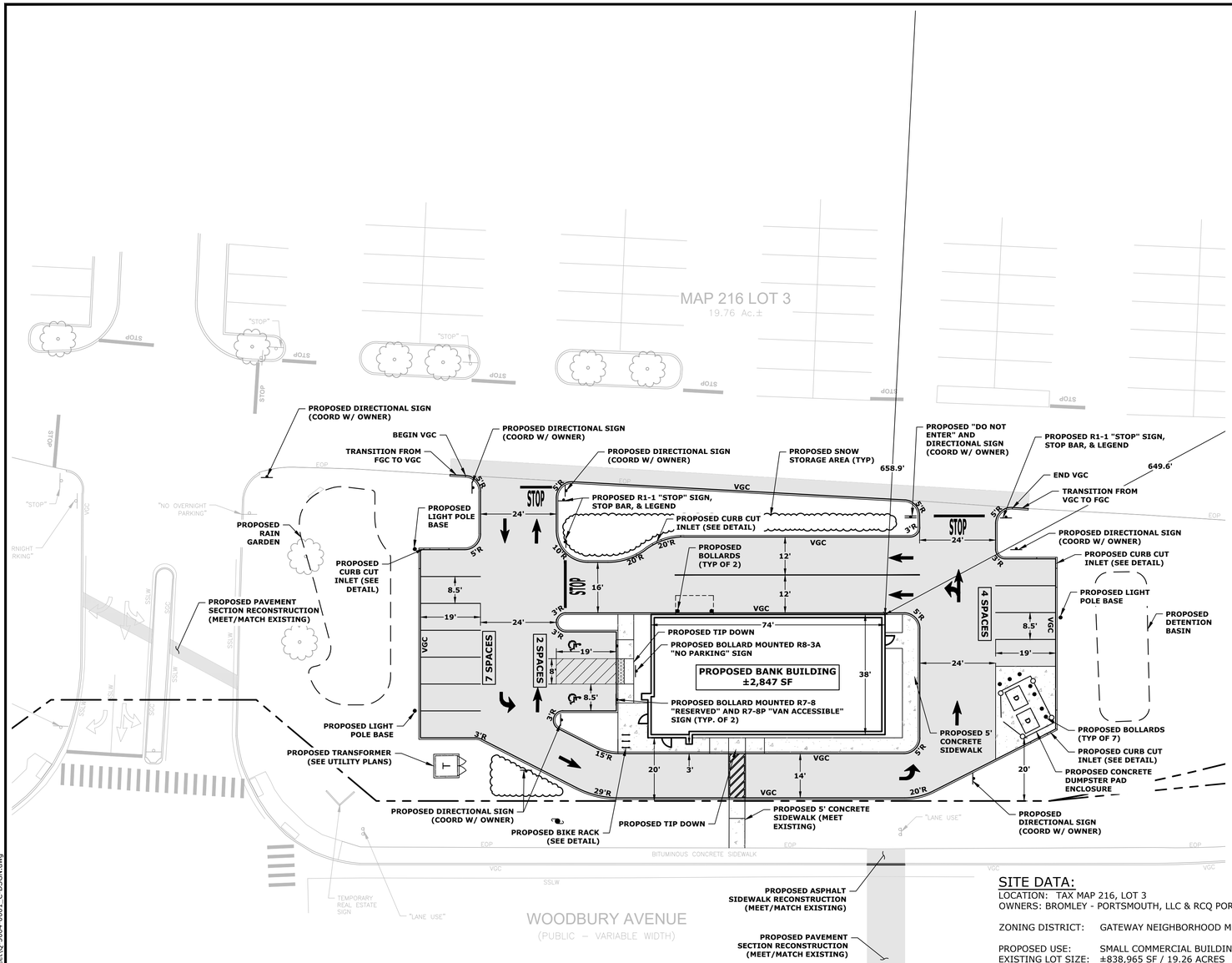
TRAFFIC SIGNAL

STOP SIGN

Apr 29, 2024-10:18am Plotted By: MBlair
Tighe & Bond, Inc. J:\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Figures\E5071-001 Traffic Volume Figures.dwg

APPENDIX F

Site Development Plan



SITE NOTES:

1. PAVEMENT MARKINGS, INCLUDING BUT NOT LIMITED TO; PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS, AND CENTERLINES, SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS AND DETAILS, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
   - ALL ON-SITE PAVEMENT MARKINGS EXCEPT CENTERLINES & MEDIAN ISLANDS SHALL BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE "F".
   - ALL ON-SITE CENTERLINES AND MEDIAN ISLANDS SHALL BE CONSTRUCTED USING YELLOW TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE "F".
   - ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, AND APPLICABLE DEPARTMENT OF TRANSPORTATION (DOT), STANDARD SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" CURRENT EDITION, "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" CURRENT EDITION, AND THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), THE ARCHITECTURAL BARRIERS ACT (ABA), AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB), AS APPLICABLE.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
5. THE CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED.
6. COORDINATE ALL WORK ADJACENT TO BUILDINGS WITH BUILDING DRAWINGS/CONTRACTOR.
7. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
8. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
9. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
10. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
11. THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
13. THE CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
14. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND PARKING AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
15. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
16. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.

SITE RECORDING NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

LEGEND

	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE SECTION
	PROPOSED SNOW STORAGE
	PROPERTY LINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED SIGN
•	PROPOSED BOLLARD
TYP	TYPICAL
BLDG	BUILDING
COORD	COORDINATE
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB

SITE DATA:

LOCATION: TAX MAP 216, LOT 3
OWNERS: BROMLEY - PORTSMOUTH, LLC & RCQ PORTSMOUTH, LLC

ZONING DISTRICT: GATEWAY NEIGHBORHOOD MIXED USE CORRIDOR (G1)

PROPOSED USE: SMALL COMMERCIAL BUILDING (RETAIL BANK)
EXISTING LOT SIZE: ±838,965 SF / 19.26 ACRES

DEVELOPMENT STANDARDS

SMALL COMMERCIAL BUILDING (10.5B34.60)	REQUIRED	PROPOSED
MINIMUM LOT DEPTH:	NR	-
MINIMUM STREET FRONTAGE:	50 FT	2220.2 FT
FRONT YARD SETBACK:	0-20 FT	20 FT
MIN. SIDE YARD SETBACK	10 FT	649.6 FT
MIN. REAR YARD SETBACK	15 FT	658.9 FT
MAXIMUM DWELLING UNITS PER BUILDING	NR	-
MAXIMUM DWELLING UNIT SIZE	NR	-
MAXIMUM BUILDING HEIGHT	3 STORIES OR 40 FT	<40 FT
MINIMUM STREET-FACING FACADE HEIGHT	18 FT	
MAX. FINISH FLOOR ABOVE SIDEWALK	24"	
MAXIMUM BUILDING COVERAGE	70%	<1%
MAXIMUM BUILDING FOOTPRINT	10,000 SF	2,847 SF
MAXIMUM FACADE MODULATION LENGTH	50 FT	<50 FT
MINIMUM STREET FACING FACADE GLAZING	50% GROUND FLOOR	
MAXIMUM STREET FACING ENTRANCE SPACING	NR	-
ALLOWED ROOF TYPES	ALL	
ALLOWED FACADE TYPES: FORECOURT, RECESSED ENTRY, PORCH, OFFICEFRONT, SHOPFRONT, TERRACE, GALLERY, ARCADE		

COMMUNITY SPACE:	REQUIRED	PROPOSED
	10%	11.3%
	86,085 SF	96,975 SF
OPEN SPACE:	20%	21%
	172,171 SF	180,861 SF

PARKING REQUIREMENTS

FINANCIAL SERVICES
(1 PER 350 SF)

PARKING SPACES	REQUIRED	PROPOSED
	9 SPACES	13 SPACES
ADA PARKING SPACES	REQUIRED[2]	PROPOSED
	1 SPACES	2 SPACES

(2) - PER THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS, LATEST EDITION.

PARKING SPACE DIMENSIONAL REQUIREMENTS:

STANDARD 90° STALL :		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	19 FT MIN	19 FT
DRIVE AISLE WIDTH:		
90° (2-WAY TRAFFIC)	24 FT	24 FT

BICYCLE SPACES	REQUIRED	PROPOSED
1 BICYCLE SPACE / 10 PARKING SPACES:	2 SPACES	3 SPACES

Tighe&Bond

N

0 20' 40'
GRAPHIC SCALE

PROPOSED BANK PAD

BROMLEY-PORTSMOUTH, LLC &
RCQ-PORTSMOUTH, LLC
c/o QUINCY & COMPANY, INC.

1465 WOODBURY AVE
PORTSMOUTH, NH

MARK	DATE	DESCRIPTION
A	6/16/2025	TAC Submission

PROJECT NO:	Q5004-0001
DATE:	6/16/2025
FILE:	Q-5004-0001_C-DSGN.dwg
DRAWN BY:	NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102

Last Saved: 6/16/2025
Plotted: 6/16/2025 11:25am By: CKrzcuik
Tighe & Bond J:\Q\Q5004 Quincy & Company, Inc\0001_1465 Woodbury Avenue\Drawings\AutoCAD\Sheet\Q-5004-0001_C-DSGN.dwg

APPENDIX G

ITE Pass-By Rates

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	912
Land Use	Drive-In Bank
Setting	General Urban/Suburban
Time Period	Weekday AM Peak Period
# Data Sites	8
Average Pass-By Rate	29%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
3.8	Pennsylvania	2005	11	27	—	—	73	—	19
3.8	Pennsylvania	2005	9	24	—	—	76	—	19
3.8	Pennsylvania	2005	22	34	—	—	66	—	19
3.8	Pennsylvania	2005	30	27	—	—	73	—	19
3.8	Pennsylvania	2005	34	40	—	—	60	—	19
3.8	Pennsylvania	2005	7	27	—	—	73	—	19
3.8	Pennsylvania	2005	15	16	—	—	84	—	19
3.8	Pennsylvania	2005	27	36	—	—	64	—	19

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	912
Land Use	Drive-In Bank
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	19
Average Pass-By Rate	35%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
2.7	Washington	2007	—	26	66	8	74	—	11
2.8	Washington	2007	—	21	55	24	79	—	11
3.3	Kentucky	1993	—	48	22	30	52	2570	34
3.4	Kentucky	1993	—	64	22	14	36	2266	34
3.4	Kentucky	1993	75	57	11	32	43	1955	34
3.5	Kentucky	1993	53	47	32	21	53	2785	2
3.6	Washington	2007	—	42	50	8	58	—	11
3.6	Washington	2007	—	29	—	—	71	—	11
3.8	Pennsylvania	2005	56	43	—	—	57	—	19
3.8	Pennsylvania	2005	38	41	—	—	59	—	19
3.8	Pennsylvania	2005	14	24	—	—	76	—	19
3.8	Pennsylvania	2005	63	29	—	—	71	—	19
3.8	Pennsylvania	2005	70	29	—	—	71	—	19
3.8	Pennsylvania	2005	29	27	—	—	73	—	19
3.8	Pennsylvania	2005	41	25	—	—	75	—	19
3.8	Pennsylvania	2005	37	31	—	—	69	—	19
3.8	Pennsylvania	2005	19	29	—	—	71	—	19
3.8	Pennsylvania	2005	34	21	—	—	79	—	19
3.8	Pennsylvania	2005	36	29	—	—	71	—	19

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	912
Land Use	Drive-In Bank
Setting	General Urban/Suburban
Time Period	Saturday Midday
# Data Sites	5
Average Pass-By Rate	38%

Pass-By Characteristics for Individual Sites

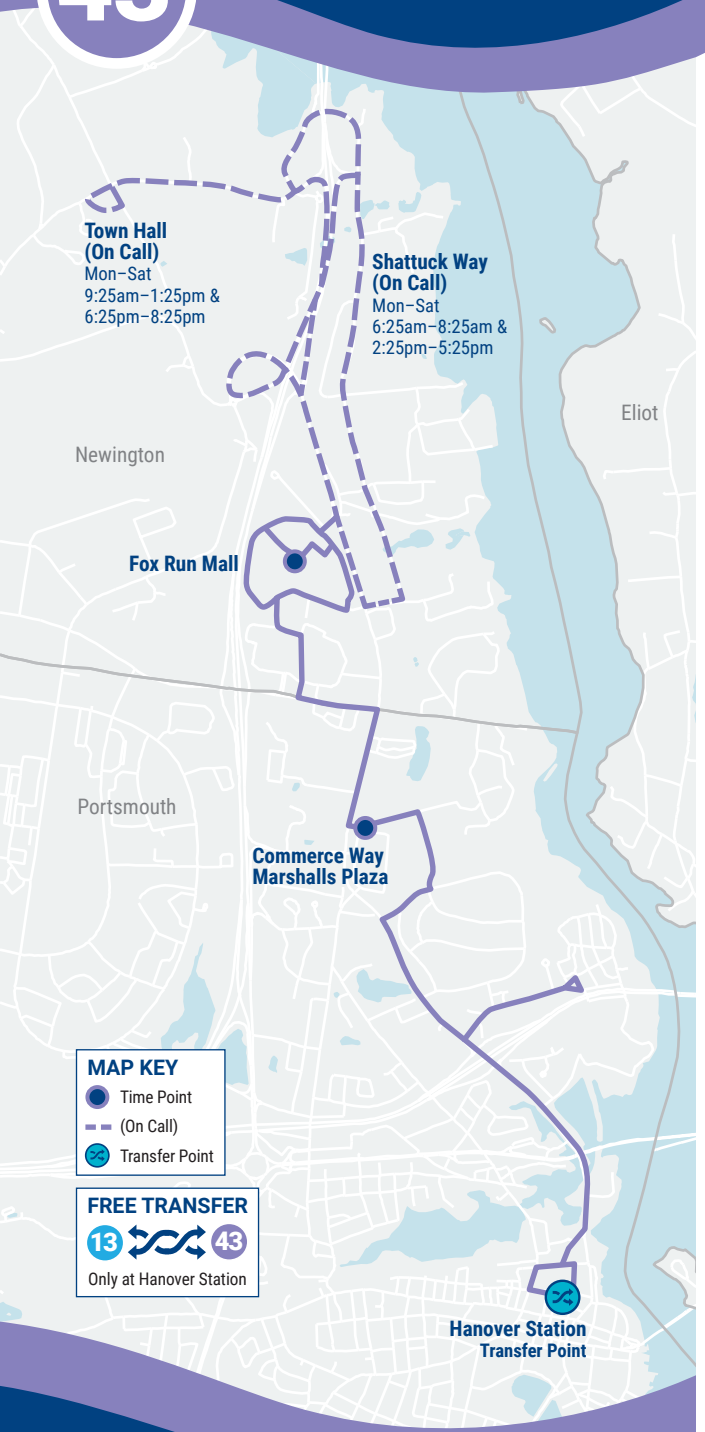
GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
3.8	Pennsylvania	2005	63	33	—	—	67	—	19
3.8	Pennsylvania	2005	103	77	—	—	23	—	19
3.8	Pennsylvania	2005	34	37	—	—	63	—	19
3.8	Pennsylvania	2005	53	33	—	—	67	—	19
3.8	Pennsylvania	2005	25	12	—	—	88	—	19

APPENDIX H

COAST Bus Schedule & Map

Route 43 Map

Portsmouth • Newington



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

*Available at **www.coastbus.org** or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

COAST adheres to all Federal regulations regarding Civil Rights. If you need to request an ADA Reasonable Modification/ Accommodation, or if you believe you have been discriminated against or would like to file a complaint under the ADA or Title VI, please contact COAST's Civil Rights Officer at 603-516-0788, TTY 711 or email CivilRights@coastbus.org.

NO SERVICE DAYS

COAST does not operate on the following holidays:

- New Year's Day
- Martin Luther King Jr./ Civil Rights Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

42 Sumner Drive • Dover, NH 03820

603-743-5777 • TTY 711 • **www.coastbus.org**

This brochure is available in alternative formats upon request.

Bus Schedule & Map 43

COAST

Effective 09.17.22

ROUTE 43

Portsmouth • Newington



Find all of the full COAST schedules online at **coastbus.org**



MAP OUT YOUR GAME PLAN

Planning your trip has never been easier!

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City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: Bromley-Portsmouth, LLC & RCQ-Portmsouth, LLC c/o Quincy & Company, Inc. Date Submitted: June 16, 2025

Application # (in City's online permitting): LU-25-93

Site Address: 1465 Woodbury Avenue Map: 216 Lot: Lot 3

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Enclosed	N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	Enclosed	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Enclosed	N/A
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Site Plan Sheet C-102	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	Site Plan Sheet C-102	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Enclosed Cover Sheet	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Existing Conditions Plan Sheets	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☑	List of reference plans. **(2.5.3.1H)**	General Notes Sheet G-100 & Existing Conditions Plan Sheets	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	General Notes Sheet G-100	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Existing Conditions Plan Sheets	N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☑	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	N/A	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Required on all plan sheets	N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	Required on all plan sheets	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**	Required on all plan sheets	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Existing Conditions Plan Sheets	
☑	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Site Plan Sheet C-102	
☑	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Site Plan Sheet C-102	
☑	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Site Plan Sheet C-102	
☑	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Utilities Plan Sheet C-104	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Utilities Plan Sheet C-104	

☑	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Utilities Plan Sheet C-104	
☐	**8. Solid Waste Facilities: (2.5.4.3H)**		
	• The size, type and location of solid waste facilities.	Site Plan Sheet C-102	
☑	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Grading and Drainage Plan Sheet C-103	
☑	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Photometrics Plan	
☑	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Photometrics Plan	
☑	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Landscape Plan Sheet	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Grading and Drainage Plan Sheet C-103	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	Open Space Exhibit	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Existing Conditions Plan Sheets	
☑	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	Site Plan Sheet C-102	
☑	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	N/A	
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	Grading and Drainage Plan Sheet C-103	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	Enclosed	
☑	Inspection and Maintenance Plan **(7.6.5)**	Enclosed	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Cover Sheet	
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Enclosed	
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	The applicant has met with Eversource to get a will serve letter.	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	Cover Sheet	
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Site Plan Sheet C-102	N/A
☑	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Site Plan Sheet C-102	N/A

Applicant's Signature: _____ **Date:** 7/30/25


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Findings of Fact | Site Plan Review
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 35 Sherburne Road
Application #: LU-25-94
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Site Plan Regulations Section 2.9 Evaluation Criteria - in order to grant site plan review approval, the TAC and the Planning Board shall find that the application satisfies evaluation criteria pursuant to NH State Law and listed herein. In making a finding, the TAC and the Planning Board shall consider all standards provided in Articles 3 through 11 of these regulations.

	Site Plan Review Regulations Section 2.9 Evaluation Criteria	**Finding (Meets Standard/Criteria)**	**Supporting Information**
1	Compliance with all City Ordinances and Codes and these regulations. Applicable standards:	**Meets** **Does Not Meet**	Applicable standards: Applicable standards: - Portsmouth Zoning Ordinance - Portsmouth Site Plan Review Reg.
2	Provision for the safe development, change or expansion of use of the site.	**Meets** **Does Not Meet**	This project is to develop safe and affordable housing.
3	Adequate erosion control and stormwater management practices and other mitigative measures, if needed, to prevent adverse effects on downstream water quality and flooding of the property or that of another.	**Meets** **Does Not Meet**	Standard erosion control method are proposed. There are no increases in stormwater flows per Portsmouth and AoT regulations.

DRAFT

	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
4	Adequate protection for the quality of groundwater.	**Meets** / **Does Not Meet**	Separation from water table is observed. Stormwater is being treated. Ground Water Recharge volumes are being met and exceeded.
5	Adequate and reliable water supply sources.	**Meets** / **Does Not Meet**	Connects to City Water. Test were performed to show it provides adequate flow.
6	Adequate and reliable sewage disposal facilities, lines, and connections.	**Meets** / **Does Not Meet**	Connects to City sewer. Working with DPW on upgrades to existing infrastructure.
7	Absence of undesirable and preventable elements of pollution such as smoke, soot, particulates, odor, wastewater, stormwater, sedimentation or any other discharge into the environment which might prove harmful to persons, structures, or adjacent properties.	**Meets** / **Does Not Meet**	No undesirable elements are being released. Stormwater is being treated onsite.
8	Adequate provision for fire safety, prevention and control.	**Meets** / **Does Not Meet**	Plans have been reviewed by the City Fire Department to make sure they conform to City standards.
9	Adequate protection of natural features such as, but not limited to, wetlands.	**Meets** / **Does Not Meet**	No wetlands are being impinged on by the new development.
10	Adequate protection of historical features on the site.	**Meets** / **Does Not Meet**	Project 2 of this development looks to renovate a portion of the school into apartment, preserving the exterior architecture of the original school building.
11	Adequate management of the volume and flow of traffic on the site and adequate traffic controls to protect public safety and prevent traffic congestion.	**Meets** / **Does Not Meet**	A traffic study has been performed showing that there is little impact on the existing traffic flow.
12	Adequate traffic controls and traffic management measures to prevent an unacceptable increase in safety hazards and traffic congestion off-site.	**Meets** / **Does Not Meet**	Traffic controls (stop signs, pedestrian crossing signs, crosswalks, traffic arrows have been proposed to aid in the traffic management.
13	Adequate insulation from external noise sources.	**Meets**	A noise study has been performed and additional sound insulation has been proposed to bring it within the reasonable

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	Site Plan Review Regulations Section 2.9 Evaluation Criteria	Finding (Meets Standard/Criteria)	Supporting Information
		Does Not Meet	limits. City regulations in regard to parking aisles, parking spaces, and signage have been adhered to.
14	Existing municipal solid waste disposal, police, emergency medical, and other municipal services and facilities adequate to handle any new demands on infrastructure or services created by the project.	**Meets** **Does Not Meet**	This project has been reviewed by TAC to show that it does not overtax municipal services. Solid waist disposal is being handled by a private contractor and won't tax city resources.
15	Provision of usable and functional open spaces of adequate proportions, including needed recreational facilities that can reasonably be provided on the site	**Meets** **Does Not Meet**	Usable open space is being provided, including a community garden, playground and walking paths. Project 1 provides 46% open space. Project 2 provides 40% open space.
16	Adequate layout and coordination of on-site accessways and sidewalks in relationship to off-site existing or planned streets, accessways, bicycle paths, and sidewalks.	**Meets** **Does Not Meet**	Yes. Layout for pedestrian sidewalks has been provided with bike racks for storing bikes. The rear recreational path connects with the sidewalks and the rear bike rack and bike repair area.
17	Demonstration that the land indicated on plans submitted with the application shall be of such character that it can be used for building purposes without danger to health.	**Meets** **Does Not Meet**	Plans were submitted, reviewed, and accepted by the Technical Advisory Committee (TAC).
18	Adequate quantities, type or arrangement of landscaping and open space for the provision of visual, noise and air pollution buffers.	**Meets** **Does Not Meet**	Landscaping has been provided in accordance with the City of Portsmouth regulations (See Landscape Plans).
19	Compliance with applicable City approved design standards.	**Meets** **Does Not Meet**	The site design meets City approved standards.
	Other Board Findings:		

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Findings of Fact | Highway Noise Overlay Conditional Use Permit

City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 35 Sherburne Road
Application #: LU-25-94
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:
Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Highway Noise Overlay District Conditional Use Permit
10.674.10 Within the HNOD, noise sensitive land uses shall require a conditional use permit from the Planning Board.

	Highway Nose Overlay Requirements	Finding (Meets Criteria/Requirement)	Supporting Information
1	Section 10.674.20 A noise analysis prepared in compliance with Section 10.675 must be submitted with any application for a conditional use permit under this section.	**Meets** / **Does Not Meet**	• A Noise Assessment was performed by SRW Environmental Consulting, LLC and supplied in this submission • Meets HUD requirements
2	Section 10.674.30 An application for a conditional use permit for a noise sensitive land use in the Highway Noise Overlay District may be approved only if a noise analysis prepared in compliance with Section 10.675 demonstrates that any applicable exterior and interior sound level standards established in Section 10.673 will be met through one or more of the following measures:	**Meets** / **Does Not Meet**	• The Noises Assessment was performed per city standards including the allowable decibel levels and qualified personnel to perform the assessment.

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	(a) Site design to ensure that noise sensitive land uses are placed outside of the applicable noise contour; (b) Site design that achieves noise mitigation through placement of accessory structures between the noise source and the noise receiver; (c) Installation of a noise barrier; or (d) Superinsulated building design and construction.		(a) The playground and open areas are enclosed in the apartment building, providing superinsulation from applicable noises. Apartments have noise reducing insulation and windows to provide adequate shelter from the applicable noises. (b) The buildings act as noise barriers between the open areas and the highway (noise source). (c) See response to (b) above. (d) See response to (a) above.
3	Section 10.675 A noise analysis must be prepared by a registered engineer or qualified professional transportation noise analyst who has been trained in the use of the Federal Highway Administration (FHWA) Transportation Noise Model or a replacement model that has been approved by the FHWA. A noise analysis must include the following: (1) A description of the proposed development. (2) A narrative description of the proposed site configuration and any proposed noise mitigation measures. (3) A diagram showing the proposed site configuration including the location of noise sensitive land uses and any proposed noise mitigation measures. (4) Unadjusted 60, 65 and 70 dBA noise contours for the loudest traffic hour sound levels shown as an overlay on the site diagram. Noise contours must be developed using the FHWA Transportation Noise Model (or a replacement model that has been approved by the FHWA).	**Meets** **Does Not Meet**	• SRW Environmental Consulting, LLC performed the noise assessment. This HUD Noise Assessment is considered to be a qualified analysis by qualified personnel. (1) See "Selection of Noise Assessment Locations (NALs)" on page 2 of the Noise Analysis. (2) See "Noise Sources" beginning on page 2 of the Noise Analysis (3) See page 14 of the Noise Analysis for map of proposed site configuration. (4) The plan on sheet 14 locates the Noise Abatement Locations and sheets 16 through 19 show the calculated Day Night Average Sound Level (DNL). See page 14 of the Noise Analysis Report for map of proposed site configuration.

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	(5) If the noise analysis shows that projected noise levels will exceed the sound level standard for the applicable activity at the location specified, the noise analysis must include: (a) Any adjusted noise contours and site-specific analyses used to adjust the noise contours based on improved topography; (b) Calculations to support the noise level reduction of any proposed noise mitigation measure; (c) A description of the width, depth, height, length, and materials used in any proposed noise barrier; and (d) A description of construction methods and materials used in any proposed superinsulated building design. The sound transmission class must be provided for materials used.		• The noise analysis includes the items "a" through "d" listed below (a) No approved topography for noise mitigation proposed. Only (b) The Sound Transmission Classification Assessment Tool (STratCAT) was used in the Noice Assessment report to analyze the anticipated construction of the new buildings (c) The Noise Assessment report shows the minimum thickness and material to be used in the exterior walls.. *(d) Proposed exterior wall assembly is anticipated to exceed building code minimum requirements for STC of 50. This is an STC of 12 improvement over the Noise Assessment Report stated minimum (STC of 38). Construction is anticipated to be panelized and all dwelling units to be air sealed which further enhances the standard of care and sound attenuation properties of the exterior wall assembly. Basis of design window is intended to be energy star certified for thermal control. This added feature will result in an STC which exceeds the minimums noted in the Noise Assessment Report (STC of 27).*
6	**<u>Other Board Findings:</u>**		
7	**<u>Additional Conditions of Approval</u>:**		

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Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

July 29, 2025

Rick Chellman, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for Site Plan Approval
35 Sherburne Road – PHA Housing Development LTD – Tax Map 259 Lot 10

Dear Mr. Chellman and Planning Board Members:

On behalf of our client, PHA Housing Development LTD, TF Moran, Inc. (TFM) respectfully submits the attached complete Package for Planning Board Approval for the proposed Workforce Housing at 35 Sherburne Road. Please find the following material included with this cover letter.

- Drainage-Memo dated May 6, 2025, Last Revised July 25, 2025;
- Schedule for Projects 1 and 2 Workforce Housing, dated July 25, 2025;
- Letter of Authorization, dated May 6, 2025;
- Green-Statement, Memo dated May 6, 2025;
- Traffic Impact and Access Study by TFMoran, Inc., dated May 5, 2025;
- Noise Assessment Report by SRW Environmental Consulting, LLC, dated April 15, 2025;
- NHB DataCheck Result Letter, New Hampshire Natural Heritage Bureau, Date January 31, 2025;
- Email from the Fire Department accepting the revised changes to the Landscape Plan, date 7/25/2025;
- Precision Data Industries three days monitoring of speed limits on Sherburne Road and the resulting 85th Percentile speed.
- Site Development Plans, Proposed Housing Development, 35 Sherburne Road, Portsmouth, New Hampshire, Owned by the City of Portsmouth, Prepared for PHA Housing Development LTD, dated January 29, 2025, last Revised July 23, 2025;
- Floor Plan and elevations for PHA Sherburne School, Existing, 35 Sherburne Road, Portsmouth, NH, dated May 6, 2025;

- Floor Plan for PHA Sherburne Small Building, 35 Sherburne Road, Portsmouth, NH, dated March 31, 2025;
- Floor Plan for PHA Sherburne 90 Unit Building, 35 Sherburne Road, Portsmouth, NH, dated May 6, 2025;
- Landscape Plan Color-up – Project 1, dated January 29, 2025, last revised on 7/23/2025;
- Landscape Plan Color-up – Project 2, dated January 29, 2025, last revised on 7/23/2025;
- Open Space Plan – Project 1, dated January 29, 2025, last revised on 7/23/2025.
- Open Space Plan – Project 2, dated January 29, 2025, last revised on 7/23/2025.

Addendum

- Full Drainage Analysis Report dated May 6, 2025, Last Revised July 25, 2025;
- Environmental Review Assessment Report by SRW Environmental Consulting, LLC, dated April 16, 2025;
- Existing Sewer Flow Assessment Report by Flow Assessment Services, dated April 15, 2025;
- Sewer Connection Permit;
- Geotechnical Report by Geotechnical Services, Inc. dated April 8, 2025;
- Water Hydrant Flow Test, by Testing and Coring Company (Compiled by TFMoran), dated March 19, 2025;

We met with the City of Portsmouth Technical Advisory Committee (TAC) on July 1, 2025 at which time they approved the Site plan with the following 4 comments. To facilitate your review, we have provided TAC comments along with our responses, which are shown in ***bold blue italics***:

1. The 3" line needs to be upgraded to a 4" line.
   The 3" water line was revised to a 4" line, See sheets C-09 and C-10.

2. A test of the actual speeds on Sherburne Road needs to be performed.
   Speed was monitored by Precision Data Industries for three days. The 85th percentile speed on the three days ranged from 35.0 MPH to 35.4 MPH. The sight distances for the two entrance/exits were greater than requirements for 35.4 MPH. There is more than adequate sight distance for each entrance. The report from Precision Data Industries is included.

3. *The hydrant in the accessway needs to be relocated and the hydrant locations need to be included in the landscape plans.*
   The northeast hydrant, between the buildings, was relocated to the southwesterly side of the grass pavers to be constructed in Project 2.

4. Fire Department must review and approve the landscaping plans prior to Planning Board submission.
   The Landscape plan has been received and approved by the Portsmouth Fire Department with the relocated trees and relocated hydrant. Email from Patrick Howe is included.

We look forward to meeting with you on August 21st to discuss this project with you.

Respectfully,
TFMoran, Inc.

Jack McTigue, PE
Project Manager

JJM/arh

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

NEW HAMPSHIRE 200

Letter of Authorization

I, Craig Welch of PHA Housing Development LTD hereby authorize TFMoran, Inc., 170 Commerce Way, Suite 102, Portsmouth, NH, to act on my behalf concerning property owned by the City of Portsmouth and being developed by PHA Housing Development LTD, 245 Middle Street, Portsmouth, NH, known as Tax Map 259, Lot 10.

I hereby appoint TFMoran, Inc. as my agent to act on my behalf in the review process, to include any required signatures.

Craig W. Welch — 5/6/2025

Client Name — Date

Mary A. Bartlett — 5/6/2025

Witness — Date

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com

TFMoran, Inc. Seacoast Division
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222

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Project #47528.00

DRAINAGE ANALYSIS

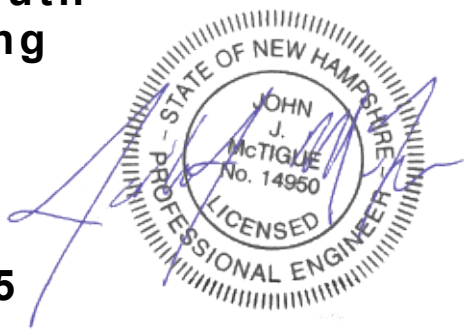
F O R

Sherburne Road Development

35 Sherburne Road
Portsmouth, New Hampshire
Somewhere County

Tax Map 259, Lot 10

Owned by City of Portsmouth
Prepared for PHA Housing Development LTD



May 6, 2025
Revised on July 25, 2025

Prepared By:

TFM Since 1968
Civil Engineers
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Land Surveyors
Landscape Architects
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1.0 - SUMMARY & PROJECT DESCRIPTION

The project includes the development of a 127-unit workforce housing project on 35 Sherburne Road, Portsmouth, NH. The existing Tax Map 259 Lot 10 is approximately 5.2 acres and currently contains an existing school building. The site is within the Municipal Zone and Highway Noise Overlay District and is adjacent to commercial and residential uses.

The proposed project is to construct the front portion of the existing school building, a 3-story building, and a 4-story building. Associated improvements include and are not limited to access, grading, utilities, stormwater management system, lighting, and landscaping. The project proposes a reduction of the school footprint from 17,650 SF to 7,280 SF building footprint, proposed 3-story building with a 9,424 SF footprint and a 4-story building with a 21,100 SF footprint. Including all the impervious on the site, there is a total of 114,840 SF of effective impervious area (49% EIC) within the property lines and approximately 108,000 SF of disturbance to facilitate the development.

This analysis verifies the project will not pose adverse stormwater effects on-site and off-site. Compared to the pre-development conditions, the post-development stormwater management system has been designed to reduce peak runoff rates, reduce the runoff volume, reduce the risk of erosion and sedimentation, and improve stormwater runoff quality. In addition, Best Management Practices are employed to formulate a plan that assures stormwater quality both during and after construction. The following summarizes the findings from the study.

2.0 - CALCULATION METHODS

The design storms analyzed in this study are the 2-year, 10-year, and 50-year 24-hour storm events. The software program, HydroCAD version 10.00[1] was utilized to calculate the peak runoff rates from these storm events. The program estimates the peak rates using the TR-20 method. A Type III storm pattern was used in the model. Rainfall frequencies for the analyzed region were also incorporated into the model. Rainfall frequencies from the higher of the Extreme Precipitation Rates from Cornell University's Northeast Regional Climate Center and City Site Plan Review Regulations were used to determine the storm-event intensities, see Table 1 - 24-Hour Rainfall Rates. Due to the project's location within the Coastal/Great Bay Region community, the design rainfall increases the Cornell rates by 15% to address projected storm surge, sea level rise, and precipitation events per Env-Wq 1503.08(l). Design standards were taken from the New Hampshire Stormwater Manual, December 2008[2].

Storm-Event (year)	Northeast Regional Climate Center Extreme Precipitation (in)	Design Rainfall (in)
2	3.22	3.70
10	4.88	5.61
50	7.41	8.52

Table 1 - 24-Hour Rainfall Rates

Time of Concentration is the time it takes for water to flow from the hydraulically most remote point in the watershed (with the longest travel time) to the watershed outlet. This time is

[1] HydroCAD version 10.00, HydroCAD Software Solutions LLC, Chocorua, NH, 2013.
[2] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

determined by calculating the time it takes runoff to travel this route under one of three hydrologic conditions: sheet flow, shallow concentrated flow, or channel flow. Because the Intensity-Duration-Frequency (IDF) curve is steep with short TC's, estimating the actual intensity is subject to error and overestimates actual runoff. Due to this, the TC's are adjusted to a minimum of 6 minutes.

3.0 – EXISTING SITE CONDITIONS

The soils within the proposed area of disturbance are identified in accordance with the Site-Specific Soil Survey. The Site Specific Soil identifies the soils within the disturbed project somewhat excessively drained soils. The majority of the soil is Hoosic soils (510) with a good portion of Udipsamments Soils in the area of the ball field area (300). These soils are somewhat excessively drained soils in the Type A Hydrologic Soil Group (HSG).

See Geotechnical Report for the associated Infiltration testing and boring data. 11 boring tests and 9 infiltration tests were conducted. In nearly all test pit locations, fine to medium sands were discovered.

4.0 - PRE-DEVELOPMENT CONDITIONS

The pre-development condition is characterized by three watersheds, divided by five subcatchments composing four watersheds, which flow towards the rear of the property and easterly along a swale paralleling the I-95 Corridor. It ultimately discharges to North Mill Pond.

Stormwater runoff from the site primarily infiltrates into the somewhat excessively drained soils on-site. The remaining stormwater runoff discharges swale along the I-95 corridor.

In the pre-development conditions, the total impervious area, including offsite impervious, is 50,720 SF over a total drainage analysis area of 227,310 SF.

5.0 - POST-DEVELOPMENT CONDITIONS

The post-development condition is characterized by three watersheds divided into many subcatchment areas.

In the post-development condition, the total impervious area is 22,780 SF over a total drainage analysis area of 227,310 SF. Five subsurface infiltration basins (Stormtech Systems) are proposed to treat and mitigate the stormwater runoff from the impact of the new impervious area from the proposed development.

See Geotechnical Report for the associated Infiltration testing and boring data. 11 boring tests and 9 infiltration tests were conducted. In nearly all test pit locations, fine to medium sands were discovered. Infiltration tests were determined per Ksat testing using bore hole permeability test per Env-Wq 1504.14(e)(4). The highest Estimated Seasonal High-Water Table (ESWT) observed were elevation 37.9 at Subsurface Infiltration Basin #1, elevation 37.9 at Subsurface Infiltration Basin #2, elevation 46.5 at Subsurface Infiltration Basin #3, elevation 46.5 at Subsurface Infiltration Basin #4, and elevation 41.2 at Subsurface Infiltration Basin #5.

Table 2 - Pre and Post- Development Peak Runoff Rate Compariso summarizes the pre- and post-development peak runoff rates for the 2-year, 10-year, and 50-year 24-hour Type III storm events for all discharge. Table 3 summarizes the pre- and post-development peak runoff volumes for the 2-year 24-hour Type III storm events for all discharge.

TABLE 2 – SURFACE WATER PEAK RUNOFF RATE COMPARISON (CF)				
POINT OF INTEREST		DESIGN STORM		
		2-year	10-year	50-year
POI-1	Pre	1.4	2.9	6.3
	Post	0.0	0.2	1.4
POI-2	Pre	0.0	0.0	0.4
	Post	0.0	0.0	0.1
POI-3	Pre	0.1	0.8	4.3
	Post	0.0	0.2	3.9

Table 2 - Pre and Post- Development Peak Runoff Rate Comparison

TABLE 3 – SURFACE WATER PEAK RUNOFF VOLUME COMPARISON (CF)		
POINT OF INTEREST		DESIGN STORM
		2-year
POI-1	Pre	6,594
	Post	290
POI-2	Pre	3
	Post	0
POI-3	Pre	1,045
	Post	204

Table 3 - Pre and Post- Development Peak Runoff Volume Comparison

The proposed project reduces peak rates of runoff compared to existing conditions for all storm events, in accordance with AoT regulations and City stormwater regulations. Additionally per NHDES, the 2-year 24-hour storm does not result in an increased peak flow rate and reduces or increases volume within the limits of Env-Wq 1507.05(b)(1) from the pre-development to post-development condition. There will be no adverse effects on the abutting properties from the proposed stormwater management system.

6.0 – REGULATORY COMPLIANCE

The project meets the stricter of the stormwater standards identified in the New Hampshire Department of Environmental Services (DES) Env-Wq 1500 Alteration of Terrain Regulations and City stormwater management regulations.

7.0 – BEST MANAGEMENT PRACTICES

Best Management Practices will be developed in accordance with the New Hampshire Stormwater Manual, Volumes Two and Three, December 2008[3] to formulate a plan that assures stormwater quality both during and after construction. The intent of the outlined measures is to minimize erosion and sedimentation during construction, stabilize and protect the site from erosion after construction is complete and mitigate any adverse impacts to stormwater quality resulting from development. Best Management Practices for this project include:

- Temporary practices to be implemented during construction.

- Permanent practices to be implemented after construction.

7.1 – TEMPORARY PRACTICES

1. Erosion, sediment, and stormwater detention measures must be installed as directed by the engineer.
2. All disturbed areas, as well as loam stockpiles, shall be seeded and contained by a silt barrier.
3. Silt barriers must be installed prior to any construction commencing. All erosion control devices including silt barriers and storm drain inlet filters shall be inspected at least once per week and following any rainfall. All necessary maintenance shall be completed within twenty-four (24) hours.
4. Any silt barriers found to be failing must be replaced immediately. Sediment is to be removed from behind the silt fence if found to be one-third the height of the silt barrier or greater.
5. Any area of the site, which has been disturbed and where construction activity will not occur for more than twenty-one (21) days, shall be temporarily stabilized by mulching and seeding.
6. No construction materials shall be buried on-site.
7. After all areas have been stabilized, temporary practices are to be removed, and the area they are removed from must be smoothed and revegetated.
8. Areas must be temporarily stabilized within 14 days of disturbance or seeded and mulched within 3 days of final stabilization.
9. After November 15th, incomplete driveways or parking areas must be protected with a minimum of 3” of crushed gravel, meeting the standards of NHDOT item 304.3.
10. An area shall be considered stable if one of the following has occurred:
    a) Base course gravels are installed in areas to be paved.
    b) A minimum of 85% vegetated growth has been established.
    c) A minimum of 3" of non-erosive material such as stone or rip rap has been installed.

[3] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

d) Erosion control blankets have been properly installed.

7.2 – PERMANENT PRACTICES

The objectives for developing permanent Best Management Practices for this site include the following:

1. Maintain existing runoff flow characteristics.
   a) Drainage is structured to minimize any offsite increase in runoff

2. Treatment BMP's are established to ensure the water quality.

3. Maintenance schedules are set to safeguard the long term working of the stormwater BMP's.

7.3 – BEST MANAGEMENT PRACTICE EFFICIENCIES

Appendix E of Volume 2 of the New Hampshire Stormwater [4] lists the pollutant removal efficiencies of various BMP's. All proposed BMP's meet all state and City requirements for total suspended solids (TSS) and pollutant removal, Total Nitrogen (TN), and Total Phosphorous (TP).

In-Ground and Subsurface Infiltration Basins (greater than 75 FT from surface water) have a 90% TSS removal efficiency, 60% TN removal efficiency, and 65% TP efficiency.

All the stormwater entering the Subsurface Infiltration Basins are pretreated with deep sump catch basins and StormTech Isolator rows prior to entering the primary stormwater treatment areas. The pretreatment areas help to settle sediment and prevent clogging of treatment areas.

[4] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

8.0 – CONCLUSION

The proposed stormwater management system will treat, infiltrate, and mitigate the runoff generated from the proposed development and provide protection of groundwater and surface waters as required through the Alteration of Terrain Bureau and City stormwater management regulations. The project has been designed in accordance with NHDES and City regulations. There is little change in the flow characteristics of the site. The proposed project has been designed to pose no adverse effects on surrounding properties.

Respectfully,
TFMoran, Inc. Seacoast Division

Jack McTigue, PE, CPESC
Project Manager

Civil Engineers
Structural Engineers
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Landscape Architects
Scientists

NEW HAMPSHIRE 200

July 25, 2025

Rick Chellman, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Schedule for Project 1 and 2 Workforce Housing
35 Sherburne Road – PHA Housing Development LTD – Tax Map 259 Lot 10

Dear Mr. Chellman and Planning Board Members:

Project 1 is the construction of a 4-story, 90-unit residential building with parking, playground, utilities, and landscaping. The existing Sherburne School building is to remain during the construction of Project 1. This plan outlines the site preparation and demolition required for the 90-unit building, as well as its associated improvements.

Project 2 includes the renovation of the front portion of the Sherburne School building into eight residential units, with a 3-story, 29-unit residential building to be constructed between the remaining Sherburne School building and Project 1. Project 2 will include the construction of additional parking, utilities, and landscaping. This plan demonstrates the site preparation and demolition required for the 29-unit building, renovation of the Sherburne School building, and related site improvements.

Under typical market, weather, and other uncontrollable conditions, Project 1 is anticipated to take 17 months to complete. During the construction of Project 1, we will initiate schematic design and financing applications for Project 2. The construction start of Project 2 will be contingent upon the availability of financing, receipt of any additional land use permits required, and the availability of cost-effective materials and labor.

Sincerely,
TFMoran, Inc.

Jack McTigue, PE, CPESC
Project Manager

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com

BEST OF BUSINESS 2025 BOB AWARDS

TFMoran, Inc. Seacoast Division
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222

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NEW HAMPSHIRE 200

May 6, 2025

Peter Britz
Director of Planning
Portsmouth Planning Department
1 Junkins Ave, 3rd Floor
Portsmouth, NH 03801

Re: Statement of Green Building Components, Sherburne Workforce Housing Development, 35 Sherburne Road – Portsmouth, NH
TFMoran Project: 47528.00

Dear Peter:

The architectural strategy of this development will be to maximize efficiency and scale, reduce overall utility burden and create safe and comfortable living spaces for both tenants and the neighborhood beyond. Emphasis will be placed on tightness of building envelope, efficiency of selected mechanical and electrical systems, designing a solar-ready building and systems, using low flow fixtures as well as installing EV charging stations and low maintenance plantings.

Sincerely,
TFMoran, Inc.

Jack McTigue, PE, CPESC
Project Manager

cc: Craig Welch, Mark Lentz, Robert Harbeson

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Traffic Report



Traffic Impact and Access Study

Proposed Affordable Housing
35 Sherburne Road
Portsmouth, New Hampshire

TFM Project #47528.00

May 5, 2025

Prepared for:
Portsmouth Housing Authority

Submitted to:
City of Portsmouth



Prepared by:

TFM®

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive, Bedford, NH 03110
(603) 472-4488 **www.tfmoran.com**

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Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Traffic Impact and Access Study

Proposed Affordable Housing
35 Sherburne Road
Portsmouth, New Hampshire
May 5, 2025

1. Introduction

TFMoran Inc. has completed this traffic impact and access study on behalf Portsmouth Housing Authority to determine traffic impacts associated with a 128 unit affordable housing development. The objectives of the study are:

- To estimate trip generation and distribution for the proposed use to perform capacity analysis for the project study area
- To determine potential traffic impacts of the proposed development use
- To provide recommendations for operational improvements within the study area to mitigate the proposed development's traffic impacts

Portsmouth Housing Authority is proposing an affordable housing development at 35 Sherburne Road in Portsmouth. The project includes a 30-unit 3-story apartment building, a 90-unit 4-story apartment building and converting the existing school building on site into 8 apartment units. The site will have a playground, community garden, picnic area and dog walk for residents.

The site will have two driveways, the new driveway to the south will be full access to allow vehicles to use the first 22 space parking lot to enter and exit. Beyond that front lot will be one way counterclockwise around the site and the existing driveway will be converted to exit only. This will allow one-way circulation around the site. There are 173 total parking spaces proposed.

The existing site is currently an "alternative high school" for approximately 30 students which will be moving to a new location on the nearby community college campus at Pease.

Scope of Study

At the traffic scoping meeting held via Zoom on February 17th, 2023 with City Engineering, TFMoran, and the PHA. It was agreed that this study would consider the following conditions. The same criteria was followed for the 2025 update.

Analysis Periods:

- Weekday AM and PM roadway peak hours
- No Saturday

Covid/Stay-at-Home Volume Adjustments:

- Volumes will be adjusted by a Covid/Stay-at-Home factor.
    - review data from City and NHDOT MS2

Background growth:

- 1% seems to high for this area, review data from City and check MS2 data

Seasonal Adjustment:

- NHDOT Group 4 data for seasonal adjustment

Opening Year/Future Year:

- 2026/2036 – **Updated to 2027/2037**

Other Developments:

- Two other projects in area – Liberty Mutual Building (consolidating office into the Greenland Road location), and Hospital expansion project.

Site Trip Generation/Composition:

- Trip Generation and Composition is based on the current ITE Trip Generation 11th Edition
    - LUC 223 Affordable Housing
    - AI trips Primary

Site Trip Distribution

- Distribution prorata based on the counts

Study Area Intersections:

1) Site Driveway
2) Greenland Road at Borthwick Ave [stop controlled]
3) Greenland Road at NH Route 33 [signal]



2. Existing Conditions

Description of Roadways and Intersections:

Roadways

NH Route 33 (Greenland Road)

- Classification. NH33 is a State-maintained highway in the Seacoast Region that provides east-west travel connecting Stratham with Portsmouth. The following descriptions apply within the study area.
- Lane widths and usage. In the project vicinity, the roadway generally provides two 12' travel lanes in each direction, with left turn lanes at major intersections, and 5-6' wide paved shoulders.
- Pedestrian facilities. Pedestrians are not permitted.
- Signage. The speed limit is posted at 35 mph. There are lane use signs, roadway directional signs, overhead lane designations signs and blue hospital & interstate signs. Pavement markings consist of double-yellow centerline, dashed white lines dividing lanes and white shoulder markings, in generally good condition.
- Lighting. Cobra-head roadway lighting is provided in the study area intersections.
- Road conditions. The roadway is fairly level, open drainage with guardrails and normal crown along straights. The pavement is in fair to good condition.

Greenland Road (City portion)

- Classification. Greenland Road is a short local roadway that connects to NH33 and is dead-ended.
- Lane widths and usage. The roadway generally provides two way travel with 12' lanes in each direction and varying widths of paved shoulder.
- Pedestrian facilities. There are sidewalks along the residential portion of the roadway.
- Signage. The speed limit is 30 mph. There are roadway signs, a stop sign, a "Dead End" sign. There is no striping along the roadway.
- Lighting. A cobra-head roadway light is provided at the intersection of Sherburne Road.
- Road conditions. The roadway is generally flat and straight, open drainage, and normal crown throughout. The pavement is in fair condition with cracking, rutting and pavement patches.
- Adjacent uses and driveways. Other than Orchard Park business park near the intersection of Greenland Road and Borthwick Avenue, the remaining area is residential homes.

Borthwick Avenue

- Classification. Borthwick Avenue is a local roadway that connects NH33 with Bypass US1.
- Lane widths and usage. The roadway generally provides two way travel with 12' lanes in each direction and 2-6' wide paved shoulders.
- Pedestrian facilities. There are sidewalks along the east side of the roadway.
- Signage. The speed limit is 25 mph in the study area. There are crosswalk signs, a warning chevron arrow at the corner approaching Greenland Road, "No Parking This Side of Street" signs on the east side of the roadway and a stop sign. Pavement markings consist of double-yellow centerline and white shoulder markings.

- Lighting. Cobra-head roadway lighting is generally provided throughout.
- Road conditions. The roadway is generally flat with curves, open drainage and normal crown throughout. The pavement is in fair to good condition. .
- Adjacent uses and driveways. The Borthwick Park is located along the roadway including Portsmouth Hospital, Liberty Mutual, High Liner Foods, Fairfield Inn and other Office/industrial/Service companies.

Sherburne Road

- Classification. Sherburne Road is a local roadway that is primarily a residential area. The far end of the roadway is gated and does not allow access onto Grafton Road.
- Lane widths and usage. The roadway generally provides two way travel with 12' lanes in each direction, no painted shoulder.
- Pedestrian facilities. Sidewalks are provided on the east side of the roadway.
- Signage. Posted speed limit is 20 mph. There is a "No Parking" sign in front of the school, but no other signs in the area. Pavement markings consist of double yellow centerline in fair condition.
- Sight Distance. Sight distance along the roadway is adequate for the posted speed.
- Lighting. Cobra-head roadway lighting is provided at the southern end of the I95 overpass.
- Road conditions. The roadway is curbed where there is sidewalk and open drainage on the opposite side. The pavement is in fair condition. There is minor crack-sealing, and cracking at the edges of the non-curbed roadway.
- Adjacent uses and driveways: school, and residential.

Intersections

NH Route 33 at Greenland Road

- Traffic Control. This is an existing 3-way signalized intersection. NH Route 33 forms the eastbound and westbound approaches and Greenland Road forms the southbound approach.
- Pedestrian facilities. No sidewalks at intersection.
- Approaches. The EB and WB approaches consist of two 12' lanes. The EB approach has an exclusive left turn lane, and the WB approach has a right turn slip lane onto Greenland Road. The SB approach consists of two lanes, a right-turn lane and a left-turn lane.
- Signage. "Keep Right", "No Turns on Right Arrow" and NH33 signs are present at the intersection.
- Sight Distance. Intersection sight distance appears adequate in all directions for the posted speed.
- Lighting. Cobra-head style lighting is provided at the SB approach and the center of the intersection on the south side of NH33.
- Roadway condition. Existing roadway is in good condition through the intersection.
- Signal Timing. Existing data provided by NHDOT, Coordinated system with ramps, but likely running free..

Greenland Road at Borthwick Avenue

- Traffic Control. This is an existing 3-way stop controlled unsignalized intersection. Greenland Road forms the EB and NB approaches. Borthwick Ave forms the WB approach.
- Pedestrian facilities. There is an existing sidewalk along the north end of the intersection along Borthwick and Greenland Road. A City Neighborhood Sidewalk Improvement project installed an extension of the sidewalk along the south side of Borthwick Avenue and a new pedestrian crossing at the 3-way intersection and reroute the sidewalk along Greenland Road west.
- Approaches. Each approach accommodates two way traffic. The EB and WB approaches consist of one lane each for through movements and turns. The NB approach provides a left only lane and a right slip lane for turns heading onto Borthwick Ave. The NB approach is divided by concrete median at the center line and grass island between the NB lanes.
- Signage. The 2023 Sidewalk project will propose a stop sign at all three legs of the intersection. A yield sign will remain at the northbound left turn lane onto Borthwick Ave. There are also road identification signs, “stay right” signs at medians, blue informational signs (parking bans and hospital), a Borthwick Park directional sign and a “No Outlet” sign on Greenland Road heading west.
- Sight Distance. Intersection sight distance appears adequate in all directions for the posted speed.
- Lighting. Cobra head lighting is provided in the grass island between the NBL and NBR lanes.
- Roadway condition. Existing roadways in good condition.

Sherburne Road at Site Driveway (Existing)

- Traffic Control. This is an existing driveway. Sherburne Road forms the NB and SB approaches. The driveway forms the WB approach.
- Pedestrian facilities. A sidewalk is located on the east side of Sherburne Road.
- Approaches. All approaches each consist of a single lane for both through movements and turns.
- Signage. There is a “No Parking” sign in front of the school, but no other signs in the area.
- Sight Distance. Intersection sight distance appears adequate in all directions for the posted speed.
- Lighting. Cobra-head style lighting is provided at the bridge just north of the driveway.
- Roadway condition. Existing roadways in fair condition.

3. Background Volumes:

To quantify existing peak hour traffic volumes within the study area, turning movement counts were taken at the study intersections. These counts are tabulated in Appendix I.

Counts were taken at all study intersections on Thursday March 9, 2023 – 7AM to 9AM and 2PM to 6PM.

Seasonal Adjustment.
To account for seasonal variations, the data was seasonally adjusted upward by a factor of 15% to reflect the estimated peak month traffic volume. See Appendix C.

COVID/Stay-at Home Adjustment.
Data was provided by the City at a local signalized intersection where data is collected daily. At the intersection of Lafayette Road and South Street, the City has been collecting data since before the pandemic.

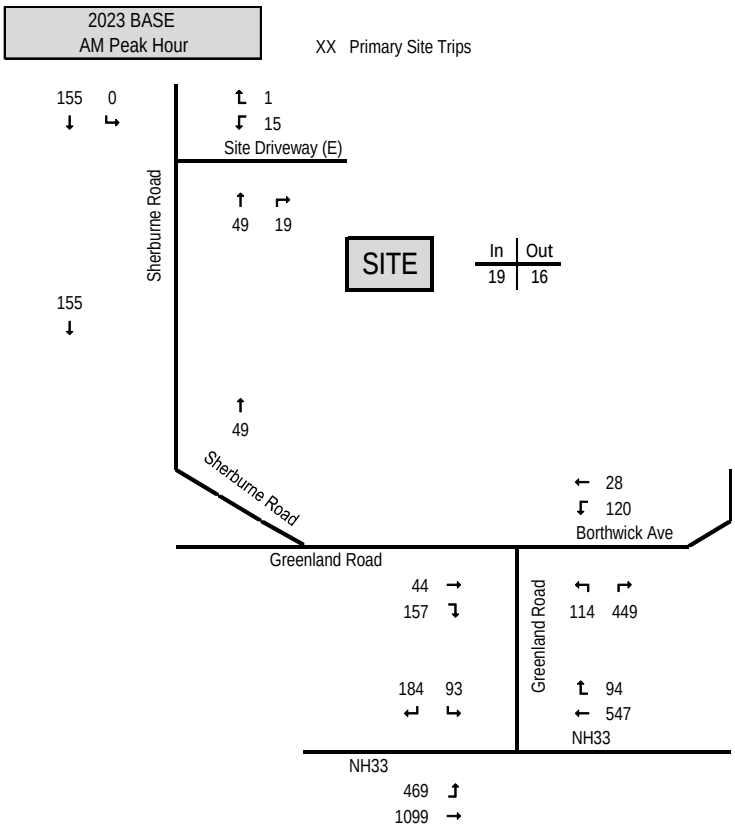
Comparing the data for mid-week (Tuesday – Thursday) for the months of January and February of 2019 vs 2023, shows that the daily volumes are still down by about 13%. The March 2023 counts were adjusted up by 13% to account for traffic that has not returned to pre-pandemic volumes. See calculations in Appendix C.

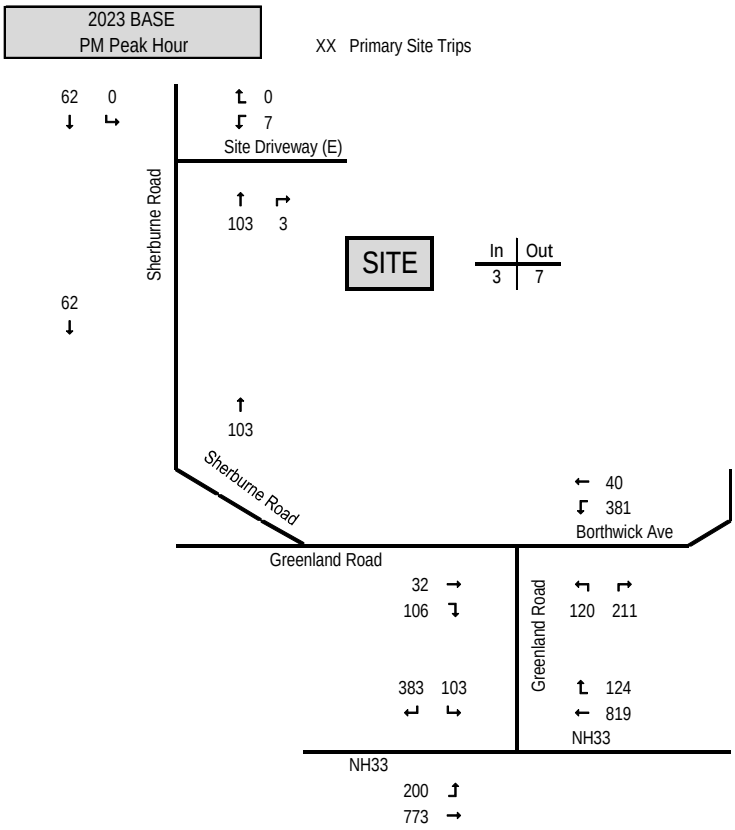
Volumes adjusted as necessary are shown in the following Base condition figures.

Signal Timings
Existing signal timing at the NH33 and Greenland Road intersection is based on current NHDOT timings received by TFM on April 16, 2025. NHDOT noted that it is likely the signal is running Free. The timings are attached in Appendix J.

Balance
Volumes were balanced between the Greenland/Borthwick intersection and the signal at NH33.

The existing volumes are shown in the following figures:


2023 BASE
AM Peak Hour
XX Primary Site Trips
155 0
1
15
Site Driveway (E)
Sherburne Road
49 19
SITE
In Out
19 16
155
49
Sherburne Road
28
120
Borthwick Ave
Greenland Road
44
157
114 449
Greenland Road
184 93
94
547
NH33
NH33
469
1099


2023 BASE
PM Peak Hour
XX Primary Site Trips
62 0
0
7
Site Driveway (E)
Sherburne Road
103 3
SITE
In Out
3 7
62
103
Sherburne Road
40
381
Borthwick Ave
Greenland Road
32
106
120 211
Greenland Road
383 103
124
819
NH33
NH33
200
773

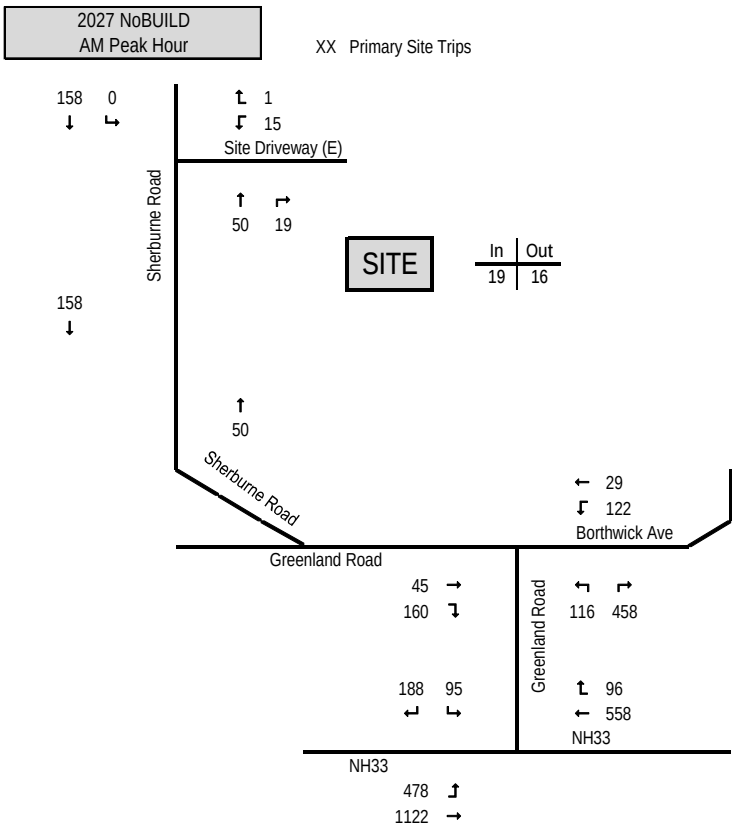
4. No-Build Volumes:

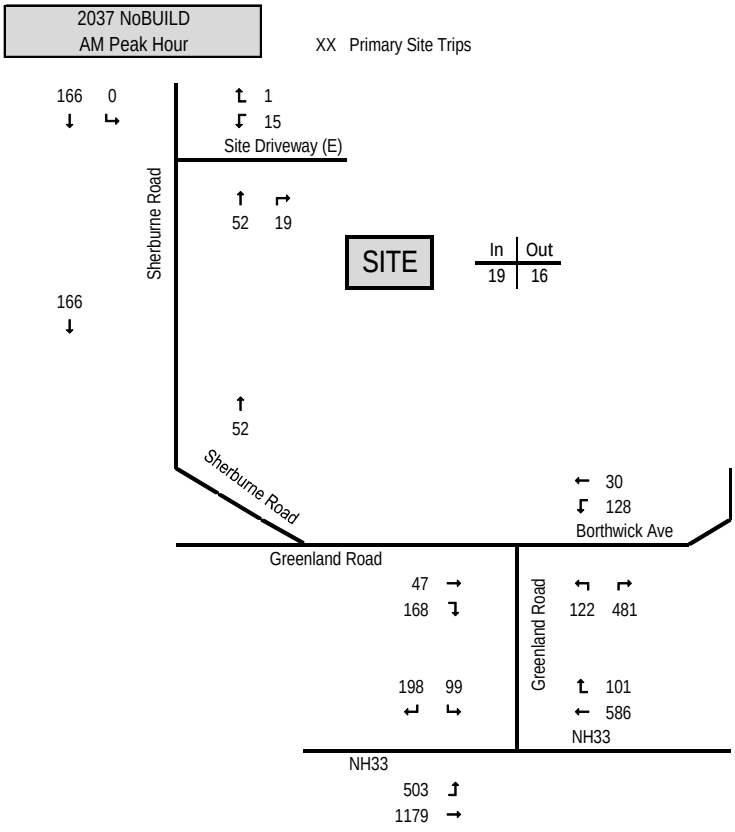
To establish No-Build traffic volumes for this study, the following adjustments were made to the Covid- and seasonally adjusted 2023 Base volumes:

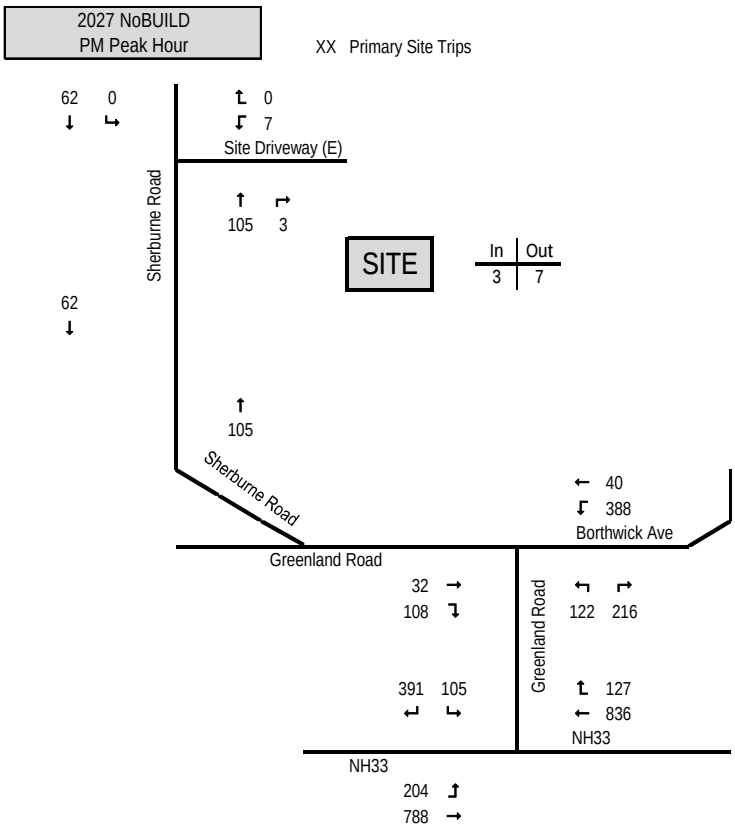
Growth Factor.
NHDOT Historical Annual Growth Data from 2006 to 2019 was reviewed at two stations in Portsmouth: NH33 west of Griffin Road and Borthwick Avenue east of Highliner Avenue. Calculations show that NH33 calculated a plus 0.31% growth rate and Borthwick Ave a minus 0.62% growth rate. The average of the two results in a nearly zero rate of growth for the area, minus 0.16%. See the data and calculations in Appendix C. For the volume calculations, a plus 0.50% growth rate was used as a conservative assumption to account for small local development and in keeping with other studies done in the area.

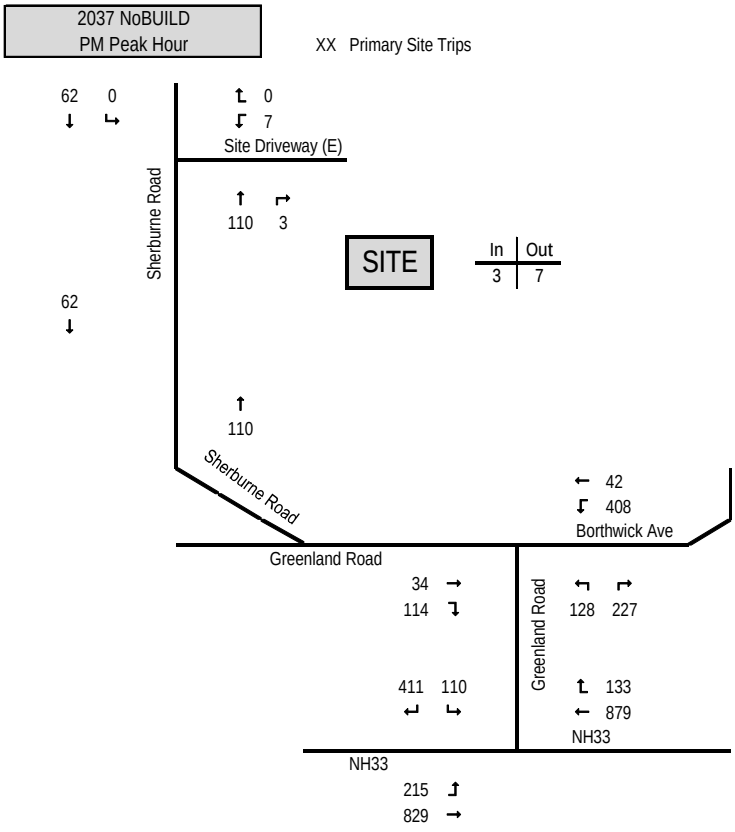
Other Developments.
Per the scoping meeting, two nearby projects were mentioned that would not be included in the count data: a Hospital Expansion and Liberty Mutual reoccupying their existing building. Correspondence with the City (Appendix D) noted that the hospital project only provided a trip memo as it was generating less than a dozen trips during peak hours. Liberty Mutual is just reoccupying their existing building which had been partially vacant during the pandemic and no traffic study was required. Both occurrences can be accounted for within the background growth rate or daily fluctuations of traffic and no additional trips were added to the No-Build volumes.

The total no-build volumes for the opening (2027) and future (2037) years are presented in the figures below.


2027 NoBUILD
AM Peak Hour
XX Primary Site Trips
158 0
1
15
Site Driveway (E)
Sherburne Road
50 19
SITE
In Out
19 16
158
50
Sherburne Road
29
122
Borthwick Ave
Greenland Road
45
160
116 458
Greenland Road
188 95
96
558
NH33
NH33
478
1122


2037 NoBUILD
AM Peak Hour
XX Primary Site Trips
166 0
1
15
Site Driveway (E)
Sherburne Road
52 19
SITE
In Out
19 16
166
52
Sherburne Road
30
128
Borthwick Ave
Greenland Road
47
168
122 481
Greenland Road
198 99
101
586
NH33
NH33
503
1179


2027 NoBUILD
PM Peak Hour
XX Primary Site Trips
62
0
0
7
Site Driveway (E)
Sherburne Road
105
3
SITE
In
Out
3
7
62
105
Sherburne Road
40
388
Borthwick Ave
Greenland Road
32
108
122
216
Greenland Road
391
105
127
836
NH33
NH33
204
788


2037 NoBUILD
PM Peak Hour
XX Primary Site Trips
62
0
0
7
Site Driveway (E)
Sherburne Road
110
3
SITE
In
Out
3
7
62
110
Sherburne Road
42
408
Borthwick Ave
Greenland Road
34
114
128
227
Greenland Road
411
110
133
879
NH33
NH33
215
829

5. Trip Generation:

Proposed Trips

Standard trip generation rates published by the ITE[1] (11th Edition), were used to calculate the vehicle trips for the proposed development. LUC 223, Affordable Housing was used to calculate the trips for the apartment buildings and converted school apartments. Existing school trips were counted at the site driveway. See the table below.

Table 1a – Proposed Trip Generation

Land Use	In	Out	Total
Affordable Housing (LUC 223): 111 Units			
Weekday AM Peak Hour Adjacent Street	13	33	46
Weekday PM Peak Hour Adjacent Street	35	24	59

Table 1b – Existing Trip Generation

Land Use School (based on counts)	In	Out	Total
Existing School			
Weekday AM Peak Hour Adjacent Street	17	14	31
Weekday PM Peak Hour Adjacent Street	3	6	9

Table 1c – New Trips

	In	Out	Total
Weekday AM Peak Hour Adjacent Street	(4)	19	15
Weekday PM Peak Hour Adjacent Street	32	18	50

6. Trip Composition, Distribution and Assignment:

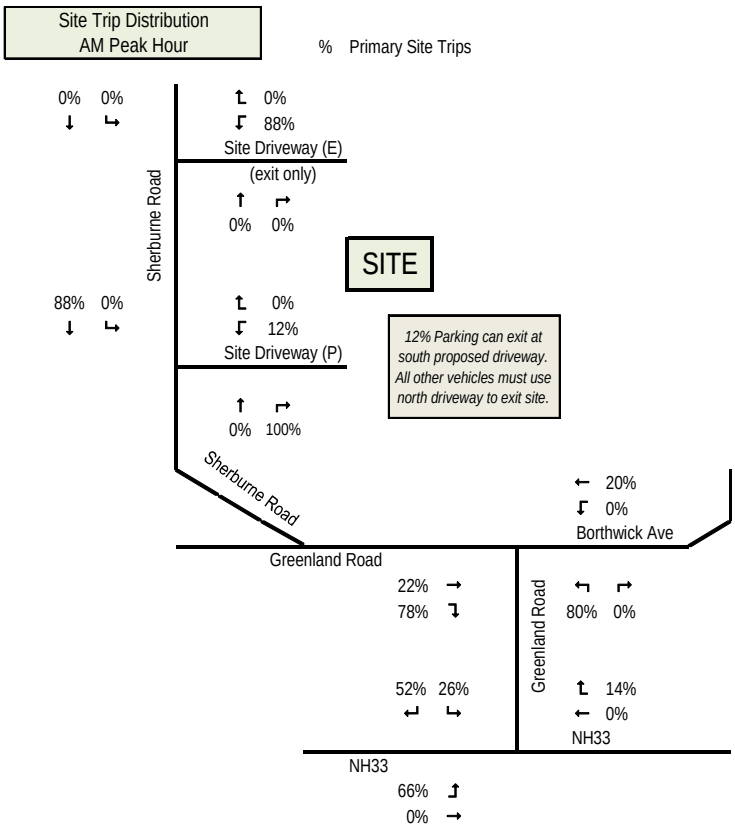
Composition

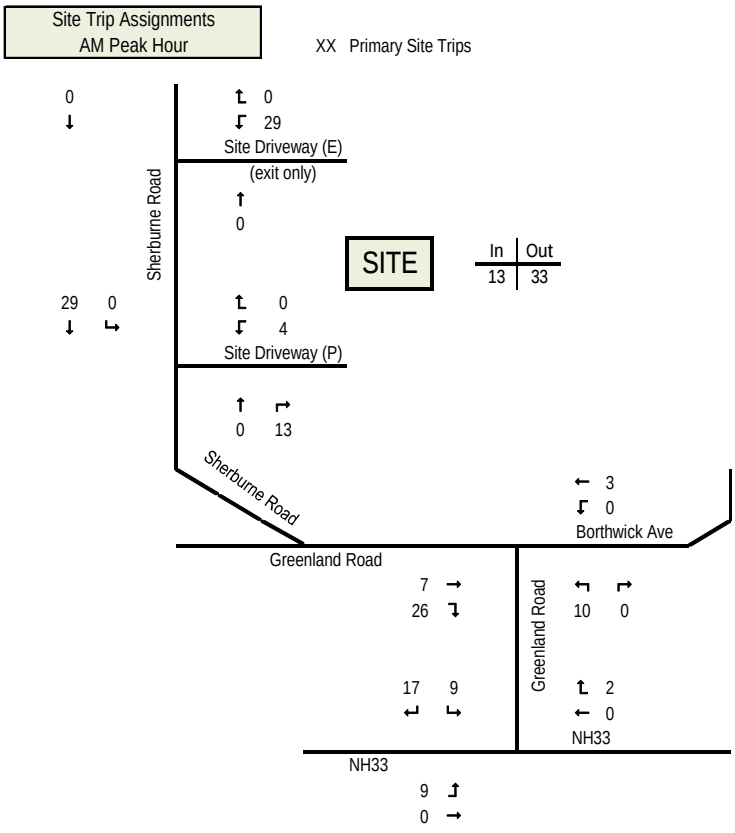
For this project, all trips are considered primary trips. Primary trips go directly from origin to generator and return to origin.

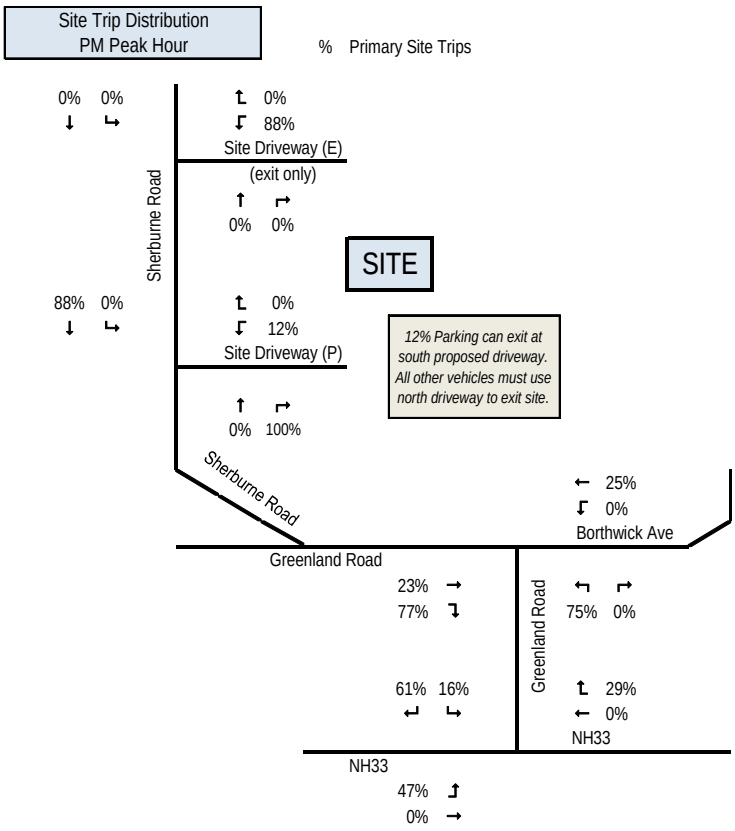
Distribution

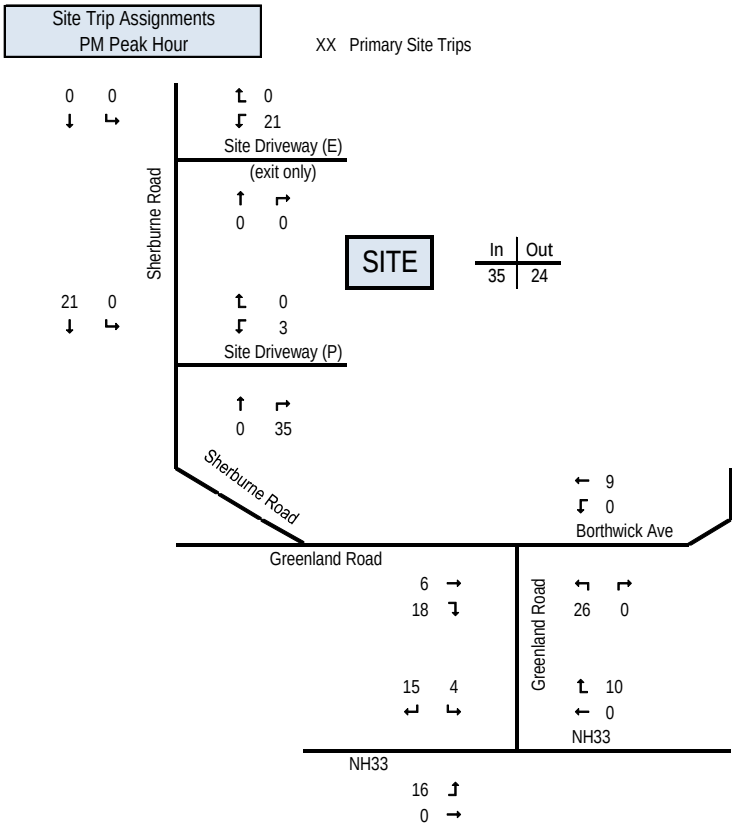
We used prorata distribution based on the new counts in the study area. Sherburne Road is a dead-end roadway, so the existing intersection distributions would represent where residential trips are going to and arriving from. The site trip distributions are shown in the diagrams below.

[1] *Trip Generation Manual*, Institute of Transportation Engineers (ITE), 11th Edition.


Site Trip Distribution
AM Peak Hour
% Primary Site Trips
0% 0%
0% 88%
Site Driveway (E)
(exit only)
0% 0%
Sherburne Road
SITE
88% 0%
0% 12%
Site Driveway (P)
0% 100%
12% Parking can exit at south proposed driveway. All other vehicles must use north driveway to exit site.
Sherburne Road
20% 0%
Borthwick Ave
Greenland Road
22% 78%
80% 0%
Greenland Road
52% 26%
14% 0%
NH33
NH33
66% 0%


Site Trip Assignments
AM Peak Hour
XX Primary Site Trips
0
0 29
Site Driveway (E)
(exit only)
0
Sherburne Road
SITE
In Out
13 33
29 0
0 4
Site Driveway (P)
0 13
Sherburne Road
3 0
Borthwick Ave
Greenland Road
7 26
10 0
Greenland Road
17 9
2 0
NH33
NH33
9 0

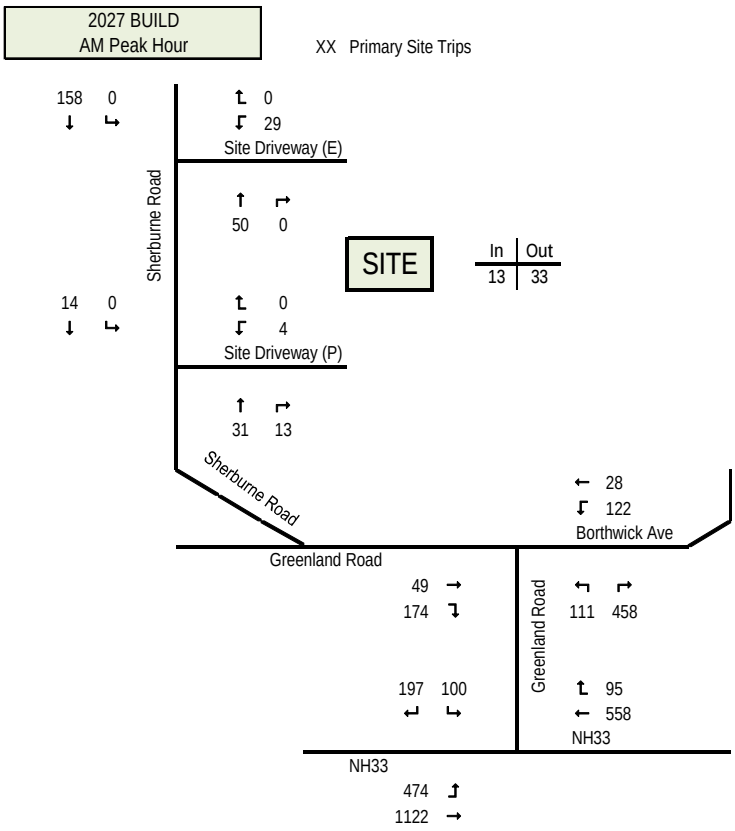

Site Trip Distribution
PM Peak Hour
% Primary Site Trips
0% 0%
0% 88%
Site Driveway (E)
(exit only)
0% 0%
Sherburne Road
SITE
88% 0%
0% 12%
Site Driveway (P)
0% 100%
12% Parking can exit at south proposed driveway. All other vehicles must use north driveway to exit site.
Sherburne Road
25% 0%
Borthwick Ave
Greenland Road
23% 77%
75% 0%
Greenland Road
61% 16%
29% 0%
NH33
NH33
47% 0%

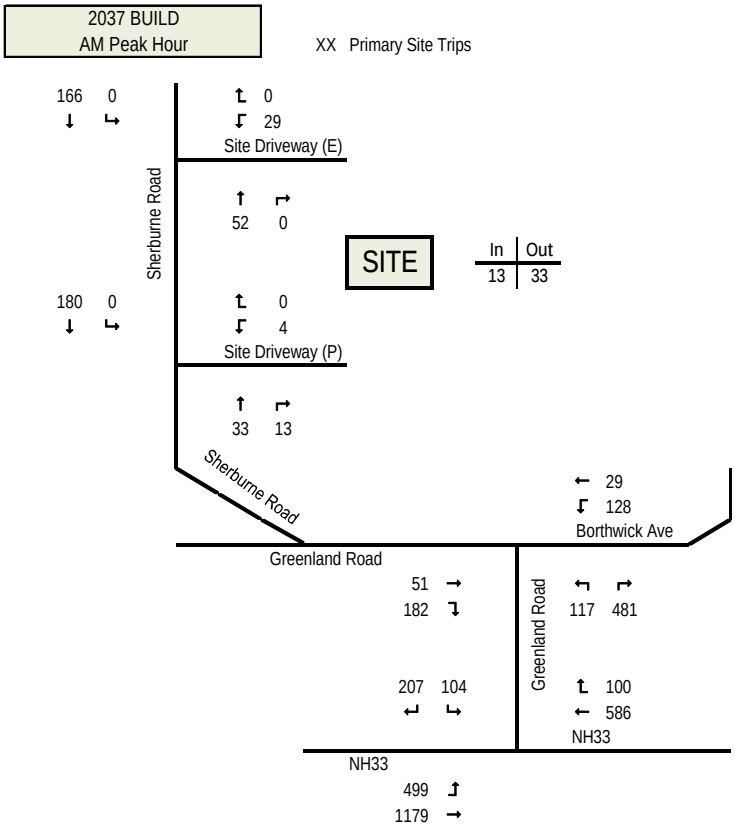

Site Trip Assignments
PM Peak Hour
XX Primary Site Trips
0 0
0 21
Site Driveway (E)
(exit only)
0 0
Sherburne Road
SITE
In Out
35 24
21 0
0 3
Site Driveway (P)
0 35
Sherburne Road
9 0
Borthwick Ave
Greenland Road
6 18
26 0
Greenland Road
15 4
10 0
NH33
NH33
16 0

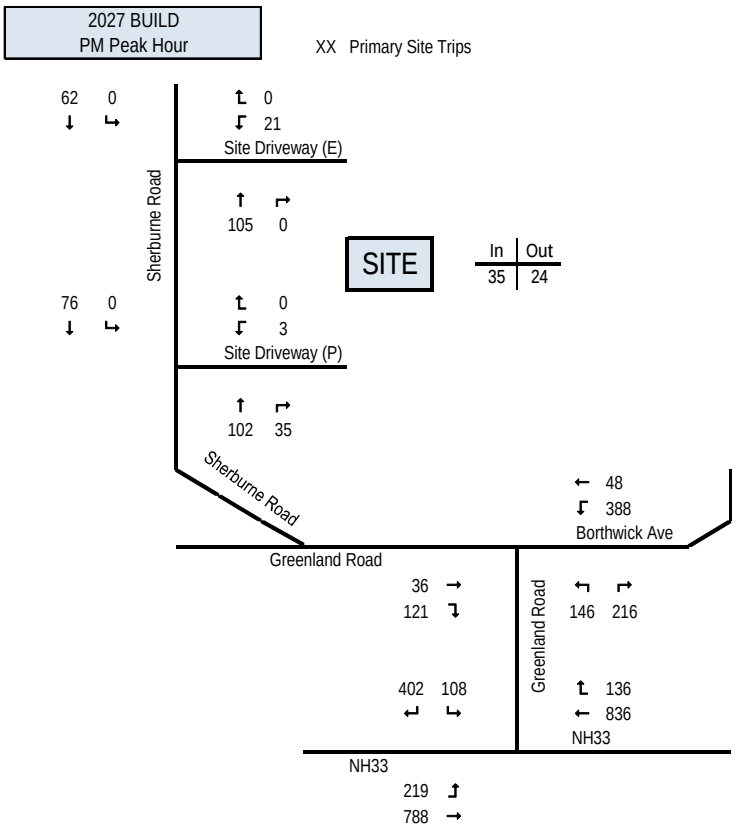
7. Build Volumes:

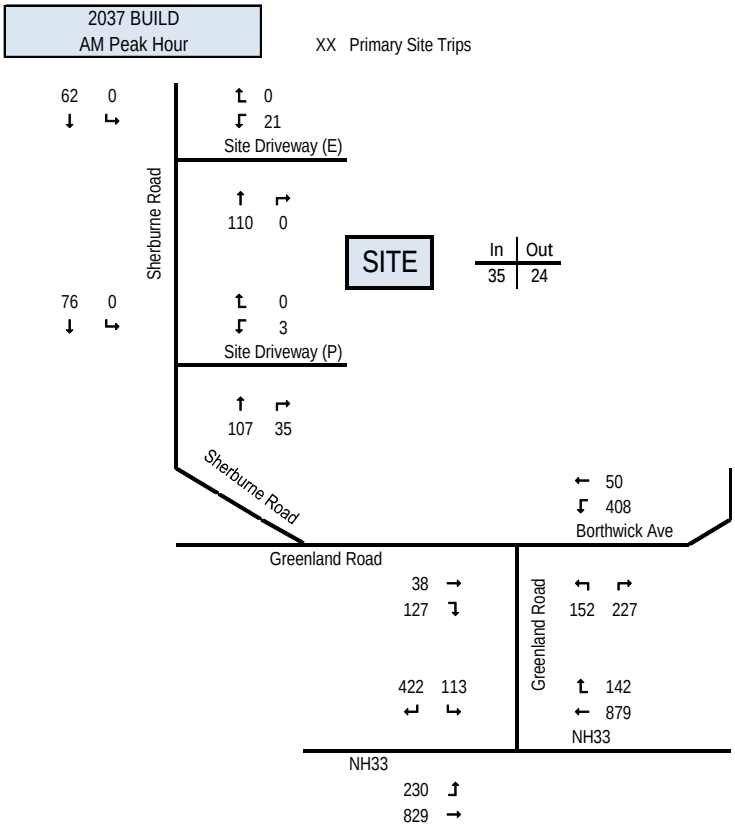
The existing school volumes are deducted from the NoBuild Volumes, and then the site trips generated by the development were added to No-Build traffic volumes throughout the study area to produce Build diagrams for the project.

2027 and 2037 diagrams are shown on the following pages for each peak hour:


2027 BUILD
AM Peak Hour
XX Primary Site Trips
158 0
0
29
Site Driveway (E)
Sherburne Road
50 0
SITE
In Out
13 33
14 0
0
4
Site Driveway (P)
31 13
Sherburne Road
28
122
Borthwick Ave
Greenland Road
49
174
111 458
Greenland Road
197 100
95
558
NH33
NH33
474
1122


2037 BUILD
AM Peak Hour
XX Primary Site Trips
166 0
0
29
Site Driveway (E)
Sherburne Road
52 0
SITE
In Out
13 33
180 0
0
4
Site Driveway (P)
33 13
Sherburne Road
29
128
Borthwick Ave
Greenland Road
51
182
117 481
Greenland Road
207 104
100
586
NH33
NH33
499
1179


2027 BUILD
PM Peak Hour
XX Primary Site Trips
62 0
0
21
Site Driveway (E)
Sherburne Road
105 0
SITE
In Out
35 24
76 0
0
3
Site Driveway (P)
102 35
Sherburne Road
48
388
Borthwick Ave
Greenland Road
36
121
146 216
Greenland Road
402 108
136
836
NH33
NH33
219
788


2037 BUILD
AM Peak Hour
XX Primary Site Trips
62 0
0
21
Site Driveway (E)
Sherburne Road
110 0
SITE
In Out
35 24
76 0
0
3
Site Driveway (P)
107 35
Sherburne Road
50
408
Borthwick Ave
Greenland Road
38
127
152 227
Greenland Road
422 113
142
879
NH33
NH33
230
829

8. Level of Service Analysis:

Level of Service Analysis:
Level of service (LOS) is a qualitative description of operational conditions within a traffic stream measured in terms of control delay, a function of capacity, degree of saturation, and delay associated with traffic signals and "STOP" signs. Control delay includes initial deceleration, delay approaching a control device, stopped delay, queue move-up time, and acceleration delay from a stopped condition. The relationship between control delay and LOS is shown in the following table.

Level of Service (LOS)	Signalized Control Delay (sec)	Unsignalized Control Delay (sec)
A	≤10.0	≤10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	Over 80.0	Over 50.0

Study Area.
Analyses were performed for the study area intersections previously described, that is:

1. Sherburne Road at Site Driveway (exit only)
2. Sherburne Road at Site Driveway (full access)
3. Greenland Road at Borthwick Avenue
4. NH33 at Greenland Road

Queue Analysis.
Vehicle queue lengths are determined by the capacity of the movement under study and the volume of traffic processed by the intersection during the analysis period. It is standard practice to report the 95th percentile queue, that is, the queue that will be exceeded no more than 5% of the time during the peak periods.

Methodology.
Trafficware "Synchro" v11 software was used to analyze signalized and unsignalized intersections (based on HCM 2000 for the signal and HCM 6th for stop controlled) within the study area intersections during the weekday PM and Saturday peak hours.

Signal Timing.
Signal timing for the NH33 signal is modeled based on data provided by the NHDOT in the Appendix.

Volume to capacity (v/c) ratios, Level of Service (LOS), delays and queue results are summarized in the following tables:

Table 2 Level of Service Analysis Summary (2023/2027)

Location/ *Peak Hour*	2023 BASE				2027 NoBuild				2027 Build			
Movement	v/c[a]	Del.[b]	LOS[c]	Q[d]	v/c[a]	Del.[b]	LOS[c]	Q[d]	v/c[a]	Del.[b]	LOS[c]	Q[d]
1: Sherburne Road at Site Driveway (Existing) - [exit only Build Case]												
AM Peak OVERALL	---	1.3	A	---	---	1.3	A	---	---	1.1	A	---
WB L/R	0.06	10.5	B	5	0.06	10.5	B	5	0.05	10.2	B	3
SB L/T [T]	-	0.0	A	0	-	0.0	A	0	-	-	-	-
PM Peak OVERALL	---	0.7	A	---	---	0.7	A	---	---	0.9	A	---
WB L/R	0.02	9.8	A	3	0.02	9.8	A	3	0.03	9.9	A	3
SB L/T [T]	-	0.0	A	0	-	0.0	A	0	-	-	-	-
2: Sherburne Road at Site Driveway (Proposed) - [full access]												
AM Peak OVERALL	---	---	---	---	---	---	---	---	---	0.2	A	---
WB L/R	-	-	-	--	-	-	-	-	0.01	9.8	A	0
SB L/T [T]	-	-	-	-	-	-	-	-	-	-	-	-
PM Peak OVERALL	---	---	---	---	---	---	---	---	---	0.1	A	---
WB L/R	-	-	-	-	-	-	-	-	0.00	9.7	A	0
SB L/T [T]	-	-	-	-	-	-	-	-	-	-	-	-
4: Greenland Road at Borthwick Avenue												
AM Peak OVERALL	---	20.1	C	---	---	21.4	C	---	---	22.2	C	---
EB All	0.37	11.7	B	43	0.38	11.9	B	43	0.41	12.4	B	50
WB All	0.30	12.0	B	33	0.31	12.2	B	33	0.31	12.3	B	33
NB L	0.27	11.3	B	28	0.27	11.4	B	28	0.26	11.4	B	25
NB R	0.83	28.0	D	233	0.86	30.5	D	253	0.86	31.9	D	260
PM Peak OVERALL	---	15.0	B	---	---	15.4	C	---	---	16.4	C	---
EB All	0.23	9.8	A	23	0.24	9.9	A	23	0.27	10.4	B	28
WB All	0.69	19.5	C	138	0.70	20.3	C	145	0.73	22.2	C	160
NB L	0.25	11.8	B	25	0.26	11.9	B	25	0.32	12.7	B	33
NB R	0.37	11.5	B	43	0.38	11.7	B	45	0.39	11.9	B	45
5: NH33 at Greenland Road (signalized)												
AM Peak OVERALL	0.74	22.2	C	---	0.76	22.7	C	---	0.76	22.8	C	---
EB L	0.88	40.3	D	442	0.88	40.0	D	465	0.89	40.7	D	459
EB T	0.52	5.9	A	192	0.53	6.2	A	205	0.54	6.3	A	205
WB TT/R	0.69	31.7	C	253	0.73	33.6	C	259	0.72	3312	C	258
SB L	0.48	38.3	D	97	0.49	38.0	D	97	0.50	38.0	D	102
SB R	0.15	34.9	C	44	0.15	34.7	C	43	0.16	34.6	C	44
PM Peak OVERALL	0.63	19.4	B	---	0.64	19.8	B	---	0.66	20.4	C	---
EB L	0.62	33.2	C	154	0.63	33.4	C	158	0.65	34.1	C	170
EB T	0.33	5.3	A	133	0.34	5.3	A	137	0.34	5.4	A	138
WB TT/R	0.72	22.1	C	433	0.74	22.8	C	447	0.76	23.8	C	453
SB L	0.42	31.9	C	88	0.42	31.9	C	89	0.43	31.8	C	91
SB R	0.26	30.4	C	68	0.26	30.4	C	68	0.27	30.3	C	69

[a] Volume-to-capacity ratio - [b] Average control delay (sec/veh) - [c] Level of service - [d] 95th percentile queue in feet

Table 3 Level of Service Analysis Summary (2037)

Location/ *Peak Hour*	2037 NoBuild				2037 Build			
Movement	v/c[a]	Del.[b]	LOS[c]	Q[d]	v/c[a]	Del.[b]	LOS[c]	Q[d]
1: Sherburne Road at Site Driveway (Existing) - [exit only Build Case]								
AM Peak OVERALL	---	0.6	A	---	---	1.2	A	---
WB L/R	0.03	10.1	B	3	0.04	10.0	B	3
SB L/T [T]	-	0.0	A	0	-	-	-	-
PM Peak OVERALL	---	0.4	A	---	---	1.0	A	---
WB L/R	0.01	9.5	A	0	0.03	9.6	A	3
SB L/T [T]	-	0.0	A	0	-	-	-	-
2: Sherburne Road at Site Driveway (Proposed) - [full access]								
AM Peak OVERALL	---	---	---	---	---	0.2	A	---
WB L/R	-	-	-	--	0.01	9.8	A	0
SB L/T [T]	-	-	-	-	-	-	-	-
PM Peak OVERALL	---	---	---	---	---	0.1	A	---
WB L/R	-	-	-	--	0.00	9.7	A	0
SB L/T [T]	-	-	-	-	-	-	-	-
4: Greenland Road at Borthwick Avenue								
AM Peak OVERALL	---	16.1	C	---	---	16.4	C	---
EB All	0.36	11.3	B	40	0.39	11.7	B	45
WB All	0.30	11.8	B	30	0.30	11.8	B	33
NB L	0.24	11.0	B	23	0.23	11.0	B	28
NB R	0.74	20.9	C	168	0.75	21.5	C	173
PM Peak OVERALL	---	16.8	C	---	---	17.9	C	---
EB All	0.24	10.1	B	25	0.28	10.6	B	28
WB All	0.74	22.8	C	168	0.77	25.1	D	185
NB L	0.27	12.1	B	28	0.33	13.0	B	35
NB R	0.40	12.0	B	48	0.40	12.3	B	48
5: NH33 at Greenland Road								
AM Peak OVERALL	0.75	22.4	C	---	0.80	24.2	C	---
EB L	0.88	40.3	D	502	0.90	41.0	D	496
EB T	0.51	5.8	A	215	0.57	6.7	A	221
WB TT/R	0.72	31.9	C	275	0.81	37.8	D	274
SB L	0.48	38.3	D	105	0.51	38.2	D	105
SB R	0.14	35.0	C	60	0.16	34.5	C	44
PM Peak OVERALL	0.67	20.6	C	---	0.69	21.3	C	---
EB L	0.65	33.9	C	167	0.67	34.5	C	179
EB T	0.36	5.6	A	149	0.36	5.7	A	149
WB TT/R	0.78	24.7	C	481	0.80	26.0	C	486
SB L	0.43	31.6	C	92	0.44	31.6	C	95
SB R	0.28	30.2	C	70	0.28	30.2	C	71

[a] Volume-to-capacity ratio - [b] Average control delay (sec/veh) - [c] Level of service - [d] 95th percentile queue in feet

9. Sight Distance:

The proposed driveways have adequate sight distance based on grade and distance to adjacent intersections. The existing site driveway on Sherburne Road has a clear sight distance of 350' looking left and 380' looking right. The proposed driveway has 280' looking left over the lawn area and 380' looking right. At 20 mph, the required AASHTO intersection sight distance for a left turn is 225'. The required sight distance for 32 mph (85th percentile per Section 10) is 353'.

10. Speed Study

A speed study was measured along Sherburne Road adjacent to the existing school driveway. The travel times were recorded using ATRs over a 24-hour period which recorded travel speeds. The results of the speed measurements are summarized in the table below.

Table 4 – Observed Travel Speeds

Sherburne Road at existing school driveway	Posted Speed Limit	Average Speed	85th Percentile Speed
Northbound	20	28.2	32.0
Southbound	20	24.6	28.0

As shown in Table 3, the observed speeds along Sherburne Road were found to exceed the posted school zone speed limit of 20 mph. The school zone designation will need to be removed as part of this project; however, the adjacent neighborhood on the north side of the I95 overpass is also posted at 20 mph.

11. Accident Evaluation:

Crash data requested for the study intersections was received from the Portsmouth Police Department for the years 2019-2022 and from NHDOT for years 2021-2023. Three is provided in Appendix H. A summary of the crash data in provided in Table 4.

Table 5 – Crash Data Summary

	Greenland Rd at Borthwick Ave **(Unsignalized)**	NH33 at Greenland Rd **(Signal)**
CRASH FREQUENCY		
Total Crashes	7	6
Crashes per Year (Ave)	1.4	1.2
CRASH SEVERITY		
Property Damage Only	6	5
Injury	1	1
Fatalities	0	0
CRASH TYPE		
Angle/Cross Movement	3	0
Rear End	3	1
Side-Swipe	0	1
ADVERSE CONDITIONS		
Sun Glare	1	0
Snow	1	0
WEEKDAY COMMUTER PEAK		
Weekday AM (7-9am)	2	1
Weekday PM (3-6pm)	0	3
Non-Commuter Peak	5	2

Greenland Road at Borthwick Avenue (3-leg unsignalized intersection)
Seven crashes occurred in the vicinity of the Greenland Road/Borthwick Ave intersection and with only one resulting in injury. All crashes involved two vehicles, three of which were rear end occurrences and three from crossing the intersection, one unknown. Two were the result of adverse conditions (sun glare or snow) with only one accident occurring during the weekday peak hours of the roadway. Based on this data, there does not appear to be any safety concerns at this intersection, however, the City has updated this intersection, by making all three legs stop controlled.

NH33 at Greenland Road (3-leg signalized intersection)
Two crashes occurred in the vicinity of the NH33/Greenland Road intersection, with only one incident resulting in injury. All crashes involved two vehicles, one was a side-swipe from changing lanes and one rear end collision, the others are unknown. Both accidents occurred during the weekday peak PM hours of the roadway. Based on this data, there does not appear to be any elevated safety concerns at this intersection.

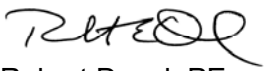
12. Conclusions:

This study shows that traffic from this redevelopment housing proposal is all primary trips and adds 15 new trips in the AM Peak Hour and 50 new trips during the PM Peak Hour. That is less than one new trip per minute during peak hours. Therefore, only minor changes occur at the study area intersections.

- Queues and delays at the study intersections are essentially unchanged (overall LOS C or better) in all scenarios.
- At the site driveways, traffic operates favorably (B or better) in all scenarios, with 95th pctl queues of less than one car length for entering and exiting traffic.
- School zone signs should be removed upon closure of the school.

We therefore conclude that this new proposal will have no significant negative impact on the adjacent roadway network. The existing intersections will operate acceptably in opening and future years.

Respectfully Submitted,
TFMORAN, INC.



Robert Duval, PE
Chief Engineer

APPENDIX A

Proposed Trip Generation

Based on ITE Trip Generation 11th Edition

ITE LUC 223 - Affordable Housing - Income Limits

Use Includes: 128 Dwelling Units (30 apartment units, 90 apartment units, 8 units in existing building)

Time Period	Rate/Equn		Rate/ Eq	Trip Ends	Directional Split		Directional Distribution	
	X	Rate	Used		In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	128	0.36	Rate	46	29%	71%	13	33
Weekday PM Peak Hour Adjacent Street	128	0.46	Rate	59	59%	41%	35	24
Weekday Daily	128	4.81	Rate	616	50%	50%	308	308

Description of LUC 223:
Affordable housing includes all multifamily housing that is rented at below market rate to households that include at least one employed member. Eligibility to live in affordable housing can be a function of limited household income and resident age.

Site Trip Distribution

Primary

	In	Out
AM Totals	13	33

Sherburne Road at Site Driveway (Existing)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL		88%	0	29
WLR			0	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0

Sherburne Road at Site Driveway (Proposed)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL		12%	0	4
WLR			0	0
NBT			0	0
NBR	100%		13	0
SBL			0	0
SBT		88%	0	29

Greenland at Borthwick

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBT		22%	0	7
EBR		78%	0	26
WBL			0	0
WBT	20%		3	0
NBL	80%		10	0
NBR			0	0

NH33 at Greenland

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL	66%		9	0
EBT			0	0
WBT			0	0
WBR	14%		2	0
SBL		26%	0	9
SBR		52%	0	17

TOTAL: Site Trip Assignment

TOTAL

	AM TOTAL
AM Totals	46

Sherburne Road at Site Driveway (Existing)

Movement	
WBL	29
WLR	0
NBT	0
NBR	0
SBL	0
SBT	0

Sherburne Road at Site Driveway (Proposed)

Movement	
WBL	4
WLR	0
NBT	0
NBR	13
SBL	0
SBT	29

Greenland at Borthwick

Movement	
EBT	7
EBR	26
WBL	0
WBT	3
NBL	10
NBR	0

NH33 at Greenland

Movement	
EBL	9
EBT	0
WBT	0
WBR	2
SBL	9
SBR	17

Site Trip Distribution

Primary

	In	Out
PM Totals	35	24

Sherburne Road at Site Driveway (Existing)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL		88%	0	21
WLR			0	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0

Sherburne Road at Site Driveway (Proposed)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL		12%	0	3
WLR			0	0
NBT			0	0
NBR	100%		35	0
SBL			0	0
SBT		88%	0	21

Greenland at Borthwick

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBT		23%	0	6
EBR		77%	0	18
WBL			0	0
WBT	25%		9	0
NBL	75%		26	0
NBR			0	0

NH33 at Greenland

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL	47%		16	0
EBT			0	0
WBT			0	0
WBR	29%		10	0
SBL		16%	0	4
SBR		61%	0	15

TOTAL: Site Trip Assignment

TOTAL

	PM TOTAL
	59

Sherburne Road at Site Driveway (Existing)

Movement	
WBL	21
WLR	0
NBT	0
NBR	0
SBL	0
SBT	0

Sherburne Road at Site Driveway (Proposed)

Movement	
WBL	3
WLR	0
NBT	0
NBR	35
SBL	0
SBT	21

Greenland at Borthwick

Movement	
EBT	6
EBR	18
WBL	0
WBT	9
NBL	26
NBR	0

NH33 at Greenland

Movement	
EBL	16
EBT	0
WBT	0
WBR	10
SBL	4
SBR	15

APPENDIX B

Site Trip Distribution

Primary

	In	Out
AM Totals	19	16

Sherburne Road at Site Driveway (Existing)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL		**95%**	0	15
WBR		**5%**	0	1
NBT			0	0
NBR	**100%**		19	0
SBL			0	0
SBT			0	0

Sherburne Road at Site Driveway (Proposed)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL			0	0
WLR			0	0
NBT	100%		19	0
NBR			0	0
SBL			0	0
SBT		95%	0	15

Greenland at Borthwick

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBT		21%	0	3
EBR		74%	0	12
WBL			0	0
WBT	20%		4	0
NBL	80%		15	0
NBR			0	0

NH33 at Greenland

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL	66%		13	0
EBT			0	0
WBT			0	0
WBR	14%		3	0
SBL		24%	0	4
SBR		50%	0	8

TOTAL: Site Trip Assignment

TOTAL

	AM TOTAL
	35

Sherburne Road at Site Driveway (Existing)

Movement	
WBL	-15
WBR	-1
NBT	0
NBR	-19
SBL	0
SBT	0

Sherburne Road at Site Driveway (Proposed)

Movement	
WBL	0
WLR	0
NBT	-19
NBR	0
SBL	0
SBT	-15

Greenland at Borthwick

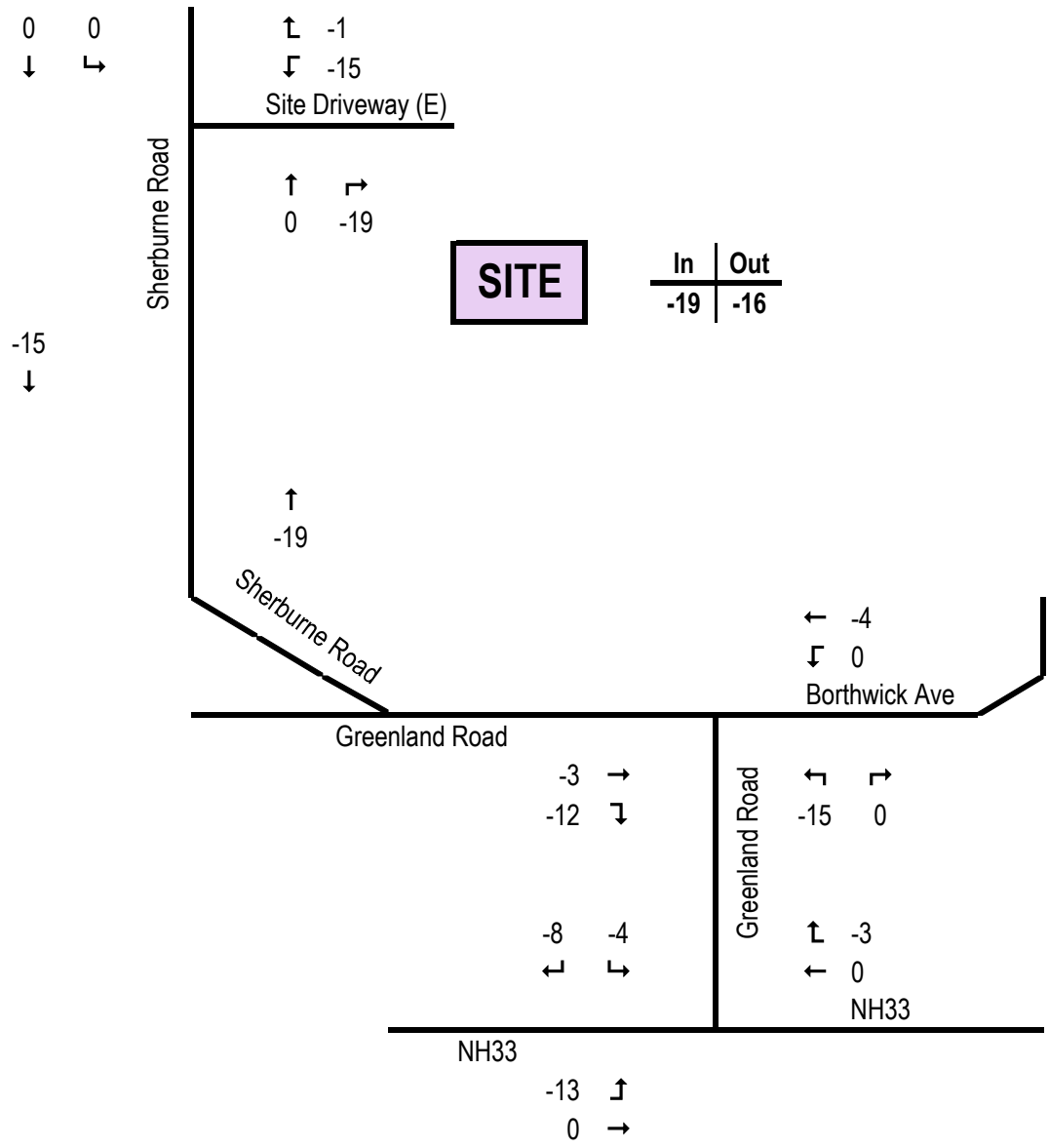
Movement	
EBT	-3
EBR	-12
WBL	0
WBT	-4
NBL	-15
NBR	0

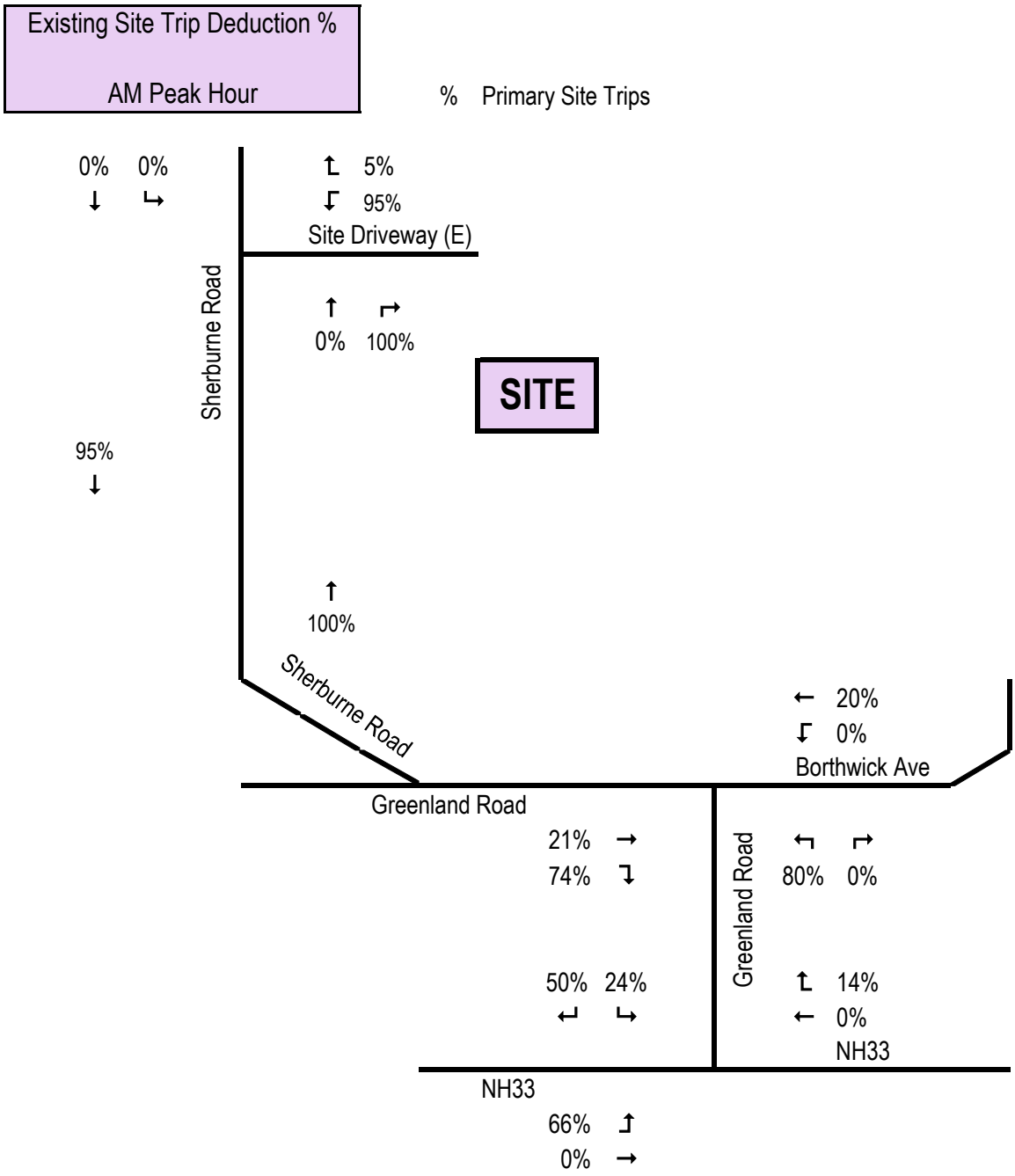
NH33 at Greenland

Movement	
EBL	-13
EBT	0
WBT	0
WBR	-3
SBL	-4
SBR	-8

Existing Site Trip Deductions
2023 BASE
AM Peak Hour

XX Primary Site Trips




Existing Site Trip Deduction %
AM Peak Hour
% Primary Site Trips
0%
0%
5%
95%
Site Driveway (E)
Sherburne Road
0%
100%
SITE
95%
100%
Sherburne Road
20%
0%
Borthwick Ave
Greenland Road
21%
74%
80%
0%
Greenland Road
50%
24%
14%
0%
NH33
NH33
66%
0%

Site Trip Distribution

Primary

	In	Out
PM Totals	3	7

Sherburne Road at Site Driveway (Existing)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL		**100%**	0	7
WBR			0	0
NBT			0	0
NBR	**100%**		3	0
SBL			0	0
SBT			0	0

Sherburne Road at Site Driveway (Proposed)

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
WBL			0	0
WLR			0	0
NBT	100%		3	0
NBR			0	0
SBL			0	0
SBT		100%	0	7

Greenland at Borthwick

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBT		23%	0	2
EBR		77%	0	5
WBL			0	0
WBT	25%		1	0
NBL	75%		2	0
NBR			0	0

NH33 at Greenland

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL	47%		1	0
EBT			0	0
WBT			0	0
WBR	*28%*		1	0
SBL		16%	0	1
SBR		61%	0	4

TOTAL: Site Trip Assignment

TOTAL

	PM TOTAL
	10

Sherburne Road at Site Driveway (Existing)

Movement	
WBL	-7
WBR	0
NBT	0
NBR	-3
SBL	0
SBT	0

Sherburne Road at Site Driveway (Proposed)

Movement	
WBL	0
WLR	0
NBT	-3
NBR	0
SBL	0
SBT	-7

Greenland at Borthwick

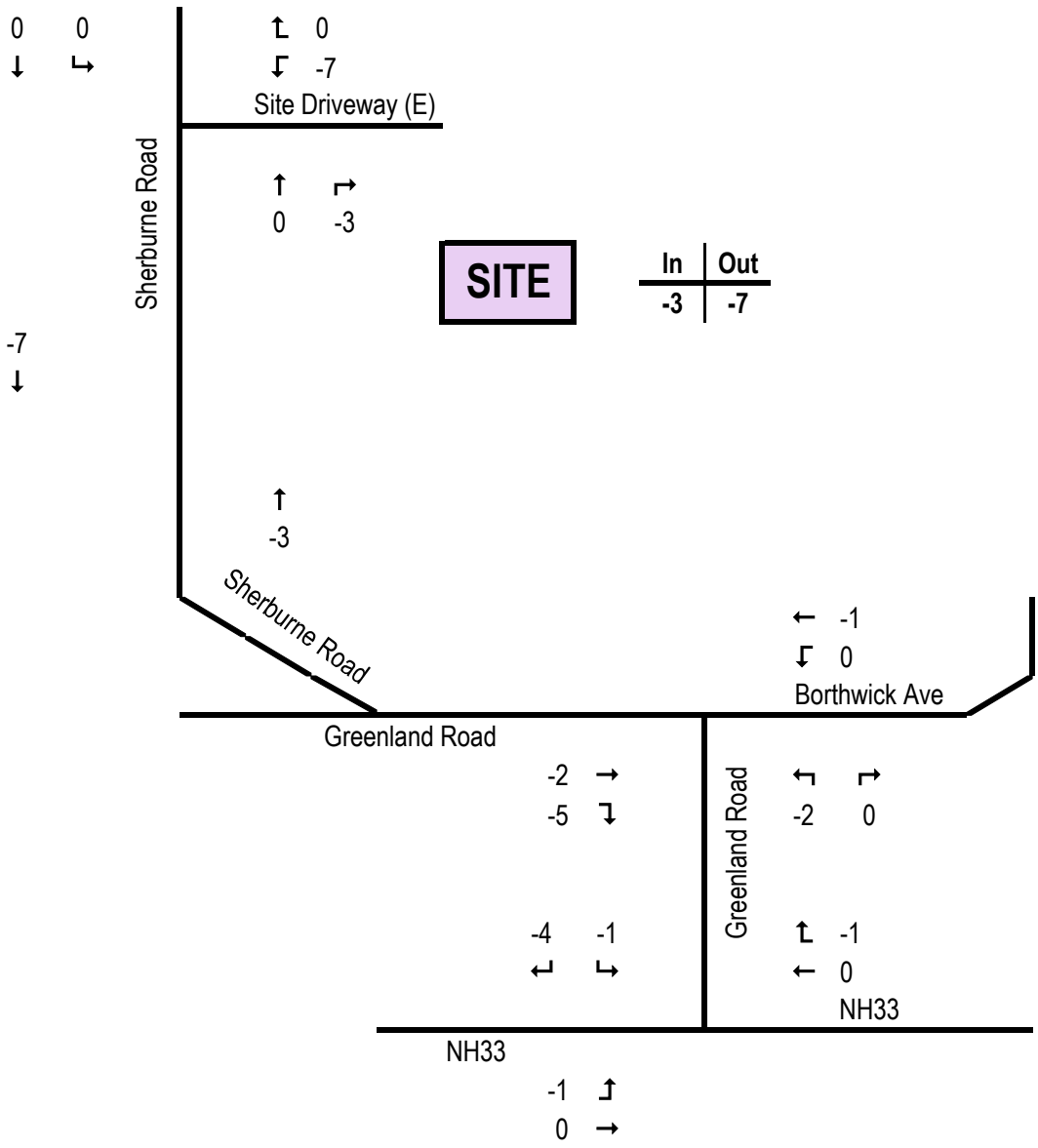
Movement	
EBT	-2
EBR	-5
WBL	0
WBT	-1
NBL	-2
NBR	0

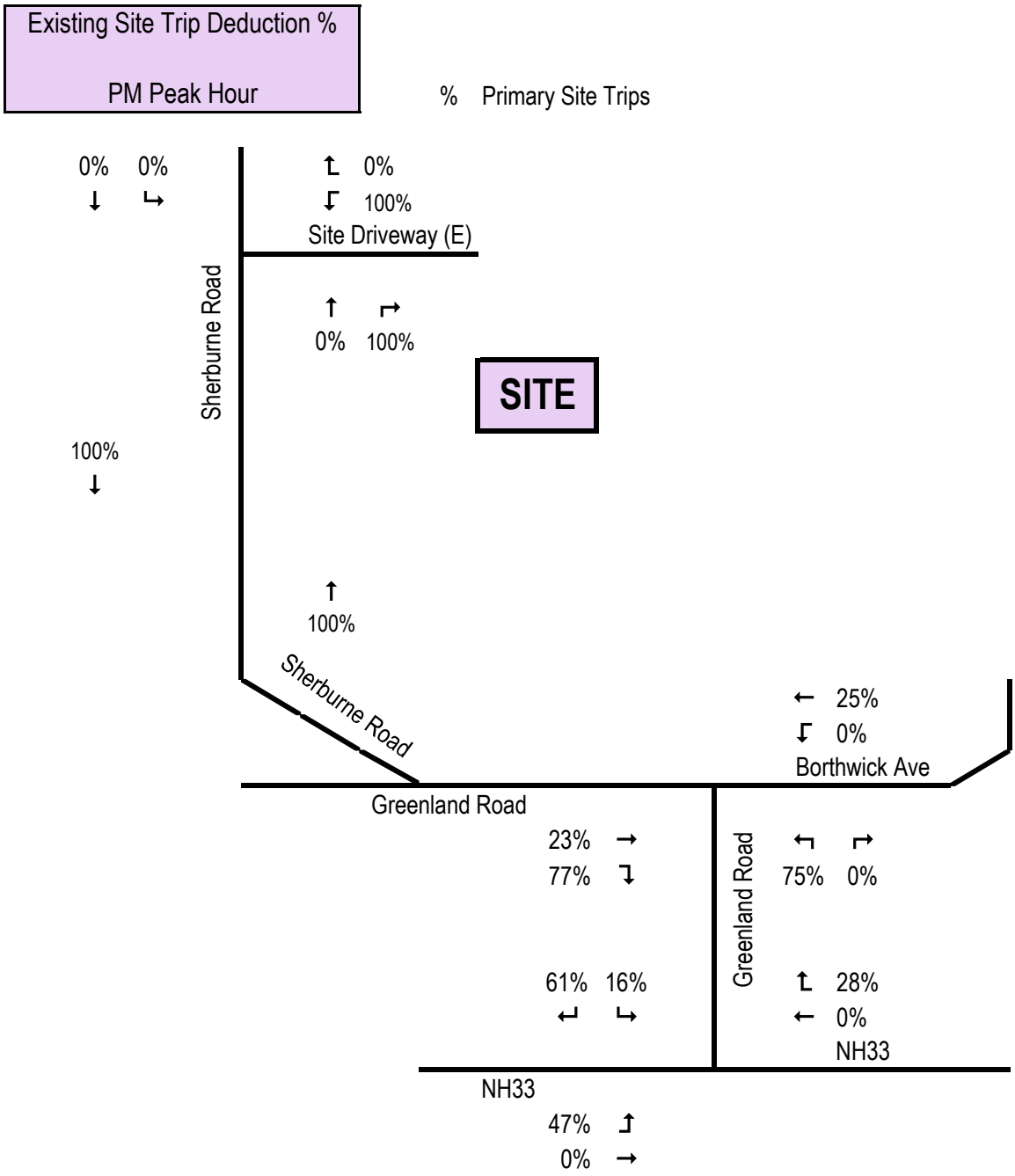
NH33 at Greenland

Movement	
EBL	-1
EBT	0
WBT	0
WBR	-1
SBL	-1
SBR	-4

Existing Site Trip Deductions
2023 BASE
PM Peak Hour

XX Primary Site Trips




Existing Site Trip Deduction %
PM Peak Hour
% Primary Site Trips
0%
0%
0%
100%
Site Driveway (E)
Sherburne Road
0%
100%
SITE
100%
100%
Sherburne Road
25%
0%
Borthwick Ave
Greenland Road
23%
77%
75%
0%
Greenland Road
61%
16%
28%
0%
NH33
NH33
47%
0%

APPENDIX C

Year 2019 Monthly Data

Group 4 Averages: Urban Highways

Month	ADT	For WARRANTS Adjustment to Average	For Traffic Adjustment to Peak
January	11,431	1.12	1.23
February	11,848	1.08	1.18
March	12,141	1.06	1.15
April	12,860	1.00	1.09
May	13,551	0.95	1.03
June	13,785	0.93	1.02
July	13,942	0.92	1.01
August	14,016	0.92	1.00
September	13,379	0.96	1.05
October	13,339	0.96	1.05
November	12,265	1.05	1.14
December	11,496	1.12	1.22

Average ADT: 12,838
Peak ADT: 14,016

PM Peak Hour at South and Lafayette (Data from City)

	2019 PM Peak Hr			2023 PM Peak Hr		% Change	
DATE	**WEEKDAY**	**VOLUME**	**DATE**	**WEEKDAY**	**VOLUME**		
	2019 PM Peak Hr						
1/1/2019	Tuesday	1016	~~1/3/2023~~	~~Tuesday~~	~~1214~~	~~19%~~	Remove Highest
1/2/2019	Wednesday	1550	1/4/2023	Wednesday	1286	-17%	
1/3/2019	Thursday	1532	1/5/2023	Thursday	1357	-11%	
1/8/2019	Tuesday	1411	1/10/2023	Tuesday	1327	-6%	
1/9/2019	Wednesday	1457	1/11/2023	Wednesday	1378	-5%	
1/10/2019	Thursday	1571	~~1/12/2023~~	~~Thursday~~	~~1158~~	~~-26%~~	Remove Lowest
1/15/2019	Tuesday	1498	1/17/2023	Tuesday	1330	-11%	
1/16/2019	Wednesday	1480	1/18/2023	Wednesday	1274	-14%	
1/17/2019	Thursday	1529	1/19/2023	Thursday	1402	-8%	
1/22/2019	Tuesday	1316	1/24/2023	Tuesday	1185	-10%	
1/23/2019	Wednesday	1295	1/25/2023	Wednesday	1033	-20%	
1/24/2019	Thursday	1440	1/26/2023	Thursday	1279	-11%	
1/29/2019	Tuesday	1388	1/31/2023	Tuesday	1257	-9%	
1/30/2019	Wednesday	1454	2/1/2023	Wednesday	1309	-10%	
1/31/2019	Thursday	1525	2/2/2023	Thursday	1274	-16%	
2/5/2019	Tuesday	1473	2/7/2023	Tuesday	1262	-14%	
2/6/2019	Wednesday	1415	2/8/2023	Wednesday	1137	-20%	
2/7/2019	Thursday	1407	2/9/2023	Thursday	1304	-7%	
2/12/2019	Tuesday	1468	2/14/2023	Tuesday	1244	-15%	
2/13/2019	Wednesday	1237	2/15/2023	Wednesday	1281	4%	
2/14/2019	Thursday	1480	2/16/2023	Thursday	1310	-11%	
2/19/2019	Tuesday	1538	2/21/2023	Tuesday	1267	-18%	
2/20/2019	Wednesday	1473	2/22/2023	Wednesday	1384	-6%	
2/21/2019	Thursday	1474	2/23/2023	Thursday	786	-47%	
2/26/2019	Tuesday	1132	~~2/28/2023~~	~~Tuesday~~	~~686~~	~~-39%~~	2023
2/27/2019	Wednesday	1123	~~3/1/2023~~	~~Wednesday~~	~~1030~~	~~-8%~~	School
2/28/2019	Thursday	1074	~~3/2/2023~~	~~Thursday~~	~~979~~	~~-9%~~	Vacation
				Average Weekday Change		**-13%**	

NHDOT Historical Traffic Growth Rate
MS2 Data

		Year											Average
Station	Location	2006	2009	2010	2012	2015	2016	2017	2018	2019	2020*	2021*	Annual Rate
82379074	NH33 (Middle Road) West of Griffin Rd	-2%		-3%	21%	-6%	2%	2%	-11%	1%	-16%	-5%	0.31%
82379094	Borthwick Ave East of Highliner Ave	-4%	4%	0%	-1%	-1%	2%	2%	-5%	1%	-16%	-1%	-0.62%

* Years not included in calculcation due to ongoing covid recovery

Average Annula Growth Rate = -0.16%

Record 1 of 1 Goto Record go

Location ID	82379074	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	Yes
LRS ID	S0000033__	LRS Loc Pt.	
SF Group	04	Route Type	
AF Group	04	Route	NH 33
GF Group	E	Active	Yes
Class Dist Grp	Default	Category	3
Seas Clss Grp	Default		
WIM Group	Default		
QC Group	Default		
Fnct'l Class	Minor Arterial	Milepost	
Located On	Greenland Rd		
Loc On Alias	NH 33 (MIDDLE RD) WEST OF GRIFFIN RD		

More Detail

STATION DATA

Directions: 2-WAY

AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2021	13,525	1,278	9		12,294 (91%)	1,231 (9%)	
2020	14,279[3]		8		12,993 (91%)	1,286 (9%)	Grown from 2019
2019	16,918[3]		8		15,496 (92%)	1,422 (8%)	Grown from 2018
2018	16,717	1,397	8		15,414 (92%)	1,303 (8%)	
2017	18,727[3]				17,378 (93%)	1,349 (7%)	Grown from 2016

1-5 of 16

Travel Demand Model

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

VOLUME COUNT

Date	Int	Total
Thu 8/26/2021	60	16,027
Wed 8/25/2021	60	15,524
Tue 8/24/2021	60	15,707
Thu 8/2/2018	60	19,188
Wed 8/1/2018	60	19,399
Tue 7/31/2018	60	19,284
Fri 8/28/2015	60	20,117
Thu 8/27/2015	60	20,744
Wed 8/26/2015	60	20,538
Tue 8/25/2015	60	19,782

1-10 of 61

mm/dd/yyyy To Date

VOLUME TREND

Year	Annual Growth
2021	-5%
2020	-16%
2019	1%
2018	-11%
2017	2%
2016	2%
2015	-6%
2012	21%
2010	-3%
2006	-2%

1-10 of 15

Record 1 of 1 Goto Record go

Location ID	82379094	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	L3790517__	LRS Loc Pt.	
SF Group	04	Route Type	
AF Group	04	Route	
GF Group	E	Active	Yes
Class Dist Grp	Default	Category	3
Seas Clss Grp	Default		
WIM Group	Default		
QC Group	Default		
Fnct'l Class	Major Collector	Milepost	
Located On	Borthwick Ave		
Loc On Alias	BORTHWICK AVE EAST OF HIGHLINER AVE		

More Detail

STATION DATA

Directions: 2-WAY

AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2021	4,409	450	10		4,007 (91%)	402 (9%)	
2020	4,453[3]		11		4,051 (91%)	402 (9%)	Grown from 2019
2019	5,276[3]		11		4,831 (92%)	445 (8%)	Grown from 2018
2018	5,213	578	11		4,807 (92%)	406 (8%)	
2017	5,514[3]				5,114 (93%)	400 (7%)	Grown from 2016

1-5 of 13

Travel Demand Model

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

VOLUME COUNT

Date	Int	Total
Thu 8/12/2021	60	4,895
Wed 8/11/2021	60	5,351
Tue 8/10/2021	60	5,162
Thu 6/21/2018	60	6,170
Wed 6/20/2018	60	6,115
Tue 6/19/2018	60	5,791
Fri 8/28/2015	60	5,646
Thu 8/27/2015	60	6,114
Wed 8/26/2015	60	6,083
Tue 8/25/2015	60	6,018

1-10 of 56

mm/dd/yyyy To Date

VOLUME TREND

Year	Annual Growth
2021	-1%
2020	-16%
2019	1%
2018	-5%
2017	2%
2016	2%
2015	-1%
2012	-1%
2009	4%
2006	-4%

1-10 of 12

APPENDIX D

From: Eric B. Eby <ebeby@cityofportsmouth.com>
Sent: Thursday, March 30, 2023 5:19 PM
To: Jack McTigue <jmctigue@tfmoran.com>
Subject: RE: Sherburne Traffic Study

Jack
The hospital expansion only provided a brief trip generation memo, as it was generating less than a dozen trips during the peak hours. That amount of traffic can be accounted for in any background growth rate or daily fluctuations of traffic.
Liberty Mutual is not expanding, just reoccupying their existing building which had been mostly vacant since the pandemic. So no traffic study was required.
Eric

Eric B. Eby, P.E.
City Engineer – Parking, Transportation, and Planning
Department of Public Works
City of Portsmouth
680 Peverly Hill Road
Portsmouth, NH 03801
(603) 766-1415
Cell (603)-815-1761

From: Jack McTigue <jmctigue@tfmoran.com>
Sent: Thursday, March 30, 2023 4:47 PM
To: Eric B. Eby <ebeby@cityofportsmouth.com>
Subject: Sherburne Traffic Study

Eric,

Do you have the traffic studies for the hospital expansion or Liberty Mutual? Do you know if they were done yet?

Our traffic engineer would like to include them in our report.

Sincerely,

Jack McTigue, PE, CPESC
Project Manager

TFMoran Seacoast Division
170 Commerce Way - Suite 102, Portsmouth, NH 03801
E-Mail: jmctigue@tfmoran.com
Tel: (603) 431-2222 Fax: (603) 431-0910
Cell: (603) 315-3078

APPENDIX E

Background Traffic Volumes
AM Peak data

Assumed growth rate	0.005	
MARCH 2019 Seasonal	1.15	NHDOT Group 4 Averages
Covid/Stay-home factor	1.130	NHDOT Methodology

Site Trips are not Seasonally Adjusted or Grown.
ALL TRIPS ARE COVID ADJUSTED

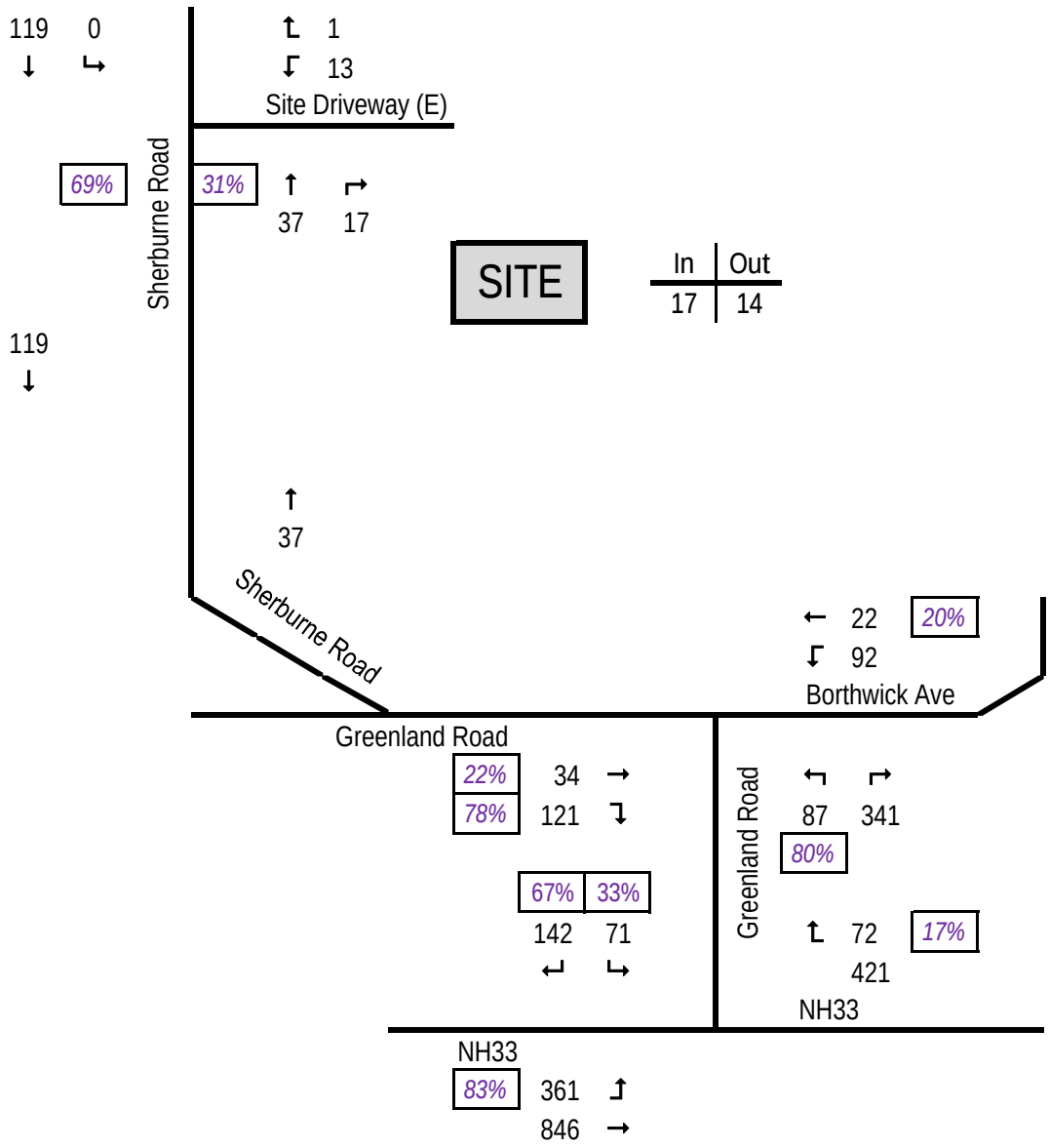
AM Peak Hour	Existing 2023 (Raw data) [03/09/2023]	Existing 2023 w/ Seasonal Adjustment	Covid/Stay Home Adjustment	2023 ADJUSTED	Balance	2023 BASE	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1: Sherburne Road	7:30 AM																			
at Site Driveway (E)	per video obs																			
Movement	[A]																			
WBL	13	*13*	1.130	*14.69*		14.69	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*	*14.69*
WBR	1	*1*	1.130	*1.13*		1.13	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*	*1.13*
NBT	37	43	1.130	48.59		48.59	48.83	49.07	49.32	49.57	49.82	50.07	50.32	50.57	50.82	51.07	51.33	51.59	51.85	52.11
NBR	17	*17*	1.130	*19.21*		19.21	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*	*19.21*
SBL	0	*0*	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
SBT	119	137	1.130	154.81		154.81	155.58	156.36	157.14	157.93	158.72	159.51	160.31	161.11	161.92	162.73	163.54	164.36	165.18	166.01
2: Sherburne Road	calculated from																			
at Site Driveway (P)	above																			
Movement																				
WBL		*0*	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
WBR		*0*	1.130	0.00		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
NBT	37	43	1.130	48.59		48.59	48.83	49.07	49.32	49.57	49.82	50.07	50.32	50.57	50.82	51.07	51.33	51.59	51.85	52.11
NBR		*0*	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
SBL		*0*	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
SBT	119	137	1.130	*154.81*		154.81	155.58	156.36	157.14	157.93	158.72	159.51	160.31	161.11	161.92	162.73	163.54	164.36	165.18	166.01
4: Greenland Road																				
at Borthwick Ave	7:30 AM																			
Movement	(B)																			
EBT	34	39	1.130	44.07		44.07	44.29	44.51	44.73	44.95	45.17	45.40	45.63	45.86	46.09	46.32	46.55	46.78	47.01	47.25
EBR	121	139	1.130	157.07		157.07	157.86	158.65	159.44	160.24	161.04	161.85	162.66	163.47	164.29	165.11	165.94	166.77	167.60	168.44
WBL	92	106	1.130	119.78		119.78	120.38	120.98	121.58	122.19	122.80	123.41	124.03	124.65	125.27	125.90	126.53	127.16	127.80	128.44
WBT	22	25	1.130	28.25		28.25	28.39	28.53	28.67	28.81	28.95	29.09	29.24	29.39	29.54	29.69	29.84	29.99	30.14	30.29
NBL	87	100	1.130	113.00	+1	114.00	114.57	115.14	115.72	116.30	116.88	117.46	118.05	118.64	119.23	119.83	120.43	121.03	121.64	122.25
NBR	341	392	1.130	442.96	+6	448.96	451.20	453.46	455.73	458.01	460.30	462.60	464.91	467.23	469.57	471.92	474.28	476.65	479.03	481.43
5: NH33																				
at Greenland Road	7:30 AM																			
Movement	(A)																			
EBL	361	415	1.130	468.95		468.95	471.29	473.65	476.02	478.40	480.79	483.19	485.61	488.04	490.48	492.93	495.39	497.87	500.36	502.86
EBT	846	973	1.130	1099.49		1099.49	1104.99	1110.51	1116.06	1121.64	1127.25	1132.89	1138.55	1144.24	1149.96	1155.71	1161.49	1167.30	1173.14	1179.01
WBT	421	484	1.130	546.92		546.92	549.65	552.40	555.16	557.94	560.73	563.53	566.35	569.18	572.03	574.89	577.76	580.65	583.55	586.47
WBR	72	83	1.130	93.79		93.79	94.26	94.73	95.20	95.68	96.16	96.64	97.12	97.61	98.10	98.59	99.08	99.58	100.08	100.58
SBL	71	82	1.130	92.66		92.66	93.12	93.59	94.06	94.53	95.00	95.48	95.96	96.44	96.92	97.40	97.89	98.38	98.87	99.36
SBR	142	163	1.130	184.19		184.19	185.11	186.04	186.97	187.90	188.84	189.78	190.73	191.68	192.64	193.60	194.57	195.54	196.52	197.50

AM PHF	% Heavy	Counted Heavy	AM Peak Hour	2023 BASE	2027 No-Build	EXISTING TRIP DEDUCTION	Site Trip Distribution	2027 Build	Build PHF	Build HV	Build HV
			1: Sherburne Road at Site Driveway								
			Movement								
0.39	14%	2	WBL	15	15	-15	29	29	0.90	0%	0
	0%	0	WBR	1	1	-1	0	0		0%	0
0.79	6%	3	NBT	49	50	0	0	50	0.79	6%	3
	10%	2	NBR	19	19	-19	0	0		0%	0
0.76	0%	0	SBL	0	0	0	0	0	0.76	0%	0
	2%	3	SBT	155	158	0	0	158		2%	3
			2: Sherburne Road at Site Driveway								
			Movement								
0.90	0%		WBL	0	0	0	4	4	0.90	0%	
	0%		WBR	0	0	0	0	0		0%	
0.90	10%	5	NBT	49	50	-19	0	31	0.90	6%	3
	0%		NBR	0	0	0	13	13		0%	
0.90	0%		SBL	0	0	0	0	0	0.90	0%	
	3%	5	SBT	155	158	-15	29	172		2%	3
			4: Greenland Road at Borthwick Ave								
			Movement								
0.84	2%	1	EBT	44	45	-3	7	49	0.84	2%	
	3%	4	EBR	157	160	-12	26	174		3%	
0.86	6%	7	WBL	120	122	0	0	122	0.86	6%	
	0%	0	WBT	28	29	-4	3	28		0%	
0.75	6%	7	NBL	114	116	-15	10	111	0.75	6%	
	2%	11	NBR	449	458	0	0	458		2%	
			5: NH33 at Greenland Road								
			Movement								
0.82	2%	11	EBL	469	478	-13	9	474	0.82	2%	
	3%	33	EBT	1099	1122	0	0	1122		3%	
0.89	4%	22	WBT	547	558	0	0	558	0.89	4%	
	4%	4	WBR	94	96	-3	2	95		4%	
0.82	3%	3	SBL	93	95	-4	9	100	0.82	3%	
	5%	9	SBR	184	188	-8	17	197		5%	

AM Peak Hour	2037 No-Build	EXISTING TRIP DEDUCTION	Site Trip Distribution	2037 Build	Future PHF
1: Sherburne Road at Site Driveway					
Movement					
WBL	15	-15	29	29	0.90
WBR	1	-1	0	0	
NBT	52	0	0	52	0.90
NBR	19	-19	0	0	
SBL	0	0	0	0	0.90
SBT	166	0	0	166	
2: Sherburne Road at Site Driveway					
Movement					
WBL	0	0	4	4	0.90
WBR	0	0	0	0	
NBT	52	-19	0	33	0.90
NBR	0	0	13	13	
SBL	0	0	0	0	0.90
SBT	166	-15	29	180	
4: Greenland Road at Borthwick Ave					
Movement					
EBT	47	-3	7	51	0.90
EBR	168	-12	26	182	
WBL	128	0	0	128	0.90
WBT	30	-4	3	29	
NBL	122	-15	10	117	0.90
NBR	481	0	0	481	
5: NH33 at Greenland Road					
Movement					
EBL	503	-13	9	499	0.90
EBT	1179	0	0	1179	
WBT	586	0	0	586	0.90
WBR	101	-3	2	100	
SBL	99	-4	9	104	0.90
SBR	198	-8	17	207	

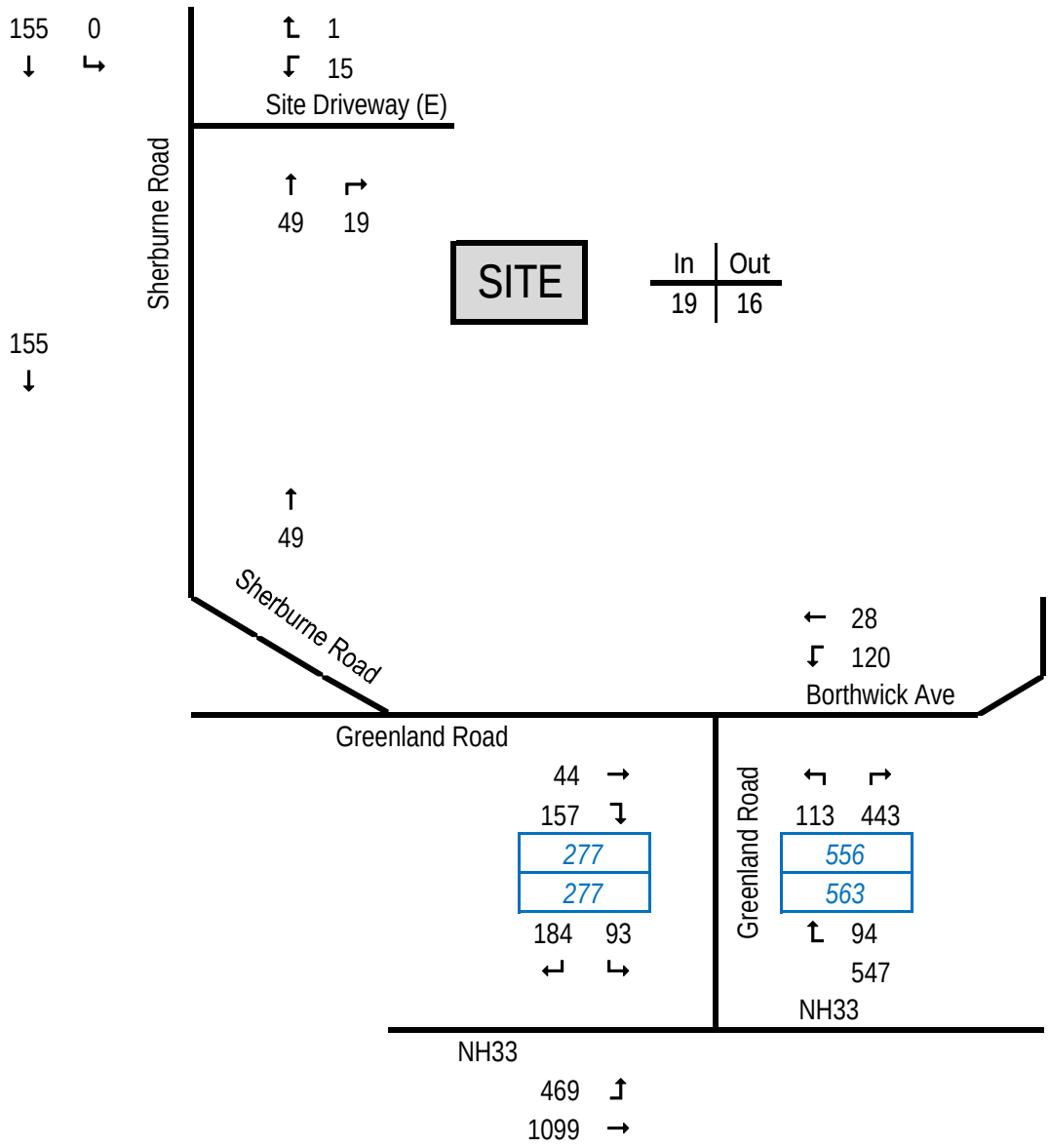
2023 RAW DATA
PRORATA
AM Peak Hour

XX Primary Site Trips



2023 ADJUSTED
BALANCE
AM Peak Hour

XX Primary Site Trips



Background Traffic Volumes
PM Peak data

Assumed growth rate	0.005	
MARCH 2019 Seasonal	1.15	NHDOT Group 4 Averages
Covid/Stay-home factor	1.130	NHDOT Methodology

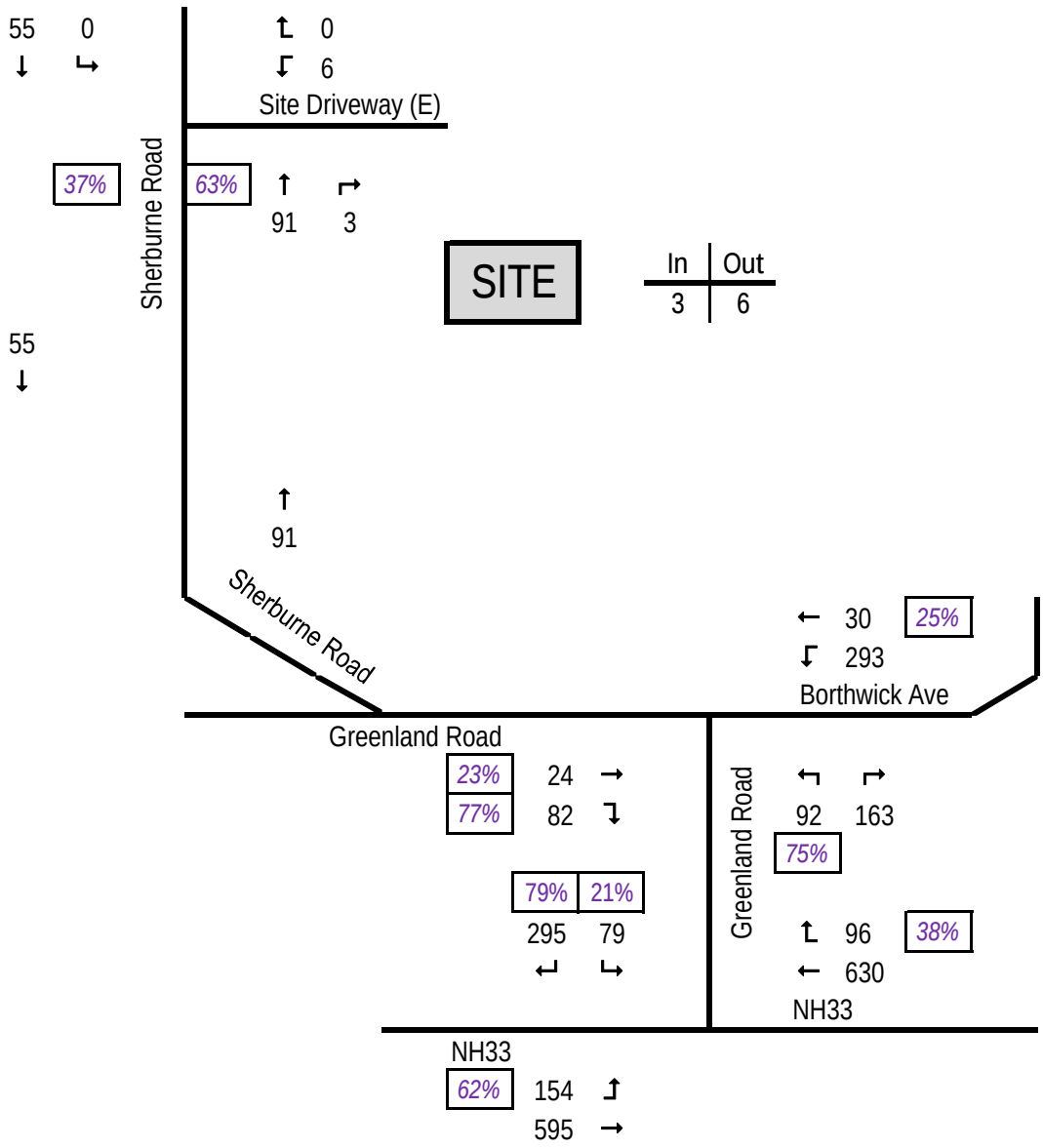
Site Trips are not Seasonally Adjusted or Grown.
ALL TRIPS ARE COVID ADJUSTED

PM Peak Hour	Existing 2023 (Raw data) [03/09/2023]	Existing 2023 w/ Seasonal Adjustment	Covid/Stay Home Adjustment	2023 ADJUSTED	BALANCE	2023 BASE	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1: Sherburne Road	3:30 PM																			
at Site Driveway (E)	per video obs																			
Movement	[A]																			
WBL	6	*6*	1.130	*6.78*		6.78	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*	*6.78*
WBR	0	0	1.130	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NBT	91	*91*	1.130	102.83		102.83	103.34	103.86	104.38	104.90	105.42	105.95	106.48	107.01	107.55	108.09	108.63	109.17	109.72	110.27
NBR	3	*3*	1.130	*3.39*		3.39	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*	*3.39*
SBL	0	*0*	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
SBT	55	*55*	1.130	*62.15*		62.15	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*
2: Sherburne Road	calculated from																			
at Site Driveway (P)	above																			
Movement																				
WBL		0	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
WBR		0	1.130	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NBT	91	*91*	1.130	102.83		102.83	103.34	103.86	104.38	104.90	105.42	105.95	106.48	107.01	107.55	108.09	108.63	109.17	109.72	110.27
NBR		*0*	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
SBL		0	1.130	*0.00*		0.00	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
SBT	55	55	1.130	*62.15*		62.15	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*	*62.15*
4: Greenland Road																				
at Borthwick Ave	3:00 PM																			
Movement	(B)																			
EBT	24	28	1.130	31.64		31.64	31.80	31.96	32.12	32.28	32.44	32.60	32.76	32.92	33.08	33.25	33.42	33.59	33.76	33.93
EBR	82	94	1.130	106.22		106.22	106.75	107.28	107.82	108.36	108.90	109.44	109.99	110.54	111.09	111.65	112.21	112.77	113.33	113.90
WBL	293	337	1.130	380.81		380.81	382.71	384.62	386.54	388.47	390.41	392.36	394.32	396.29	398.27	400.26	402.26	404.27	406.29	408.32
WBT	30	35	1.130	39.55		39.55	39.75	39.95	40.15	40.35	40.55	40.75	40.95	41.15	41.36	41.57	41.78	41.99	42.20	42.41
NBL	92	106	1.130	119.78		119.78	120.38	120.98	121.58	122.19	122.80	123.41	124.03	124.65	125.27	125.90	126.53	127.16	127.80	128.44
NBR	163	187	1.130	211.31		211.31	212.37	213.43	214.50	215.57	216.65	217.73	218.82	219.91	221.01	222.12	223.23	224.35	225.47	226.60
5: NH33																				
at Greenland Road	3:15 PM																			
Movement	(A)																			
EBL	154	177	1.130	200.01		200.01	201.01	202.02	203.03	204.05	205.07	206.10	207.13	208.17	209.21	210.26	211.31	212.37	213.43	214.50
EBT	595	684	1.130	772.92		772.92	776.78	780.66	784.56	788.48	792.42	796.38	800.36	804.36	808.38	812.42	816.48	820.56	824.66	828.78
WBT	630	725	1.130	819.25		819.25	823.35	827.47	831.61	835.77	839.95	844.15	848.37	852.61	856.87	861.15	865.46	869.79	874.14	878.51
WBR	96	110	1.130	124.30		124.30	124.92	125.54	126.17	126.80	127.43	128.07	128.71	129.35	130.00	130.65	131.30	131.96	132.62	133.28
SBL	79	91	1.130	102.83		102.83	103.34	103.86	104.38	104.90	105.42	105.95	106.48	107.01	107.55	108.09	108.63	109.17	109.72	110.27
SBR	295	339	1.130	383.07		383.07	384.99	386.91	388.84	390.78	392.73	394.69	396.66	398.64	400.63	402.63	404.64	406.66	408.69	410.73

PM PHF	% Heavy	Counted Heavy	PM Peak Hour	2023 BASE	2027 No-Build	EXISTING TRIP DEDUCTION	Site Trip Distribution	2027 Build	Build PHF	Build HV	Build HV	PM Peak Hour	2037 No-Build	EXISTING TRIP DEDUCTION	Site Trip Distribution	2037 Build	Future PHF
			1: Sherburne Road at Site Driveway									1: Sherburne Road at Site Driveway					
			Movement									Movement					
0.38	0%	0	WBL	7	7	-7	21	21	0.90	0%	0	WBL	7	-7	21	21	0.90
	0%	0	WBR	0	0	0	0	0		0%	0	WBR	0	0	0	0	
0.69	1%	1	NBT	103	105	0	0	105	0.69	1%	1	NBT	110	0	0	110	0.90
	0%	0	NBR	3	3	-3	0	0		0%	0	NBR	3	-3	0	0	
0.81	0%	0	SBL	0	0	0	0	0	0.81	0%	0	SBL	0	0	0	0	0.90
	2%	1	SBT	62	62	0	0	62		2%	1	SBT	62	0	0	62	
			2: Sherburne Road at Site Driveway									2: Sherburne Road at Site Driveway					
			Movement									Movement					
0.90	0%		WBL	0	0	0	3	3	0.90	0%		WBL	0	0	3	3	0.90
	0%		WBR	0	0	0	0	0		0%		WBR	0	0	0	0	
0.90	1%	1	NBT	103	105	-3	0	102	0.90	1%	1	NBT	110	-3	0	107	0.90
	0%		NBR	0	0	0	35	35		0%		NBR	0	0	35	35	
0.90	0%		SBL	0	0	0	0	0	0.90	0%		SBL	0	0	0	0	0.90
	2%	1	SBT	62	62	-7	21	76		2%	1	SBT	62	-7	21	76	
			4: Greenland Road at Borthwick Ave									4: Greenland Road at Borthwick Ave					
			Movement									Movement					
0.86	3%	1	EBT	32	32	-2	6	36	0.86	3%		EBT	34	-2	6	38	0.90
	3%	3	EBR	106	108	-5	18	121		3%		EBR	114	-5	18	127	
0.91	2%	8	WBL	381	388	0	0	388	0.91	2%		WBL	408	0	0	408	0.91
	3%	1	WBT	40	40	-1	9	48		3%		WBT	42	-1	9	50	
0.88	3%	3	NBL	120	122	-2	26	146	0.88	3%		NBL	128	-2	26	152	0.90
	4%	9	NBR	211	216	0	0	216		4%		NBR	227	0	0	227	
			5: NH33 at Greenland Road									5: NH33 at Greenland Road					
			Movement									Movement					
0.94	2%	5	EBL	200	204	-1	16	219	0.94	2%		EBL	215	-1	16	230	0.94
	2%	15	EBT	773	788	0	0	788		2%		EBT	829	0	0	829	
0.89	2%	14	WBT	819	836	0	0	836	0.89	2%		WBT	879	0	0	879	0.90
	6%	7	WBR	124	127	-1	10	136		6%		WBR	133	-1	10	142	
0.93	6%	6	SBL	103	105	-1	4	108	0.93	6%		SBL	110	-1	4	113	0.93
	1%	5	SBR	383	391	-4	15	402		1%		SBR	411	-4	15	422	

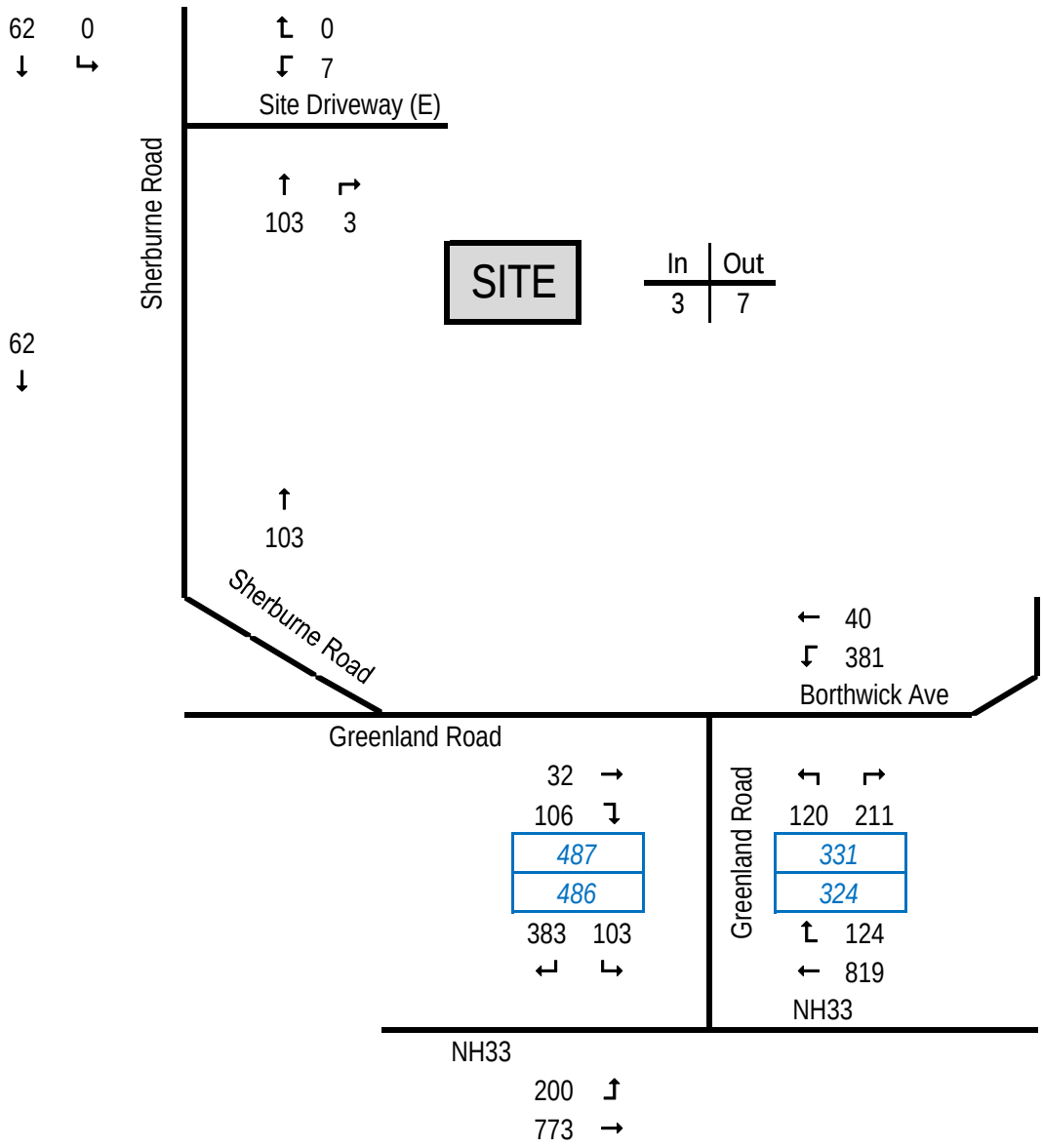
2023 RAW DATA
PRORATA
PM Peak Hour

XX Primary Site Trips



2023 ADJUSTED
BALANCE
PM Peak Hour

XX Primary Site Trips



APPENDIX F

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	1	49	19	0	155
Future Vol, veh/h	15	1	49	19	0	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	39	39	79	79	76	76
Heavy Vehicles, %	14	0	6	10	0	2
Mvmt Flow	38	3	62	24	0	204

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	278	74	0	0	86	0
Stage 1	74	-	-	-	-	-
Stage 2	204	-	-	-	-	-
Critical Hdwy	6.54	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	687	993	-	-	1523	-
Stage 1	919	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	687	993	-	-	1523	-
Mov Cap-2 Maneuver	687	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	802	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	700	1523	-
HCM Lane V/C Ratio	-	-	0.059	-	-
HCM Control Delay (s)	-	-	10.5	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	20.1
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	44	157	120	28	114	449
Future Vol, veh/h	44	157	120	28	114	449
Peak Hour Factor	0.84	0.84	0.86	0.86	0.75	0.75
Heavy Vehicles, %	2	3	6	0	6	2
Mvmt Flow	52	187	140	33	152	599
Number of Lanes	1	0	0	1	1	1

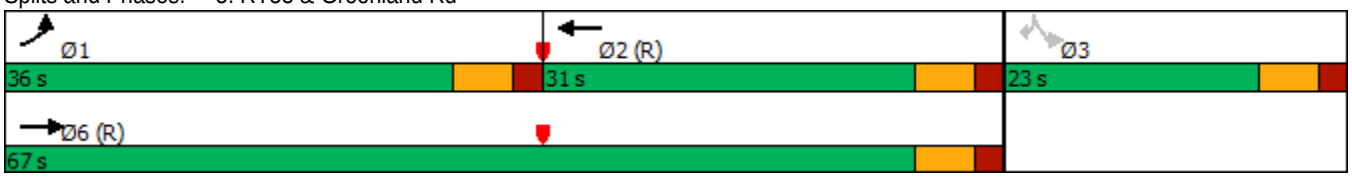
Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.7	12	24.6
HCM LOS	B	B	C

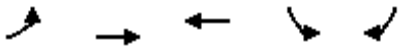
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	81%
Vol Thru, %	0%	0%	22%	19%
Vol Right, %	0%	100%	78%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	449	201	148
LT Vol	114	0	0	120
Through Vol	0	0	44	28
RT Vol	0	449	157	0
Lane Flow Rate	152	599	239	172
Geometry Grp	7	7	2	2
Degree of Util (X)	0.266	0.836	0.366	0.301
Departure Headway (Hd)	6.31	5.03	5.502	6.291
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	570	718	653	571
Service Time	4.042	2.761	3.541	4.333
HCM Lane V/C Ratio	0.267	0.834	0.366	0.301
HCM Control Delay	11.3	28	11.7	12
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	1.1	9.3	1.7	1.3

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	469	1099	547	93	184
Future Volume (vph)	469	1099	547	93	184
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	36.0	67.0	31.0	23.0	23.0
Total Split (%)	40.0%	74.4%	34.4%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	33.0	66.0	26.9	12.0	12.0
Actuated g/C Ratio	0.37	0.73	0.30	0.13	0.13
v/c Ratio	0.88	0.52	0.70	0.48	0.56
Control Delay	44.1	6.5	32.0	42.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	6.5	32.0	42.4	10.7
LOS	D	A	C	D	B
Approach Delay		17.7	32.0	21.3	
Approach LOS		B	C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 51 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 65.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

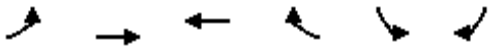




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	572	1340	721	113	224
v/c Ratio	0.88	0.52	0.70	0.48	0.56
Control Delay	44.1	6.5	32.0	42.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	6.5	32.0	42.4	10.7
Queue Length 50th (ft)	288	143	190	60	0
Queue Length 95th (ft)	#442	192	253	97	44
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	649	2568	1030	330	472
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.52	0.70	0.34	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	469	1099	547	94	93	184
Future Volume (vph)	469	1099	547	94	93	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3505	3395		1752	1538
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3505	3395		1752	1538
Peak-hour factor, PHF	0.82	0.82	0.89	0.89	0.82	0.82
Adj. Flow (vph)	572	1340	615	106	113	224
RTOR Reduction (vph)	0	0	15	0	0	194
Lane Group Flow (vph)	572	1340	706	0	113	30
Heavy Vehicles (%)	2%	3%	4%	4%	3%	5%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	33.0	66.0	27.0		12.0	12.0
Effective Green, g (s)	33.0	66.0	27.0		12.0	12.0
Actuated g/C Ratio	0.37	0.73	0.30		0.13	0.13
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	649	2570	1018		233	205
v/s Ratio Prot	c0.32	0.38	c0.21			
v/s Ratio Perm					c0.06	0.02
v/c Ratio	0.88	0.52	0.69		0.48	0.15
Uniform Delay, d1	26.7	5.2	27.8		36.1	34.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.7	0.8	3.9		2.2	0.4
Delay (s)	40.3	5.9	31.7		38.3	34.9
Level of Service	D	A	C		D	C
Approach Delay (s)		16.2	31.7		36.1	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	1	50	19	0	158
Future Vol, veh/h	15	1	50	19	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	39	39	79	79	76	76
Heavy Vehicles, %	14	0	6	10	0	2
Mvmt Flow	38	3	63	24	0	208

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	283	75	0	0	87	0
Stage 1	75	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.54	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	682	992	-	-	1522	-
Stage 1	918	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	682	992	-	-	1522	-
Mov Cap-2 Maneuver	682	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	696	1522	-
HCM Lane V/C Ratio	-	-	0.059	-	-
HCM Control Delay (s)	-	-	10.5	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	21.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	160	122	29	116	458
Future Vol, veh/h	45	160	122	29	116	458
Peak Hour Factor	0.84	0.84	0.86	0.86	0.75	0.75
Heavy Vehicles, %	2	3	6	0	6	2
Mvmt Flow	54	190	142	34	155	611
Number of Lanes	1	0	0	1	1	1

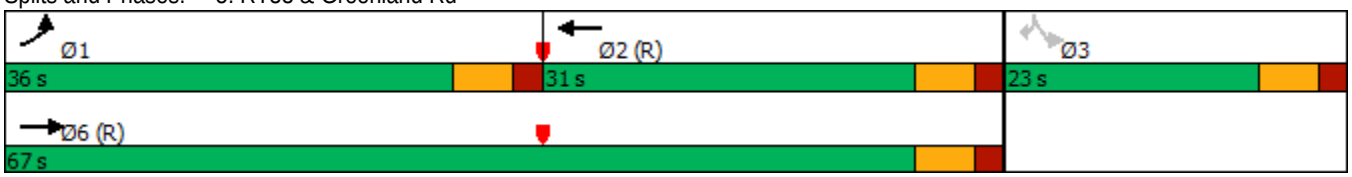
Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.9	12.2	26.6
HCM LOS	B	B	D

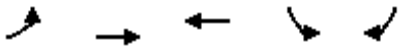
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	81%
Vol Thru, %	0%	0%	22%	19%
Vol Right, %	0%	100%	78%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	458	205	151
LT Vol	116	0	0	122
Through Vol	0	0	45	29
RT Vol	0	458	160	0
Lane Flow Rate	155	611	244	176
Geometry Grp	7	7	2	2
Degree of Util (X)	0.272	0.858	0.376	0.309
Departure Headway (Hd)	6.342	5.061	5.545	6.336
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	568	714	649	567
Service Time	4.073	2.792	3.587	4.381
HCM Lane V/C Ratio	0.273	0.856	0.376	0.31
HCM Control Delay	11.4	30.5	11.9	12.2
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	1.1	10.1	1.7	1.3

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	478	1122	558	95	188
Future Volume (vph)	478	1122	558	95	188
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	36.0	67.0	31.0	23.0	23.0
Total Split (%)	40.0%	74.4%	34.4%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	33.6	65.7	26.1	12.3	12.3
Actuated g/C Ratio	0.37	0.73	0.29	0.14	0.14
v/c Ratio	0.88	0.53	0.74	0.49	0.56
Control Delay	44.1	6.7	33.6	42.0	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	6.7	33.6	42.0	10.5
LOS	D	A	C	D	B
Approach Delay		17.9	33.6	21.1	
Approach LOS		B	C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 51 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 66.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

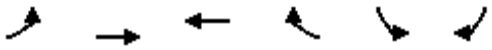




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	583	1368	735	116	229
v/c Ratio	0.88	0.53	0.74	0.49	0.56
Control Delay	44.1	6.7	33.6	42.0	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	6.7	33.6	42.0	10.5
Queue Length 50th (ft)	297	149	196	62	0
Queue Length 95th (ft)	#465	205	259	97	43
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	661	2558	999	330	476
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.53	0.74	0.35	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	478	1122	558	96	95	188
Future Volume (vph)	478	1122	558	96	95	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3505	3395		1752	1538
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3505	3395		1752	1538
Peak-hour factor, PHF	0.82	0.82	0.89	0.89	0.82	0.82
Adj. Flow (vph)	583	1368	627	108	116	229
RTOR Reduction (vph)	0	0	15	0	0	198
Lane Group Flow (vph)	583	1368	720	0	116	31
Heavy Vehicles (%)	2%	3%	4%	4%	3%	5%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	33.6	65.7	26.1		12.3	12.3
Effective Green, g (s)	33.6	65.7	26.1		12.3	12.3
Actuated g/C Ratio	0.37	0.73	0.29		0.14	0.14
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	660	2558	984		239	210
v/s Ratio Prot	c0.33	0.39	c0.21			
v/s Ratio Perm					c0.07	0.02
v/c Ratio	0.88	0.53	0.73		0.49	0.15
Uniform Delay, d1	26.4	5.4	28.8		35.9	34.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.6	0.8	4.8		2.1	0.4
Delay (s)	40.0	6.2	33.6		38.0	34.7
Level of Service	D	A	C		D	C
Approach Delay (s)		16.3	33.6		35.8	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	1	52	19	0	166
Future Vol, veh/h	15	1	52	19	0	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	14	0	6	10	0	2
Mvmt Flow	17	1	58	21	0	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	253	69	0	0	79	0
Stage 1	69	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.54	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	710	1000	-	-	1532	-
Stage 1	924	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	710	1000	-	-	1532	-
Mov Cap-2 Maneuver	710	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	819	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	723	1532	-
HCM Lane V/C Ratio	-	-	0.025	-	-
HCM Control Delay (s)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	168	128	30	122	481
Future Vol, veh/h	47	168	128	30	122	481
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	3	6	0	6	2
Mvmt Flow	52	187	142	33	136	534
Number of Lanes	1	0	0	1	1	1

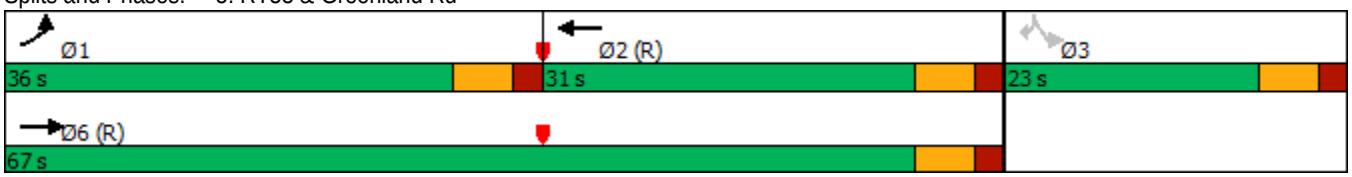
Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.3	11.8	18.9
HCM LOS	B	B	C

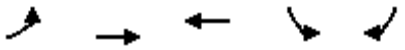
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	81%
Vol Thru, %	0%	0%	22%	19%
Vol Right, %	0%	100%	78%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	481	215	158
LT Vol	122	0	0	128
Through Vol	0	0	47	30
RT Vol	0	481	168	0
Lane Flow Rate	136	534	239	176
Geometry Grp	7	7	2	2
Degree of Util (X)	0.237	0.744	0.355	0.298
Departure Headway (Hd)	6.291	5.01	5.346	6.121
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	572	721	674	586
Service Time	4.017	2.736	3.382	4.161
HCM Lane V/C Ratio	0.238	0.741	0.355	0.3
HCM Control Delay	11	20.9	11.3	11.8
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	0.9	6.7	1.6	1.2

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	503	1179	586	99	198
Future Volume (vph)	503	1179	586	99	198
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	36.0	67.0	31.0	23.0	23.0
Total Split (%)	40.0%	74.4%	34.4%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	32.4	66.1	27.7	11.9	11.9
Actuated g/C Ratio	0.36	0.73	0.31	0.13	0.13
v/c Ratio	0.88	0.51	0.72	0.48	0.56
Control Delay	44.0	6.3	32.5	42.3	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	6.3	32.5	42.3	10.8
LOS	D	A	C	D	B
Approach Delay		17.6	32.5	21.3	
Approach LOS		B	C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 51 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 21.8	Intersection LOS: C
Intersection Capacity Utilization 69.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

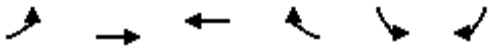




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	559	1310	763	110	220
v/c Ratio	0.88	0.51	0.72	0.48	0.56
Control Delay	44.0	6.3	32.5	42.3	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	6.3	32.5	42.3	10.8
Queue Length 50th (ft)	278	137	205	59	0
Queue Length 95th (ft)	#502	215	275	105	60
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	641	2573	1058	330	468
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.87	0.51	0.72	0.33	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	503	1179	586	101	99	198
Future Volume (vph)	503	1179	586	101	99	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3505	3395		1752	1538
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3505	3395		1752	1538
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	559	1310	651	112	110	220
RTOR Reduction (vph)	0	0	15	0	0	191
Lane Group Flow (vph)	559	1310	748	0	110	29
Heavy Vehicles (%)	2%	3%	4%	4%	3%	5%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	32.4	66.1	27.7		11.9	11.9
Effective Green, g (s)	32.4	66.1	27.7		11.9	11.9
Actuated g/C Ratio	0.36	0.73	0.31		0.13	0.13
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	637	2574	1044		231	203
v/s Ratio Prot	c0.32	0.37	c0.22			
v/s Ratio Perm					c0.06	0.02
v/c Ratio	0.88	0.51	0.72		0.48	0.14
Uniform Delay, d1	26.9	5.1	27.7		36.2	34.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.3	0.7	4.2		2.1	0.4
Delay (s)	40.3	5.8	31.9		38.3	35.0
Level of Service	D	A	C		D	C
Approach Delay (s)		16.1	31.9		36.1	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	0	50	0	0	158
Future Vol, veh/h	29	0	50	0	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	79	79	76	76
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	32	0	63	0	0	208

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	271	63	0	-	-	-
Stage 1	63	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	723	1007	-	0	0	-
Stage 1	965	-	-	0	0	-
Stage 2	832	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	723	1007	-	-	-	-
Mov Cap-2 Maneuver	723	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	832	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	723	-
HCM Lane V/C Ratio	-	0.045	-
HCM Control Delay (s)	-	10.2	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	31	13	0	172
Future Vol, veh/h	4	0	31	13	0	172
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	4	0	34	14	0	191

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	41	0	0	48	0
Stage 1	41	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	761	1036	-	-	1572	-
Stage 1	987	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	761	1036	-	-	1572	-
Mov Cap-2 Maneuver	761	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	761	1572	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	9.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	22.2
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	174	122	28	111	458
Future Vol, veh/h	49	174	122	28	111	458
Peak Hour Factor	0.84	0.84	0.86	0.86	0.75	0.75
Heavy Vehicles, %	2	3	6	0	6	2
Mvmt Flow	58	207	142	33	148	611
Number of Lanes	1	0	0	1	1	1

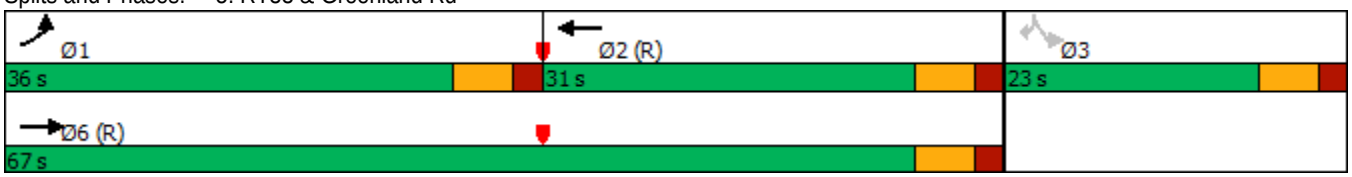
Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.4	12.3	27.9
HCM LOS	B	B	D

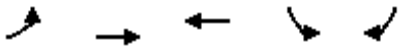
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	81%
Vol Thru, %	0%	0%	22%	19%
Vol Right, %	0%	100%	78%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	458	223	150
LT Vol	111	0	0	122
Through Vol	0	0	49	28
RT Vol	0	458	174	0
Lane Flow Rate	148	611	265	174
Geometry Grp	7	7	2	2
Degree of Util (X)	0.263	0.868	0.41	0.309
Departure Headway (Hd)	6.398	5.117	5.554	6.386
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	562	708	648	562
Service Time	4.133	2.851	3.6	4.438
HCM Lane V/C Ratio	0.263	0.863	0.409	0.31
HCM Control Delay	11.4	31.9	12.4	12.3
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	1	10.4	2	1.3

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	474	1122	558	100	197
Future Volume (vph)	474	1122	558	100	197
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	36.0	67.0	31.0	23.0	23.0
Total Split (%)	40.0%	74.4%	34.4%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	33.2	65.5	26.3	12.5	12.5
Actuated g/C Ratio	0.37	0.73	0.29	0.14	0.14
v/c Ratio	0.89	0.54	0.73	0.50	0.57
Control Delay	44.7	6.8	33.3	42.4	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	6.8	33.3	42.4	10.4
LOS	D	A	C	D	B
Approach Delay		18.1	33.3	21.2	
Approach LOS		B	C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 51 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 66.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

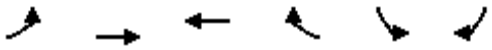




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	578	1368	734	122	240
v/c Ratio	0.89	0.54	0.73	0.50	0.57
Control Delay	44.7	6.8	33.3	42.4	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	6.8	33.3	42.4	10.4
Queue Length 50th (ft)	295	151	195	65	0
Queue Length 95th (ft)	#459	205	258	102	44
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	653	2551	1007	330	485
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.54	0.73	0.37	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	474	1122	558	95	100	197
Future Volume (vph)	474	1122	558	95	100	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3505	3395		1752	1538
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3505	3395		1752	1538
Peak-hour factor, PHF	0.82	0.82	0.89	0.89	0.82	0.82
Adj. Flow (vph)	578	1368	627	107	122	240
RTOR Reduction (vph)	0	0	15	0	0	207
Lane Group Flow (vph)	578	1368	719	0	122	33
Heavy Vehicles (%)	2%	3%	4%	4%	3%	5%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	33.2	65.5	26.3		12.5	12.5
Effective Green, g (s)	33.2	65.5	26.3		12.5	12.5
Actuated g/C Ratio	0.37	0.73	0.29		0.14	0.14
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	652	2550	992		243	213
v/s Ratio Prot	c0.33	0.39	c0.21			
v/s Ratio Perm					c0.07	0.02
v/c Ratio	0.89	0.54	0.72		0.50	0.16
Uniform Delay, d1	26.6	5.5	28.6		35.9	34.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	14.1	0.8	4.6		2.2	0.5
Delay (s)	40.7	6.3	33.2		38.1	34.6
Level of Service	D	A	C		D	C
Approach Delay (s)		16.5	33.2		35.8	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	0	52	0	0	166
Future Vol, veh/h	29	0	52	0	0	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	32	0	58	0	0	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	242	58	0	-	-	-
Stage 1	58	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	751	1014	-	0	0	-
Stage 1	970	-	-	0	0	-
Stage 2	852	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	751	1014	-	-	-	-
Mov Cap-2 Maneuver	751	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	751	-
HCM Lane V/C Ratio	-	0.043	-
HCM Control Delay (s)	-	10	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	33	13	0	180
Future Vol, veh/h	4	0	33	13	0	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	6	0	0	2
Mvmt Flow	4	0	37	14	0	200

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	244	44	0	0	51	0
Stage 1	44	-	-	-	-	-
Stage 2	200	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	749	1032	-	-	1568	-
Stage 1	984	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	749	1032	-	-	1568	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	749	1568	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	9.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	51	182	128	29	117	481
Future Vol, veh/h	51	182	128	29	117	481
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	3	6	0	6	2
Mvmt Flow	57	202	142	32	130	534
Number of Lanes	1	0	0	1	1	1

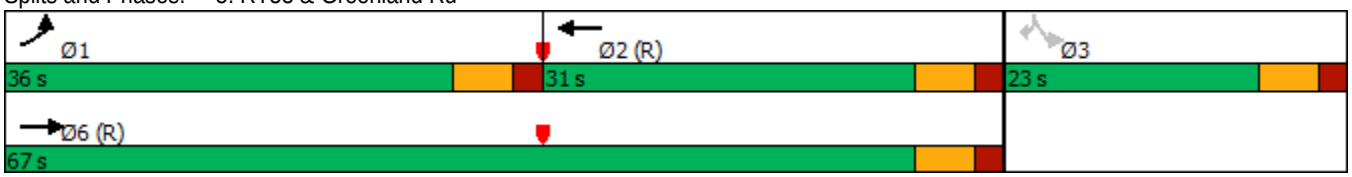
Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.7	11.8	19.4
HCM LOS	B	B	C

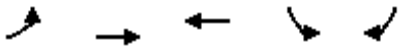
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	82%
Vol Thru, %	0%	0%	22%	18%
Vol Right, %	0%	100%	78%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	117	481	233	157
LT Vol	117	0	0	128
Through Vol	0	0	51	29
RT Vol	0	481	182	0
Lane Flow Rate	130	534	259	174
Geometry Grp	7	7	2	2
Degree of Util (X)	0.229	0.751	0.385	0.299
Departure Headway (Hd)	6.341	5.059	5.351	6.163
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	567	716	671	583
Service Time	4.072	2.791	3.39	4.205
HCM Lane V/C Ratio	0.229	0.746	0.386	0.298
HCM Control Delay	11	21.5	11.7	11.8
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	0.9	6.9	1.8	1.2

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	499	1179	586	104	207
Future Volume (vph)	499	1179	586	104	207
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	36.0	67.0	31.0	23.0	23.0
Total Split (%)	40.0%	74.4%	34.4%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	34.5	65.3	24.8	12.7	12.7
Actuated g/C Ratio	0.38	0.73	0.28	0.14	0.14
v/c Ratio	0.90	0.57	0.81	0.52	0.58
Control Delay	45.9	7.2	37.4	42.7	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	7.2	37.4	42.7	10.4
LOS	D	A	D	D	B
Approach Delay		18.7	37.4	21.2	
Approach LOS		B	D	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 51 (57%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 23.5	Intersection LOS: C
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

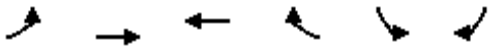




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	609	1438	770	127	252
v/c Ratio	0.90	0.57	0.81	0.52	0.58
Control Delay	45.9	7.2	37.4	42.7	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	7.2	37.4	42.7	10.4
Queue Length 50th (ft)	321	166	208	68	0
Queue Length 95th (ft)	#496	221	274	105	44
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	678	2544	958	330	494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.90	0.57	0.80	0.38	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	499	1179	586	100	104	207
Future Volume (vph)	499	1179	586	100	104	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3505	3395		1752	1538
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3505	3395		1752	1538
Peak-hour factor, PHF	0.82	0.82	0.89	0.89	0.82	0.82
Adj. Flow (vph)	609	1438	658	112	127	252
RTOR Reduction (vph)	0	0	15	0	0	216
Lane Group Flow (vph)	609	1438	755	0	127	36
Heavy Vehicles (%)	2%	3%	4%	4%	3%	5%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	34.5	65.3	24.8		12.7	12.7
Effective Green, g (s)	34.5	65.3	24.8		12.7	12.7
Actuated g/C Ratio	0.38	0.73	0.28		0.14	0.14
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	678	2543	935		247	217
v/s Ratio Prot	c0.34	0.41	c0.22			
v/s Ratio Perm					c0.07	0.02
v/c Ratio	0.90	0.57	0.81		0.51	0.16
Uniform Delay, d1	26.1	5.7	30.4		35.8	34.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	14.9	0.9	7.4		2.4	0.5
Delay (s)	41.0	6.7	37.8		38.2	34.5
Level of Service	D	A	D		D	C
Approach Delay (s)		16.9	37.8		35.7	
Approach LOS		B	D		D	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX G

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	0	103	3	0	62
Future Vol, veh/h	7	0	103	3	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	69	69	81	81
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	18	0	149	4	0	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	228	151	0	0	153	0
Stage 1	151	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	765	901	-	-	1440	-
Stage 1	882	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	765	901	-	-	1440	-
Mov Cap-2 Maneuver	765	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	765	1440	-
HCM Lane V/C Ratio	-	-	0.024	-	-
HCM Control Delay (s)	-	-	9.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	106	381	40	120	211
Future Vol, veh/h	32	106	381	40	120	211
Peak Hour Factor	0.86	0.86	0.91	0.91	0.88	0.88
Heavy Vehicles, %	3	3	2	3	3	4
Mvmt Flow	37	123	419	44	136	240
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.8	19.5	11.6
HCM LOS	A	C	B

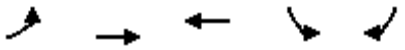
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	90%
Vol Thru, %	0%	0%	23%	10%
Vol Right, %	0%	100%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	211	138	421
LT Vol	120	0	0	381
Through Vol	0	0	32	40
RT Vol	0	211	106	0
Lane Flow Rate	136	240	160	463
Geometry Grp	7	7	2	2
Degree of Util (X)	0.255	0.368	0.233	0.69
Departure Headway (Hd)	6.726	5.527	5.218	5.37
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	535	652	688	675
Service Time	4.46	3.26	3.254	3.398
HCM Lane V/C Ratio	0.254	0.368	0.233	0.686
HCM Control Delay	11.8	11.5	9.8	19.5
HCM Lane LOS	B	B	A	C
HCM 95th-tile Q	1	1.7	0.9	5.5

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	200	773	819	103	383
Future Volume (vph)	200	773	819	103	383
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	26.0	54.0	28.0	26.0	26.0
Total Split (%)	32.5%	67.5%	35.0%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	15.6	55.5	33.9	12.5	12.5
Actuated g/C Ratio	0.20	0.69	0.42	0.16	0.16
v/c Ratio	0.62	0.33	0.72	0.42	0.69
Control Delay	36.9	5.9	25.2	33.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	5.9	25.2	33.9	9.7
LOS	D	A	C	C	A
Approach Delay		12.3	25.2	14.8	
Approach LOS		B	C	B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 75 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 60.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

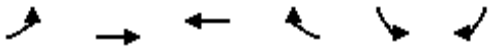




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	213	822	1059	111	412
v/c Ratio	0.62	0.33	0.72	0.42	0.69
Control Delay	36.9	5.9	25.2	33.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	5.9	25.2	33.9	9.7
Queue Length 50th (ft)	98	67	213	52	0
Queue Length 95th (ft)	154	133	#433	88	68
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	445	2454	1474	425	708
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.33	0.72	0.26	0.58

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	200	773	819	124	103	383
Future Volume (vph)	200	773	819	124	103	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3452		1703	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3452		1703	1599
Peak-hour factor, PHF	0.94	0.94	0.89	0.89	0.93	0.93
Adj. Flow (vph)	213	822	920	139	111	412
RTOR Reduction (vph)	0	0	12	0	0	348
Lane Group Flow (vph)	213	822	1047	0	111	64
Heavy Vehicles (%)	2%	2%	2%	6%	6%	1%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	15.6	55.5	33.9		12.5	12.5
Effective Green, g (s)	15.6	55.5	33.9		12.5	12.5
Actuated g/C Ratio	0.19	0.69	0.42		0.16	0.16
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	345	2455	1462		266	249
v/s Ratio Prot	c0.12	0.23	c0.30			
v/s Ratio Perm					c0.07	0.04
v/c Ratio	0.62	0.33	0.72		0.42	0.26
Uniform Delay, d1	29.5	4.9	19.1		30.5	29.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.7	0.4	3.0		1.4	0.8
Delay (s)	33.2	5.3	22.1		31.9	30.4
Level of Service	C	A	C		C	C
Approach Delay (s)		11.0	22.1		30.7	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	0	105	3	0	62
Future Vol, veh/h	7	0	105	3	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	69	69	81	81
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	18	0	152	4	0	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	231	154	0	0	156	0
Stage 1	154	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	762	897	-	-	1436	-
Stage 1	879	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	762	897	-	-	1436	-
Mov Cap-2 Maneuver	762	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	762	1436	-
HCM Lane V/C Ratio	-	-	0.024	-	-
HCM Control Delay (s)	-	-	9.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	108	388	40	122	216
Future Vol, veh/h	32	108	388	40	122	216
Peak Hour Factor	0.86	0.86	0.91	0.91	0.88	0.88
Heavy Vehicles, %	3	3	2	3	3	4
Mvmt Flow	37	126	426	44	139	245
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.9	20.3	11.8
HCM LOS	A	C	B

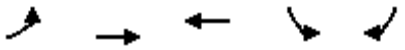
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	91%
Vol Thru, %	0%	0%	23%	9%
Vol Right, %	0%	100%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	216	140	428
LT Vol	122	0	0	388
Through Vol	0	0	32	40
RT Vol	0	216	108	0
Lane Flow Rate	139	245	163	470
Geometry Grp	7	7	2	2
Degree of Util (X)	0.26	0.379	0.238	0.705
Departure Headway (Hd)	6.759	5.559	5.254	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	532	648	682	673
Service Time	4.495	3.295	3.293	3.427
HCM Lane V/C Ratio	0.261	0.378	0.239	0.698
HCM Control Delay	11.9	11.7	9.9	20.3
HCM Lane LOS	B	B	A	C
HCM 95th-tile Q	1	1.8	0.9	5.8

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	204	788	836	105	391
Future Volume (vph)	204	788	836	105	391
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	26.0	54.0	28.0	26.0	26.0
Total Split (%)	32.5%	67.5%	35.0%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	15.7	55.4	33.7	12.6	12.6
Actuated g/C Ratio	0.20	0.69	0.42	0.16	0.16
v/c Ratio	0.63	0.34	0.74	0.42	0.69
Control Delay	37.1	6.0	25.9	34.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	6.0	25.9	34.0	9.7
LOS	D	A	C	C	A
Approach Delay		12.4	25.9	14.8	
Approach LOS		B	C	B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 75 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 61.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

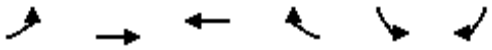




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	217	838	1082	113	420
v/c Ratio	0.63	0.34	0.74	0.42	0.69
Control Delay	37.1	6.0	25.9	34.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	6.0	25.9	34.0	9.7
Queue Length 50th (ft)	100	70	222	53	0
Queue Length 95th (ft)	158	137	#447	89	68
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	444	2450	1466	425	714
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.34	0.74	0.27	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	204	788	836	127	105	391
Future Volume (vph)	204	788	836	127	105	391
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3451		1703	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3451		1703	1599
Peak-hour factor, PHF	0.94	0.94	0.89	0.89	0.93	0.93
Adj. Flow (vph)	217	838	939	143	113	420
RTOR Reduction (vph)	0	0	12	0	0	354
Lane Group Flow (vph)	217	838	1070	0	113	66
Heavy Vehicles (%)	2%	2%	2%	6%	6%	1%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	15.7	55.4	33.7		12.6	12.6
Effective Green, g (s)	15.7	55.4	33.7		12.6	12.6
Actuated g/C Ratio	0.20	0.69	0.42		0.16	0.16
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	347	2450	1453		268	251
v/s Ratio Prot	c0.12	0.24	c0.31			
v/s Ratio Perm					c0.07	0.04
v/c Ratio	0.63	0.34	0.74		0.42	0.26
Uniform Delay, d1	29.5	5.0	19.4		30.4	29.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	0.4	3.4		1.5	0.8
Delay (s)	33.4	5.3	22.8		31.9	30.4
Level of Service	C	A	C		C	C
Approach Delay (s)		11.1	22.8		30.7	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	0	110	3	0	62
Future Vol, veh/h	7	0	110	3	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	8	0	122	3	0	69

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	193	124	0	0	125	0
Stage 1	124	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	800	932	-	-	1474	-
Stage 1	907	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	800	932	-	-	1474	-
Mov Cap-2 Maneuver	800	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	800	1474	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	-	-	9.5	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	114	408	42	128	227
Future Vol, veh/h	34	114	408	42	128	227
Peak Hour Factor	0.90	0.90	0.91	0.91	0.90	0.90
Heavy Vehicles, %	3	3	2	3	3	4
Mvmt Flow	38	127	448	46	142	252
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.1	22.8	12
HCM LOS	B	C	B

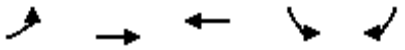
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	91%
Vol Thru, %	0%	0%	23%	9%
Vol Right, %	0%	100%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	227	148	450
LT Vol	128	0	0	408
Through Vol	0	0	34	42
RT Vol	0	227	114	0
Lane Flow Rate	142	252	164	495
Geometry Grp	7	7	2	2
Degree of Util (X)	0.27	0.395	0.244	0.747
Departure Headway (Hd)	6.841	5.64	5.336	5.438
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	525	638	671	668
Service Time	4.58	3.378	3.38	3.47
HCM Lane V/C Ratio	0.27	0.395	0.244	0.741
HCM Control Delay	12.1	12	10.1	22.8
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	1.1	1.9	1	6.7

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	215	829	879	110	411
Future Volume (vph)	215	829	879	110	411
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	26.0	54.0	28.0	26.0	26.0
Total Split (%)	32.5%	67.5%	35.0%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	16.0	55.0	33.0	13.0	13.0
Actuated g/C Ratio	0.20	0.69	0.41	0.16	0.16
v/c Ratio	0.65	0.36	0.78	0.43	0.70
Control Delay	37.9	6.3	27.8	33.6	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	6.3	27.8	33.6	9.6
LOS	D	A	C	C	A
Approach Delay		12.8	27.8	14.6	
Approach LOS		B	C	B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 75 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 64.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

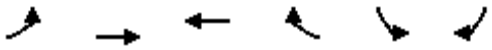




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	229	882	1125	118	442
v/c Ratio	0.65	0.36	0.78	0.43	0.70
Control Delay	37.9	6.3	27.8	33.6	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	6.3	27.8	33.6	9.6
Queue Length 50th (ft)	105	80	245	54	0
Queue Length 95th (ft)	167	149	#481	92	70
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	442	2432	1436	425	731
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.36	0.78	0.28	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	215	829	879	133	110	411
Future Volume (vph)	215	829	879	133	110	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3452		1703	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3452		1703	1599
Peak-hour factor, PHF	0.94	0.94	0.90	0.90	0.93	0.93
Adj. Flow (vph)	229	882	977	148	118	442
RTOR Reduction (vph)	0	0	12	0	0	370
Lane Group Flow (vph)	229	882	1113	0	118	72
Heavy Vehicles (%)	2%	2%	2%	6%	6%	1%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	16.0	55.0	33.0		13.0	13.0
Effective Green, g (s)	16.0	55.0	33.0		13.0	13.0
Actuated g/C Ratio	0.20	0.69	0.41		0.16	0.16
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	354	2433	1423		276	259
v/s Ratio Prot	c0.13	0.25	c0.32			
v/s Ratio Perm					c0.07	0.04
v/c Ratio	0.65	0.36	0.78		0.43	0.28
Uniform Delay, d1	29.4	5.2	20.4		30.2	29.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.5	0.4	4.3		1.5	0.8
Delay (s)	33.9	5.6	24.7		31.6	30.2
Level of Service	C	A	C		C	C
Approach Delay (s)		11.5	24.7		30.5	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	0	105	0	0	62
Future Vol, veh/h	21	0	105	0	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	69	69	81	81
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	23	0	152	0	0	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	229	152	0	-	-	-
Stage 1	152	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	764	900	-	0	0	-
Stage 1	881	-	-	0	0	-
Stage 2	951	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	764	900	-	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	764	-
HCM Lane V/C Ratio	-	0.031	-
HCM Control Delay (s)	-	9.9	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	0	102	35	0	76
Future Vol, veh/h	3	0	102	35	0	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	3	0	113	39	0	84

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	217	133	0	0	152	0
Stage 1	133	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	776	922	-	-	1441	-
Stage 1	898	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	776	922	-	-	1441	-
Mov Cap-2 Maneuver	776	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	944	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	776	1441	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	-	-	9.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	121	388	48	146	216
Future Vol, veh/h	36	121	388	48	146	216
Peak Hour Factor	0.86	0.86	0.91	0.91	0.88	0.88
Heavy Vehicles, %	3	3	2	3	3	4
Mvmt Flow	42	141	426	53	166	245
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.4	22.2	12.2
HCM LOS	B	C	B

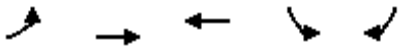
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	89%
Vol Thru, %	0%	0%	23%	11%
Vol Right, %	0%	100%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	216	157	436
LT Vol	146	0	0	388
Through Vol	0	0	36	48
RT Vol	0	216	121	0
Lane Flow Rate	166	245	183	479
Geometry Grp	7	7	2	2
Degree of Util (X)	0.316	0.386	0.272	0.733
Departure Headway (Hd)	6.855	5.654	5.368	5.508
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	524	636	668	656
Service Time	4.596	3.394	3.414	3.542
HCM Lane V/C Ratio	0.317	0.385	0.274	0.73
HCM Control Delay	12.7	11.9	10.4	22.2
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	1.3	1.8	1.1	6.4

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	219	788	836	108	402
Future Volume (vph)	219	788	836	108	402
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	26.0	54.0	28.0	26.0	26.0
Total Split (%)	32.5%	67.5%	35.0%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	16.1	55.2	33.1	12.8	12.8
Actuated g/C Ratio	0.20	0.69	0.41	0.16	0.16
v/c Ratio	0.65	0.34	0.76	0.43	0.70
Control Delay	37.9	6.1	26.8	33.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	6.1	26.8	33.9	9.7
LOS	D	A	C	C	A
Approach Delay		13.0	26.8	14.8	
Approach LOS		B	C	B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 75 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

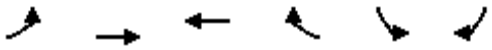




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	233	838	1092	116	432
v/c Ratio	0.65	0.34	0.76	0.43	0.70
Control Delay	37.9	6.1	26.8	33.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	6.1	26.8	33.9	9.7
Queue Length 50th (ft)	107	71	229	54	0
Queue Length 95th (ft)	170	138	#453	91	69
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	443	2443	1440	425	723
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.34	0.76	0.27	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	219	788	836	136	108	402
Future Volume (vph)	219	788	836	136	108	402
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3446		1703	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3446		1703	1599
Peak-hour factor, PHF	0.94	0.94	0.89	0.89	0.93	0.93
Adj. Flow (vph)	233	838	939	153	116	432
RTOR Reduction (vph)	0	0	13	0	0	363
Lane Group Flow (vph)	233	838	1079	0	116	69
Heavy Vehicles (%)	2%	2%	2%	6%	6%	1%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	16.1	55.2	33.1		12.8	12.8
Effective Green, g (s)	16.1	55.2	33.1		12.8	12.8
Actuated g/C Ratio	0.20	0.69	0.41		0.16	0.16
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	356	2441	1425		272	255
v/s Ratio Prot	c0.13	0.24	c0.31			
v/s Ratio Perm					c0.07	0.04
v/c Ratio	0.65	0.34	0.76		0.43	0.27
Uniform Delay, d1	29.4	5.0	20.0		30.3	29.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.7	0.4	3.8		1.5	0.8
Delay (s)	34.1	5.4	23.8		31.8	30.3
Level of Service	C	A	C		C	C
Approach Delay (s)		11.7	23.8		30.6	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	0	110	0	0	62
Future Vol, veh/h	21	0	110	0	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	23	0	122	0	0	69

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	191	122	0	-	-	-
Stage 1	122	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	803	935	-	0	0	-
Stage 1	908	-	-	0	0	-
Stage 2	959	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	803	935	-	-	-	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	803	-
HCM Lane V/C Ratio	-	0.029	-
HCM Control Delay (s)	-	9.6	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	0	107	35	0	76
Future Vol, veh/h	3	0	107	35	0	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	3	0	119	39	0	84

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	223	139	0	0	158	0
Stage 1	139	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	770	915	-	-	1434	-
Stage 1	893	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	770	915	-	-	1434	-
Mov Cap-2 Maneuver	770	-	-	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	944	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	770	1434	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	-	-	9.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	38	127	408	50	152	227
Future Vol, veh/h	38	127	408	50	152	227
Peak Hour Factor	0.90	0.90	0.91	0.91	0.90	0.90
Heavy Vehicles, %	3	3	2	3	3	4
Mvmt Flow	42	141	448	55	169	252
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.6	25.1	12.6
HCM LOS	B	D	B

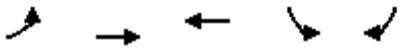
Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	89%
Vol Thru, %	0%	0%	23%	11%
Vol Right, %	0%	100%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	227	165	458
LT Vol	152	0	0	408
Through Vol	0	0	38	50
RT Vol	0	227	127	0
Lane Flow Rate	169	252	183	503
Geometry Grp	7	7	2	2
Degree of Util (X)	0.325	0.402	0.277	0.775
Departure Headway (Hd)	6.934	5.732	5.448	5.546
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	518	628	658	654
Service Time	4.678	3.475	3.497	3.582
HCM Lane V/C Ratio	0.326	0.401	0.278	0.769
HCM Control Delay	13	12.3	10.6	25.1
HCM Lane LOS	B	B	B	D
HCM 95th-tile Q	1.4	1.9	1.1	7.4

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	230	829	879	113	422
Future Volume (vph)	230	829	879	113	422
Turn Type	Prot	NA	NA	Perm	Perm
Protected Phases	1	6	2		
Permitted Phases				3	3
Detector Phase	1	6	2	3	3
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	24.0	24.0	23.0	23.0
Total Split (s)	26.0	54.0	28.0	26.0	26.0
Total Split (%)	32.5%	67.5%	35.0%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
Act Effct Green (s)	16.5	54.9	32.4	13.1	13.1
Actuated g/C Ratio	0.21	0.69	0.40	0.16	0.16
v/c Ratio	0.67	0.36	0.81	0.44	0.71
Control Delay	38.4	6.4	29.2	33.7	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	6.4	29.2	33.7	9.6
LOS	D	A	C	C	A
Approach Delay		13.3	29.2	14.7	
Approach LOS		B	C	B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 75 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 20.0	Intersection LOS: B
Intersection Capacity Utilization 65.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: RT33 & Greenland Rd

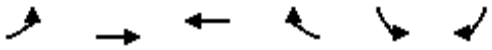




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	245	882	1135	122	454
v/c Ratio	0.67	0.36	0.81	0.44	0.71
Control Delay	38.4	6.4	29.2	33.7	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	6.4	29.2	33.7	9.6
Queue Length 50th (ft)	112	81	254	56	0
Queue Length 95th (ft)	179	149	#486	95	71
Internal Link Dist (ft)		520	520	270	
Turn Bay Length (ft)	200			100	
Base Capacity (vph)	442	2426	1407	425	740
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.36	0.81	0.29	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	230	829	879	142	113	422
Future Volume (vph)	230	829	879	142	113	422
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3446		1703	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3446		1703	1599
Peak-hour factor, PHF	0.94	0.94	0.90	0.90	0.93	0.93
Adj. Flow (vph)	245	882	977	158	122	454
RTOR Reduction (vph)	0	0	13	0	0	380
Lane Group Flow (vph)	245	882	1122	0	122	74
Heavy Vehicles (%)	2%	2%	2%	6%	6%	1%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	1	6	2			
Permitted Phases					3	3
Actuated Green, G (s)	16.5	54.9	32.4		13.1	13.1
Effective Green, g (s)	16.5	54.9	32.4		13.1	13.1
Actuated g/C Ratio	0.21	0.69	0.40		0.16	0.16
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	365	2428	1395		278	261
v/s Ratio Prot	c0.14	0.25	c0.33			
v/s Ratio Perm					c0.07	0.05
v/c Ratio	0.67	0.36	0.80		0.44	0.28
Uniform Delay, d1	29.3	5.2	21.0		30.1	29.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	0.4	5.0		1.5	0.8
Delay (s)	34.5	5.7	26.0		31.6	30.2
Level of Service	C	A	C		C	C
Approach Delay (s)		11.9	26.0		30.5	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX H

J. PORTER & JJM

#47528.00

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 19-6887-AC

STATE OF NEW HAMPSHIRE
UNIFORM POLICE
TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY No. Date Rec'd

Amended Report ☐ | Hit and Run ☐ | School Bus ☐ | Driver Ed. ☐ | NR ☐ | Supplemental Report ☐ | Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
02/19/2019	Tuesday	1415	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	1415	1431		Portsmouth

ACCIDENT OCCURRED ON: ____ ☐ MILES ☐ N ☐ E ☐ S ☐ W ☐ FEET ☒ AT INTERSECTING WITH OF

875 GREENLAND RD — ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house): BORTHWICK AVE — ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 30

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: ____ MAP 10 ZONE ____ NODE ____ SUF ____

DISTANCE FROM FIRST NODE TOWARD SECOND: ____ FEET

SECOND NODE: ____ MAP 10 ZONE ____ NODE ____ SUF ____

MILE-MARKER ON INTERSTATE ONLY: ____ FEET ☐ N ☐ E ☐ S ☐ W — MILE ____

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☐ OWNER NAME LAST, FIRST MIDDLE [redacted]

CURRENT ADDRESS, NUMBER AND STREET [redacted] PHONE NO.

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

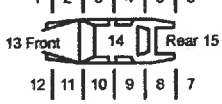
INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	1	1	8	F
2	2	N	4	[redacted]	[redacted]	1	1	8	M
3	1	N	1	[redacted]	[redacted]	17	1	8	M
4									
5									
6									

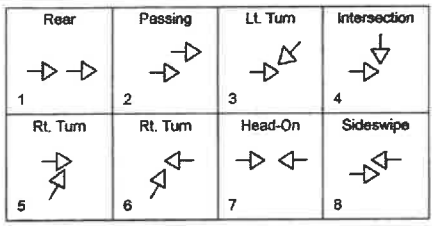
UNIT NO: 1

INDICATE PROBABLE POINT OF IMPACT: 7



16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.



Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2



INDICATE PROBABLE POINT OF IMPACT: 12

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow

Moved prior to my arrival.



GIST OF ACCIDENT

Vehicle #1 was stopped (N/B) at the yield sign, yielding for traffic, on Borthwick Ave at Greenland Road. While waiting to enter traffic Vehicle #1 was struck by Vehicle #2. Vehicle #1 sustained damage to the left rear corner. The driver of Vehicle #1 did not complain of injury.

Vehicle #2 was traveling on Borthwick Ave (N/B). The driver of Vehicle # 2 stated that as he approached the intersection he did not see Vehicle #1 due to the glare of the sun obstructing his view. Vehicle #2 struck the rear of Vehicle #1. Vehicle #2 sustained damage to the right front corner. The driver of Vehicle #2 admitted fault for the collision. The Driver of Vehicle #2 did not complain of injury.

There were no witnesses on scene. Officer did not observe collision. Both vehicles were removed from the scene by their original drivers without further issue.

End report.

Officer Seth Chavez
Portsmouth Police Department.

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT	REVIEWED BY
	02/20/2019	
DEPARTMENT / DIVISION / TROOP	PHOTOS TAKEN	
Portsmouth Police Department	YES ☒ NO ☐ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 19-11167-AC

Amended Report ☐ Hit and Run ☐ School Bus ☐ Driver Ed. ☐

STATE OF NEW HAMPSHIRE
UNIFORM POLICE
TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY No. Date Rec'd

NR ☐ Supplemental Report ☐ Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
03/20/2019	Wednesday	0837	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	1	2	0837	0902		Portsmouth

ACCIDENT OCCURRED ON: ____ ☐ MILES ☐ FEET ☐ AT INTERSECTING WITH N ☐ S ☐ E ☐ W ☐ OF

875 GREENLAND RD
ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)

ROUTE NO. AND/OR STREET NAME

POSTED SPEED

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: MAP ____ ZONE 10 NODE ____ SUF ____

DISTANCE FROM FIRST NODE TOWARD SECOND: ____ FEET

SECOND NODE: MAP ____ ZONE 10 NODE ____ SUF ____

MILE-MARKER ON INTERSTATE ONLY: ____ FEET N ☐ E ☐ S ☐ W ☐ MILE ____

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO.

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

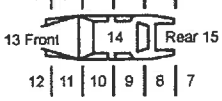
INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES ADDRESS / PHONE	30	31	32	33
1	1	U	4	[redacted]	[redacted]	1	1	2	F
2	2	N	4	[redacted]	[redacted]	1	1	8	M
3									
4									
5									
6									

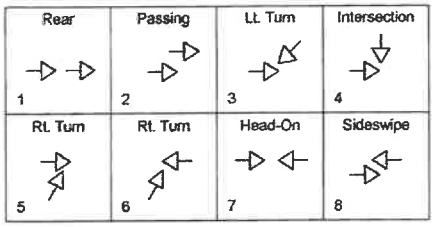
UNIT NO: 1

6 INDICATE PROBABLE POINT OF IMPACT



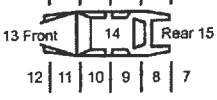
16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.



Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2



INDICATE PROBABLE POINT OF IMPACT 1

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow

NO DIAGRAM

GIST OF ACCIDENT

On Wednesday March 20, 2019 at approximately 8:37 AM I was dispatched to a two (2) car accident in the private parking lot of Orchard Park, 875 Greenland Road. The Emergency Communication Center (ECC) advised of no known personal injuries.

[redacted] was operating a 2013 GMC Terrain, bearing New [redacted]. [redacted] was backing out of a parking spot when she collided with another vehicle traveling through said private lot on the main access/thru. There was damage to the rear passenger corner of [redacted] SUV. Photographs were taken of said damage. I asked [redacted] if she required any medical attention, she claimed her neck was sore. I asked her if she required any medical attention from the City of Portsmouth FD, she declined.

[redacted] was operating said grey Toyota Tacoma, bearing [redacted], that [redacted] collided with. There was damage to the front passenger corner of said truck. Photographs were taken of said damage. I asked [redacted] if he required any medical attention, he stated no. [redacted] commented to me that [redacted] appeared to back out of said parking space rather quickly. [redacted] was advised that he could not drive his truck from said private lot due to the damage and was advised he would need to have the vehicle removed from the parking lot.

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT 03/20/2019	REVIEWED BY
DEPARTMENT / DIVISION / TROOP Portsmouth Police Department	PHOTOS TAKEN YES ☐ NO ☒ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE
19-20502-AC

Amended Report ☐ | Hit and Run ☐ | School Bus ☐ | Driver Ed. ☐

STATE OF NEW HAMPSHIRE
UNIFORM POLICE
TRAFFIC ACCIDENT REPORT
DSMV159 (Rev.04/00)

M.V. USE ONLY
No.
Date Rec'd
NR ☐ | Supplemental Report ☐ | Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military)	CITY/TOWN
05/21/2019	Tuesday	1208	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	1208	1227		Portsmouth

ACCIDENT OCCURRED ON: ____ ☐ MILES ☐ FEET N ☐ S ☐ E ☐ W OF ☒ AT INTERSECTING WITH

2 BORTHWICK AVE
ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)
719 GREENLAND RD
ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 30

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: ____ MAP 10 ZONE ____ NODE ____ SUF ____
DISTANCE FROM FIRST NODE TOWARD SECOND: ____ FEET
SECOND NODE: ____ MAP 10 ZONE ____ NODE ____ SUF ____

MILE-MARKER ON INTERSTATE ONLY: ____ FEET N ☐ E ☐ S ☐ W ☐ MILE ____

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ | SUMMONED ☐ | ARRESTED ☐ | CHARGE: | M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] | STATE [redacted] | CLASSIFICATION [redacted]

DRIVER'S NAME [redacted] LAST, FIRST, MIDDLE

D.O.B. [redacted] | SEX [redacted] | RESTRICTIONS / ENDORSEMENTS | COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] | PHONE NO. [redacted]

CITY / TOWN [redacted] | STATE [redacted] | ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE	YEAR	COMMERCIAL VEHICLE ACCIDENT	HAZARDOUS MATERIALS
[redacted]	[redacted]	☐	☐

V.I.N. [redacted]

SAME AS DRIVER ☒ | OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET | PHONE NO.

CITY / TOWN | STATE | ZIP CODE

INSURANCE CO. & POLICY # [redacted] | OR | DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ | BY: | TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ | SUMMONED ☐ | ARRESTED ☐ | CHARGE: | M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] | STATE [redacted] | CLASSIFICATION [redacted]

DRIVER'S NAME [redacted] LAST, FIRST, MIDDLE

D.O.B. [redacted] | SEX [redacted] | RESTRICTIONS / ENDORSEMENTS | COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] | PHONE NO. [redacted]

CITY / TOWN [redacted] | STATE [redacted] | ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE	YEAR	COMMERCIAL VEHICLE ACCIDENT	HAZARDOUS MATERIALS
[redacted]	[redacted]	☐	☐

V.I.N. [redacted]

SAME AS DRIVER ☒ | OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET | PHONE NO.

CITY / TOWN | STATE | ZIP CODE

INSURANCE CO. & POLICY # [redacted] | OR | DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ | BY: | TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]		1	8	F
2	2	N	4	[redacted]	[redacted]		1	8	M
3	1	N	4	[redacted]	[redacted]		1	8	M
4	1	N	1	[redacted]	[redacted]		1	8	M
5									
6									

UNIT NO: 1

6 INDICATE PROBABLE POINT OF IMPACT

1 | 2 | 3 | 4 | 5 | 6
13 Front | 14 | Rear 15
12 | 11 | 10 | 9 | 8 | 7

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

Rear	Passing	Lt. Turn	Intersection
1	2	3	4
Rt. Turn	Rt. Turn	Head-On	Sideswipe
5	6	7	8

Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2

1 | 2 | 3 | 4 | 5 | 6
13 Front | 14 | Rear 15
12 | 11 | 10 | 9 | 8 | 7

INDICATE PROBABLE POINT OF IMPACT 12

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow

GIST OF ACCIDENT

Gist: Vehicle 1 was starting from stopped at the yield sign from Greenland Road onto Borthwick Avenue but then stopped again for oncoming traffic. Vehicle 2 was stopped directly behind Vehicle 1 and started to proceed after seeing Vehicle 1 start to do the same but looked toward oncoming traffic for a second and did not see Vehicle 1 stop again, crashing into the rear of Vehicle 1. Damages were documented with photographs. Vehicles were moved prior to police arrival so there is no diagram. No injuries were reported on scene.

Master Patrol Officer Christina J. Meyer
Uniformed Patrol Division
Portsmouth Police Department

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT	REVIEWED BY
	05/30/2019	
DEPARTMENT / DIVISION / TROOP	PHOTOS TAKEN	
Portsmouth Police Department	YES ☐ NO ☒ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 19-28481-AC

Amended Report ☐ Hit and Run ☐ School Bus ☐ Driver Ed. ☐

STATE OF NEW HAMPSHIRE UNIFORM POLICE TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY No. Date Rec'd

NR ☐ Supplemental Report ☐ Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military)	CITY/TOWN
07/11/2019	Thursday	1412	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	1412	1428		Portsmouth

ACCIDENT OCCURRED ON: ____ MILES ☐ FEET ☐ N ☐ S ☐ E ☐ W ☐ OF ☒ AT INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)

2 BORTHWICK AVE — ROUTE NO. AND/OR STREET NAME

719 GREENLAND RD — ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 30

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: ____ MAP 10 ZONE ____ NODE ____ SUF

DISTANCE FROM FIRST NODE TOWARD SECOND: ____ FEET

SECOND NODE: ____ MAP 10 ZONE ____ NODE ____ SUF

MILE-MARKER ON INTERSTATE ONLY: ____ FEET N ☐ E ☐ S ☐ W ☐ MILE

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ CHARGE: ARRESTED ☐ M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

INSURANCE CO. & POLICY # OR DSMV 385 ISSUED ☒

VEHICLE TOWED ☐ BY: TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ CHARGE: ARRESTED ☐ M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☐ OWNER NAME LAST, FIRST MIDDLE [redacted]

CURRENT ADDRESS, NUMBER AND STREET [redacted] PHONE NO. 603-834-6451

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	1	1	8	M
2	2	N	4	[redacted]	[redacted]	1	1	8	M
3	1	N	4	[redacted]	[redacted]	12	1	8	F
4									
5									
6									

UNIT NO: 1

12 INDICATE PROBABLE POINT OF IMPACT

1 | 2 | 3 | 4 | 5 | 6
13 Front 14 Rear 15
12 | 11 | 10 | 9 | 8 | 7

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

Rear	Passing	Lt. Turn	Intersection
1	2	3	4
Rt. Turn	Rt. Turn	Head-On	Sideswipe
5	6	7	8

Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2

1 | 2 | 3 | 4 | 5 | 6
13 Front 14 Rear 15
12 | 11 | 10 | 9 | 8 | 7

INDICATE PROBABLE POINT OF IMPACT 21

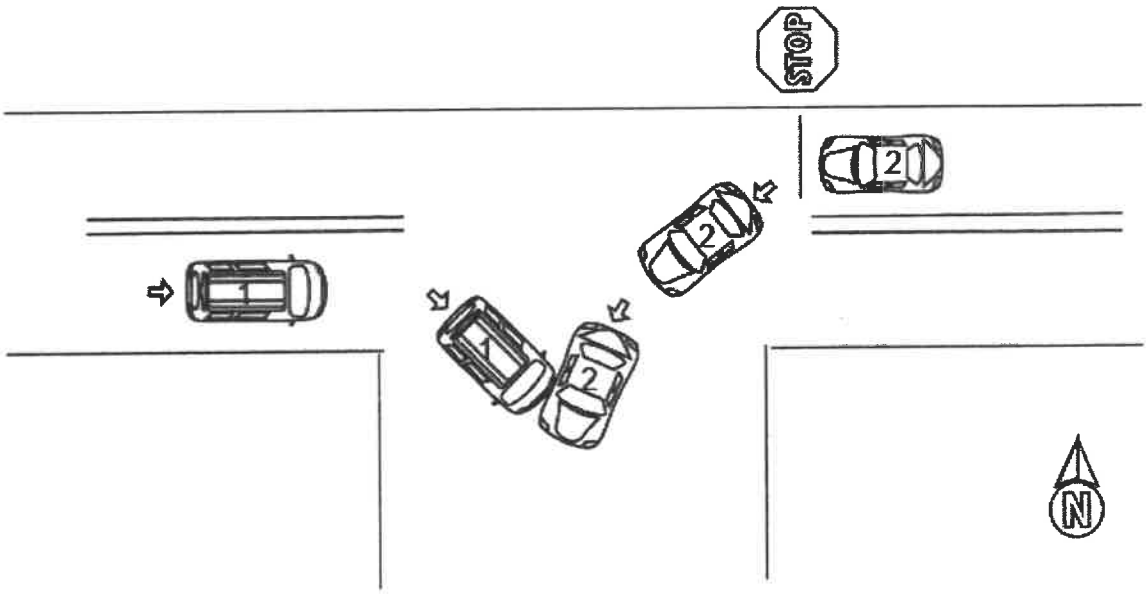
16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow



GIST OF ACCIDENT

07/12/2019

VEH 1 WAS MAKING RIGHT TURN WHILE TRAVELING ON GREENLAND RD. VEH 2 WAS MAKING LEFT TURN FROM BORTHWICK AVE ONTO GREENLAND RD. OPERATOR OF VEH 2 ADVISED HE BELIEVED HE HAD TIME TO MAKE TURN IN FRONT OF VEH 1. VEH 1 AND VEH 2 COLLIDED AS BOTH VEHICLES ENTERED INTERSECTION AT SAME TIME.

END REPORT.

PATROL OFFICER CHARLES A RAIZES
PORTSMOUTH POLICE DEPARTMENT

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT	REVIEWED BY
	07/16/2019	
DEPARTMENT / DIVISION / TROOP	PHOTOS TAKEN	
Portsmouth Police Department	YES ☒ NO ☐ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 21-7344-AC

Amended Report ☐ Hit and Run ☐ School Bus ☐ Driver Ed. ☐

STATE OF NEW HAMPSHIRE
UNIFORM POLICE
TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY No. Date Rec'd

NR ☐ Supplemental Report ☐ Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
03/06/2021	Saturday	1038	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	1038	1038		Portsmouth

ACCIDENT OCCURRED ON: ☐ MILES ☐ FEET N ☐ S ☐ E ☐ W ☐ OF ☒ AT INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)

719 GREENLAND RD — ROUTE NO. AND/OR STREET NAME

2 BORTHWICK AVE — ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 30

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: MAP 10 ZONE NODE SUF — DISTANCE FROM FIRST NODE TOWARD SECOND: FEET — SECOND NODE: MAP 10 ZONE NODE SUF

MILE-MARKER ON INTERSTATE ONLY: FEET N E S W — MILE

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER [redacted] PLATE TYPE [redacted] STATE [redacted] TRAILER PLATE STATE

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER [redacted] PLATE TYPE [redacted] STATE [redacted] TRAILER PLATE STATE

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

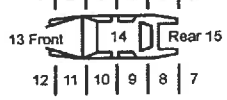
INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	1	1	8	F
2	2	N	4	[redacted]	[redacted]	1	1	8	M
3									
4									
5									
6									

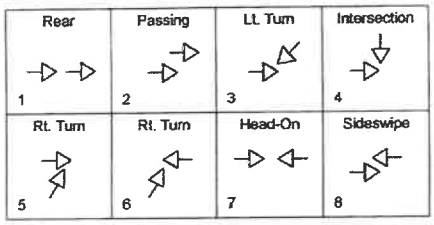
UNIT NO: 1

13 INDICATE PROBABLE POINT OF IMPACT



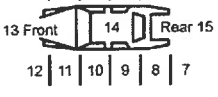
16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.



Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2



INDICATE PROBABLE POINT OF IMPACT 4

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow

Vehicles moved prior to arrival.

GIST OF ACCIDENT

Around 1038 hours on 03/03/2021 I came across a two car motor vehicle accident at the intersection of Greenland Road at Borthwick Avenue. The operator and sole occupant of unit one identified herself with a [redacted] driver's license as [redacted] The operator and sole occupant of unit two identified himself with a [redacted] driver's license as [redacted] Both operators described the following.

Unit one came to a complete stop at the stop sign of Greenland Road and Borthwick Avenue. Unit one went to execute a left turn to remain on Greenland Road. Unit one did not see unit two who was driving south on Greenland Road heading straight onto Borthwick Avenue. Unit two did not have a stop sign and had the right of way. Unit one subsequently struck the right side of unit two cause a moderate dent and scratch to the rear right door. Unit one sustained moderate dents and scratches to the front center of the bumper.

Both drivers were not injured and there were no air bags deployed.

End of report.

Officer Denman
Patrolman
Portsmouth, NH Police Department

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT	REVIEWED BY
	03/09/2021	
DEPARTMENT / DIVISION / TROOP	PHOTOS TAKEN	
Portsmouth Police Department	YES ☒ NO ☐ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 22-800-AC

Amended Report ☐ Hit and Run ☐ School Bus ☐ Driver Ed. ☐

STATE OF NEW HAMPSHIRE
UNIFORM POLICE
TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY
No.
Date Rec'd
NR ☐ Supplemental Report ☐ Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
01/07/2022	Friday	0830	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	0830	0854		Portsmouth

ACCIDENT OCCURRED ON: ☐ MILES ☐ N ☐ E ☐ ☐ FEET ☐ S ☐ W ☐ OF ☒ AT INTERSECTING WITH

719 GREENLAND RD
ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)
2 BORTHWICK AVE
ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 35

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: ___ MAP 10 ZONE ___ NODE ___ SUF ___

DISTANCE FROM FIRST NODE TOWARD SECOND: ___ FEET

SECOND NODE: ___ MAP 10 ZONE ___ NODE ___ SUF ___

MILE-MARKER ON INTERSTATE ONLY: ___ FEET ☐ N ☐ E ☐ S ☐ W — MILE ___

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☐ OWNER NAME LAST, FIRST MIDDLE [redacted]

CURRENT ADDRESS, NUMBER AND STREET [redacted] PHONE NO. 603-661-9034

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES	ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	[redacted]	1	1	8	F
2	2	N	4	[redacted]	[redacted]	[redacted]	1	1	8	M
3										
4										
5										
6										

UNIT NO: 1

15 INDICATE PROBABLE POINT OF IMPACT

1 | 2 | 3 | 4 | 5 | 6
13 Front | 14 | Rear 15
12 | 11 | 10 | 9 | 8 | 7

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

Rear	Passing	Lt. Turn	Intersection
1	2	3	4
Rt. Turn	Rt. Turn	Head-On	Sideswipe
5	6	7	8

Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2

1 | 2 | 3 | 4 | 5 | 6
13 Front | 14 | Rear 15
12 | 11 | 10 | 9 | 8 | 7

INDICATE PROBABLE POINT OF IMPACT 13

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow

VEHICLES MOVED PRIOR TO POLICE ARRIVAL.

GIST OF ACCIDENT

I WAS DISPATCHED TO 875 GREENLAND RD IN PORTSMOUTH, NH FOR A 2 CAR MVA. UPON ARRIVAL, I IDENTIFIED UNIT 1 AS A BLUE 2008 SUBA OUTBACK. UNIT 1 IS REGISTERED TO [redacted] AND OPERATED BY [redacted] I IDENTIFIED UNIT 2 AS A BLUE 2011 CHEV COLORADO. UNIT 2 IS REGISTERED TO AND OPERATED BY [redacted] UNIT 1 OPERATOR REPORTED SHE WAS AT GREENLAND ROAD STOPPED AT A TRAFFIC CONTROL LIGHT WHEN UNIT 2 HIT THE REAR OF HER VEHICLE. UNIT 2 OPERATOR REPORTED HE WAS ATTEMPTING TO STOP PRIOR TO UNIT 1 BUT SLID ON THE SNOW AND COLLIDED WITH THE REAR OF UNIT 1.

THE WEATHER CONDITIONS WERE WINTER WEATHER, SNOW. THE ROADWAY CONDITIONS WERE SLIPPERY WITH SNOW AND SLUSH. THERE WERE NO INJURIES REPORTED. UNIT 1 DROVE FROM THE SCENE. UNIT 2 PARKED AND WAITED FOR AAA. UNIT 2 SUSTAINED HEAVY DAMAGE TO THE FRONT OF THE VEHICLE. VEHICLES MOVED INTO THE PARKING LOT OF ORCHARD PARK, 875 GREENLAND ROAD IN PORTSMOUTH, NH. INFORMATION WAS EXCHANGED.

END OF REPORT.
PATROL OFFICER JOSEPH I. MELANSON
PORTSMOUTH POLICE DEPARTMENT
PATROL DIVISION

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT 01/07/2022	REVIEWED BY
DEPARTMENT / DIVISION / TROOP Portsmouth Police Department	PHOTOS TAKEN YES ☒ NO ☐ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 22-31336-AC

STATE OF NEW HAMPSHIRE
UNIFORM POLICE
TRAFFIC ACCIDENT REPORT
DSMV159 (Rev.04/00)

M.V. USE ONLY
No.
Date Rec'd

Amended Report ☐ | Hit and Run ☐ | School Bus ☐ | Driver Ed. ☐ | NR ☐ | Supplemental Report ☐ | Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
08/17/2022	Wednesday	1715	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	1715	1734		Portsmouth

ACCIDENT OCCURRED ON: ☐ MILES ☒ FEET ☐ AT INTERSECTION WITH N ☐ S ☐ E ☐ W ☐ OF

719 GREENLAND RD
ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)
2 BORTHWICK AVE
ROUTE NO. AND/OR STREET NAME

POSTED SPEED

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: MAP 10 ZONE / NODE SUF

DISTANCE FROM FIRST NODE TOWARD SECOND: FEET

SECOND NODE: MAP 10 ZONE / NODE SUF

MILE-MARKER ON INTERSTATE ONLY: FEET N ☐ E ☐ S ☐ W ☐ MILE

UNIT NO.: 1 INFORMATION	UNIT NO.: 2 INFORMATION
BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐	BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐
DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]	DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]
DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]	DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]
D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐	D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐
CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]	CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]
CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]	CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]
PLATE NUMBER [redacted] PLATE TYPE [redacted] STATE [redacted] TRAILER PLATE STATE	PLATE NUMBER [redacted] PLATE TYPE [redacted] STATE [redacted] TRAILER PLATE STATE
MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐	MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐
V.I.N. [redacted]	V.I.N. [redacted]
SAME AS DRIVER ☐ OWNER NAME LAST, FIRST MIDDLE [redacted]	SAME AS DRIVER ☐ OWNER NAME LAST, FIRST MIDDLE [redacted]
CURRENT ADDRESS, NUMBER AND STREET [redacted] PHONE NO. [redacted]	CURRENT ADDRESS, NUMBER AND STREET [redacted] PHONE NO. [redacted]
CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]	CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]
INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐	INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☒
VEHICLE TOWED ☐ BY: TO:	VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	1	1	8	F
2	2	N	4	[redacted]	[redacted]	1	1	8	M
3	2	N	4	[redacted]	[redacted]	12	1	8	F
4									
5									
6									

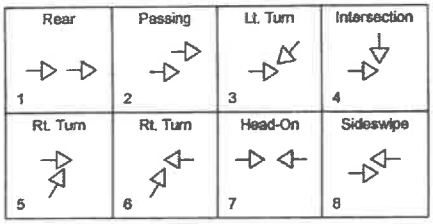
UNIT NO: 1

13 INDICATE PROBABLE POINT OF IMPACT



16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.



Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2



INDICATE PROBABLE POINT OF IMPACT 15

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North



By Arrow

Vehicles were moved prior to arrival



GIST OF ACCIDENT

08/17/2022

Unit One was traveling westbound on Greenland Rd in the area of Borthwick and made contact with Unit Two's rear, causing moderate damage. Unit One received minor damage to the center front. Driver of Unit One stated she did not realize Unit Two was sitting at the light when she made contact. Driver of Unit One had no injuries and did not need a tow.

Unit Two was stopped at a red light on Borthwick Ave to travel Westbound on Greenland Rd and when the light just turned green, Unit One made contact with Unit Two. Unit Two had a passenger in the passenger's seat. Unit Two had a passenger in the passenger's seat. The Unit Two driver and passenger had no injuries. Unit Two did not need a tow.

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT 08/18/2022	REVIEWED BY
DEPARTMENT / DIVISION / TROOP Portsmouth Police Department	PHOTOS TAKEN YES ☐ NO ☒ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 22-36395-AC

Amended Report ☐ Hit and Run ☐ School Bus ☐ Driver Ed. ☐

STATE OF NEW HAMPSHIRE UNIFORM POLICE TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY No. Date Rec'd

NR ☐ Supplemental Report ☐ Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
09/22/2022	Thursday	1607	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	0	2	1607	1613		Portsmouth

ACCIDENT OCCURRED ON: ____ ☐ MILES ☐ FEET N ☐ S ☐ E ☐ W ☐ OF ☒ AT INTERSECTION WITH

2 BORTHWICK AVE
ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house)
719 GREENLAND RD
ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 35

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: MAP ____ ZONE 10 NODE ____ SUF ____

DISTANCE FROM FIRST NODE TOWARD SECOND: ____ FEET

SECOND NODE: MAP ____ ZONE 10 NODE ____ SUF ____

MILE-MARKER ON INTERSTATE ONLY: ____ FEET N ☐ E ☐ S ☐ W ☐ MILE ____

UNIT NO.: 1 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ CHARGE: ARRESTED ☐ M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☐ OWNER NAME LAST, FIRST MIDDLE [redacted]

CURRENT ADDRESS, NUMBER AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☒

VEHICLE TOWED ☐ BY: TO:

UNIT NO.: 2 INFORMATION

BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ CHARGE: ARRESTED ☐ M.V.R. YES ☐ RECOM ☐

DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION [redacted]

DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]

D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐

CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]

CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]

PLATE NUMBER	PLATE TYPE	STATE	TRAILER PLATE	STATE
[redacted]	[redacted]	[redacted]		

MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐

V.I.N. [redacted]

SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE

CURRENT ADDRESS, NUMBER AND STREET PHONE NO.

CITY / TOWN STATE ZIP CODE

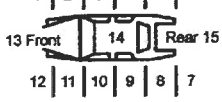
INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☐

VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES	ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	[redacted]		1	8	M
2	2	N	4	[redacted]	[redacted]	[redacted]		1	8	M
3										
4										
5										
6										

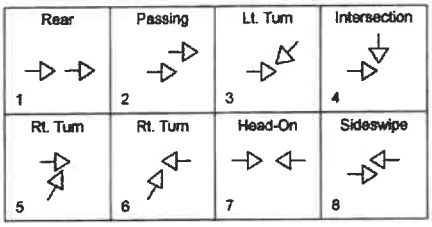
UNIT NO: 1

5 INDICATE PROBABLE POINT OF IMPACT



16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.



Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2



INDICATE PROBABLE POINT OF IMPACT 12

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North



By Arrow

Vehicles moved prior to Police arrival



GIST OF ACCIDENT

Unit 1 was in the left turning lane on Rt. 33 at Borthwick Avenue. Unit 2 was in the lane to the right of Unit 1. Unit 1 attempted to change lanes and cut in front of Unit 2. In doing so, the trailer being pulled by Unit 1 struck Unit 2 on the front left corner. Unit 2 sustained damage to its front bumper. It was unclear if Unit 1 sustained any damage.

The driver of Unit 1 said he was attempted to switch lanes. He didn't account for the extra length of the trailer being towed by his vehicle. The driver of Unit 2 said they were following the road when Unit 1 pulled in front of them.

There were no injuries as a result of the accident.

END OF NARRATIVE

Patrol Officer Roland J. Dupuis
Uniformed Patrol Division
Portsmouth Police Department

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT 09/30/2022	REVIEWED BY
DEPARTMENT / DIVISION / TROOP Portsmouth Police Department	PHOTOS TAKEN YES ☒ NO ☐ BY:	

Please Print or Type (Single Space) **TO BE COMPLETED AND FILED WITHIN 15 DAYS** Sheet 1 of 1 Sheets(s)

LOCAL USE 22-44491-AC

Amended Report ☐ Hit and Run ☐ School Bus ☐ Driver Ed. ☐

STATE OF NEW HAMPSHIRE UNIFORM POLICE TRAFFIC ACCIDENT REPORT

DSMV159 (Rev.04/00)

M.V. USE ONLY No. Date Rec'd

NR ☐ Supplemental Report ☐ Motor Carrier Report ☐

DATE OF ACCIDENT	DAY OF WEEK	TIME (Military) OF ACCIDENT	CITY/TOWN
11/16/2022	Wednesday	1354	PORTSMOUTH

TOTAL KILLED	TOTAL INJURED	TOTAL VEHICLES	POLICE NOTIFIED	POLICE ARRIVED	AMBULANCE ARRIVED	DEPARTMENT
0	1	2	1354	1403		Portsmouth

ACCIDENT OCCURRED ON: ____ ☐ MILES ☐ FEET N ☐ S ☐ E ☐ W ☐ OF ☒ AT INTERSECTING WITH

875 GREENLAND RD — ROUTE NO. AND/OR STREET NAME

INTERSECTING ROAD, BRIDGE, TOWN LINE (not telephone pole, house): BORTHWICK AVE — ROUTE NO. AND/OR STREET NAME

POSTED SPEED: 30

Complete first node for accidents at node, complete both for accidents between nodes.

FIRST NODE: MAP ____ ZONE 10 NODE ____ SUF ____

DISTANCE FROM FIRST NODE TOWARD SECOND: ____ FEET

SECOND NODE: MAP ____ ZONE 10 NODE ____ SUF ____

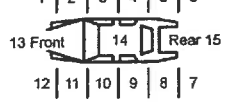
MILE-MARKER ON INTERSTATE ONLY: ____ FEET N ☐ E ☐ S ☐ W ☐ MILE ____

UNIT NO.: 1 INFORMATION	UNIT NO.: 2 INFORMATION
BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☒ ARRESTED ☐ CHARGE: Mobile Device Use M.V.R. YES ☐ RECOM ☐	BICYCLE ☐ PEDESTRIAN ☐ SUMMONED ☐ ARRESTED ☐ CHARGE: M.V.R. YES ☐ RECOM ☐
DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION	DRIVER LICENSE NO. [redacted] STATE [redacted] CLASSIFICATION
DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]	DRIVER'S NAME LAST, FIRST, MIDDLE [redacted]
D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐	D.O.B. [redacted] SEX [redacted] RESTRICTIONS / ENDORSEMENTS COMPLIED WITH YES ☐
CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]	CURRENT ADDRESS, NUMBER, AND STREET [redacted] PHONE NO. [redacted]
CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]	CITY / TOWN [redacted] STATE [redacted] ZIP CODE [redacted]
PLATE NUMBER [redacted] PLATE TYPE [redacted] STATE [redacted] TRAILER PLATE STATE	PLATE NUMBER [redacted] PLATE TYPE [redacted] STATE [redacted] TRAILER PLATE STATE
MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐	MAKE [redacted] YEAR [redacted] COMMERCIAL VEHICLE ACCIDENT ☐ HAZARDOUS MATERIALS ☐
V.I.N. [redacted]	V.I.N. [redacted]
SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE	SAME AS DRIVER ☒ OWNER NAME LAST, FIRST MIDDLE
CURRENT ADDRESS, NUMBER AND STREET PHONE NO.	CURRENT ADDRESS, NUMBER AND STREET PHONE NO.
CITY / TOWN STATE ZIP CODE	CITY / TOWN STATE ZIP CODE
INSURANCE CO. & POLICY # [redacted] OR DSMV 385 ISSUED ☒	INSURANCE CO. & POLICY # OR DSMV 385 ISSUED ☒
VEHICLE TOWED ☐ BY: TO:	VEHICLE TOWED ☐ BY: TO:

REF.	26	27	28	29	NAME(S) OF OCCUPANTS OR WITNESSES	ADDRESS / PHONE	30	31	32	33
1	1	N	4	[redacted]	[redacted]	[redacted]	1	1	8	M
2	2	B	6	[redacted]	[redacted]	[redacted]	1	1	4	M
3										
4										
5										
6										

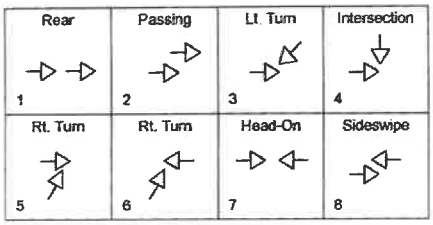
UNIT NO: 1

10 INDICATE PROBABLE POINT OF IMPACT



16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.



Indicate Vehicle Numbers on Arrows Above

UNIT NO: 2



INDICATE PROBABLE POINT OF IMPACT 6

16. Undercarriage
17. Rollover
18. Fire/Explosion
19. Total

Circle numbers indicating areas damaged.

ACCIDENT SKETCH

Indicate North

By Arrow

Vehicles Moved PTA of PPD



GIST OF ACCIDENT

On November 16th, 2022 I was dispatched to a motor vehicle collision at the intersection of Greenland Rd and Borthwick Ave. Upon my arrival I met with both involved parties.

V1 is a 2019 Silver Nissan Rogue operated by [redacted] and V2 is a 2007 Yamaha Moped operated by [redacted]. [redacted] is reporting an injury to his right arm/shoulder, Portsmouth Fire Paramedics evaluated [redacted] and he refused transport to the hospital.

[redacted] reported that he was coming off greenland rd and taking a left, when [redacted] went through the stop sign and struck him in the intersection. [redacted] is reporting that he was at Borthwick heading straight and [redacted] is the one that went through the stop sign. [redacted] told me that he was looking at his phone for directions prior to the collision.

[redacted] was issued NH DOS citation [redacted] for mobile electronic use while driving. Both vehicles were driven from the scene.

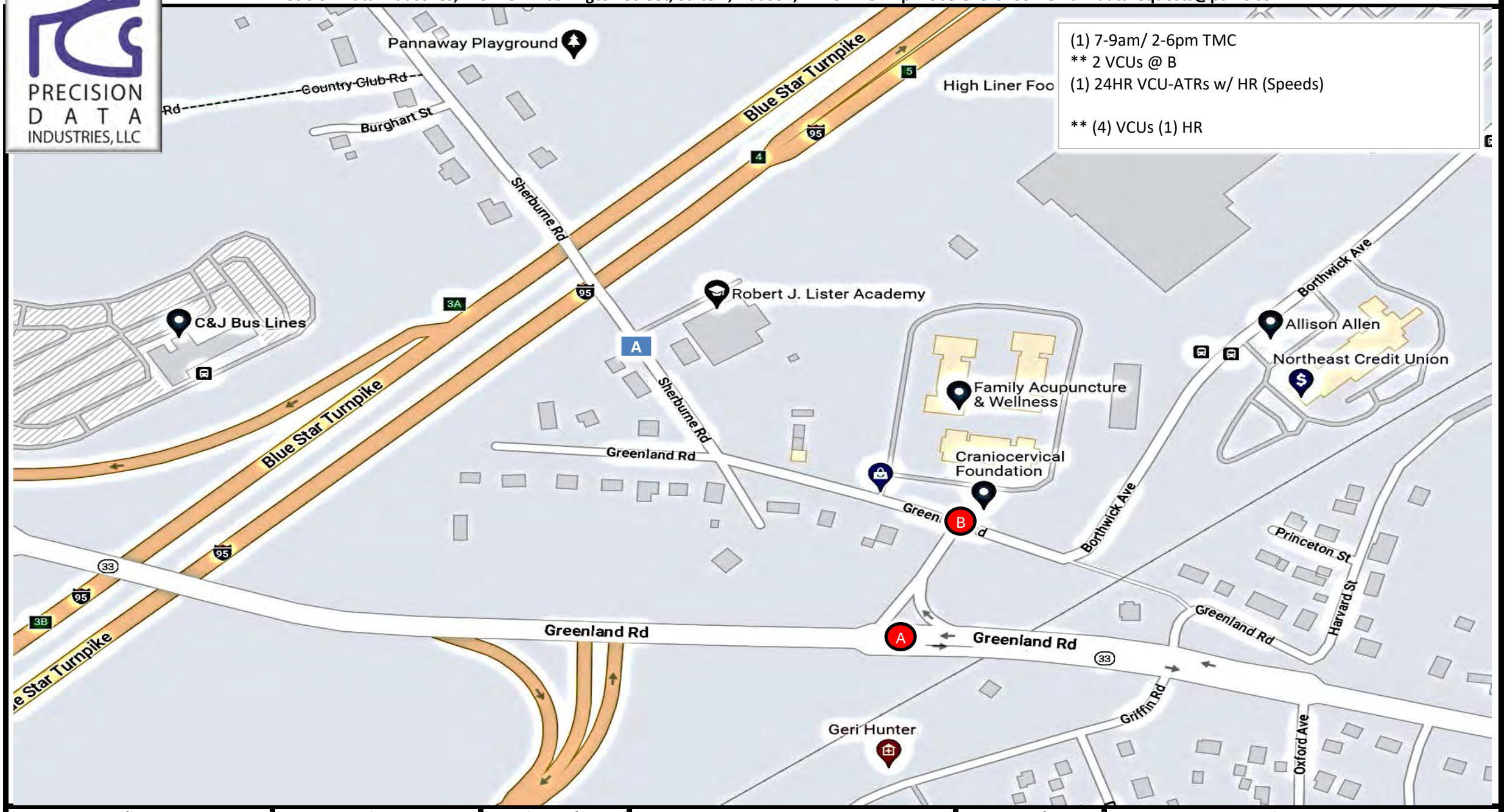
Officer Michael Nicoli
Patrol Division
Portsmouth NH Police

SIGNATURE OF INVESTIGATING OFFICER	DATE OF REPORT	REVIEWED BY
	11/24/2022	
DEPARTMENT / DIVISION / TROOP	PHOTOS TAKEN	
Portsmouth Police Department	YES ☒ NO ☐ BY:	

APPENDIX I

Location Map: 239200 Portsmouth, NH

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
TFMoran	J. Porter	47528.00	Thurs 3/9/2023	239200	Portsmouth, NH

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	21	8	0	29	5	68	0	73	108	60	0	168	270
7:15 AM	40	11	0	51	13	53	0	66	125	60	0	185	302
7:30 AM	34	11	0	45	11	96	0	107	185	76	0	261	413
7:45 AM	43	22	0	65	19	106	0	125	237	129	0	366	556
Total	138	52	0	190	48	323	0	371	655	325	0	980	1541
8:00 AM	28	23	0	51	18	104	0	122	230	73	0	303	476
8:15 AM	37	15	0	52	24	115	0	139	194	83	0	277	468
8:30 AM	28	15	0	43	21	94	0	115	165	58	0	223	381
8:45 AM	33	13	0	46	23	91	0	114	159	63	0	222	382
Total	126	66	0	192	86	404	0	490	748	277	0	1025	1707
Grand Total	264	118	0	382	134	727	0	861	1403	602	0	2005	3248
Approach %	69.1	30.9	0.0		15.6	84.4	0.0		70.0	30.0	0.0		
Total %	8.1	3.6	0.0	11.8	4.1	22.4	0.0	26.5	43.2	18.5	0.0	61.7	
Exiting Leg Total				736				1521				991	3248
Cars	243	113	0	356	126	691	0	817	1345	579	0	1924	3097
% Cars	92.0	95.8	0.0	93.2	94.0	95.0	0.0	94.9	95.9	96.2	0.0	96.0	95.4
Exiting Leg Total				705				1458				934	3097
Heavy Vehicles	21	5	0	26	8	36	0	44	58	23	0	81	151
% Heavy Vehicles	8.0	4.2	0.0	6.8	6.0	5.0	0.0	5.1	4.1	3.8	0.0	4.0	4.6
Exiting Leg Total				31				63				57	151

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:30 AM	34	11	0	45	11	96	0	107	185	76	0	261	413
7:45 AM	43	22	0	65	19	106	0	125	237	129	0	366	556
8:00 AM	28	23	0	51	18	104	0	122	230	73	0	303	476
8:15 AM	37	15	0	52	24	115	0	139	194	83	0	277	468
Total Volume	142	71	0	213	72	421	0	493	846	361	0	1207	1913
% Approach Total	66.7	33.3	0.0		14.6	85.4	0.0		70.1	29.9	0.0		
PHF	0.826	0.772	0.000	0.819	0.750	0.915	0.000	0.887	0.892	0.700	0.000	0.824	0.860
Cars	133	68	0	201	68	399	0	467	813	350	0	1163	1831
Cars %	93.7	95.8	0.0	94.4	94.4	94.8	0.0	94.7	96.1	97.0	0.0	96.4	95.7
Heavy Vehicles	9	3	0	12	4	22	0	26	33	11	0	44	82
Heavy Vehicles %	6.3	4.2	0.0	5.6	5.6	5.2	0.0	5.3	3.9	3.0	0.0	3.6	4.3
Cars Enter Leg	133	68	0	201	68	399	0	467	813	350	0	1163	1831
Heavy Enter Leg	9	3	0	12	4	22	0	26	33	11	0	44	82
Total Entering Leg	142	71	0	213	72	421	0	493	846	361	0	1207	1913
Cars Exiting Leg				418				881				532	1831
Heavy Exiting Leg				15				36				31	82
Total Exiting Leg				433				917				563	1913

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Cars**

	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	20	8	0	28	5	65	0	70	99	58	0	157	255
7:15 AM	36	10	0	46	12	51	0	63	121	57	0	178	287
7:30 AM	31	10	0	41	10	92	0	102	178	75	0	253	396
7:45 AM	39	22	0	61	18	98	0	116	229	126	0	355	532
Total	126	50	0	176	45	306	0	351	627	316	0	943	1470
8:00 AM	28	22	0	50	17	101	0	118	219	73	0	292	460
8:15 AM	35	14	0	49	23	108	0	131	187	76	0	263	443
8:30 AM	27	15	0	42	18	88	0	106	158	55	0	213	361
8:45 AM	27	12	0	39	23	88	0	111	154	59	0	213	363
Total	117	63	0	180	81	385	0	466	718	263	0	981	1627
Grand Total	243	113	0	356	126	691	0	817	1345	579	0	1924	3097
Approach %	68.3	31.7	0.0		15.4	84.6	0.0		69.9	30.1	0.0		
Total %	7.8	3.6	0.0	11.5	4.1	22.3	0.0	26.4	43.4	18.7	0.0	62.1	
Exiting Leg Total				705				1458				934	3097

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:30 AM	31	10	0	41	10	92	0	102	178	75	0	253	396
7:45 AM	39	22	0	61	18	98	0	116	229	126	0	355	532
8:00 AM	28	22	0	50	17	101	0	118	219	73	0	292	460
8:15 AM	35	14	0	49	23	108	0	131	187	76	0	263	443
Total Volume	133	68	0	201	68	399	0	467	813	350	0	1163	1831
% Approach Total	66.2	33.8	0.0		14.6	85.4	0.0		69.9	30.1	0.0		
PHF	0.853	0.773	0.000	0.824	0.739	0.924	0.000	0.891	0.888	0.694	0.000	0.819	0.860
Entering Leg	133	68	0	201	68	399	0	467	813	350	0	1163	1831
Exiting Leg				418				881				532	1831
Total				619				1348				1695	3662

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	3	0	3	9	2	0	11	15
7:15 AM	4	1	0	5	1	2	0	3	4	3	0	7	15
7:30 AM	3	1	0	4	1	4	0	5	7	1	0	8	17
7:45 AM	4	0	0	4	1	8	0	9	8	3	0	11	24
Total	12	2	0	14	3	17	0	20	28	9	0	37	71
8:00 AM	0	1	0	1	1	3	0	4	11	0	0	11	16
8:15 AM	2	1	0	3	1	7	0	8	7	7	0	14	25
8:30 AM	1	0	0	1	3	6	0	9	7	3	0	10	20
8:45 AM	6	1	0	7	0	3	0	3	5	4	0	9	19
Total	9	3	0	12	5	19	0	24	30	14	0	44	80
Grand Total	21	5	0	26	8	36	0	44	58	23	0	81	151
Approach %	80.8	19.2	0.0		18.2	81.8	0.0		71.6	28.4	0.0		
Total %	13.9	3.3	0.0	17.2	5.3	23.8	0.0	29.1	38.4	15.2	0.0	53.6	
Exiting Leg Total				31				63				57	151
Buses	5	3	0	8	4	3	0	7	7	4	0	11	26
% Buses	23.8	60.0	0.0	30.8	50.0	8.3	0.0	15.9	12.1	17.4	0.0	13.6	17.2
Exiting Leg Total				8				10				8	26
Single-Unit Trucks	13	2	0	15	4	25	0	29	42	17	0	59	103
% Single-Unit	61.9	40.0	0.0	57.7	50.0	69.4	0.0	65.9	72.4	73.9	0.0	72.8	68.2
Exiting Leg Total				21				44				38	103
Articulated Trucks	3	0	0	3	0	8	0	8	9	2	0	11	22
% Articulated	14.3	0.0	0.0	11.5	0.0	22.2	0.0	18.2	15.5	8.7	0.0	13.6	14.6
Exiting Leg Total				2				9				11	22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	4	0	0	4	1	8	0	9	8	3	0	11	24
8:00 AM	0	1	0	1	1	3	0	4	11	0	0	11	16
8:15 AM	2	1	0	3	1	7	0	8	7	7	0	14	25
8:30 AM	1	0	0	1	3	6	0	9	7	3	0	10	20
Total Volume	7	2	0	9	6	24	0	30	33	13	0	46	85
% Approach Total	77.8	22.2	0.0		20.0	80.0	0.0		71.7	28.3	0.0		
PHF	0.438	0.500	0.000	0.563	0.500	0.750	0.000	0.833	0.750	0.464	0.000	0.821	0.850
Buses	2	1	0	3	3	2	0	5	3	2	0	5	13
Buses %	28.6	50.0	0.0	33.3	50.0	8.3	0.0	16.7	9.1	15.4	0.0	10.9	15.3
Single-Unit Trucks	5	1	0	6	3	16	0	19	26	10	0	36	61
Single-Unit %	71.4	50.0	0.0	66.7	50.0	66.7	0.0	63.3	78.8	76.9	0.0	78.3	71.8
Articulated Trucks	0	0	0	0	0	6	0	6	4	1	0	5	11
Articulated %	0.0	0.0	0.0	0.0	0.0	25.0	0.0	20.0	12.1	7.7	0.0	10.9	12.9
Buses	2	1	0	3	3	2	0	5	3	2	0	5	13
Single-Unit Trucks	5	1	0	6	3	16	0	19	26	10	0	36	61
Articulated Trucks	0	0	0	0	0	6	0	6	4	1	0	5	11
Total Entering Leg	7	2	0	9	6	24	0	30	33	13	0	46	85
Buses				5				4				4	13
Single-Unit Trucks				13				27				21	61
Articulated Trucks				1				4				6	11
Total Exiting Leg				19				35				31	85

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Buses**

	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	2	1	0	3	1	0	0	1	0	2	0	2	6
7:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:45 AM	1	0	0	1	1	0	0	1	0	0	0	0	2
Total	3	1	0	4	2	0	0	2	3	2	0	5	11
8:00 AM	0	1	0	1	1	1	0	2	3	0	0	3	6
8:15 AM	1	0	0	1	0	1	0	1	0	1	0	1	3
8:30 AM	0	0	0	0	1	0	0	1	0	1	0	1	2
8:45 AM	1	1	0	2	0	1	0	1	1	0	0	1	4
Total	2	2	0	4	2	3	0	5	4	2	0	6	15
Grand Total	5	3	0	8	4	3	0	7	7	4	0	11	26
Approach %	62.5	37.5	0.0		57.1	42.9	0.0		63.6	36.4	0.0		
Total %	19.2	11.5	0.0	30.8	15.4	11.5	0.0	26.9	26.9	15.4	0.0	42.3	
Exiting Leg Total				8				10				8	26

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	2	1	0	3	1	0	0	1	0	2	0	2	6
7:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:45 AM	1	0	0	1	1	0	0	1	0	0	0	0	2
8:00 AM	0	1	0	1	1	1	0	2	3	0	0	3	6
Total Volume	3	2	0	5	3	1	0	4	5	2	0	7	16
% Approach Total	60.0	40.0	0.0		75.0	25.0	0.0		71.4	28.6	0.0		
PHF	0.375	0.500	0.000	0.417	0.750	0.250	0.000	0.500	0.417	0.250	0.000	0.583	0.667
Entering Leg	3	2	0	5	3	1	0	4	5	2	0	7	16
Exiting Leg				5				7				4	16
Total				10				11				11	32

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	2	0	2	6	2	0	8	10
7:15 AM	2	0	0	2	0	2	0	2	3	1	0	4	8
7:30 AM	2	1	0	3	1	3	0	4	3	1	0	4	11
7:45 AM	3	0	0	3	0	5	0	5	8	2	0	10	18
Total	7	1	0	8	1	12	0	13	20	6	0	26	47
8:00 AM	0	0	0	0	0	2	0	2	6	0	0	6	8
8:15 AM	1	1	0	2	1	5	0	6	5	6	0	11	19
8:30 AM	1	0	0	1	2	4	0	6	7	2	0	9	16
8:45 AM	4	0	0	4	0	2	0	2	4	3	0	7	13
Total	6	1	0	7	3	13	0	16	22	11	0	33	56
Grand Total	13	2	0	15	4	25	0	29	42	17	0	59	103
Approach %	86.7	13.3	0.0		13.8	86.2	0.0		71.2	28.8	0.0		
Total %	12.6	1.9	0.0	14.6	3.9	24.3	0.0	28.2	40.8	16.5	0.0	57.3	
Exiting Leg Total				21				44				38	103

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	3	0	0	3	0	5	0	5	8	2	0	10	18
8:00 AM	0	0	0	0	0	2	0	2	6	0	0	6	8
8:15 AM	1	1	0	2	1	5	0	6	5	6	0	11	19
8:30 AM	1	0	0	1	2	4	0	6	7	2	0	9	16
Total Volume	5	1	0	6	3	16	0	19	26	10	0	36	61
% Approach Total	83.3	16.7	0.0		15.8	84.2	0.0		72.2	27.8	0.0		
PHF	0.417	0.250	0.000	0.500	0.375	0.800	0.000	0.792	0.813	0.417	0.000	0.818	0.803
Entering Leg	5	1	0	6	3	16	0	19	26	10	0	36	61
Exiting Leg				13				27				21	61
Total				19				46				57	122

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class:

Articulated Trucks

	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	1	0	1	2	0	0	2	4
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	1	0	0	1	0	1	0	1	2	0	0	2	4
7:45 AM	0	0	0	0	0	3	0	3	0	1	0	1	4
Total	2	0	0	2	0	5	0	5	5	1	0	6	13
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
8:15 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
8:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	1	0	0	1	0	3	0	3	4	1	0	5	9
Grand Total	3	0	0	3	0	8	0	8	9	2	0	11	22
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		81.8	18.2	0.0		
Total %	13.6	0.0	0.0	13.6	0.0	36.4	0.0	36.4	40.9	9.1	0.0	50.0	
Exiting Leg Total				2				9				11	22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	1	0	1	2	0	0	2	4
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	1	0	0	1	0	1	0	1	2	0	0	2	4
7:45 AM	0	0	0	0	0	3	0	3	0	1	0	1	4
Total Volume	2	0	0	2	0	5	0	5	5	1	0	6	13
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		83.3	16.7	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.417	0.000	0.417	0.625	0.250	0.000	0.750	0.813
Entering Leg	2	0	0	2	0	5	0	5	5	1	0	6	13
Exiting Leg				1				5				7	13
Total				3				10				13	26

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Borthwick Avenue from North						Greenland Road (Route 33) from East						Greenland Road (Route 33) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Borthwick Avenue from North						Greenland Road (Route 33) from East						Greenland Road (Route 33) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Pedestrians

	Borthwick Avenue						Greenland Road (Route 33)						Greenland Road (Route 33)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Borthwick Avenue						Greenland Road (Route 33)						Greenland Road (Route 33)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	45	14	0	59	21	122	0	143	109	40	0	149	351
2:15 PM	39	23	0	62	29	108	0	137	128	55	0	183	382
2:30 PM	61	26	0	87	19	130	0	149	108	42	0	150	386
2:45 PM	56	26	0	82	25	111	0	136	160	36	0	196	414
Total	201	89	0	290	94	471	0	565	505	173	0	678	1533
3:00 PM	80	19	0	99	21	133	0	154	134	41	0	175	428
3:15 PM	79	20	0	99	33	153	0	186	144	39	0	183	468
3:30 PM	57	20	0	77	29	174	0	203	154	42	0	196	476
3:45 PM	76	21	0	97	15	156	0	171	134	37	0	171	439
Total	292	80	0	372	98	616	0	714	566	159	0	725	1811
4:00 PM	83	18	0	101	19	147	0	166	163	36	0	199	466
4:15 PM	58	15	0	73	21	133	0	154	151	36	0	187	414
4:30 PM	65	24	0	89	13	158	0	171	154	21	0	175	435
4:45 PM	58	17	0	75	16	160	0	176	154	23	0	177	428
Total	264	74	0	338	69	598	0	667	622	116	0	738	1743
5:00 PM	127	23	0	150	22	181	0	203	172	27	0	199	552
5:15 PM	78	14	0	92	17	149	0	166	134	22	0	156	414
5:30 PM	50	13	0	63	10	124	0	134	133	32	0	165	362
5:45 PM	39	8	0	47	21	110	0	131	160	26	0	186	364
Total	294	58	0	352	70	564	0	634	599	107	0	706	1692
Grand Total	1051	301	0	1352	331	2249	0	2580	2292	555	0	2847	6779
Approach %	77.7	22.3	0.0		12.8	87.2	0.0		80.5	19.5	0.0		
Total %	15.5	4.4	0.0	19.9	4.9	33.2	0.0	38.1	33.8	8.2	0.0	42.0	
Exiting Leg Total				886				2593				3300	6779
Cars	1031	281	0	1312	312	2208	0	2520	2233	540	0	2773	6605
% Cars	98.1	93.4	0.0	97.0	94.3	98.2	0.0	97.7	97.4	97.3	0.0	97.4	97.4
Exiting Leg Total				852				2514				3239	6605
Heavy Vehicles	20	20	0	40	19	41	0	60	59	15	0	74	174
% Heavy Vehicles	1.9	6.6	0.0	3.0	5.7	1.8	0.0	2.3	2.6	2.7	0.0	2.6	2.6
Exiting Leg Total				34				79				61	174

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

3:15 PM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
3:15 PM	79	20	0	99	33	153	0	186	144	39	0	183	468
3:30 PM	57	20	0	77	29	174	0	203	154	42	0	196	476
3:45 PM	76	21	0	97	15	156	0	171	134	37	0	171	439
4:00 PM	83	18	0	101	19	147	0	166	163	36	0	199	466
Total Volume	295	79	0	374	96	630	0	726	595	154	0	749	1849
% Approach Total	78.9	21.1	0.0		13.2	86.8	0.0		79.4	20.6	0.0		
PHF	0.889	0.940	0.000	0.926	0.727	0.905	0.000	0.894	0.913	0.917	0.000	0.941	0.971
Cars	290	73	0	363	89	616	0	705	580	149	0	729	1797
Cars %	98.3	92.4	0.0	97.1	92.7	97.8	0.0	97.1	97.5	96.8	0.0	97.3	97.2
Heavy Vehicles	5	6	0	11	7	14	0	21	15	5	0	20	52
Heavy Vehicles %	1.7	7.6	0.0	2.9	7.3	2.2	0.0	2.9	2.5	3.2	0.0	2.7	2.8
Cars Enter Leg	290	73	0	363	89	616	0	705	580	149	0	729	1797
Heavy Enter Leg	5	6	0	11	7	14	0	21	15	5	0	20	52
Total Entering Leg	295	79	0	374	96	630	0	726	595	154	0	749	1849
Cars Exiting Leg				238				653				906	1797
Heavy Exiting Leg				12				21				19	52
Total Exiting Leg				250				674				925	1849

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Cars

	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	44	14	0	58	21	120	0	141	101	40	0	141	340
2:15 PM	39	21	0	60	25	102	0	127	125	51	0	176	363
2:30 PM	58	21	0	79	17	127	0	144	102	42	0	144	367
2:45 PM	55	23	0	78	23	104	0	127	157	36	0	193	398
Total	196	79	0	275	86	453	0	539	485	169	0	654	1468
3:00 PM	80	17	0	97	19	131	0	150	131	39	0	170	417
3:15 PM	78	20	0	98	30	150	0	180	140	38	0	178	456
3:30 PM	54	17	0	71	27	167	0	194	151	42	0	193	458
3:45 PM	76	19	0	95	15	154	0	169	129	35	0	164	428
Total	288	73	0	361	91	602	0	693	551	154	0	705	1759
4:00 PM	82	17	0	99	17	145	0	162	160	34	0	194	455
4:15 PM	53	15	0	68	20	133	0	153	150	36	0	186	407
4:30 PM	64	24	0	88	12	155	0	167	148	20	0	168	423
4:45 PM	57	17	0	74	16	160	0	176	151	22	0	173	423
Total	256	73	0	329	65	593	0	658	609	112	0	721	1708
5:00 PM	126	22	0	148	22	181	0	203	170	26	0	196	547
5:15 PM	76	14	0	90	17	147	0	164	133	22	0	155	409
5:30 PM	50	12	0	62	10	123	0	133	131	31	0	162	357
5:45 PM	39	8	0	47	21	109	0	130	154	26	0	180	357
Total	291	56	0	347	70	560	0	630	588	105	0	693	1670
Grand Total	1031	281	0	1312	312	2208	0	2520	2233	540	0	2773	6605
Approach %	78.6	21.4	0.0		12.4	87.6	0.0		80.5	19.5	0.0		
Total %	15.6	4.3	0.0	19.9	4.7	33.4	0.0	38.2	33.8	8.2	0.0	42.0	
Exiting Leg Total				852				2514				3239	6605

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

4:30 PM	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:30 PM	64	24	0	88	12	155	0	167	148	20	0	168	423
4:45 PM	57	17	0	74	16	160	0	176	151	22	0	173	423
5:00 PM	126	22	0	148	22	181	0	203	170	26	0	196	547
5:15 PM	76	14	0	90	17	147	0	164	133	22	0	155	409
Total Volume	323	77	0	400	67	643	0	710	602	90	0	692	1802
% Approach Total	80.8	19.3	0.0		9.4	90.6	0.0		87.0	13.0	0.0		
PHF	0.641	0.802	0.000	0.676	0.761	0.888	0.000	0.874	0.885	0.865	0.000	0.883	0.824
Entering Leg	323	77	0	400	67	643	0	710	602	90	0	692	1802
Exiting Leg				157				679				966	1802
Total				557				1389				1658	3604

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	1	0	0	1	0	2	0	2	8	0	0	8	11
2:15 PM	0	2	0	2	4	6	0	10	3	4	0	7	19
2:30 PM	3	5	0	8	2	3	0	5	6	0	0	6	19
2:45 PM	1	3	0	4	2	7	0	9	3	0	0	3	16
Total	5	10	0	15	8	18	0	26	20	4	0	24	65
3:00 PM	0	2	0	2	2	2	0	4	3	2	0	5	11
3:15 PM	1	0	0	1	3	3	0	6	4	1	0	5	12
3:30 PM	3	3	0	6	2	7	0	9	3	0	0	3	18
3:45 PM	0	2	0	2	0	2	0	2	5	2	0	7	11
Total	4	7	0	11	7	14	0	21	15	5	0	20	52
4:00 PM	1	1	0	2	2	2	0	4	3	2	0	5	11
4:15 PM	5	0	0	5	1	0	0	1	1	0	0	1	7
4:30 PM	1	0	0	1	1	3	0	4	6	1	0	7	12
4:45 PM	1	0	0	1	0	0	0	0	3	1	0	4	5
Total	8	1	0	9	4	5	0	9	13	4	0	17	35
5:00 PM	1	1	0	2	0	0	0	0	2	1	0	3	5
5:15 PM	2	0	0	2	0	2	0	2	1	0	0	1	5
5:30 PM	0	1	0	1	0	1	0	1	2	1	0	3	5
5:45 PM	0	0	0	0	0	1	0	1	6	0	0	6	7
Total	3	2	0	5	0	4	0	4	11	2	0	13	22
Grand Total	20	20	0	40	19	41	0	60	59	15	0	74	174
Approach %	50.0	50.0	0.0		31.7	68.3	0.0		79.7	20.3	0.0		
Total %	11.5	11.5	0.0	23.0	10.9	23.6	0.0	34.5	33.9	8.6	0.0	42.5	
Exiting Leg Total				34				79				61	174
Buses	5	3	0	8	4	1	0	5	4	4	0	8	21
% Buses	25.0	15.0	0.0	20.0	21.1	2.4	0.0	8.3	6.8	26.7	0.0	10.8	12.1
Exiting Leg Total				8				7				6	21
Single-Unit Trucks	12	16	0	28	14	38	0	52	50	7	0	57	137
% Single-Unit	60.0	80.0	0.0	70.0	73.7	92.7	0.0	86.7	84.7	46.7	0.0	77.0	78.7
Exiting Leg Total				21				66				50	137
Articulated Trucks	3	1	0	4	1	2	0	3	5	4	0	9	16
% Articulated	15.0	5.0	0.0	10.0	5.3	4.9	0.0	5.0	8.5	26.7	0.0	12.2	9.2
Exiting Leg Total				5				6				5	16

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	1	0	0	1	0	2	0	2	8	0	0	8	11
2:15 PM	0	2	0	2	4	6	0	10	3	4	0	7	19
2:30 PM	3	5	0	8	2	3	0	5	6	0	0	6	19
2:45 PM	1	3	0	4	2	7	0	9	3	0	0	3	16
Total Volume	5	10	0	15	8	18	0	26	20	4	0	24	65
% Approach Total	33.3	66.7	0.0		30.8	69.2	0.0		83.3	16.7	0.0		
PHF	0.417	0.500	0.000	0.469	0.500	0.643	0.000	0.650	0.625	0.250	0.000	0.750	0.855
Buses	2	2	0	4	2	0	0	2	3	1	0	4	10
Buses %	40.0	20.0	0.0	26.7	25.0	0.0	0.0	7.7	15.0	25.0	0.0	16.7	15.4
Single-Unit Trucks	3	7	0	10	6	17	0	23	14	0	0	14	47
Single-Unit %	60.0	70.0	0.0	66.7	75.0	94.4	0.0	88.5	70.0	0.0	0.0	58.3	72.3
Articulated Trucks	0	1	0	1	0	1	0	1	3	3	0	6	8
Articulated %	0.0	10.0	0.0	6.7	0.0	5.6	0.0	3.8	15.0	75.0	0.0	25.0	12.3
Buses	2	2	0	4	2	0	0	2	3	1	0	4	10
Single-Unit Trucks	3	7	0	10	6	17	0	23	14	0	0	14	47
Articulated Trucks	0	1	0	1	0	1	0	1	3	3	0	6	8
Total Entering Leg	5	10	0	15	8	18	0	26	20	4	0	24	65
Buses				3				5				2	10
Single-Unit Trucks				6				21				20	47
Articulated Trucks				3				4				1	8
Total Exiting Leg				12				30				23	65

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Buses

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	1	0	0	1	0	1	0	1	2
2:30 PM	1	1	0	2	1	0	0	1	3	0	0	3	6
2:45 PM	1	1	0	2	0	0	0	0	0	0	0	0	2
Total	2	2	0	4	2	0	0	2	3	1	0	4	10
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	1	0	0	1	0	1	0	1	0	1	0	1	3
3:30 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	1	0	2	1	1	0	2	1	1	0	2	6
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1	0	1	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	1	0	1	2
Grand Total	5	3	0	8	4	1	0	5	4	4	0	8	21
Approach %	62.5	37.5	0.0		80.0	20.0	0.0		50.0	50.0	0.0		
Total %	23.8	14.3	0.0	38.1	19.0	4.8	0.0	23.8	19.0	19.0	0.0	38.1	
Exiting Leg Total				8				7				6	21

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:30 PM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:30 PM	1	1	0	2	1	0	0	1	3	0	0	3	6
2:45 PM	1	1	0	2	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	1	0	0	1	0	1	0	1	0	1	0	1	3
Total Volume	3	2	0	5	1	1	0	2	3	1	0	4	11
% Approach Total	60.0	40.0	0.0		50.0	50.0	0.0		75.0	25.0	0.0		
PHF	0.750	0.500	0.000	0.625	0.250	0.250	0.000	0.500	0.250	0.250	0.000	0.333	0.458
Entering Leg	3	2	0	5	1	1	0	2	3	1	0	4	11
Exiting Leg				2				5				4	11
Total				7				7				8	22

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	1	0	0	1	0	2	0	2	7	0	0	7	10
2:15 PM	0	2	0	2	3	6	0	9	2	0	0	2	13
2:30 PM	2	3	0	5	1	3	0	4	2	0	0	2	11
2:45 PM	0	2	0	2	2	6	0	8	3	0	0	3	13
Total	3	7	0	10	6	17	0	23	14	0	0	14	47
3:00 PM	0	2	0	2	2	2	0	4	2	2	0	4	10
3:15 PM	0	0	0	0	3	2	0	5	4	0	0	4	9
3:30 PM	1	2	0	3	0	7	0	7	3	0	0	3	13
3:45 PM	0	2	0	2	0	2	0	2	4	2	0	6	10
Total	1	6	0	7	5	13	0	18	13	4	0	17	42
4:00 PM	1	1	0	2	2	2	0	4	3	2	0	5	11
4:15 PM	3	0	0	3	0	0	0	0	1	0	0	1	4
4:30 PM	1	0	0	1	1	3	0	4	5	0	0	5	10
4:45 PM	1	0	0	1	0	0	0	0	3	1	0	4	5
Total	6	1	0	7	3	5	0	8	12	3	0	15	30
5:00 PM	1	1	0	2	0	0	0	0	2	0	0	2	4
5:15 PM	1	0	0	1	0	1	0	1	1	0	0	1	3
5:30 PM	0	1	0	1	0	1	0	1	2	0	0	2	4
5:45 PM	0	0	0	0	0	1	0	1	6	0	0	6	7
Total	2	2	0	4	0	3	0	3	11	0	0	11	18
Grand Total	12	16	0	28	14	38	0	52	50	7	0	57	137
Approach %	42.9	57.1	0.0		26.9	73.1	0.0		87.7	12.3	0.0		
Total %	8.8	11.7	0.0	20.4	10.2	27.7	0.0	38.0	36.5	5.1	0.0	41.6	
Exiting Leg Total				21				66				50	137

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from North				Greenland Road (Route 33) from East				Greenland Road (Route 33) from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	1	0	0	1	0	2	0	2	7	0	0	7	10
2:15 PM	0	2	0	2	3	6	0	9	2	0	0	2	13
2:30 PM	2	3	0	5	1	3	0	4	2	0	0	2	11
2:45 PM	0	2	0	2	2	6	0	8	3	0	0	3	13
Total Volume	3	7	0	10	6	17	0	23	14	0	0	14	47
% Approach Total	30.0	70.0	0.0		26.1	73.9	0.0		100.0	0.0	0.0		
PHF	0.375	0.583	0.000	0.500	0.500	0.708	0.000	0.639	0.500	0.000	0.000	0.500	0.904
Entering Leg	3	7	0	10	6	17	0	23	14	0	0	14	47
Exiting Leg				6				21				20	47
Total				16				44				34	94

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class:

Articulated Trucks

	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
2:15 PM	0	0	0	0	0	0	0	0	1	3	0	4	4
2:30 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
2:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	1	0	1	3	3	0	6	8
3:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	2	0	0	2	1	0	0	1	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	1	0	0	1	1	0	0	1	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	1	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	1	0	1	2
Grand Total	3	1	0	4	1	2	0	3	5	4	0	9	16
Approach %	75.0	25.0	0.0		33.3	66.7	0.0		55.6	44.4	0.0		
Total %	18.8	6.3	0.0	25.0	6.3	12.5	0.0	18.8	31.3	25.0	0.0	56.3	
Exiting Leg Total				5				6				5	16

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue				Greenland Road (Route 33)				Greenland Road (Route 33)				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
2:15 PM	0	0	0	0	0	0	0	0	1	3	0	4	4
2:30 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
2:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	1	0	1	0	1	0	1	3	3	0	6	8
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		50.0	50.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.250	0.750	0.250	0.000	0.375	0.500
Entering Leg	0	1	0	1	0	1	0	1	3	3	0	6	8
Exiting Leg				3				4				1	8
Total				4				5				7	16

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Borthwick Avenue						Greenland Road (Route 33)						Greenland Road (Route 33)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						1	1

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

4:00 PM	Borthwick Avenue						Greenland Road (Route 33)						Greenland Road (Route 33)						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Exiting Leg						0						0						1	1
Total						0						1						1	2

PDI File #: **239200 A**
Location: **N: Borthwick Avenue**
Location: **E: Greenland Road (Route 33) W: Greenland Road (Route 33)**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Pedestrians

	Borthwick Avenue from North						Greenland Road (Route 33) from East						Greenland Road (Route 33) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from North						Greenland Road (Route 33) from East						Greenland Road (Route 33) from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	5	15	0	20	57	8	0	65	15	3	0	18	103
7:15 AM	5	22	0	27	60	12	0	72	28	2	0	30	129
7:30 AM	5	21	0	26	70	16	0	86	30	6	0	36	148
7:45 AM	3	27	0	30	122	21	0	143	36	10	0	46	219
Total	18	85	0	103	309	57	0	366	109	21	0	130	599
8:00 AM	7	18	0	25	76	20	0	96	33	8	0	41	162
8:15 AM	7	26	0	33	73	30	0	103	22	10	0	32	168
8:30 AM	4	27	0	31	69	13	0	82	18	5	0	23	136
8:45 AM	4	31	0	35	65	20	0	85	13	5	0	18	138
Total	22	102	0	124	283	83	0	366	86	28	0	114	604
Grand Total	40	187	0	227	592	140	0	732	195	49	0	244	1203
Approach %	17.6	82.4	0.0		80.9	19.1	0.0		79.9	20.1	0.0		
Total %	3.3	15.5	0.0	18.9	49.2	11.6	0.0	60.8	16.2	4.1	0.0	20.3	
Exiting Leg Total				641				382				180	1203
Cars	39	170	0	209	570	128	0	698	188	47	0	235	1142
% Cars	97.5	90.9	0.0	92.1	96.3	91.4	0.0	95.4	96.4	95.9	0.0	96.3	94.9
Exiting Leg Total				617				358				167	1142
Heavy Vehicles	1	17	0	18	22	12	0	34	7	2	0	9	61
% Heavy Vehicles	2.5	9.1	0.0	7.9	3.7	8.6	0.0	4.6	3.6	4.1	0.0	3.7	5.1
Exiting Leg Total				24				24				13	61

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	5	21	0	26	70	16	0	86	30	6	0	36	148
7:45 AM	3	27	0	30	122	21	0	143	36	10	0	46	219
8:00 AM	7	18	0	25	76	20	0	96	33	8	0	41	162
8:15 AM	7	26	0	33	73	30	0	103	22	10	0	32	168
Total Volume	22	92	0	114	341	87	0	428	121	34	0	155	697
% Approach Total	19.3	80.7	0.0		79.7	20.3	0.0		78.1	21.9	0.0		
PHF	0.786	0.852	0.000	0.864	0.699	0.725	0.000	0.748	0.840	0.850	0.000	0.842	0.796
Cars	22	85	0	107	330	80	0	410	117	33	0	150	667
Cars %	100.0	92.4	0.0	93.9	96.8	92.0	0.0	95.8	96.7	97.1	0.0	96.8	95.7
Heavy Vehicles	0	7	0	7	11	7	0	18	4	1	0	5	30
Heavy Vehicles %	0.0	7.6	0.0	6.1	3.2	8.0	0.0	4.2	3.3	2.9	0.0	3.2	4.3
Cars Enter Leg	22	85	0	107	330	80	0	410	117	33	0	150	667
Heavy Enter Leg	0	7	0	7	11	7	0	18	4	1	0	5	30
Total Entering Leg	22	92	0	114	341	87	0	428	121	34	0	155	697
Cars Exiting Leg				363				202				102	667
Heavy Exiting Leg				12				11				7	30
Total Exiting Leg				375				213				109	697

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Cars**

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	5	14	0	19	55	8	0	63	15	3	0	18	100
7:15 AM	5	19	0	24	58	10	0	68	26	2	0	28	120
7:30 AM	5	18	0	23	69	15	0	84	29	6	0	35	142
7:45 AM	3	25	0	28	119	18	0	137	34	10	0	44	209
Total	18	76	0	94	301	51	0	352	104	21	0	125	571
8:00 AM	7	17	0	24	76	18	0	94	32	7	0	39	157
8:15 AM	7	25	0	32	66	29	0	95	22	10	0	32	159
8:30 AM	4	26	0	30	66	11	0	77	18	5	0	23	130
8:45 AM	3	26	0	29	61	19	0	80	12	4	0	16	125
Total	21	94	0	115	269	77	0	346	84	26	0	110	571
Grand Total	39	170	0	209	570	128	0	698	188	47	0	235	1142
Approach %	18.7	81.3	0.0		81.7	18.3	0.0		80.0	20.0	0.0		
Total %	3.4	14.9	0.0	18.3	49.9	11.2	0.0	61.1	16.5	4.1	0.0	20.6	
Exiting Leg Total				617				358				167	1142

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	5	18	0	23	69	15	0	84	29	6	0	35	142
7:45 AM	3	25	0	28	119	18	0	137	34	10	0	44	209
8:00 AM	7	17	0	24	76	18	0	94	32	7	0	39	157
8:15 AM	7	25	0	32	66	29	0	95	22	10	0	32	159
Total Volume	22	85	0	107	330	80	0	410	117	33	0	150	667
% Approach Total	20.6	79.4	0.0		80.5	19.5	0.0		78.0	22.0	0.0		
PHF	0.786	0.850	0.000	0.836	0.693	0.690	0.000	0.748	0.860	0.825	0.000	0.852	0.798
Entering Leg	22	85	0	107	330	80	0	410	117	33	0	150	667
Exiting Leg				363				202				102	667
Total				470				612				252	1334

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	1	0	1	2	0	0	2	0	0	0	0	3
7:15 AM	0	3	0	3	2	2	0	4	2	0	0	2	9
7:30 AM	0	3	0	3	1	1	0	2	1	0	0	1	6
7:45 AM	0	2	0	2	3	3	0	6	2	0	0	2	10
Total	0	9	0	9	8	6	0	14	5	0	0	5	28
8:00 AM	0	1	0	1	0	2	0	2	1	1	0	2	5
8:15 AM	0	1	0	1	7	1	0	8	0	0	0	0	9
8:30 AM	0	1	0	1	3	2	0	5	0	0	0	0	6
8:45 AM	1	5	0	6	4	1	0	5	1	1	0	2	13
Total	1	8	0	9	14	6	0	20	2	2	0	4	33
Grand Total	1	17	0	18	22	12	0	34	7	2	0	9	61
Approach %	5.6	94.4	0.0		64.7	35.3	0.0		77.8	22.2	0.0		
Total %	1.6	27.9	0.0	29.5	36.1	19.7	0.0	55.7	11.5	3.3	0.0	14.8	
Exiting Leg Total				24				24				13	61
Buses	0	3	0	3	3	7	0	10	5	1	0	6	19
% Buses	0.0	17.6	0.0	16.7	13.6	58.3	0.0	29.4	71.4	50.0	0.0	66.7	31.1
Exiting Leg Total				4				8				7	19
Single-Unit Trucks	1	11	0	12	17	5	0	22	2	1	0	3	37
% Single-Unit	100.0	64.7	0.0	66.7	77.3	41.7	0.0	64.7	28.6	50.0	0.0	33.3	60.7
Exiting Leg Total				18				13				6	37
Articulated Trucks	0	3	0	3	2	0	0	2	0	0	0	0	5
% Articulated	0.0	17.6	0.0	16.7	9.1	0.0	0.0	5.9	0.0	0.0	0.0	0.0	8.2
Exiting Leg Total				2				3				0	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	0	1	0	1	0	2	0	2	1	1	0	2	5
8:15 AM	0	1	0	1	7	1	0	8	0	0	0	0	9
8:30 AM	0	1	0	1	3	2	0	5	0	0	0	0	6
8:45 AM	1	5	0	6	4	1	0	5	1	1	0	2	13
Total Volume	1	8	0	9	14	6	0	20	2	2	0	4	33
% Approach Total	11.1	88.9	0.0		70.0	30.0	0.0		50.0	50.0	0.0		
PHF	0.250	0.400	0.000	0.375	0.500	0.750	0.000	0.625	0.500	0.500	0.000	0.500	0.635
Buses	0	2	0	2	2	3	0	5	2	1	0	3	10
Buses %	0.0	25.0	0.0	22.2	14.3	50.0	0.0	25.0	100.0	50.0	0.0	75.0	30.3
Single-Unit Trucks	1	5	0	6	10	3	0	13	0	1	0	1	20
Single-Unit %	100.0	62.5	0.0	66.7	71.4	50.0	0.0	65.0	0.0	50.0	0.0	25.0	60.6
Articulated Trucks	0	1	0	1	2	0	0	2	0	0	0	0	3
Articulated %	0.0	12.5	0.0	11.1	14.3	0.0	0.0	10.0	0.0	0.0	0.0	0.0	9.1
Buses	0	2	0	2	2	3	0	5	2	1	0	3	10
Single-Unit Trucks	1	5	0	6	10	3	0	13	0	1	0	1	20
Articulated Trucks	0	1	0	1	2	0	0	2	0	0	0	0	3
Total Entering Leg	1	8	0	9	14	6	0	20	2	2	0	4	33
Buses				3				4				3	10
Single-Unit Trucks				11				5				4	20
Articulated Trucks				2				1				0	3
Total Exiting Leg				16				10				7	33

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Buses**

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	1	2	0	3	2	0	0	2	6
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	2	0	2	1	0	0	1	3
Total	0	1	0	1	1	4	0	5	3	0	0	3	9
8:00 AM	0	0	0	0	0	1	0	1	1	1	0	2	3
8:15 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
8:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	2
8:45 AM	0	1	0	1	0	1	0	1	1	0	0	1	3
Total	0	2	0	2	2	3	0	5	2	1	0	3	10
Grand Total	0	3	0	3	3	7	0	10	5	1	0	6	19
Approach %	0.0	100.0	0.0		30.0	70.0	0.0		83.3	16.7	0.0		
Total %	0.0	15.8	0.0	15.8	15.8	36.8	0.0	52.6	26.3	5.3	0.0	31.6	
Exiting Leg Total				4				8				7	19

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	0	1	0	1	1	2	0	3	2	0	0	2	6
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	2	0	2	1	0	0	1	3
8:00 AM	0	0	0	0	0	1	0	1	1	1	0	2	3
Total Volume	0	1	0	1	1	5	0	6	4	1	0	5	12
% Approach Total	0.0	100.0	0.0		16.7	83.3	0.0		80.0	20.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.250	0.625	0.000	0.500	0.500	0.250	0.000	0.625	0.500
Entering Leg	0	1	0	1	1	5	0	6	4	1	0	5	12
Exiting Leg				2				5				5	12
Total				3				11				10	24

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class:

Single-Unit Trucks

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
7:15 AM	0	2	0	2	1	0	0	1	0	0	0	0	3
7:30 AM	0	2	0	2	1	1	0	2	1	0	0	1	5
7:45 AM	0	2	0	2	3	1	0	4	1	0	0	1	7
Total	0	6	0	6	7	2	0	9	2	0	0	2	17
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
8:15 AM	0	0	0	0	5	1	0	6	0	0	0	0	6
8:30 AM	0	1	0	1	2	1	0	3	0	0	0	0	4
8:45 AM	1	3	0	4	3	0	0	3	0	1	0	1	8
Total	1	5	0	6	10	3	0	13	0	1	0	1	20
Grand Total	1	11	0	12	17	5	0	22	2	1	0	3	37
Approach %	8.3	91.7	0.0		77.3	22.7	0.0		66.7	33.3	0.0		
Total %	2.7	29.7	0.0	32.4	45.9	13.5	0.0	59.5	5.4	2.7	0.0	8.1	
Exiting Leg Total				18				13				6	37

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:30 AM	0	2	0	2	1	1	0	2	1	0	0	1	5
7:45 AM	0	2	0	2	3	1	0	4	1	0	0	1	7
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
8:15 AM	0	0	0	0	5	1	0	6	0	0	0	0	6
Total Volume	0	5	0	5	9	4	0	13	2	0	0	2	20
% Approach Total	0.0	100.0	0.0		69.2	30.8	0.0		100.0	0.0	0.0		
PHF	0.000	0.625	0.000	0.625	0.450	1.000	0.000	0.542	0.500	0.000	0.000	0.500	0.714
Entering Leg	0	5	0	5	9	4	0	13	2	0	0	2	20
Exiting Leg				9				7				4	20
Total				14				20				6	40

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Articulated Trucks

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total	0	1	0	1	2	0	0	2	0	0	0	0	3
Grand Total	0	3	0	3	2	0	0	2	0	0	0	0	5
Approach %	0.0	100.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	60.0	0.0	60.0	40.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				2				3				0	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	0	1	0	1	2	0	0	2	0	0	0	0	3
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.375
Entering Leg	0	1	0	1	2	0	0	2	0	0	0	0	3
Exiting Leg				2				1				0	3
Total				3				3				0	6

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Pedestrians

	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	4	43	0	47	41	21	0	62	14	6	0	20	129
2:15 PM	3	45	0	48	53	27	0	80	15	11	0	26	154
2:30 PM	9	68	0	77	44	20	0	64	23	7	0	30	171
2:45 PM	5	59	0	64	43	23	0	66	16	8	0	24	154
Total	21	215	0	236	181	91	0	272	68	32	0	100	608
3:00 PM	4	81	0	85	46	16	0	62	22	1	0	23	170
3:15 PM	9	80	0	89	41	31	1	73	18	4	0	22	184
3:30 PM	8	63	0	71	46	24	0	70	18	12	0	30	171
3:45 PM	9	69	0	78	30	21	0	51	24	7	0	31	160
Total	30	293	0	323	163	92	1	256	82	24	0	106	685
4:00 PM	6	82	0	88	33	22	0	55	23	3	0	26	169
4:15 PM	4	59	0	63	24	36	0	60	21	3	0	24	147
4:30 PM	8	59	0	67	20	13	0	33	24	7	0	31	131
4:45 PM	10	51	0	61	17	23	0	40	27	7	0	34	135
Total	28	251	0	279	94	94	0	188	95	20	0	115	582
5:00 PM	6	119	0	125	28	20	0	48	29	10	0	39	212
5:15 PM	2	68	0	70	19	21	0	40	25	2	0	27	137
5:30 PM	5	37	0	42	19	22	1	42	23	5	0	28	112
5:45 PM	4	33	0	37	27	19	0	46	18	6	0	24	107
Total	17	257	0	274	93	82	1	176	95	23	0	118	568
Grand Total	96	1016	0	1112	531	359	2	892	340	99	0	439	2443
Approach %	8.6	91.4	0.0		59.5	40.2	0.2		77.4	22.6	0.0		
Total %	3.9	41.6	0.0	45.5	21.7	14.7	0.1	36.5	13.9	4.1	0.0	18.0	
Exiting Leg Total				630				1358				455	2443
Cars	92	993	0	1085	506	349	2	857	329	96	0	425	2367
% Cars	95.8	97.7	0.0	97.6	95.3	97.2	100.0	96.1	96.8	97.0	0.0	96.8	96.9
Exiting Leg Total				602				1324				441	2367
Heavy Vehicles	4	23	0	27	25	10	0	35	11	3	0	14	76
% Heavy Vehicles	4.2	2.3	0.0	2.4	4.7	2.8	0.0	3.9	3.2	3.0	0.0	3.2	3.1
Exiting Leg Total				28				34				14	76

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

3:00 PM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
3:00 PM	4	81	0	85	46	16	0	62	22	1	0	23	170
3:15 PM	9	80	0	89	41	31	1	73	18	4	0	22	184
3:30 PM	8	63	0	71	46	24	0	70	18	12	0	30	171
3:45 PM	9	69	0	78	30	21	0	51	24	7	0	31	160
Total Volume	30	293	0	323	163	92	1	256	82	24	0	106	685
% Approach Total	9.3	90.7	0.0		63.7	35.9	0.4		77.4	22.6	0.0		
PHF	0.833	0.904	0.000	0.907	0.886	0.742	0.250	0.877	0.854	0.500	0.000	0.855	0.931
Cars	29	285	0	314	154	89	1	244	79	23	0	102	660
Cars %	96.7	97.3	0.0	97.2	94.5	96.7	100.0	95.3	96.3	95.8	0.0	96.2	96.4
Heavy Vehicles	1	8	0	9	9	3	0	12	3	1	0	4	25
Heavy Vehicles %	3.3	2.7	0.0	2.8	5.5	3.3	0.0	4.7	3.7	4.2	0.0	3.8	3.6
Cars Enter Leg	29	285	0	314	154	89	1	244	79	23	0	102	660
Heavy Enter Leg	1	8	0	9	9	3	0	12	3	1	0	4	25
Total Entering Leg	30	293	0	323	163	92	1	256	82	24	0	106	685
Cars Exiting Leg				177				365				118	660
Heavy Exiting Leg				10				11				4	25
Total Exiting Leg				187				376				122	685

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Cars**

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	4	42	0	46	40	21	0	61	14	6	0	20	127
2:15 PM	3	43	0	46	48	25	0	73	15	11	0	26	145
2:30 PM	9	63	0	72	43	19	0	62	21	6	0	27	161
2:45 PM	5	57	0	62	41	23	0	64	15	8	0	23	149
Total	21	205	0	226	172	88	0	260	65	31	0	96	582
3:00 PM	4	79	0	83	42	16	0	58	22	1	0	23	164
3:15 PM	9	80	0	89	38	30	1	69	17	4	0	21	179
3:30 PM	8	59	0	67	45	22	0	67	16	11	0	27	161
3:45 PM	8	67	0	75	29	21	0	50	24	7	0	31	156
Total	29	285	0	314	154	89	1	244	79	23	0	102	660
4:00 PM	6	82	0	88	31	20	0	51	22	3	0	25	164
4:15 PM	3	57	0	60	24	35	0	59	20	2	0	22	141
4:30 PM	8	59	0	67	18	13	0	31	24	7	0	31	129
4:45 PM	8	51	0	59	16	23	0	39	26	7	0	33	131
Total	25	249	0	274	89	91	0	180	92	19	0	111	565
5:00 PM	6	118	0	124	27	20	0	47	28	10	0	38	209
5:15 PM	2	66	0	68	19	20	0	39	25	2	0	27	134
5:30 PM	5	37	0	42	18	22	1	41	22	5	0	27	110
5:45 PM	4	33	0	37	27	19	0	46	18	6	0	24	107
Total	17	254	0	271	91	81	1	173	93	23	0	116	560
Grand Total	92	993	0	1085	506	349	2	857	329	96	0	425	2367
Approach %	8.5	91.5	0.0		59.0	40.7	0.2		77.4	22.6	0.0		
Total %	3.9	42.0	0.0	45.8	21.4	14.7	0.1	36.2	13.9	4.1	0.0	18.0	
Exiting Leg Total				602				1324				441	2367

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

3:00 PM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
3:00 PM	4	79	0	83	42	16	0	58	22	1	0	23	164
3:15 PM	9	80	0	89	38	30	1	69	17	4	0	21	179
3:30 PM	8	59	0	67	45	22	0	67	16	11	0	27	161
3:45 PM	8	67	0	75	29	21	0	50	24	7	0	31	156
Total Volume	29	285	0	314	154	89	1	244	79	23	0	102	660
% Approach Total	9.2	90.8	0.0		63.1	36.5	0.4		77.5	22.5	0.0		
PHF	0.806	0.891	0.000	0.882	0.856	0.742	0.250	0.884	0.823	0.523	0.000	0.823	0.922
Entering Leg	29	285	0	314	154	89	1	244	79	23	0	102	660
Exiting Leg				177				365				118	660
Total				491				609				220	1320

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
2:15 PM	0	2	0	2	5	2	0	7	0	0	0	0	9
2:30 PM	0	5	0	5	1	1	0	2	2	1	0	3	10
2:45 PM	0	2	0	2	2	0	0	2	1	0	0	1	5
Total	0	10	0	10	9	3	0	12	3	1	0	4	26
3:00 PM	0	2	0	2	4	0	0	4	0	0	0	0	6
3:15 PM	0	0	0	0	3	1	0	4	1	0	0	1	5
3:30 PM	0	4	0	4	1	2	0	3	2	1	0	3	10
3:45 PM	1	2	0	3	1	0	0	1	0	0	0	0	4
Total	1	8	0	9	9	3	0	12	3	1	0	4	25
4:00 PM	0	0	0	0	2	2	0	4	1	0	0	1	5
4:15 PM	1	2	0	3	0	1	0	1	1	1	0	2	6
4:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
4:45 PM	2	0	0	2	1	0	0	1	1	0	0	1	4
Total	3	2	0	5	5	3	0	8	3	1	0	4	17
5:00 PM	0	1	0	1	1	0	0	1	1	0	0	1	3
5:15 PM	0	2	0	2	0	1	0	1	0	0	0	0	3
5:30 PM	0	0	0	0	1	0	0	1	1	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	3	2	1	0	3	2	0	0	2	8
Grand Total	4	23	0	27	25	10	0	35	11	3	0	14	76
Approach %	14.8	85.2	0.0		71.4	28.6	0.0		78.6	21.4	0.0		
Total %	5.3	30.3	0.0	35.5	32.9	13.2	0.0	46.1	14.5	3.9	0.0	18.4	
Exiting Leg Total				28				34				14	76
Buses	0	3	0	3	2	6	0	8	5	2	0	7	18
% Buses	0.0	13.0	0.0	11.1	8.0	60.0	0.0	22.9	45.5	66.7	0.0	50.0	23.7
Exiting Leg Total				4				8				6	18
Single-Unit Trucks	4	17	0	21	17	2	0	19	5	1	0	6	46
% Single-Unit	100.0	73.9	0.0	77.8	68.0	20.0	0.0	54.3	45.5	33.3	0.0	42.9	60.5
Exiting Leg Total				18				22				6	46
Articulated Trucks	0	3	0	3	6	2	0	8	1	0	0	1	12
% Articulated	0.0	13.0	0.0	11.1	24.0	20.0	0.0	22.9	9.1	0.0	0.0	7.1	15.8
Exiting Leg Total				6				4				2	12

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:15 PM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:15 PM	0	2	0	2	5	2	0	7	0	0	0	0	9
2:30 PM	0	5	0	5	1	1	0	2	2	1	0	3	10
2:45 PM	0	2	0	2	2	0	0	2	1	0	0	1	5
3:00 PM	0	2	0	2	4	0	0	4	0	0	0	0	6
Total Volume	0	11	0	11	12	3	0	15	3	1	0	4	30
% Approach Total	0.0	100.0	0.0		80.0	20.0	0.0		75.0	25.0	0.0		
PHF	0.000	0.550	0.000	0.550	0.600	0.375	0.000	0.536	0.375	0.250	0.000	0.333	0.750
Buses	0	1	0	1	0	3	0	3	3	1	0	4	8
Buses %	0.0	9.1	0.0	9.1	0.0	100.0	0.0	20.0	100.0	100.0	0.0	100.0	26.7
Single-Unit Trucks	0	8	0	8	8	0	0	8	0	0	0	0	16
Single-Unit %	0.0	72.7	0.0	72.7	66.7	0.0	0.0	53.3	0.0	0.0	0.0	0.0	53.3
Articulated Trucks	0	2	0	2	4	0	0	4	0	0	0	0	6
Articulated %	0.0	18.2	0.0	18.2	33.3	0.0	0.0	26.7	0.0	0.0	0.0	0.0	20.0
Buses	0	1	0	1	0	3	0	3	3	1	0	4	8
Single-Unit Trucks	0	8	0	8	8	0	0	8	0	0	0	0	16
Articulated Trucks	0	2	0	2	4	0	0	4	0	0	0	0	6
Total Entering Leg	0	11	0	11	12	3	0	15	3	1	0	4	30
Buses				1				4				3	8
Single-Unit Trucks				8				8				0	16
Articulated Trucks				4				2				0	6
Total Exiting Leg				13				14				3	30

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Buses

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
2:30 PM	0	1	0	1	0	1	0	1	2	1	0	3	5
2:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	1	0	1	0	3	0	3	3	1	0	4	8
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
3:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	2	0	0	2	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	1	0	1	0	1	0	1	0	1	3
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	1	1	0	2	0	1	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	1	0	0	1	0	0	0	0	2
Grand Total	0	3	0	3	2	6	0	8	5	2	0	7	18
Approach %	0.0	100.0	0.0		25.0	75.0	0.0		71.4	28.6	0.0		
Total %	0.0	16.7	0.0	16.7	11.1	33.3	0.0	44.4	27.8	11.1	0.0	38.9	
Exiting Leg Total				4				8				6	18

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
2:30 PM	0	1	0	1	0	1	0	1	2	1	0	3	5
2:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	1	0	1	0	3	0	3	3	1	0	4	8
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		75.0	25.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.375	0.000	0.375	0.375	0.250	0.000	0.333	0.400
Entering Leg	0	1	0	1	0	3	0	3	3	1	0	4	8
Exiting Leg				1				4				3	8
Total				2				7				7	16

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class:

Single-Unit Trucks

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
2:15 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
2:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	3
2:45 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
Total	0	7	0	7	5	0	0	5	0	0	0	0	12
3:00 PM	0	2	0	2	3	0	0	3	0	0	0	0	5
3:15 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
3:30 PM	0	3	0	3	1	0	0	1	0	1	0	1	5
3:45 PM	1	2	0	3	1	0	0	1	0	0	0	0	4
Total	1	7	0	8	8	0	0	8	0	1	0	1	17
4:00 PM	0	0	0	0	2	1	0	3	1	0	0	1	4
4:15 PM	1	1	0	2	0	0	0	0	1	0	0	1	3
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	2	0	0	2	1	0	0	1	1	0	0	1	4
Total	3	1	0	4	4	1	0	5	3	0	0	3	12
5:00 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
5:15 PM	0	1	0	1	0	1	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	1	0	1	2	0	0	2	5
Grand Total	4	17	0	21	17	2	0	19	5	1	0	6	46
Approach %	19.0	81.0	0.0		89.5	10.5	0.0		83.3	16.7	0.0		
Total %	8.7	37.0	0.0	45.7	37.0	4.3	0.0	41.3	10.9	2.2	0.0	13.0	
Exiting Leg Total				18				22				6	46

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:45 PM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:45 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
3:00 PM	0	2	0	2	3	0	0	3	0	0	0	0	5
3:15 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
3:30 PM	0	3	0	3	1	0	0	1	0	1	0	1	5
Total Volume	0	7	0	7	9	0	0	9	0	1	0	1	17
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.583	0.000	0.583	0.750	0.000	0.000	0.750	0.000	0.250	0.000	0.250	0.850
Entering Leg	0	7	0	7	9	0	0	9	0	1	0	1	17
Exiting Leg				10				7				0	17
Total				17				16				1	34

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class:

Articulated Trucks

	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
2:15 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
2:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	4	0	0	4	0	0	0	0	6
3:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	1	0	1	0	1	0	1	1	0	0	1	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	1	1	0	2	1	0	0	1	4
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	3	0	3	6	2	0	8	1	0	0	1	12
Approach %	0.0	100.0	0.0		75.0	25.0	0.0		100.0	0.0	0.0		
Total %	0.0	25.0	0.0	25.0	50.0	16.7	0.0	66.7	8.3	0.0	0.0	8.3	
Exiting Leg Total				6				4				2	12

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from East				Borthwick Avenue from South				Greenland Road from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
2:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
2:15 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
2:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	4	0	0	4	0	0	0	0	6
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.333	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	2	0	2	4	0	0	4	0	0	0	0	6
Exiting Leg				4				2				0	6
Total				6				6				0	12

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **239200 B**
Location: **S: Borthwick Avenue**
Location: **E: Borthwick Avenue W: Greenland Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/ J. Porter**
Site Code: **47528.00**
Count Date: **Thursday, March 9, 2023**
Start Time: **2:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Pedestrians

	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 02:00 PM to 06:00 PM begins at:

2:00 PM	Borthwick Avenue from East						Borthwick Avenue from South						Greenland Road from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

Sherburne Road
south of School Driveway
City, State: Portsmouth, NH
Client: TF Moran/ J. Porter
Site Code: 47528

Count Date: **Thursday, March 9, 2023**
Direction: **NB**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

PDI File #: 239200 ATR-A

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	3	0	0	0	3
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	2	0	0	0	2
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	1	0	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	2	0	0	0	2
6:30 AM	0	0	4	0	0	0	4
6:45 AM	0	0	5	0	0	0	5
7:00 AM	0	0	7	0	0	0	7
7:15 AM	0	0	9	2	0	0	11
7:30 AM	0	0	12	0	1	0	13
7:45 AM	0	0	11	2	0	0	13
8:00 AM	0	0	10	1	0	0	11
8:15 AM	0	0	16	0	1	0	17
8:30 AM	0	0	7	1	1	0	9
8:45 AM	0	0	6	0	0	0	6
9:00 AM	0	0	13	0	1	0	14
9:15 AM	0	0	9	0	0	0	9
9:30 AM	0	0	5	0	0	0	5
9:45 AM	0	0	7	1	0	0	8
10:00 AM	0	0	8	0	3	0	11
10:15 AM	0	0	10	0	0	0	10
10:30 AM	0	0	9	0	0	0	9
10:45 AM	0	0	8	1	1	0	10
11:00 AM	0	0	5	0	2	0	7
11:15 AM	0	0	13	1	0	0	14
11:30 AM	0	0	6	1	0	0	7
11:45 AM	0	0	11	0	0	0	11
AM Total	**0**	**0**	**212**	**10**	**11**	**0**	**233**
Percentage	**0.00%**	**0.00%**	**90.99%**	**4.29%**	**4.72%**	**0.00%**	
AM Peak	**12:00 AM**	**12:00 AM**	**7:30 AM**	**7:15 AM**	**10:00 AM**	**12:00 AM**	**7:30 AM**
Volume	**0**	**0**	**49**	**5**	**4**	**0**	**54**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	13	0	0	0	13
12:15 PM	0	0	19	0	0	0	19
12:30 PM	0	0	16	0	0	0	16
12:45 PM	0	0	22	1	0	0	23
1:00 PM	0	0	18	0	0	0	18
1:15 PM	0	0	10	0	0	0	10
1:30 PM	0	0	15	0	1	0	16
1:45 PM	0	0	14	0	0	0	14
2:00 PM	0	0	17	0	0	0	17
2:15 PM	0	0	20	2	1	0	23
2:30 PM	0	0	18	1	0	0	19
2:45 PM	0	0	16	0	0	0	16
3:00 PM	0	0	13	0	0	0	13
3:15 PM	0	0	25	1	0	0	26
3:30 PM	0	0	21	1	0	1	23
3:45 PM	0	0	20	0	1	0	21
4:00 PM	0	0	15	0	1	0	16
4:15 PM	0	0	33	1	0	0	34
4:30 PM	0	0	14	0	0	0	14
4:45 PM	0	0	22	0	0	0	22
5:00 PM	0	0	19	0	0	0	19
5:15 PM	0	0	17	0	0	0	17
5:30 PM	0	0	24	0	0	0	24
5:45 PM	0	0	17	0	0	0	17
6:00 PM	0	0	18	0	0	0	18
6:15 PM	0	0	20	0	0	0	20
6:30 PM	0	0	15	0	0	0	15
6:45 PM	0	0	17	0	0	0	17
7:00 PM	1	0	17	0	0	0	18
7:15 PM	0	0	7	0	0	0	7
7:30 PM	0	0	13	0	0	0	13
7:45 PM	0	0	8	0	0	0	8
8:00 PM	0	0	10	0	0	0	10
8:15 PM	0	0	11	0	0	0	11
8:30 PM	0	0	7	0	0	0	7
8:45 PM	0	0	7	0	0	0	7
9:00 PM	0	0	7	0	0	0	7
9:15 PM	0	0	5	0	0	0	5
9:30 PM	0	0	4	0	0	0	4
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	0	6	0	0	0	6
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	2	0	0	0	2
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	1	0	0	0	1
PM Total	**1**	**0**	**631**	**7**	**4**	**1**	**644**
Percentage	**0.16%**	**0.00%**	**97.98%**	**1.09%**	**0.62%**	**0.16%**	
PM Peak	**6:15 PM**	**12:00 PM**	**3:30 PM**	**1:45 PM**	**1:30 PM**	**2:45 PM**	**3:30 PM**
Volume	**1**	**0**	**89**	**3**	**2**	**1**	**94**
Day Total	**1**	**0**	**843**	**17**	**15**	**1**	**877**
Percentage	**0.11%**	**0.00%**	**96.12%**	**1.94%**	**1.71%**	**0.11%**	

Sherburne Road
south of School Driveway
City, State: Portsmouth, NH
Client: TF Moran/ J. Porter
Site Code: 47528

Count Date: **Thursday, March 9, 2023**
Direction: **SB**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

PDI File #: 239200 ATR-A

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	1	0	1
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	5	0	0	0	5
5:30 AM	0	0	3	0	0	0	3
5:45 AM	0	0	14	0	0	0	14
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	12	0	0	0	12
6:30 AM	0	0	9	0	0	0	9
6:45 AM	0	0	10	0	0	0	10
7:00 AM	0	0	16	0	0	0	16
7:15 AM	0	0	24	2	0	0	26
7:30 AM	0	0	29	0	1	0	30
7:45 AM	0	0	38	1	1	0	40
8:00 AM	0	0	31	2	0	0	33
8:15 AM	0	0	29	0	0	0	29
8:30 AM	0	0	16	0	1	0	17
8:45 AM	0	0	14	1	1	0	16
9:00 AM	0	0	11	0	0	0	11
9:15 AM	0	0	14	0	0	0	14
9:30 AM	0	0	13	0	0	0	13
9:45 AM	0	0	13	1	0	0	14
10:00 AM	0	0	9	0	0	0	9
10:15 AM	0	0	4	0	0	0	4
10:30 AM	0	0	13	0	0	0	13
10:45 AM	0	0	17	1	0	0	18
11:00 AM	0	0	4	0	1	0	5
11:15 AM	0	0	12	1	2	0	15
11:30 AM	0	0	14	1	0	0	15
11:45 AM	0	0	9	0	0	0	9
AM Total	**0**	**0**	**406**	**10**	**8**	**0**	**424**
Percentage	**0.00%**	**0.00%**	**95.75%**	**2.36%**	**1.89%**	**0.00%**	
AM Peak	**12:00 AM**	**12:00 AM**	**7:30 AM**	**7:15 AM**	**10:30 AM**	**12:00 AM**	**7:30 AM**
Volume	**0**	**0**	**127**	**5**	**3**	**0**	**132**

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	13	0	0	0	13
12:15 PM	0	0	9	0	0	0	9
12:30 PM	0	0	13	0	0	0	13
12:45 PM	0	0	14	0	3	0	17
1:00 PM	0	0	17	0	0	0	17
1:15 PM	0	0	11	0	0	0	11
1:30 PM	0	0	13	0	0	0	13
1:45 PM	0	0	14	0	1	0	15
2:00 PM	0	0	15	0	0	0	15
2:15 PM	0	0	18	0	0	0	18
2:30 PM	0	0	16	2	0	0	18
2:45 PM	0	0	9	1	0	0	10
3:00 PM	0	0	10	0	0	0	10
3:15 PM	0	0	15	1	0	0	16
3:30 PM	0	0	17	1	0	1	19
3:45 PM	0	0	17	0	0	0	17
4:00 PM	0	0	14	0	1	0	15
4:15 PM	0	0	9	1	0	0	10
4:30 PM	0	0	19	0	0	0	19
4:45 PM	0	0	15	0	0	0	15
5:00 PM	0	0	16	0	0	0	16
5:15 PM	0	0	17	0	0	0	17
5:30 PM	0	0	14	0	0	0	14
5:45 PM	0	0	12	0	0	0	12
6:00 PM	0	0	5	0	0	0	5
6:15 PM	0	0	12	0	0	0	12
6:30 PM	0	0	12	0	0	0	12
6:45 PM	0	0	12	0	0	0	12
7:00 PM	0	0	9	0	0	0	9
7:15 PM	0	0	11	0	0	0	11
7:30 PM	0	0	8	0	0	0	8
7:45 PM	0	0	5	0	0	0	5
8:00 PM	0	0	4	0	0	0	4
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	2	0	0	0	2
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	5	0	0	0	5
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	1	0	0	0	1
10:00 PM	0	0	3	0	0	0	3
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	0	0	0	0	0
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	1	0	0	0	1
PM Total	**0**	**0**	**443**	**6**	**5**	**1**	**455**
Percentage	**0.00%**	**0.00%**	**97.36%**	**1.32%**	**1.10%**	**0.22%**	
PM Peak	**12:00 PM**	**12:00 PM**	**4:30 PM**	**2:30 PM**	**12:00 PM**	**2:45 PM**	**3:15 PM**
Volume	**0**	**0**	**67**	**4**	**3**	**1**	**67**
Day Total	**0**	**0**	**849**	**16**	**13**	**1**	**879**
Percentage	**0.00%**	**0.00%**	**96.59%**	**1.82%**	**1.48%**	**0.11%**	

Sherburne Road
just south of School Driveway
City, State: Portsmouth, NH
Client: TF Moran/ J. Porter
Site Code: 47528.00

PRECISION D A T A INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

PDI File #: 239200 ATR-A (Speed)

Count Date
Thursday, March 9, 2023

Speed (60-minute)

NB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	1	1	3	2	0	0	0	0	0	0	0	7	35.1	30.0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2:00 AM	1	0	1	4	0	0	0	0	0	0	0	0	0	6	28.3	23.3
3:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	29.0	29.0
4:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	22.0	22.0
5:00 AM	0	0	1	1	1	0	0	0	0	0	0	0	0	3	29.2	25.3
6:00 AM	0	0	1	5	7	1	0	0	0	0	0	0	0	14	34.0	30.1
7:00 AM	0	0	9	21	10	1	0	0	0	0	0	0	0	41	31.0	27.7
8:00 AM	0	0	12	23	8	0	0	0	0	0	0	0	0	43	30.0	26.5
9:00 AM	0	0	4	19	14	0	0	0	0	0	0	0	0	37	32.0	28.5
10:00 AM	0	1	6	23	8	1	1	0	0	0	0	0	0	40	30.2	27.1
11:00 AM	1	0	5	15	15	1	0	0	0	0	0	0	0	37	32.6	27.9
12:00 PM	0	1	14	28	25	1	0	0	0	0	0	0	0	69	32.0	27.9
1:00 PM	0	1	6	19	25	3	0	0	0	0	0	0	0	54	33.0	29.4
2:00 PM	0	1	10	38	22	1	0	0	0	0	0	0	0	72	33.0	27.9
3:00 PM	0	1	7	37	33	3	0	0	0	0	0	0	0	81	32.0	28.8
4:00 PM	0	0	12	39	24	3	1	0	0	0	0	0	0	79	32.0	28.4
5:00 PM	0	0	12	26	33	4	0	0	0	0	0	0	0	75	32.9	29.0
6:00 PM	0	0	8	34	19	5	0	0	0	0	0	0	0	66	32.0	28.7
7:00 PM	0	0	5	25	15	0	0	0	0	0	0	0	0	45	31.4	28.1
8:00 PM	1	0	8	16	7	1	1	0	0	0	0	0	0	34	31.0	27.2
9:00 PM	0	0	6	11	6	1	0	0	0	0	0	0	0	24	31.6	27.1
10:00 PM	0	0	0	8	4	1	0	0	0	0	0	0	0	13	31.2	29.2
11:00 PM	0	0	2	2	0	1	0	0	0	0	0	0	0	5	33.0	27.8
Total	3	5	131	396	279	30	3	0	0	0	0	0	0	847	32.0	28.2
Percent	0.35%	0.59%	15.47%	46.75%	32.94%	3.54%	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
AM Peak	2:00 AM	10:00 AM	8:00 AM	8:00 AM	11:00 AM	12:00 AM	10:00 AM							8:00 AM		
Volume	1	1	12	23	15	2	1	0	0	0	0	0	0	43		
PM Peak	8:00 PM	12:00 PM	12:00 PM	4:00 PM	3:00 PM	6:00 PM	4:00 PM							3:00 PM		
Volume	1	1	14	39	33	5	1	0	0	0	0	0	0	81		

15th Percentile:	24.0 MPH	Average Speed:	28.2 MPH	Posted Speed Limit:	25 MPH
50th Percentile:	28.0 MPH	10 MPH Pace:	24 to 33 MPH	Number of Vehicles > 25 MPH:	649
85th Percentile:	32.0 MPH	Number in Pace:	696	Percent of Vehicles > 25 MPH:	76.6%
95th Percentile:	34.0 MPH	Percent in Pace:	82.2%		

Sherburne Road
just south of School Driveway
City, State: Portsmouth, NH
Client: TF Moran/ J. Porter
Site Code: 47528.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

PDI File #: 239200 ATR-A (Speed)

Count Date
Thursday, March 9, 2023

Speed (60-minute)

SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	26.6	25.5
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	25.0	25.0
2:00 AM	0	0	2	1	0	0	0	0	0	0	0	0	0	3	24.7	23.3
3:00 AM	0	0	2	0	1	0	0	0	0	0	0	0	0	3	28.2	25.3
4:00 AM	0	1	3	3	0	0	0	0	0	0	0	0	0	7	28.0	24.3
5:00 AM	0	3	10	9	4	1	0	0	0	0	0	0	0	27	30.0	25.0
6:00 AM	0	1	13	17	3	1	0	0	0	0	0	0	0	35	29.0	25.8
7:00 AM	2	5	45	48	9	2	0	0	1	0	0	0	0	112	28.0	25.2
8:00 AM	2	6	38	38	6	3	0	0	0	0	0	0	0	93	28.2	24.9
9:00 AM	0	2	24	21	4	0	0	0	0	0	0	0	0	51	28.0	24.9
10:00 AM	0	2	18	18	5	1	0	0	0	0	0	0	0	44	29.0	25.2
11:00 AM	2	6	16	17	4	0	0	1	0	0	0	0	0	46	29.0	24.5
12:00 PM	0	8	24	22	2	2	0	0	0	0	0	0	0	58	28.0	24.4
1:00 PM	0	2	30	18	4	2	0	0	0	0	0	0	0	56	29.0	25.1
2:00 PM	1	9	28	13	10	0	0	0	0	0	0	0	0	61	30.0	23.9
3:00 PM	2	7	27	17	2	0	0	0	0	0	0	0	0	55	26.0	22.6
4:00 PM	1	3	29	20	7	0	0	0	0	0	0	0	0	60	29.0	24.5
5:00 PM	0	2	32	22	1	4	0	0	0	0	0	0	0	61	28.0	24.9
6:00 PM	1	6	20	11	3	1	0	0	0	0	0	0	0	42	27.0	23.3
7:00 PM	0	0	17	14	2	0	0	0	0	0	0	0	0	33	28.0	25.2
8:00 PM	0	2	5	4	1	0	0	0	0	0	0	0	0	12	27.0	23.6
9:00 PM	0	0	7	4	0	0	0	0	0	0	0	0	0	11	26.5	24.3
10:00 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	4	26.6	25.0
11:00 PM	0	0	4	2	0	0	0	0	0	0	0	0	0	6	27.3	24.8
Total	11	65	397	323	68	17	0	1	1	0	0	0	0	883	28.0	24.6
Percent	1.25%	7.36%	44.96%	36.58%	7.70%	1.93%	0.00%	0.11%	0.11%	0.00%	0.00%	0.00%	0.00%			
AM Peak	7:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM		11:00 AM	7:00 AM					7:00 AM		
Volume	2	6	45	48	9	3	0	1	1	0	0	0	0	112		
PM Peak	3:00 PM	2:00 PM	5:00 PM	12:00 PM	2:00 PM	5:00 PM								2:00 PM		
Volume	2	9	32	22	10	4	0	0	0	0	0	0	0	61		

15th Percentile:	21.0 MPH	Average Speed:	24.6 MPH	Posted Speed Limit:	25 MPH
50th Percentile:	24.0 MPH	10 MPH Pace:	20 to 29 MPH	Number of Vehicles > 25 MPH:	341
85th Percentile:	28.0 MPH	Number in Pace:	720	Percent of Vehicles > 25 MPH:	38.6%
95th Percentile:	32.0 MPH	Percent in Pace:	81.5%		

Sherburne Road
just south of School Driveway
City, State: Portsmouth, NH
Client: TF Moran/ J. Porter
Site Code: 47528.00

PRECISION D A T A INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

PDI File #: 239200 ATR-A (Speed)

Count Date
Thursday, March 9, 2023

Speed (60-minute)

Combined NB and SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	2	2	3	2	0	0	0	0	0	0	0	9	34.2	29.0
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	25.0	25.0
2:00 AM	1	0	3	5	0	0	0	0	0	0	0	0	0	9	27.6	23.3
3:00 AM	0	0	2	1	1	0	0	0	0	0	0	0	0	4	29.6	26.3
4:00 AM	0	1	4	3	0	0	0	0	0	0	0	0	0	8	28.0	24.0
5:00 AM	0	3	11	10	5	1	0	0	0	0	0	0	0	30	30.0	25.1
6:00 AM	0	1	14	22	10	2	0	0	0	0	0	0	0	49	31.0	27.0
7:00 AM	2	5	54	69	19	3	0	0	1	0	0	0	0	153	29.2	25.8
8:00 AM	2	6	50	61	14	3	0	0	0	0	0	0	0	136	29.0	25.4
9:00 AM	0	2	28	40	18	0	0	0	0	0	0	0	0	88	31.0	26.4
10:00 AM	0	3	24	41	13	2	1	0	0	0	0	0	0	84	30.0	26.1
11:00 AM	3	6	21	32	19	1	0	1	0	0	0	0	0	83	31.0	26.0
12:00 PM	0	9	38	50	27	3	0	0	0	0	0	0	0	127	31.0	26.3
1:00 PM	0	3	36	37	29	5	0	0	0	0	0	0	0	110	32.0	27.2
2:00 PM	1	10	38	51	32	1	0	0	0	0	0	0	0	133	31.0	26.0
3:00 PM	2	8	34	54	35	3	0	0	0	0	0	0	0	136	31.0	26.3
4:00 PM	1	3	41	59	31	3	1	0	0	0	0	0	0	139	31.0	26.7
5:00 PM	0	2	44	48	34	8	0	0	0	0	0	0	0	136	31.0	27.1
6:00 PM	1	6	28	45	22	6	0	0	0	0	0	0	0	108	31.0	26.6
7:00 PM	0	0	22	39	17	0	0	0	0	0	0	0	0	78	30.5	26.9
8:00 PM	1	2	13	20	8	1	1	0	0	0	0	0	0	46	31.0	26.3
9:00 PM	0	0	13	15	6	1	0	0	0	0	0	0	0	35	30.0	26.2
10:00 PM	0	0	2	10	4	1	0	0	0	0	0	0	0	17	31.0	28.2
11:00 PM	0	0	6	4	0	1	0	0	0	0	0	0	0	11	28.5	26.2
Total	14	70	528	719	347	47	3	1	1	0	0	0	0	1730	31.0	26.3
Percent	0.81%	4.05%	30.52%	41.56%	20.06%	2.72%	0.17%	0.06%	0.06%	0.00%	0.00%	0.00%	0.00%			
AM Peak	11:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	10:00 AM	11:00 AM	7:00 AM					7:00 AM		
Volume	3	6	54	69	19	3	1	1	1	0	0	0	0	153		
PM Peak	3:00 PM	2:00 PM	5:00 PM	4:00 PM	3:00 PM	5:00 PM	4:00 PM							4:00 PM		
Volume	2	10	44	59	35	8	1	0	0	0	0	0	0	139		

15th Percentile:	22.0 MPH	Average Speed:	26.3 MPH	Posted Speed Limit:	25 MPH
50th Percentile:	26.0 MPH	10 MPH Pace:	22 to 31 MPH	Number of Vehicles > 25 MPH:	990
85th Percentile:	31.0 MPH	Number in Pace:	1327	Percent of Vehicles > 25 MPH:	57.2%
95th Percentile:	33.0 MPH	Percent in Pace:	76.7%		

(I) Video Turns at School Drvwy

Sherburne Road
south of School Driveway
City, State: Portsmouth, NH
Client: TF Moran/ J. Porter
Site Code: 47528
Count Date: Thursday, March 9, 2023

TURNS COUNTED BY VIDEO OBSERVATION

	EXISTING SCHOOL DRIVEWAY					
AM	**WBL**	**WBR**	**NBT**	**NBR**	**SBL**	**SBT**
7:30 AM	1,		11	1, 1,		29
7:45 AM	1 (LBus),	-	9	1, 1, 1, 1(LBus),	-	39
8:00 AM	1, 1, 1(BBus),	-	7	1, 1(BBus), 1, 1,	-	30
8:15 AM	1, 1, 1, 1, 1, 1, 1, 1,	1,	10	1, 1, 1, 1, 1, 1, 1,	-	21
AM Total	**13**	**1**	**37**	**17**	**0**	**119**
PM	**WBL**	**WBR**	**NBT**	**NBR**	**SBL**	**SBT**
3:30 PM	1, 1,	-	22	1,	-	17
3:45 PM	1, 1, 1, 1,	-	20	1,	-	13
4:00 PM	-	-	16	-	-	15
4:15 PM	-	-	33	1,	-	10
PM Total	**6**	**0**	**91**	**3**	**0**	**55**

NB							
AM	**Bicycles**	**Motorcycle**	**Cars & Light Goods**	**Buses**	**Single Unit Heavy**	**Multi Unit Heavy**	**Total**
7:30 AM	0	0	12	0	1	0	13
7:45 AM	0	0	11	2	0	0	13
8:00 AM	0	0	10	1	0	0	11
8:15 AM	0	0	16	0	1	0	17
AM Total	**0**	**0**	**49**	**3**	**2**	**0**	**54**
PM	**Bicycles**	**Motorcycle**	**Cars & Light Goods**	**Buses**	**Single Unit Heavy**	**Multi Unit Heavy**	**Total**
3:30 PM	0	0	21	1	0	1	23
3:45 PM	0	0	20	0	1	0	21
4:00 PM	0	0	15	0	1	0	16
4:15 PM	0	0	33	1	0	0	34
PM Total	**0**	**0**	**89**	**2**	**2**	**1**	**94**

SB							
AM	**Bicycles**	**Motorcycle**	**Cars & Light Goods**	**Buses**	**Single Unit Heavy**	**Multi Unit Heavy**	**Total**
7:30 AM	0	0	29	0	1	0	30
7:45 AM	0	0	38	1	1	0	40
8:00 AM	0	0	31	2	0	0	33
8:15 AM	0	0	29	0	0	0	29
AM Total	**0**	**0**	**127**	**3**	**2**	**0**	**132**
PM	**Bicycles**	**Motorcycle**	**Cars & Light Goods**	**Buses**	**Single Unit Heavy**	**Multi Unit Heavy**	**Total**
3:30 PM	0	0	17	1	0	1	19
3:45 PM	0	0	17	0	0	0	17
4:00 PM	0	0	14	0	1	0	15
4:15 PM	0	0	9	1	0	0	10
PM Total	**0**	**0**	**57**	**2**	**1**	**1**	**61**

Intersection of Sherburne Road and School Driveway in Portsmouth, NH

Date of Observation: 9-Mar-23 TFM Job # 47258.00

Sherburne Road Peak Hour: 7:45 AM & 4:15 PM

	Cars and Heavy Vehicles (Combined)									
	SB			WB			NB			
Time	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right
7:30 AM		29	0	0		1	2	11		
7:45 AM		39	0	0		1	4	9		
8:00 AM		30	0	0		3	4	7		
8:15 AM		21	0	1		8	7	10		
Sum=	0	119	0	1	0	13	17	37	0	0
AM PEAK HOUR	**0**	**119**	**0**	**1**	**0**	**13**	**17**	**37**	**0**	**0**

	SB			WB			NB			
Time	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right
3:30 PM		17	0	0		2	1	22		
3:45 PM		13	0	0		4	1	20		
4:00 PM		15	0	0		0	0	16		
4:15 PM		10	0	0		0	1	33		
Sum=	0	55	0	0	0	6	3	91	0	0
PM PEAK HOUR	**0**	**55**	**0**	**0**	**0**	**6**	**3**	**91**	**0**	**0**

Intersection of Sherburne Roac

Date of Observation: 9-Mar-23

Sherburne Road Peak Hour: 7:45 AM & 4:15 F

EB		Totals
Through	Left	Sum
		43
		53
		44
		47
0	0	187
0	**0**	**187**

AM ROADWAY PEAK					
	SB			App TTI	
TIME	Right	Through	Left	APPR.	Right
7:30 AM	0	29	0	29	0
7:45 AM	0	39	0	39	0
8:00 AM	0	30	0	30	0
8:15 AM	0	21	0	21	1
AVE. 15 MIN	0	29.75	0	29.75	0.25
Peak 15 Min	0	39	0	39	1
APPROACH PHF				0.763	

EB		Totals
Through	Left	Sum
		42
		38
		31
		44
0	0	155
0	**0**	**155**

PM ROADWAY PEAK					
	SB			App TTI	
TIME	Right	Through	Left	APPR.	Right
3:30 PM	0	17	0	17	0
3:45 PM	0	13	0	13	0
4:00 PM	0	15	0	15	0
4:15 PM	0	10	0	10	0
AVE. 15 MIN	0	13.75	0	13.75	0
Peak 15 Min	0	17	0	17	0
APPROACH PHF				0.809	

d and School Driveway in Portsmouth, NH

TFM Job # 47258.00

PM

WB		App TTI		NB		App TTI		EB		App TTI
Through	Left	APPR.	Right	Through	Left	APPR.	Right	Through	Left	APPR.
0	1	1	2	11	0	13	0	0	0	0
0	1	1	4	9	0	13	0	0	0	0
0	3	3	4	7	0	11	0	0	0	0
0	8	9	7	10	0	17	0	0	0	0
0	3.25	3.5	4.25	9.25	0	13.5	0	0	0	0
0	8	9	7	11	0	17	0	0	0	0
		0.389				0.794				#DIV/0!

WB		App TTI		NB		App TTI		EB		App TTI
Through	Left	APPR.	Right	Through	Left	APPR.	Right	Through	Left	APPR.
0	2	2	1	22	0	23	0	0	0	0
0	4	4	1	20	0	21	0	0	0	0
0	0	0	0	16	0	16	0	0	0	0
0	0	0	1	33	0	34	0	0	0	0
0	1.5	1.5	0.75	22.75	0	23.5	0	0	0	0
0	4	4	1	33	0	34	0	0	0	0
		0.375				0.691				#DIV/0!

APPENDIX J

NH DOT - SEQUENCE AND TIMING CHART

4/16/2025 1:02:46 PM

CITY/TOWN: PORTSMOUTH **SIGNAL ID#:** S-379-14

LOCATION: NH 33

INTERSECT: BORTHWICK AVE

CABINET TYPE: P TYPE-1 Peek

METER NUMBER and MFR: 27 415 153 ES

CONTROLLER INFO PEEK 3000E

INSTALL DATE: 10/14/1963

FIRE PREEMPT 3M Opticom Model 754

*****CONTROLLER TIMINGS*****

	PH 1	PH 2	PH 3	PH 6
INITIAL	8	8	8	8
PASSAGE	4	4	4	4
YELLOW	4	4	4	4
ALL RED	2	2	2	2
MAXIMUM 1	15	25	50	25
MAXIMUM 2	30	40	30	40
MAXIMUM 3				
MAXIMUM EXT				
RECALL	NL	MIN	NL	MIN
WALK				
DON'T WALK				
FL YEL ARROW				
MOVEMENT	ELT	33W	BORTH	33E
TIME TO REDUCE				
REDUCE BY				
MIN GAP				
DYN MAX LIMI				
DYN MAX STEP				

NOTES:

PRE-EMPT 3M 760 OPTI-COM
PEEK CLP SYSTEM
SYS LOCAL ID 5

1/1/1 80 OFF = 72
24s 28s 28s; 52s 28s

2/1/1 90 OFF = 51
36, 31, 23, 67, 23

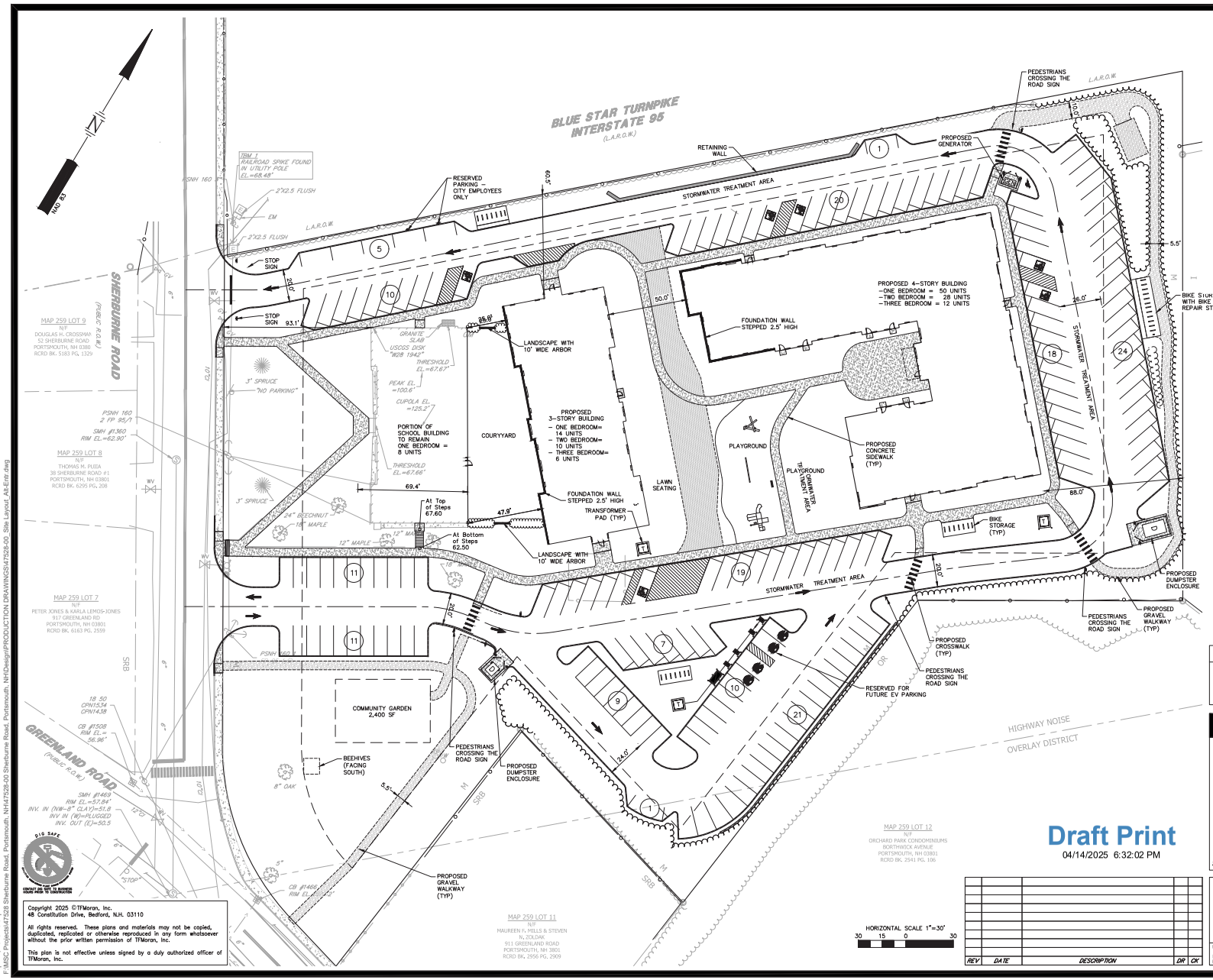
3/1/1 80 OFF = 75
26s 28s 26s; 54s 26s

M - F 06:00 1/1/1
07:00 2/1/1
09:00 3/1/1
16:00 4/1/1
18:00 1/1/1

SAT 10:00 3/1/1

SUN 11:00 3/1/1

APPENDIX K



SITE DATA

OWNER OF RECORD OF MAP 259 LOT 10: CITY OF PORTSMOUTH SCHOOLS, PO BOX 628, PORTSMOUTH, NH 03802
DEED REFERENCE TO PARCEL IS BK 2389 PG 1272
AREA OF PARCEL = 232,175± SF OR 5.33± ACRES

ZONED: MUNICIPAL
EXISTING USE: SCHOOL
PROPOSED USE: MIXED USE

THE PURPOSE OF THIS PLAN IS TO CONSTRUCT WORK FORCE HOUSING. ASSOCIATED IMPROVEMENTS INCLUDE AND ARE NOT LIMITED TO ACCESS, GRADING, STORMWATER MANAGEMENT SYSTEMS, UTILITIES, LIGHTING, AND LANDSCAPING.

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	XXX,XXX SF (X.XXX± AC)	232,175± SF (5.33± AC)
LOT FRONTAGE	XXX FT	471.79 FT
DEPTH	XXX FT	606 FT
MINIMUM YARD DIMENSIONS:		
FRONT	NA	XXX FT
SIDE	NA	XXX FT
REAR	NA	XXX FT
MAXIMUM STRUCTURE DIMENSIONS:		
STRUCTURE HEIGHT	NA	38.8 FEET
STRUCTURE STORIES	NA	4 STORIES
ROOF APPURTENANCE HEIGHT	NA	44.1 FT
LOT COVERAGE	NA	54%
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	XXX FT	93.1 FT
BUILDING SIDE	XXX FT	48.8 FT
BUILDING REAR	XXX FT	89.5 FT
MINIMUM OPEN SPACE	XXX%	XXX%

PARKING REQUIREMENTS

RESIDENTIAL		
PARKING SPACES (SEE CALCULATION)	170 SPACES	170 RESIDENTIASPACES
OFFICE		
OFFICE	1 SPACES	1 SPACES
MUNICIPAL		
FOR CITY EMPLOYEES	NA	2 SPACE
TOTAL		173 SPACES
ACCESSIBLE SPACES (REQ'D BY ADA)	6 SPACES	6 SPACES
PARKING SPACE SIZE	8.5 FT X 19 FT	8.5 FT X 19 FT
AISLE WIDTH	18–24 FT	18–24 FT

PARKING CALCULATIONS

REQUIRED PARKING RATIO:
RESIDENTIAL: 1.3 SPACES PER UNIT > 750 SF
1 SPACE PER UNIT 600–750 SF
1 VISITOR SPACE PER 5 UNITS OR PORTION THEREOF
OFFICE: 1 SPACES PER UNIT > 350 SF

TOTAL REQUIRED =	59 UNITS * 1.3 SPACES/UNIT	=	69.0 SPACES
	69 UNITS * 1 SPACE	=	53.3 SPACES
	128 UNITS * 1 SPACE/5 UNITS	=	26.0 SPACES
	1 OFFICE * 1 SPACE/OFFICE	=	1.0 SPACES
TOTAL		=	171.3 SPACES

NOTES

1. SEE NOTES ON SHEET C–02.
2. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
3. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE PORTSMOUTH, NH ZONING ORDINANCE AND SITE PLAN REVIEW REGULATIONS.
4. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLAND BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE LAYOUT PLAN

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE
OWNED BY
CITY OF PORTSMOUTH SCHOOLS
PREPARED FOR
PORTSMOUTH HOUSING AUTHORITY

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

Draft Print
04/14/2025 6:32:02 PM

HORIZONTAL SCALE 1"=30'
30 15 0 30

REV	DATE	DESCRIPTION	DR	CK

TFM Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive, Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

JOB	DR	JKC	FB		
47528.00	CK	JJM	CADFILE28-00_SITE LAYOUT_ALT-ENTR		C–03

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48 Constitution Drive, Bedford, N.H. 03110

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This plan is not effective unless signed by a duly authorized officer of TFMoran, Inc.

Apr 14, 2025 - 6:31pm
P:\MSD Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-00_Site Layout_Alt-Entr.dwg

SRW
Environmental Consulting, LLC

Noise Assessment

Date: April 15, 2025

Subject Property: Sherburne School Property Redevelopment, Sherburne Road, Portsmouth< NH

Proposed Development: The proposed project at the Sherburne School property includes three distinct areas of development, including the construction of a new four story 90 unit affordable housing apartment building on the eastern end of the property, demolition of a portion of the existing school building and redevelopment with 8 units of housing, and the construction of a new 3-story building with 30 units of affordable housing between the existing school and proposed 4 story building. The project is expected to use funding from the US Department of Housing and Urban Development (HUD) among other sources.

Regulatory Requirements: The property is located on the southeast side of Interstate 95, and within the Portsmouth Highway Noise Overlay District. Standards used by Portsmouth include an interior noise level of 45 decibels for dwellings, and a 65 decibel requirement for outdoor activities, measured at the edge of the active use area closest to the highway. Portsmouth's noise requirements match those of HUD when considered during the completion of an Environmental Review. Note that while HUD requires indoor noise levels of 45 decibels, it also includes a 3 decibel buffer when *assessing* for future for interior noise levels, so that calculated indoor noise levels must be at or less than 42 decibels. Aside from indoor and outdoor noise level requirements, HUD also has Site Acceptability Standards which includes the following categories.

1. **Acceptable:** Site Noise Levels not exceeding 65 decibels. No special approvals or requirements are required.

2. **Normally Unacceptable:** Noise levels between 65 decibels and 75 decibels. Environmental Assessment (EA) level Environmental Review and attenuation required for new construction and strongly recommended for major rehabilitation.

3. **Unacceptable:** Noise levels above 75 decibels. Environmental Impact Statement (EIS) level Environmental Review or EIS waiver and EA level Environmental Review. Attenuation required for new construction.

Portsmouth building regulations require a noise analysis by a registered engineer or qualified analysis, and HUD requires noise analysis using their DNL calculator and documented traffic data.

In fact, HUD prefers calculations over an actual sound measurement assessment. Regarding it's calculator, HUD makes the following statement:

> *The Office of Environmental and Energy (OEE) has developed an electronic assessment tool that calculates the Day/Night Noise Level (DNL) site exposure. This is a web-based application of the existing Noise Assessment Guidelines (NAG). It is the basic noise assessment tool; most assessments start here. The DNL Calculator calculates noise from road and railway activity levels. It then combines the noise with airport projections and incorporates the effects of loud, impulsive sound for a site exposure at any Noise Assessment Location. The user-friendly DNL Calculator can document compliance or aid in site planning.*

SRW has assessed noise at hundreds of locations funded via HUD, and in fact, performed the noise analysis at a property in Bellows Falls, Vermont, that HUD uses for training purposes. This HUD Noise Assessment is considered to be a qualified analysis.

Selection of Noise Assessment Locations (NALs):

The topography at the southwestern side of the property where the current building exists includes a berm which blocks the direct line of sight of the highway from a 6 foot tall observer, and acts as a natural noise buffer. The northeastern side of the property, where the four story building is proposed is more level and the highway can be seen by a 6 foot tall observer. SRW has selected the western wall of the proposed 4 story building as NAL #1 as it is the closest to Interstate I-95 and is not blocked by local topography. NAL #2 is the proposed location of the outdoor activity area (playground).

Noise Sources:

Four major noise sources are considered in the typical HUD Noise Assessment including rail traffic, airport noise, road traffic and loud impulsive sounds. Only road traffic is a major noise source at the subject property, as described below.

Rail traffic is assessed if the active railway is located within 3,000 feet of the subject property. The CSX railway tracks are located approximately 3,000 feet from the eastern edge of the subject property and include only a single daily train. The property is not within the train whistle zone, and there are many natural and manmade buffers to any rail noise between the tracks and subject property. A USDOT Crossing Inventory report for the rail line, which shows the average daily train counts, rail speed, etc., is attached.

Airport noise is assessed based on the noise contours of civil airports. The nearest end of the Pease International Tradeport is runway is located approximately 3,400 feet to the northwest of the subject property. The subject property is located well outside the 60 decibel contour. A

conservative estimated noise contour at the subject property, by extrapolation, would be 55 decibels. SRW has used 55 decibels as a noise level in the HUD noise assessment.

Road noise is assessed based on recorded annual average daily traffic AADT, defined as the mean traffic volume across all days for a year for a given location along a roadway. The most current AADT for Interstate Highway close to the subject property has been computed by the NH Department of Transportation (NHDOT) to be 103,079 in 2024. For the purposes of this assessment, the AADT has been increased by 10% to estimate future noise levels. The 2024 data does not include classification counts which are needed for the HUD DNL calculator. When vehicle classifications are not available, general functional class averages are used to determine the percentage of cars, medium truck and heavy trucks. For the purposes of this assessment 2022 Functional Class Averages were used to determine vehicle classifications for an interstate highway. This data, and the data from the airport, was fed into HUD's DNL Calculator to determine the estimated DNL at both NALs. Note that nighttime traffic is estimated to be 15%, which is HUD's default value. The road grade is estimated to be "0" (using the USGS National Map the average grade of I95 adjacent to the subject property is 0.2-0.3 percent). Results of the DNL calculation are as follows:

NAL #1, Proposed New Building: The computed DNL is 75 decibels from traffic, 33 decibels from rail and 55 decibels from airport noise, for a combined DNL of 75 decibels. The building location is within HUD's Normally Unacceptable Zone. The results indicate that the building must achieve a noise reduction of 30 decibel to meet Portsmouth's Highway Noise Overley District requirements, and 33 decibel to meet HUD's noise assessment requirements.

NAL #2, Proposed Outdoor Activity Area (Playground): The computed DNL is 73 decibels from traffic, 33 decibels from rail and 55 decibels from airport noise, for a combined DNL of 73 decibels. The Outdoor Activity Area is within HUD's Normally Unacceptable Zone. The results indicate that the site's natural and man-made barriers (new buildings) must achieve a noise reduction of 8 decibels to meet Portsmouth's Highway Noise Overley District and HUD's noise requirements.

SRW notes that noise levels at similar frequencies and decibel levels when combined, amplify noise levels to the receiver much more so than the same noises at much different decibel levels. HUD's DNL calculator considers the individual decibel levels in their calculations and automatically adds corrections when needed.

Loud impulse sounds when assessed in accordance with 24 CFR Part 51.103 require that "On an interim basis, when loud impulsive sounds, such as explosions or sonic booms, are experienced at a site, the day-night average sound level produced by the loud impulsive sounds alone shall have 8 decibels added to it in assessing the acceptability of the site." The subject is not subject to loud impulsive sounds.

Copies of the HUD DNL calculations are attached.

Anticipated Indoor Noise Levels :

The worst case noise level at the building exterior has been calculated to be 75 decibels, and this data was used in HUD's Sound Transmission Classification Assessment Tool (STraCAT). STraCAT is used to document sound attenuation performance of wall systems. Based on wall, window. and door Sound Transmission Classification (STC values, the STraCAT generates a composite STC value for the wall assembly as a whole). Variables for our STraCAT analysis include the lowest STC values for standard construction materials to be ultra conservative, but actual building materials may have higher, sometimes significantly higher, STC values. Thus, the results of the STraCAT analysis is considered to be the minimal requirements to meet Portsmouth and HUD regulations. For the proposed 4 story building, construction materials considered include a standard 2 x 6 wood construction with fiberglass insulation for exterior walls (STC of 38), and fifty-six (56) 4' x 3' windows facing the noise source (using an STC of 27). Results of the STraCAT analysis indicates an attenuation of approximately 33.1 decibels, which would result in an interior noise level of approximately 41.9 decibels. Any materials with higher STC ratings will increase the total STC of the wall unit. For example, in general, replacing fiberglass bats with dense cellulose results in an increase of approximately 5 STC points for wall consrtuction.

Note that the STCs of the wall unit components are estimated using information from the National Gypsum Acoustical Assembly Guide. STCs of window and door units were provided by one vendor (Marvin Industries), which are representative STC ratings throughout the window and door industry.

The purpose of the STraCAT analysis is to show what sound reduction is possible using readily available materials, and that interior noise levels of 45 decibels is easily achievable. It does not represent what materials are actually being considered for the project. Additional noise mitigation is possible if choosing higher noise reducing materials. Given the easily achievable interior noise level of 45 decibels, the project will meet the indoor noise requirements of the City of Portsmouth and HUD.

A copy of HUD's STraCAT analysis is attached.

Anticipated Outdoor Activity Area Noise Levels:

Since calculated outdoor noise levels at the Outdoor Activity Area is expected to be 73 decibels, the HUD barrier module was completed. This module provides a measure on the barrier's effectiveness on noise reduction. The purpose of the noise barrier is to provide mitigation to the noise observer, which in this case is considered a 6 foot person standing at the edge of the outdoor activity area closest to Interstate 95. The barrier heigh input is based on the natural berm on the northwestern side of the property, which provides much lower noise attenuation than the buildings will. For the purposes of worst case calculations, the same barrier height (the height of the berm) is assumed along the entire length of the western side of the property, even though a

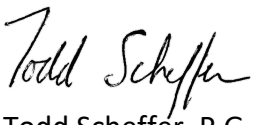
large portion of the property will have a much higher barrier height from the buildings. The barrier module, using only the berm height and no buildings, calculates the noise exposure at the Outdoor Activity Area to be approximately 64 decibels. In reality, given the increased height of the barrier, the new buildings will provide additional *significant* attenuation, up to another 5 decibels, which will result in a much lower noise exposure after completion of all phases of the project.

Given the easily achievable exterior noise level of 65 decibels at Outdoor Activity Areas, the project will meet the outdoor noise requirements of the City of Portsmouth and HUD.

A copy of the barrier module calculations is attached.

Summary: The proposed project is within the Portsmouth Highway Noise Overlay District and with HUD's Normally Unacceptable zone. However, it has been shown that interior noise levels will meet the 45 decibel standard, and that outdoor Areas of Activities will meet the 65 decibel standards of both the City of Portsmouth and HUD upon completion. Details of actual construction and site layout will be required to use building materials with at least the STC ratings of the materials used when completing this assessment.

SRW Environmental Consulting, LLC



Todd Scheffer, P.G.
Principal

Property Location within Highway Noise District Overlay

Highway Noise Overlay



Property Information

Property ID	0259-0010-0000
Location	35 SHERBURNE RD
Owner	CITY OF PORTSMOUTH

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 09/26/2024

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

Portsmouth and HUD Noise Requirements

Standards

Structures and Uses	Loudest Traffic Hour Sound Level
Interior of dwelling, institutional residence or care facility, hospital or lodging establishment	45 dBA
Interior of other noise sensitive use	55 dBA
Uses with outdoor activities, measured at edge of the active use area closest to the highway	65 dBA

Requirements

- Conditional use permit required for all noise sensitive uses
  - Exceptions: addition to or expansion of a single-family or two-family dwelling that does not increase the footprint by more than 25% (similar to existing exception for conditional uses in wetland buffers)
- Noise analysis by registered engineer or qualified analysis
- Mitigation where necessary to achieve noise level standards

Noise Abatement and Control

Introduction

HUD's noise standards may be found in 24 CFR Part 51, Subpart B. For proposed new construction in high noise areas, the project must incorporate noise mitigation features. Consideration of noise applies to the acquisition of undeveloped land and existing development as well.

All sites whose environmental or community noise exposure exceeds the day night average sound level (DNL) of 65 decibels (dB) are considered noise-impacted areas. For new construction that is proposed in high noise areas, grantees shall incorporate noise attenuation features to the extent required by HUD environmental criteria and standards contained in Subpart B (Noise Abatement and Control) of 24 CFR Part 51. The interior standard is 45dB.

The "Normally Unacceptable" noise zone includes community noise levels from above 65 decibels to 75 decibels. Approvals in this noise zone require a minimum of 5 dB additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 dB but does not exceed 70 dB, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 dB but does not exceed 75 dB.

Locations with day-night average noise levels above 75 dB have "Unacceptable" noise exposure. For new construction, noise attenuation measures in these locations require the approval of the Assistant Secretary for Community Planning and Development (for projects reviewed under Part 50) or the Responsible Entity's Certifying Officer (for projects reviewed under Part 58). The acceptance of such locations normally requires an environmental impact statement.

In "Unacceptable" noise zones, HUD strongly encourages conversion of noise-exposed sites to land uses compatible with the high noise levels.

HUD Guidance

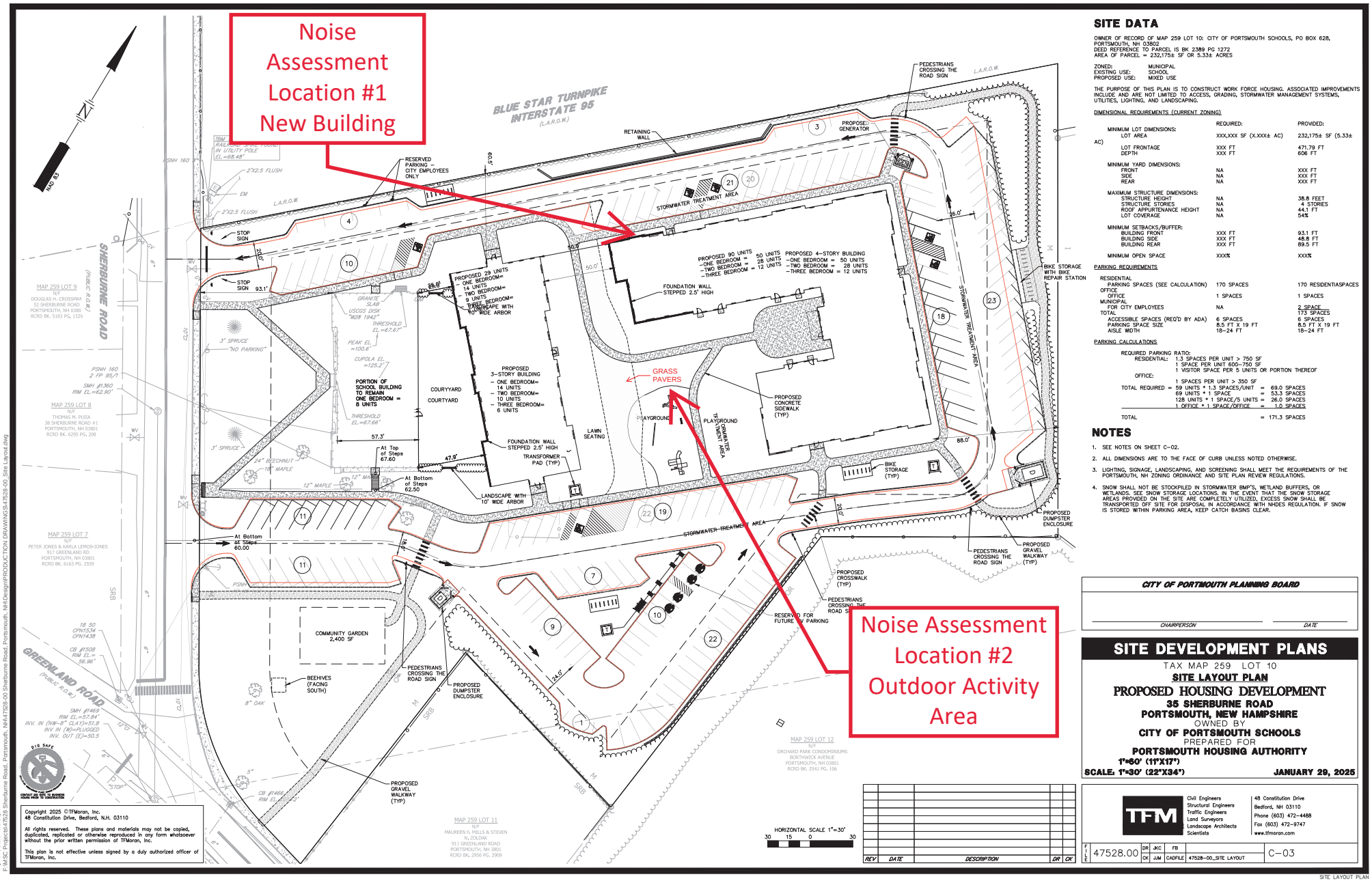
Are there potential noise generators in the vicinity of the project? Review general location maps and/or conduct a field review to screen for major roadways (within 1,000 feet), railroads (within 3,000 feet), and military or FAA-regulated airfields (with 15 miles) in the vicinity of the project.

If a noise assessment was performed, was the noise found to be Acceptable, Normally Unacceptable, or Unacceptable?

Site Acceptability Standards

Noise Zone	Day-Night Average Sound Level (in Decibels)	Special Approvals and Requirements
Acceptable	Not exceeding 65 dB	None
Normally Unacceptable	Above 65 dB but not exceeding 75 dB	• Environmental assessment and attenuation required for new construction • Attenuation strongly encouraged for major rehabilitation Note: An environmental impact statement is required if the project site is largely undeveloped or will encourage incompatible development.
Unacceptable	Above 75 dB	• Environmental impact statement required • Attenuation required for new construction with approval by the Assistant Secretary of CPD or Certifying Officer

Noise Assessment Location Map



SITE DATA

OWNER OF RECORD OF MAP 259 LOT 10: CITY OF PORTSMOUTH SCHOOLS, PO BOX 628, PORTSMOUTH, NH 03802
DEED REFERENCE TO PARCEL IS BK 2389 PG 1272
AREA OF PARCEL = 232,175± SF OR 5.33± ACRES

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	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	XXX,XXX SF (X.XXX± AC)	232,175± SF (5.33± AC)
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DEPTH	XXX FT	606 FT
MINIMUM YARD DIMENSIONS:		
FRONT	NA	XXX FT
SIDE	NA	XXX FT
REAR	NA	XXX FT
MAXIMUM STRUCTURE DIMENSIONS:		
STRUCTURE HEIGHT	NA	38.8 FEET
STRUCTURE STORIES	NA	4 STORIES
ROOF APPURTENANCE HEIGHT	NA	44.1 FT
LOT COVERAGE	NA	54%
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	XXX FT	93.1 FT
BUILDING SIDE	XXX FT	48.8 FT
BUILDING REAR	XXX FT	89.5 FT
MINIMUM OPEN SPACE	XXX%	XXX%

PARKING REQUIREMENTS

RESIDENTIAL		
PARKING SPACES (SEE CALCULATION)	170 SPACES	170 RESIDENTIASPACES
OFFICE		
OFFICE	1 SPACES	1 SPACES
MUNICIPAL		
FOR CITY EMPLOYEES	NA	2 SPACE
TOTAL		173 SPACES
ACCESSIBLE SPACES (REQ'D BY ADA)	6 SPACES	6 SPACES
PARKING SPACE SIZE	8.5 FT X 19 FT	8.5 FT X 19 FT
AISLE WIDTH	18–24 FT	18–24 FT

PARKING CALCULATIONS

REQUIRED PARKING RATIO:
RESIDENTIAL: 1.3 SPACES PER UNIT > 750 SF
1 SPACE PER UNIT 600–750 SF
1 VISITOR SPACE PER 5 UNITS OR PORTION THEREOF
OFFICE: 1 SPACES PER UNIT > 350 SF

TOTAL REQUIRED =	59 UNITS * 1.3 SPACES/UNIT	=	69.0 SPACES
	69 UNITS * 1 SPACE	=	53.3 SPACES
	128 UNITS * 1 SPACE/5 UNITS	=	26.0 SPACES
	1 OFFICE * 1 SPACE/OFFICE	=	1.0 SPACES
TOTAL		=	171.3 SPACES

NOTES

1. SEE NOTES ON SHEET C–02.
2. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
3. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE PORTSMOUTH, NH ZONING ORDINANCE AND SITE PLAN REVIEW REGULATIONS.
4. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLAND BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE LAYOUT PLAN

PROPOSED HOUSING DEVELOPMENT
35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE
OWNED BY
CITY OF PORTSMOUTH SCHOOLS
PREPARED FOR
PORTSMOUTH HOUSING AUTHORITY

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

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48 Constitution Drive, Bedford, N.H. 03110

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This plan is not effective unless signed by a duly authorized officer of TFMoran, Inc.

REV	DATE	DESCRIPTION	DR	CK

TFM Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	JKC	FB
47528.00	CK	JJM	CADFILE 47528-00_SITE LAYOUT

C–03

Apr 07, 2025 - 10:30pm
P:\MSE Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-00_Site Layout.dwg

SITE LAYOUT PLAN

HUD DNL Calculator Results

Noise Assessment Location #1 New Building

Site ID	Sherburne School
Record Date	04/14/2025
User's Name	TAS

Road # 1 Name:	**Interstate I95**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	216	216	216
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	96560	8312	7790
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	68	67	73
Calculate Road #1 DNL	75	Reset	

Railroad #1 Track Identifier:	**CSX Transportation**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		3000
Average Train Speed		10
Engines per Train		2
Railway cars per Train		50
Average Train Operations (ATO)		1
Night Fraction of ATO		0
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Train DNL	0	33
Calculate Rail #1 DNL	33	Reset

Add Road Source | Add Rail Source

Airport Noise Level	55
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**75**
Combined DNL including Airport	**75**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Noise Assessment Location #2 Playground

Site ID	Sherburne School
Record Date	04/14/2025
User's Name	TAS

Road # 1 Name:	**Interstate I95**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	316	316	316
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	96560	8312	7790
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	66	65	71
Calculate Road #1 DNL	73	Reset	

Railroad #1 Track Identifier:	**CSX Transportation**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		3000
Average Train Speed		10
Engines per Train		2
Railway cars per Train		50
Average Train Operations (ATO)		1
Night Fraction of ATO		0
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Train DNL	0	33
Calculate Rail #1 DNL	33	Reset

Add Road Source | Add Rail Source

Airport Noise Level	55
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**73**
Combined DNL including Airport	**73**
Site DNL with Loud Impulse Sound	

Calculate | Reset

USDOT Railroad Crossing Inventory

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
10 / 24 / 2023	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	054410Y

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
CSX Transportation [CSX]	NEW HAMPSHIRE	ROCKINGHAM

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near PORTSMOUTH	BARBERRY LN (Street/Road Name) | * (Block Number)	LS-258

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None NEW ENGLAND	☐ None PORTLAND	☐ None PORTSMOUTH BR	PMT | 0004.923 | (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
	EMERY	☒ N/A	☒ N/A

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☒ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 43.0657219	(WGS84 std: -nnn.nnnnnnn) -70.7793485	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
	AADT ESTIMATED
30.B. Railroad Use *	**31.B. State Use ***
30.C. Railroad Use *	**31.C. State Use ***
30.D. Railroad Use *	**31.D. State Use ***
Original MP: P 9.0766	
32.A. Narrative (Railroad Use) *	**32.B. Narrative (State Use) ***
	VERIFIED

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-232-0144	904-366-3051	603-271-2468

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
1	0	0	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2023	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 10 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☐ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☒ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
10/24/2023		054410Y

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
2	2	0	☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☒ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☐ Yes ☒ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian 0	☐ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	0

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	0

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 1	☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____
☐ 1 Timber ☒ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☐ Yes ☒ No If Yes, Approximate Distance *(feet)* _____	☐ 0° – 29° ☒ 30° – 59° ☐ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☒ (7) Local	☐ Yes ☒ No	30 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

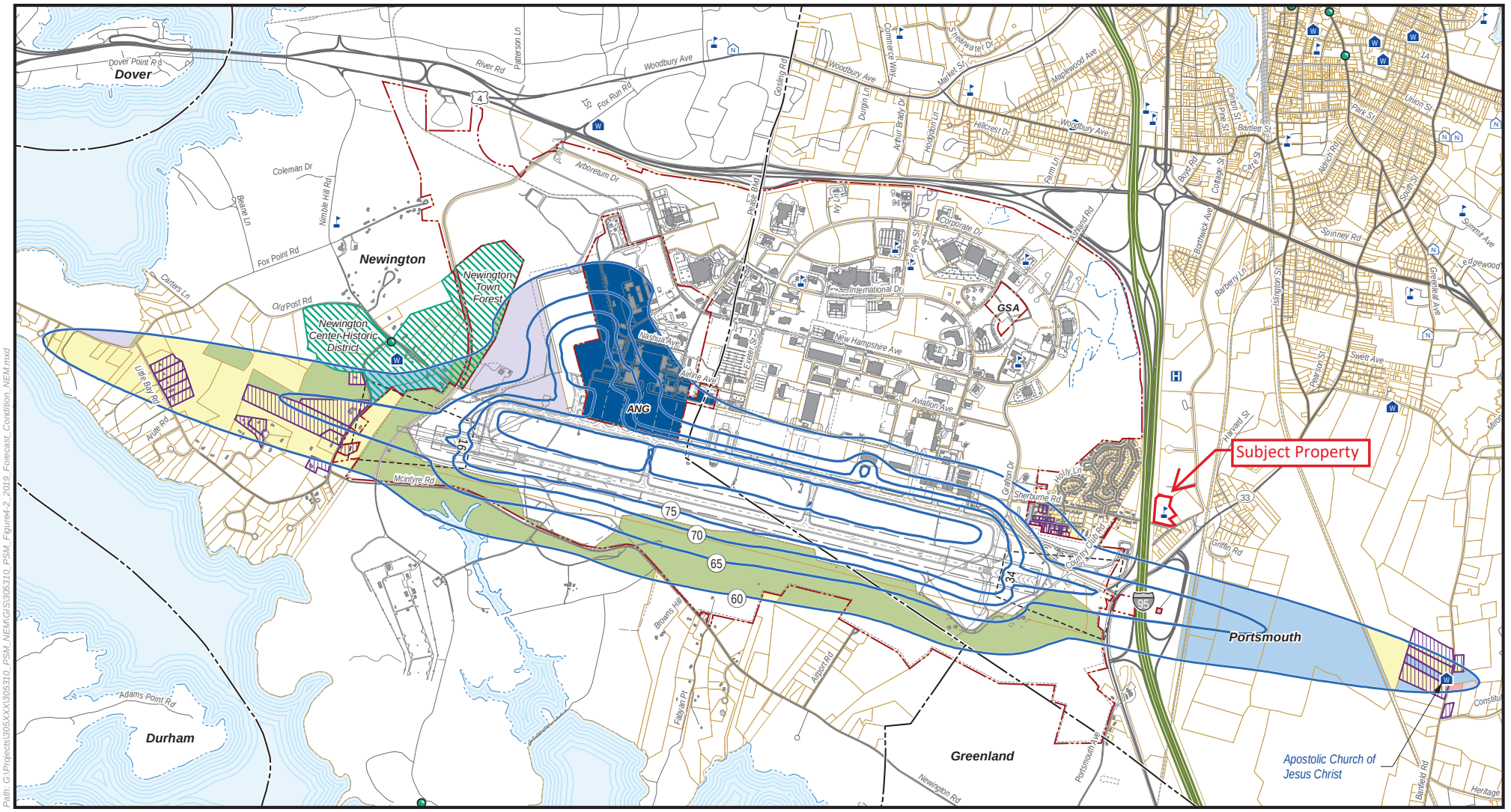
7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2009 AADT 000560	00 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

DNL Map Pease International Tradeport



2019 DNL Contour

Airport Boundary (Approximate)

Municipal Boundary

Water

Highway

Major Roads

Local Roads

Railroad

School

Place of Worship

Hospital

Nursing Home/Assisted Living

Residential Use

Public Use

Commercial Use

Manufacturing and Production

Recreational / Open Space

Air National Guard

Sound Insulated

Parcel Boundary

National Register Historic Place

National Register Historic District

Note: Land uses within the 65 dB DNL contour marked as "Sound Insulated" are compatible.

0 2,000 4,000 Feet

PORTSMOUTH INTERNATIONAL AIRPORT

Portsmouth, New Hampshire

2019 Five-Year Forecast Conditions Noise Exposure Map

Figure 4-2

HARRIS MILLER MILLER & HANSON INC.

Data for Road Noise Calculations
NHDOT AADT Data, 2022 Vehicle Classification Averages
Road Grade (USGS National Map)

Traffic Count (TCDS)

Home | Locate | Locate All | Email This | Auto-Locate:

List View | All DIRs

Record 1 of 1 Goto Record go

Fnct'l Class	Interstate
Milepost	
Located On	Interstate 95 S
Loc On Alias	I-95 BETWEEN EXITS 3-4 (SB-NB) (81379062-81379061)

More Detail

STATION DATA

Directions: 2-WAY | NB | SB

AADT

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2024	53,441[3]				49,487 (93%)	3,954 (7%)	Grown from 2023
	2023	52,393[3]				48,673 (93%)	3,720 (7%)	Grown from 2022
	2022	51,215[3]				47,989 (94%)	3,226 (6%)	Grown from 2021
	2021	50,260[3]						Grown from 2020
	2020	45,320[3]						Grown from 2019

|<< < > >>| 1-5 of 13

VOLUME COUNT

	Date	Int	Total
	Wed 6/2/1993	60	34,334
	Tue 6/1/1993	60	41,589
	Mon 5/31/1993	60	61,980
	Sun 5/30/1993	60	38,984
	Sat 5/29/1993	60	31,537
	Fri 5/28/1993	60	37,629
	Thu 5/27/1993	60	35,951
	Wed 5/26/1993	60	34,946
	Tue 5/25/1993	60	33,443
-	Mon 5/24/1993	-	

|<< < > >>| 1-10 of 12

mm / dd / yyyy To Date

VOLUME TREND

Year	Annual Growth
2024	2%
2023	2%
2022	2%
2021	11%
2020	-16%
2019	1%
2018	2%
2017	2%
2016	2%
2015	0%

|<< < > >>| 1-10 of 12

SPEED

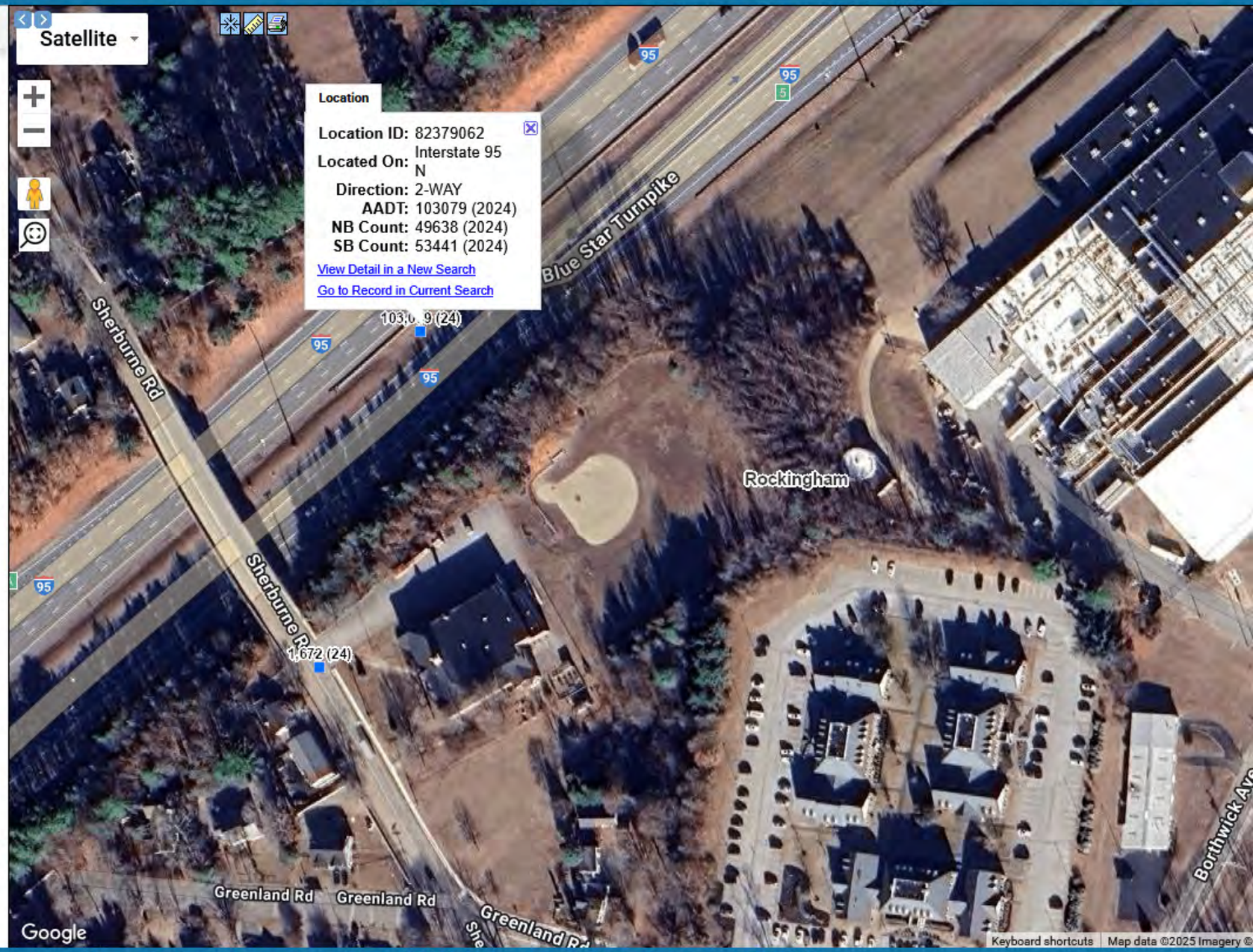
Date	Int	Pace	85th	Total
No Data				

CLASSIFICATION

Date	Int	Total
No Data		

WEIGH-IN-MOTION

PER VEHICLE



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Definitions

Location: Automatic Traffic Recorder Station ID assigned by VTrans

FC: Functional Classification (designates road use characteristics)

1 = Interstate

2 = Principal Arterial - Other Freeways & Expressways

3 = Principal Arterial - Other

4 = Minor Arterial

5 = Major Collector

6 = Minor Collector

7 = Local

MM: Mile Marker

R/U: U (urban) designates a location within the Federal Aid Urban Area Boundary

R (rural) designates a location outside the Federal Aid Urban Area Boundary

AADT: Annual Average Daily Traffic for the Year shown

FHWA Vehicle Classes

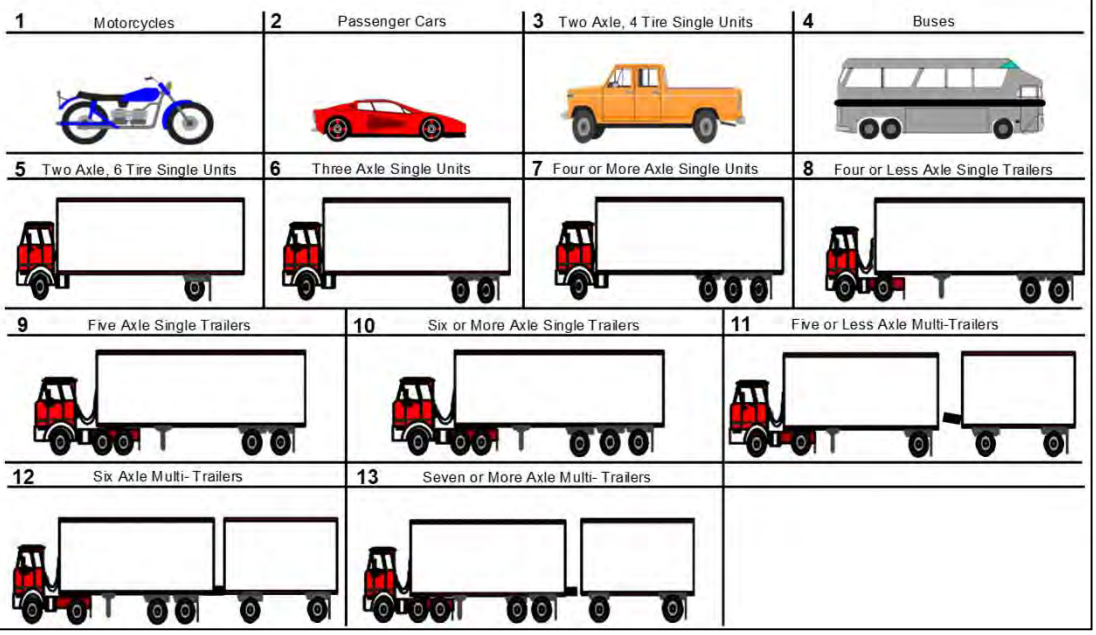
Class	Heading	Description
1	MC	Motorcycle
2	Car	Passenger car
3	Pickup	Pickup truck/sports utility
4	Bus	Full size school and transit busses
5	2A SU	2 axle six tire, delivery type van or heavy duty pick up
6	3A SU	3 axle single unit, short haul delivery truck, dump truck
7	>3A SU	4 axle single unit, short haul delivery truck, concrete truck
8	<5A 2U	<5 axle tractor/single trailer, medium haul delivery
9	5A 2U	5 axle tractor/single trailer, "18 Wheeler"
10	>5A 2U	> 5 axle tractor/single trailer, tanker truck, logging truck
11	<6A >2U	<6 axle multi trailer truck
12	6A >2U	6 axle multi trailer truck
13	>6A >2U	>6 axle multi trailer truck

TRUCK: FHWA Vehicle Class 4-13

MED: Single Unit truck (FHWA Vehicle Class 4-7)

HEAVY: Tractor-trailer truck (FHWA Vehicle Class 8-13)

FHWA VEHICLE CLASSIFICATIONS



Total Cars

Cars

Trucks

2022 FUNCTIONAL CLASS AVERAGES

DAILY

RURAL	Class 1 MC	Class 2 Car	Class 3 Pickup	Class 4 Bus	Class 5 2A SU	Class 6 3A SU	Class 7 >3A SU	Class 8 <5A 2U	Class 9 5A 2U	Class 10 >5A 2U	Class 11 <6A >2U	Class 12 6A >2U	Class 13 >6A >2U	TOTAL	TRUCKS MED	TRUCKS HEAVY
1 FC1 AVG	0.64%	67.54%	17.62%	1.46%	4.09%	1.23%	0.55%	1.72%	3.44%	1.54%	0.05%	0.01%	0.12%	14.20%	7.33%	6.87%
FC2 AVG																
FC3 AVG	1.55%	70.53%	19.21%	0.99%	3.56%	0.80%	0.16%	1.15%	1.56%	0.46%	0.01%	0.00%	0.01%	8.71%	5.51%	3.20%
FC4 AVG	2.45%	68.70%	21.32%	0.79%	3.53%	0.84%	0.12%	1.06%	0.81%	0.37%	0.00%	0.00%	0.01%	7.53%	5.28%	2.25%
FC5 AVG	2.45%	68.24%	22.49%	0.68%	3.69%	0.76%	0.11%	0.85%	0.46%	0.27%	0.00%	0.00%	0.01%	6.82%	5.23%	1.59%
FC6 AVG	1.63%	67.39%	24.40%	0.26%	3.85%	1.44%	0.20%	0.57%	0.19%	0.07%	0.00%	0.00%	0.00%	6.58%	5.76%	0.83%
FC7 AVG	1.11%	69.03%	23.96%	0.51%	4.18%	0.61%	0.04%	0.43%	0.08%	0.04%	0.00%	0.00%	0.00%	5.89%	5.33%	0.56%

URBAN	Class 1 MC	Class 2 Car	Class 3 Pickup	Class 4 Bus	Class 5 2A SU	Class 6 3A SU	Class 7 >3A SU	Class 8 <5A 2U	Class 9 5A 2U	Class 10 >5A 2U	Class 11 <6A >2U	Class 12 6A >2U	Class 13 >6A >2U	TOTAL	TRUCKS MED	TRUCKS HEAVY
FC1 AVG	0.68%	73.61%	17.09%	0.91%	3.64%	0.67%	0.19%	1.24%	1.55%	0.31%	0.06%	0.03%	0.04%	8.62%	5.40%	3.22%
FC2 AVG																
FC3 AVG	1.40%	73.63%	18.27%	0.77%	3.72%	0.48%	0.07%	0.82%	0.67%	0.16%	0.00%	0.00%	0.01%	6.70%	5.03%	1.67%
FC4 AVG	1.42%	73.14%	19.49%	0.61%	3.16%	0.79%	0.15%	0.49%	0.48%	0.26%	0.00%	0.00%	0.00%	5.94%	4.71%	1.24%
FC5 AVG	1.22%	72.91%	19.66%	0.62%	3.66%	0.88%	0.11%	0.38%	0.37%	0.20%	0.00%	0.00%	0.01%	6.22%	5.27%	0.95%
FC6 AVG	1.60%	70.18%	23.30%	0.18%	3.06%	0.57%	0.17%	0.91%	0.05%	0.00%	0.00%	0.00%	0.00%	4.92%	3.97%	0.95%
FC7 AVG	0.81%	70.66%	24.53%	0.39%	2.98%	0.29%	0.05%	0.24%	0.04%	0.00%	0.00%	0.00%	0.01%	4.00%	3.70%	0.29%

PEAK HOUR

RURAL	Class 1 MC	Class 2 Car	Class 3 Pickup	Class 4 Bus	Class 5 2A SU	Class 6 3A SU	Class 7 >3A SU	Class 8 <5A 2U	Class 9 5A 2U	Class 10 >5A 2U	Class 11 <6A >2U	Class 12 6A >2U	Class 13 >6A >2U	TRUCKS TOTAL	TRUCKS MED	TRUCKS HEAVY
FC1 AVG	0.17%	70.87%	15.64%	1.93%	3.33%	0.69%	0.12%	1.69%	4.19%	1.30%	0.06%	0.00%	0.02%	13.32%	6.06%	7.26%
FC2 AVG																
FC3 AVG	1.11%	68.33%	22.06%	0.93%	3.99%	0.63%	0.09%	1.20%	1.24%	0.34%	0.01%	0.01%	0.06%	8.51%	5.65%	2.86%
FC4 AVG	2.28%	65.81%	23.15%	0.80%	4.64%	0.96%	0.08%	1.32%	0.70%	0.24%	0.02%	0.00%	0.01%	8.77%	6.48%	2.29%
FC5 AVG	2.22%	67.32%	22.76%	0.87%	4.87%	0.63%	0.03%	0.79%	0.37%	0.15%	0.00%	0.00%	0.00%	7.71%	6.40%	1.30%
FC6 AVG	0.74%	69.82%	24.00%	0.29%	4.32%	0.51%	0.00%	0.30%	0.01%	0.00%	0.00%	0.00%	0.01%	5.44%	5.11%	0.33%
FC7 AVG	1.39%	68.43%	24.34%	0.53%	4.05%	0.33%	0.16%	0.55%	0.14%	0.07%	0.00%	0.00%	0.00%	5.84%	5.08%	0.76%

URBAN	Class 1 MC	Class 2 Car	Class 3 Pickup	Class 4 Bus	Class 5 2A SU	Class 6 3A SU	Class 7 >3A SU	Class 8 <5A 2U	Class 9 5A 2U	Class 10 >5A 2U	Class 11 <6A >2U	Class 12 6A >2U	Class 13 >6A >2U	TRUCKS TOTAL	TRUCKS MED	TRUCKS HEAVY
FC1 AVG	2.85%	72.84%	16.91%	0.72%	3.16%	0.49%	0.19%	1.43%	1.06%	0.29%	0.02%	0.01%	0.04%	7.40%	4.56%	2.84%
FC2 AVG																
FC3 AVG	1.13%	74.37%	17.91%	1.23%	3.67%	0.44%	0.06%	0.71%	0.34%	0.13%	0.00%	0.00%	0.01%	6.60%	5.40%	1.19%
FC4 AVG	1.47%	72.39%	18.72%	0.99%	4.68%	0.52%	0.07%	0.54%	0.56%	0.06%	0.00%	0.00%	0.00%	7.42%	6.26%	1.16%
FC5 AVG	1.36%	72.69%	18.81%	0.38%	4.97%	0.58%	0.11%	0.63%	0.25%	0.21%	0.00%	0.00%	0.00%	7.14%	6.05%	1.09%
FC6 AVG	2.04%	69.82%	24.45%	0.06%	2.41%	0.24%	0.00%	0.98%	0.00%	0.00%	0.00%	0.00%	0.00%	3.69%	2.71%	0.98%
FC7 AVG	1.04%	69.26%	25.15%	0.05%	3.88%	0.05%	0.05%	0.52%	0.01%	0.00%	0.00%	0.00%	0.00%	4.55%	4.01%	0.53%


Find address or place
2D/3D
0 ft
-100 ft
200 ft
400 ft
600 ft
Ground
Length
820.2 ft
Gain
2.4 ft
Loss
4.2 ft
Min
45.8 ft
Max
48.1 ft
Avg
47.3 ft
Max Slope
↑ 0.4° ↓ 0.9°
Avg Slope
↑ 0.2° ↓ 0.3°
New profile
Scale: 1:2,257
Zoom Level: 18
50 m

Indoor Noise Level Calculations
HUD Sound Transmission Classification Assessment Tool
Calculations and General STC Ratings from
"The Sound Book" and Marvin INdustries

(STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed

STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered

Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials are not included in this dropdown menu, the user may also enter the STC for a given component manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project
Sherburne School

Sponsor/Developer
Portsmouth Housing Auth

Location
Sherburne Street

Prepared by
Todd Scheffer

Noise Level
75

Date
4/14/2025

Primary Source(s)
Interstate 95

Part II - Wall Components

Wall Construction Detail	Area	STC
2x6 wood with fiberglass	4050	38
	4,050 Sq. Feet	**38**

Add new wall

Window Construction Detail	Quantity	Sq Ft/Unit	STC
4 x 3 two pane double hung (Marvin)	56	12	27

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC
Lowest rated french doors	8	21	31

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	4050 ft²
Wall STC:	38

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	56	**672 ft²**	**16.59%**
Doors:	8	**168 ft²**	**4.15%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**75**
Combined STC for wall assembly:	**33.1**
Required STC rating:	**33**
Does wall assembly meet requirements?	**Yes**

Acoustical Assembly Guide

National Gypsum®

The SoundBook™

A□□□□□□□□T□r□ □ □□d C□□□□□□□

Tr□□□□ □□□□□ □□A□r□□r□□ S□□□d

Airborne sound is acoustical energy generated by a source and transmitted by vibration through the air. The vibrations create sound □ressure □uctuations that are detected by a receiver. Sound is characteri□ed by its □re□uency, which determines the □itch o□ the sound, and by the intensity o□ the □ressure □uctuations, which determines how loud the sound is □erceived to be.

S□□□d Tr□□□□ □□□□□		
Energy Generated by a Source	► Transmitted Through a Medium	► Detected by a Receiver
Drumstic□stri□es drumhead creating vibrations	► Vibrations transmitted through the air as □ressure □uctuations	► Ear receives □ressure □uctuations and □erceives them as sound

The □re□uency o□sound re□ers to the number o□sound □ressure □uctuations or cycles that occur at a □i□ed □oint in one second. The unit o□measure □or □re□uency is the hert□ (H□), which is one cycle □er second. The human auditory system is ca□able o□ detecting sound □re□uencies between 20 H□ and 20,000 H□, but humans are ty□ically most sensitive to sounds within the range o□ 500 H□ and 4,000 H□. Sound □re□uency is □erceived by humans as □itch. The lowest note on a □iano has a □re□uency o□27.5 H□, while the highest note on the □iano is 4,18□ H□.

The intensity o□sound, or loudness, is measured in decibels (dB). A □uiet whis□er might register at 20 dB, com□ared to about □0 dB □or normal conversation, and 75 dB □or loud singing. The decibel scale is logarithmic, not linear. A sound level change o□1 to 2 dB will be di□□cult to □erceive while a change o□5 dB will be clearly noticeable. Sound is □erceived to double in intensity □or every 10 dB increase and □uadru□le □or every 20 dB increase.

H□□ □□ S□□□□□□□□□□ □□ C□□□□□□ □□ S□□□d I□□□□□□□□ L□□□□□
1 dB — Generally not □erce□tible
3 dB — Just □erce□tible
5 dB — Clearly noticeable
10 dB — Twice as loud
20 dB — Four times as loud

R□□□□□	A□□□□□□□	S□□□d L□□□□ (dB)
Pain□l	Jet Engine	120□
Very Loud	Industrial Machinery	100
Loud	Stoc□ Trading Floor	80
Moderate	Normal S□eech	□5
□uiet	Suburban Home	45
Very □uiet	Barely Audible	25

S□□□d Tr□□□□ □□□□□ C□□□

The Sound Transmission Class (STC) is a single number rating o□ the e□ectiveness o□a material or construction assembly to retard the transmission o□ airborne sound. The STC □rovides an indication o□how loud transmitted sound is □erceived to be by the listener. Partitions with higher STC values are more e□ective at reducing sound transmission.

STC values are derived by conducting a test in accordance with ASTM E90, *Standard Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions*. The test data collected is analy□ed using ASTM E413, *Classification for Rating Sound Insulation,* and results in a single-number acoustical rating. The rating assesses the airborne sound transmission □er□ormance at a range o□ □re□uencies □rom 125 H□ to 4000 H□, which is consistent with the □re□uency range o□the human ear. An STC rating o□50 has been designated as the minimum allowable design rating □or unit-to-unit multi□amily construction in the International Building Code.

D□□□□ C□□□d□r□□□□ □r A□□□□□□□P□r□□□□

The goal o□a high STC rated □artition is to decrease the amount o□sound transmission through the □artition. The □ollowing □ive variables can have an im□act on the ability o□ the □artition to retard the sound transmission.

M□□

Increasing the mass o□ a □artition increases the amount o□ material airborne sound waves must □enetrate to reach the adjoining room and can be accom□lished by installing multi□le layers o□ gy□sum board.

S□□□□□□

Decreasing the sti□ness o□ a □artition will increase the amount o□sound transmission loss. For this reason metal studs out□er□orm wood studs, and □raming that is 24" o.c. out□er□orms □raming that is 1□" o.c.

D□□ □□□

Dam□ing, or the ability to dissi□ate the vibrational energy □roduced by sound waves, reduces the amount o□ energy to □ass through the □artition.

C□□□□ D□□□

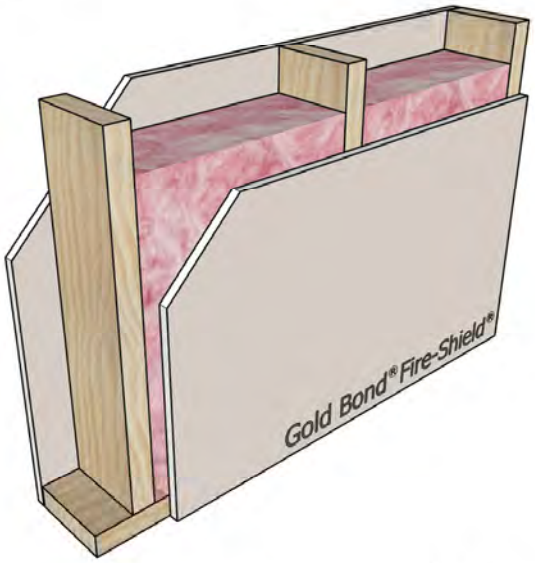
Increasing the de□th o□ the cavity o□ the □artition can increase the amount o□sound transmission loss, es□ecially when the cavity is □lled with acoustical insulation.

C□□□□ A□□r□□□□

Increasing the thic□ness o□ sound-absorbing material such as □berglass or mineral □ber insulation in the cavity o□ a □artition will increase the amount o□sound transmission loss. The thic□ness o□ the insulation has a greater e□ect on sound transmission loss than the density.

Wood Stud Partitions with Framing 16" o.c.

Figure 114

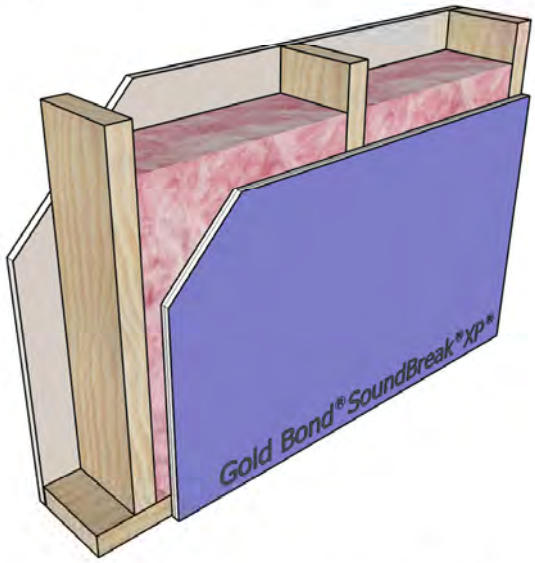


STC-38 **NGC 2008032**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board

UL Design: U305 - 1 hour

Figure 115

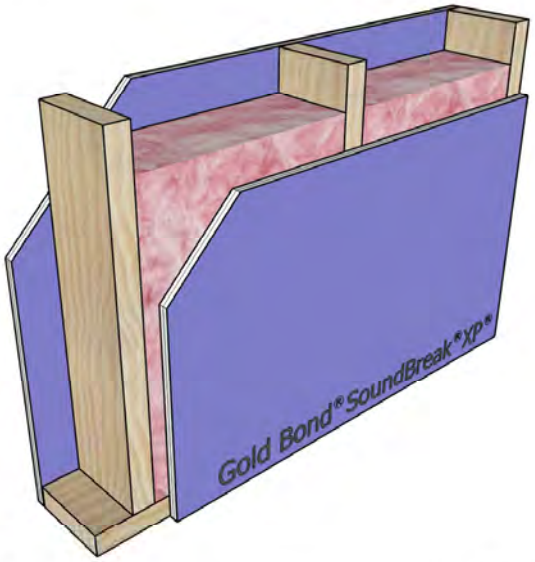


STC-42 **NGC 2009008**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Gypsum Board

UL Design: U305 - 1 hour

Figure 116

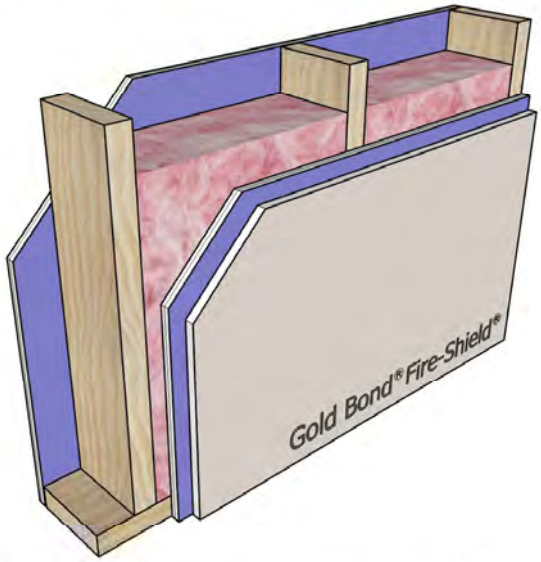


STC-44 **NGC 2009012**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Gypsum Board
Side 2: 5/8" SoundBreak XP Gypsum Board

UL Design: U305 - 1 hour

Figure 117



STC-46 **NGC 2009010**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Gypsum Board

UL Design: U305 - 1 hour

STC and OITC Class Values

Marvin Sound Transmission Class and Outdoor - Indoor Transmission Class Values							
Product Type	Exterior Glazing	Airspace	Interior Glazing	STC	OITC	Additional Information	STC Report #
Clad Ultimate Double Hung - NG							
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	5/8" (16.0)	1/8" (3.1) Annealed	27	23		ESP018375P-2
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	1/4" (6.5)	1/8" (3.1) Annealed	28	24	Tri-pane: two 1/4" air spaces with 1/8" center pane	ESP016170P-2
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	19/32" (14.5)	3/16" (4.7) Annealed	30	26		ESP020753P-2
CUDH-NG (47 3/16 x 59 1/8)	1/4" (5.7) Annealed	3/8" (9.8)	1/4" (6.0) Lami	30	27		ESP016170P-4
CUDH-NG (47 3/16 x 59 1/8)	1/4" (6.0) Lami	3/8" (9.8)	1/4" (6.0) Lami	31	27		ESP016170P-5
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	7/16" (11.5)	5/16" (7.8) Lami	31	26	CE	ESP020753P-1
CUDH-NG (47 3/16 x 59 1/8)	9/32" (7.0) Lami	5/16" (8.0)	9/32" (7.0) Lami	31	27	CE	ESP016170P-7
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	7/16" (11.5)	11/32" (8.6) Lami	31	27	IZ3	ESP018375P-5
CUDH-NG (47 3/16 x 59 1/8)	3/16" (4.7) Annealed	7/16" (11.5)	1/4" (6.0) Lami	31	28		ESP018375P-3
CUDH-NG (47 3/16 x 59 1/8)	1/4" (5.9) Annealed	5/16" (8.0)	5/16" (7.8) Lami	31	29	CE	ESP016170P-6
CUDH-NG (47 3/16 x 59 1/8)	3/16" (4.7) Annealed	5/16" (8.0)	11/32" (8.6) Lami	32	29	IZ3	ESP018375P-7
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	5/8" (16.0)	1/8" (3.1) Annealed	35	28	1/8" Clad Storm Combination	ESP016170P-14
CUDH-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	1/4" (6.5)	1/8" (3.1) Annealed	36	30	Tri-pane: two 1/4" air spaces w/ 1/8" center pane, 1/8" Clad Storm Comb	ESP016170P-15
CUDH-NG (47 3/16 x 59 1/8)	1/4" (5.7) Annealed	3/8" (9.8)	1/4" (6.0) Lami	39	32	1/8" Clad Storm Combination	ESP016170P-19
CUDH-NG (47 3/16 x 59 1/8)	1/4" (6.0) Lami	3/8" (9.8)	1/4" (6.0) Lami	40	33	1/8" Clad Storm Combination	ESP016170P-17
CUDH-NG (47 3/16 x 59 1/8)	3/16" (4.7) Annealed	7/16" (11.5)	1/4" (6.0) Lami	40	33	1/8" Clad Storm Combination	ESP016170P-18
CUDH-NG (47 3/16 x 59 1/8)	9/32" (7.0) Lami	5/16" (8.0)	9/32" (7.0) Lami	40	33	1/8" Clad Storm Combination CE	ESP016170P-12
CUDH-NG (47 3/16 x 59 1/8)	1/4" (5.9) Annealed	5/16" (8.0)	5/16" (7.8) Lami	41	35	1/8" Clad Storm Combination CE	ESP016170P-16
CUDHP-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	5/8" (16.0)	1/8" (3.1) Annealed	29	23		ESP016170P-21
CUDHP-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	1/4" (6.5)	1/8" (3.1) Annealed	30	25	Tri-pane: two 1/4" air spaces with 1/8" center pane	ESP016170P-24
CUDHP-NG (47 3/16 x 59 1/8)	1/4" (5.7) Annealed	3/8" (9.8)	1/4" (6.0) Lami	34	29		ESP016170P-26
CUDHP-NG (47 3/16 x 59 1/8)	1/4" (6.0) Lami	3/8" (9.8)	1/4" (6.0) Lami	35	30		ESP016170P-25
CUDHP-NG (47 3/16 x 59 1/8)	3/16" (4.7) Annealed	7/16" (11.5)	1/4" (6.0) Lami	35	29		ESP016170P-23
CUDHP-NG (47 3/16 x 59 1/8)	1/4" (5.9) Annealed	5/16" (8.0)	5/16" (7.8) Lami	35	31	CE	ESP016170P-22
CUDHP-NG (47 3/16 x 59 1/8)	9/32" (7.0) Lami	5/16" (8.0)	9/32" (7.0) Lami	35	30	CE	ESP016170P-27
CUDHP-NG (47 3/16 x 59 1/8)	1/8" (3.1) Annealed	1/4" (6.5)	9/16" (13.6) Lami	35	31		ESP016170P-29
Ultimate Double Hung							
WUDH 3026	1/8″ (3.1) Annealed	7/16″ (11.5)	1/8″ (3.1) Annealed	35	26	3/32″ (2) Wood Storm Comb	66263-4
WUDH 3026	3/16″ (4.7) Annealed	3/8″ (9.8)	1/8″ (3.1) Annealed	36	27	3/32″ (2) Wood Storm Comb	66263-5
WUDH 3026	5/32″ (3.9) Annealed	3/8″ (9.8)	1/4″ (6) Lami	37	28	3/32″ (2) Wood Storm Comb	66263-6
WUDHP 6878	1/4″ (5.7) Annealed	9/16″ (14.5)	1/4″ (6) Lami	34	27	2″ (51) Sash	66263-7
Ultimate Double Hung Magnum							
CUDHM FS 48″(1219) X 60″(1524) (7/8)	1/4″ (6) LAMI	3/8″ (9.8)	1/4″ (6) LAMI	33	28		ESP-015798P-3
CUDHM FS 48″(1219) X 60″(1524) (7/8)	1/4″ (6) LAMI	5/16″ (8)	5/16″ (8.6) LAMI	34	29		ESP-015798P-2
CUDHM FS 48″(1219) X 60″(1524) (7/8)	1/8″ (3.1) Annealed	1/4″ (6.5)	1/8″ (3.1) Annealed	28	24	Tri-pane: two 1/4" air spaces with 1/8" center pane	ESP-015798P-1
CUDHM FS 47 7/8 X 88 (11/16)	1/8″ (3.1) Annealed	7/16″ (11.5)	1/8″ (3.1) Annealed	27	22		76430
CUDHM FS 47 7/8 X 88 (11/16)	3/16″ (4.7) Annealed	3/8″ (9.8)	1/8″ (3.1) Annealed	30	25		
CUDHM FS 47 7/8 X 88 (11/16)	1/4″ (5.7) Annealed	5/16″ (8)	5/32" (3.9) Annealed	31	26		
CUDHM FS 47 7/8 X 88 (11/16)	1/4″ (6) LAMI	9/32″ (7)	3/16″ (4.7) Annealed	31	26		
WUDHM FS 48″ (1219) X 60″(1524)	1/4″ (6) LAMI	3/8″ (9.8)	1/4″ (6) LAMI	33	27		ESP-015798P-6
WUDHM FS 48″ (1219) X 60″(1524)	1/4″ (6) LAMI	5/16″ (8)	5/16″ (8.6) LAMI	34	29		ESP-015798P-5
WUDHM FS 48″ (1219) X 60″(1524)	1/8″ (3.1) Annealed	1/4″ (6.5)	1/8″ (3.1) Annealed	28	24	Tri-pane: two 1/4" air spaces with 1/8" center pane	ESP-015798P-4

STC and OITC Class Values

Marvin Sound Transmission Class and Outdoor - Indoor Transmission Class Values							
Product Type	Exterior Glazing	Airspace	Interior Glazing	STC	OITC	Additional Information	STC Report #
Ultimate Casement							
Values for wood and clad product UCA, UCART, UPCA, UCAP, UCARTP, UPCAP							
UCA 2460 3/4″ (19)	1/8″ (3.1) Annealed	1/2″ (13)	1/8″ (3.1) Annealed	29	23		TCT005872P-1
UCA 2460 3/4″ (19)	1/4″ (5.7) Annealed	5/16″ (8)	1/4″ (6) LAMI	34	29		ESP016574P-2
UCA 2460 3/4″ (19)	1/4″ (6) LAMI	9/32″ (7)	1/4″ (6) LAMI	35	30		ESP016574P-3
UCA 2460 3/4″ (19)	1/8″ (3.1) Annealed	5/16" (8)	11/32" (8.6) PVB	35	31	IZ3	ESP017287P-4
UCA 2460 3/4″ (19)	3/16″ (4.7) Annealed	5/16" (8)	1/4″ (6) LAMI	35	30		ESP016574P-4
UCA 2460 3/4″ (19)	3/16″ (4.7) Annealed	1/4″ (6.5)	11/32" (8.6) PVB	37	31	IZ3	ESP017287P-1
UCA 2460 3/4″ (19)	1/8″ (3.1) Annealed	1/2″ (13)	1/8″ (3.1) Annealed	46	34	interior sash 1/8″ glass, 4 1/4″ airspace	TCT005872P-1
UCA 2460 1″ (25)	1/8″ (3.1) Annealed	5/16″ (8)	1/8″ (3.1) Annealed	30	25	Tri-pane: two 5/16 air spaces, with 1/8" center	ESP016574P-5
UCA 2460 1″ (25)	1/4" (5.7) Annealed	1/2″ (13)	1/4″ (6) LAMI	34	28		ESP016574P-10
UCA 2460 1″ (25)	3/16″ (4.7) Annealed	9/16″ (14.5)	1/4″ (5.7) Annealed	34	27		TCT005872P-1
UCA 2460 1″ (25)	1/4″ (6) LAMI	1/2″ (13)	1/4″ (6) LAMI	35	28		ESP016574P-11
UCA 2460 1″ (25)	9/32" (7) Lami	7/16″ (11.5)	9/32" (7) Lami	35	29	CE	ESP016574P-13
UCA 2460 1″ (25)	1/4" (5.9) Annealed	7/16″ (11.5)	5/16" (7.8) Lami	37	32	CE	ESP017287P-3
UCA 2460 1″ (25)	3/16″ (4.7) Annealed	9/32″ (7)	17/32" (13.6) Lami	37	34		ESP016574P-9
UCA 2460 1″ (25)	3/16″ (4.7) Annealed	9/16″ (14.5)	1/4″ (6) LAMI	37	30		ESP016574P-12
UCA 2460 1″ (25)	3/16″ (4.7) Annealed	7/16″ (11.5)	11/32" (8.6) PVB	37	31	IZ3	ESP017287P-2
UCA 2460 1″ (25)	3/16″ (4.7) Annealed	3/8" (9.8)	13/32" (10.1) PVB	38	33	IZ3	ESP017287P-6
UCA 2460 1″ (25)	3/16″ (4.7) Annealed	9/16″ (14.5)	1/4″ (5.7) Annealed	47	36	interior sash 1/8″ glass, 4 1/4″ airspace	TCT005872P-1
UCAP 4860 1″ (25)	3/16″ (4.7) Annealed	9/16″ (14.5)	1/4″ (6) LAMI	36	30		ESP016574P-15
UCAP 4860 1″ (25)	1/4" (5.7) Annealed	1/2″ (13.0)	1/4″ (6) LAMI	34	29		ESP016574P-16
UCAP 4860 1″ (25)	1/4″ (6) LAMI	1/2″ (13.0)	1/4″ (6) LAMI	35	29		ESP016574P-17
UCAP 4860 1″ (25)	3/16″ (4.7) Annealed	9/32″ (7)	17/32" (13.6) Lami	36	33		ESP016574P-18
UCAP 4860 1″ (25)	1/8″ (3.1) Annealed	5/16″ (8)	1/8″ (3.1) Annealed	29	24	Tri-pane: two 5/16" air spaces, with 1/8" center	ESP016574P-19
UCAP 4860 1″ (25)	9/32" (7) Lami	7/16″ (11.5)	9/32" (7) Lami	36	32	CE	ESP016574P-23
UCAP 4860 1″ (25)	1/4" (5.9) Annealed	7/16″ (11.5)	5/16" (7.8) Lami	36	30	CE	ESP016574P-22
UCAP 4860 1″ (25)	3/16″ (4.7) Annealed	5/8″ (16)	3/16″ (4.7) Annealed	31	25		TCT005872P-2
UCAP 4860 1″ (25)	3/16″ (4.7) Annealed	9/16″ (14)	1/4″ (5.7) Annealed	34	28		
CUGL 5040	1/8″ (3.1) Annealed	7/16″ (11.5)	1/8″ (3.1) Annealed	27	22		
CUGL 5040	1/8″ (3.1) Annealed	3/8″ (10)	3/16″ (4.7) Annealed	32	26		TCT006299P-CUGL
CUGL 5040	1/8″ (3.1) Annealed	7/16″ (11.5)	1/8″ (3.1) Annealed	33	25	1/8″ Combination to the exterior	
CUGL 5040	1/8″ (3.1) Annealed	3/8″ (10)	3/16″ (4.7) Annealed	37	27	1/8″ Combination to the exterior	
CUGL 5040	3/16″ (4.7) Annealed	9/32" (7.0)	1/4" (6.0) Lami	32	29		ESP020754P-4rev1
CUGL 5040	5/32" (3.9)	9/32" (7.0)	9/32" (7.0) Lami	30	27	CE	ESP020754P-5
CUGL 5040	3/16″ (4.7) Annealed	9/32" (7.0)	1/4" (6.0) Lami	37	31	1/8″ Combination to the exterior	ESP020754P-2rev1
CUGL 5040	5/32" (3.9)	9/32" (7.0)	9/32" (7.0) Lami	37	30	CE 1/8″ Combination to the exterior	ESP020754P-3
CUGLP 4050	3/16″ (4.7) Annealed	5/16″ (8)	3/16″ (4.7) Annealed	31	26		TCT006299P-CUGLP
CUGLP 4050	1/8″ (3.1) Annealed	3/8″ (10)	3/16″ (4.7) Annealed	31	26		
CUGLP 4050	3/16″ (4.7) Annealed	9/32″ (7)	1/4" (6.0) Lami	34	30		ESP020754P-1
Direct Glaze							
CDG Rect FS 47 3/16″ x 59 3/32″	5/32″ (3.9) Annealed	7/16″ (11.5)	5/32″ (3.9) Annealed	28	24		ESP014020-2
CDG Rect FS 47 3/16″ x 59 3/32″	1/4″ (5.7) Annealed	7/16″ (11.5)	1/4″ (6.0) Lami	33	27		ESP014020-3
CDG Rect FS 47.2 x 59.1	1/8" (3.1) Annealed	7/16" (11.5)	1/8" (3.1) Annealed	27	23		ESP019269P-4
CDG Rect FS 47.2 x 59.1	3/16" (4.7) Annealed	7/16" (11.5)	3/16" (4.7) Annealed	29	26		ESP019269P-9
CDG Rect FS 47.2 x 59.1	1/4" (5.7) Annealed	7/16" (11.5)	1/4" (5.7) Annealed	30	26		ESP019269P-8
CDG Rect FS 47.2 x 59.1	5/32" (3.9)Annealed	7/16" (11.5)	3/16" (4.7) Annealed	32	28		ESP019269P-5
CDG Rect FS 47.2 x 59.1	3/16" (4.7) Annealed	7/16" (11.5)	1/4" (6.0) Lami	34	29		ESP019269P-2
CDG Rect FS 47.2 x 59.1	1/4" (6.0) Lami	7/16" (11.5)	1/4" (6.0) Lami	33	28		ESP019269P-11
CDG Rect FS 47.2 x 59.1	1/8" (3.1) Annealed	5/16" (8.0)	1/8" (3.1) Annealed	27	23	tripane- two 5/16" airspaces with 1/8" center	ESP019269P-7
CDG Rect FS 47.2 x 59.1	1/8" (3.1) Annealed	5/16" (8.0)	1/4" (6.0) Lami	33	27	tripane- two 5/16" airspaces with 1/8" center	ESP019269P-6
CDG Rect FS 47.2 x 59.1	3/16" (4.7) Annealed	3/8" (9.8)	13/32" (10.1) SGP	34	30	IZ3	ESP019269P-3
CDG Rect FS 47.2 x 59.1	9/32" (7.0) Lami	7/16" (11.5)	9/32" (7.0) Lami	36	30	CE	ESP019269P-1
CDG Rect FS 47.2 x 59.1	15/64" (5.9) Annealed	7/16" (11.5)	5/16" (7.8) Lami	36	31	CE	ESP019269P-10
Magnum Tilt Turn							
CMTT FS 48″ (1219) x 72″ (1829)	1/8″ (3) Annealed	5/8″ (16)	1/8″ (3) Annealed	31	25		66263-24
CMTT FS 48″ (1219) x 72″ (1829)	3/16″ (5) Annealed	15/32″ (12)	1/4″ (6) Lami	36	29		66263-25

STC and OITC Class Values

Marvin Sound Transmission Class and Outdoor - Indoor Transmission Class Values							
Product Type	Exterior Glazing	Airspace	Interior Glazing	STC	OITC	Additional Information	STC Report #
Sliding Patio Door							
CSPD 6068	1/8″ (3.1) Tempered	1/2" (12.7)	1/8″ (3.1) Tempered	29	24		ESP023470P-12
CSPD 6068	1/8″ (3.1) Tempered	7/16" (11.0)	3/16" (4.7) Tempered	31	26		ESP023470P-20
CSPD 6068	1/8″ (3.1) Tempered	3/8″ (9.3)	1/4″ (5.7) Tempered	31	27		ESP023470P-14
CSPD 6068	5/32" (3.9) Tempered	7/16" (11.0)	5/32" (3.9) Tempered	30	25		ESP023470P-18
CSPD 6068	1/4″ (5.7) Tempered	5/16″ (8.1)	1/4″ (5.7) Tempered	31	28		ESP023470P-19
CSPD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (6) Lami	31	27		ESP023470P-15
CSPD 6068	3/16″ (4.7) Tempered	5/16″ (8.0)	1/4″ (6) Lami	31	28		ESP023470P-17
CSPD 6068	1/4″ (5.7) Tempered	5/16″ (8.0)	1/4″ (6) Lami	31	28		ESP023470P-13
CSPD 6068	1/4″ (6) Lami	9/32″ (7.0)	1/4″ (6) Lami	32	29		ESP023470P-16
CSPD 6068	1/8″ (3.1) Tempered	5/16″ (8.0)	5/16″ (7.8) Lami	31	28	CE	ESP023470P-22
CSPD 6068	5/32" (3.9) Tempered	5/16″ (8.0)	5/16″ (7.8) Lami	31	28	CE	ESP023470P-21
Ultimate Sliding French Door							
WSFD 6068	1/4″ (6) Lami	3/8″ (10)	1/8″ (3.1)″ Tempered	32	28		66263-9
CUSFD 6068	1/8″ (3.1) Tempered	1/2" (12.7)	1/8″ (3.1) Tempered	30	26		ESP023470P-1
CUSFD 6068	1/8″ (3.1) Tempered	7/16" (11.0)	3/16" (4.7) Tempered	31	27		ESP023470P-10
CUSFD 6068	1/8″ (3.1) Tempered	3/8″ (9.3)	1/4″ (5.7) Tempered	31	28		ESP023470P-5
CUSFD 6068	5/32" (3.9) Tempered	7/16" (11.0)	5/32" (3.9) Tempered	30	27		ESP023470P-7
CUSFD 6068	1/4″ (5.7) Tempered	5/16″ (8.1)	1/4″ (5.7) Tempered	31	28		ESP023470P-11
CUSFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (6) Lami	32	28		ESP023470P-3
CUSFD 6068	3/16″ (4.7) Tempered	5/16″ (8.0)	1/4″ (6) Lami	32	29		ESP023470P-8
CUSFD 6068	1/4″ (5.7) Tempered	5/16″ (8.0)	1/4″ (6) Lami	32	29		ESP023470P-9
CUSFD 6068	1/4″ (6) Lami	9/32″ (7.0)	1/4″ (6) Lami	31	29		ESP023470P-2
CUSFD 6068	1/8″ (3.1) Tempered	5/16″ (8.0)	5/16″ (7.8) Lami	32	29	CE	ESP023470P-4
CUSFD 6068	5/32" (3.9) Tempered	5/16″ (8.0)	5/16″ (7.8) Lami	32	29	CE	ESP023470P-6
Clad Ultimate Sliding French Door IZ3							
CUSFD 6068	5/32" (3.9) Tempered	5/16″ (8.0)	9/32″ (6.9) SGP LAMI	32	29	IZ	ESP023470P-23
CUSFD 6068	3/16" (4.7) Tempered	9/32" (7.0)	9/32″ (6.9) SGP LAMI	32	29	IZ	ESP023470P-24
Clad Ultimate Inswing French Door IZ3							
CUIFD 6068 IZ3	1/8″ (3.1) Tempered	9/32″ (7)	11/32" (8.6) SGP	33	30		ESP018204P-1
CUIFD 6068 IZ3	3/16″ (4.7) Tempered	1/4" (6.5)	11/32" (8.6) SGP	34	31		ESP018204P-2
Clad Ultimate Inswing French Door							
CUIFD 6068	1/8″ (3.1) Tempered	1/2" (13)	1/8″ (3.1) Tempered	31	26		ESP018204P-6
CUIFD 6068	1/8″ (3.1) Tempered	7/16" (11.5)	5/32" (3.9) Tempered	33	28		ESP018204P-8
CUIFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (5.7) Tempered	34	30		ESP018204P-10
CUIFD 6068	1/4″ (5.7) Tempered	5/16″ (8)	1/4″ (5.7) Tempered	34	29		ESP018204P-12
CUIFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (6) Lami	35	30		ESP018204P-14
CUIFD 6068	3/16″ (4.7) Tempered	5/16″ (8)	1/4″ (6) Lami	35	30		ESP018204P-18
CUIFD 6068	1/4″ (5.7) Tempered	5/16″ (8)	1/4″ (6) Lami	35	30		ESP018204P-16
CUIFD 6068	1/4″ (6) Lami	9/32″ (7)	1/4″ (6) Lami	35	30		ESP018634P-1
CUIFD 6068 3/4 lite stmpd rsd pnls	1/8″ (3.1) Tempered	1/2" (13)	1/8″ (3.1) Tempered	32	26	3/4 lite stamped raised panels	ESP018204P-22
CUIFD 6068 3/4 lite stmpd rsd pnls	3/16″ (4.7) Tempered	5/16″ (8)	1/4″ (6) Lami	34	30	3/4 lite stamped raised panels	ESP018204P-24
CUIFD 6068	1/8″ (3.1) Tempered	1/2" (13)	1/8″ (3.1) Tempered	40	30	1/8" storm combination on exterior	ESP018204P-7
CUIFD 6068	1/8″ (3.1) Tempered	7/16" (11.5)	5/32" (3.9) Tempered	42	32	1/8" storm combination on exterior	ESP018204P-9
CUIFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (5.7) Tempered	43	33	1/8" storm combination on exterior	ESP018204P-11
CUIFD 6068	1/4″ (5.7) Tempered	5/16″ (8)	1/4″ (5.7) Tempered	42	34	1/8" storm combination on exterior	ESP018204P-13
CUIFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (6) Lami	44	33	1/8" storm combination on exterior	ESP018204P-15
CUIFD 6068	3/16″ (4.7) Tempered	5/16″ (8)	1/4″ (6) Lami	43	34	1/8" storm combination on exterior	ESP018204P-19
CUIFD 6068	1/4″ (5.7) Tempered	5/16″ (8)	1/4″ (6) Lami	43	35	1/8" storm combination on exterior	ESP018204P-17
CUIFD 6068	1/4″ (6) Lami	9/32″ (7)	1/4″ (6) Lami	44	33	1/8" storm combination on exterior	ESP018634P-2
CUIFD 6068 3/4 lite stmpd rsd pnls	1/8″ (3.1) Tempered	1/2" (13)	1/8″ (3.1) Tempered	41	31	1/8" storm combination on exterior	ESP018204P-23
CUIFD 6068 3/4 lite stmpd rsd pnls	3/16″ (4.7) Tempered	5/16″ (8)	1/4″ (6) Lami	43	34	1/8" storm combination on exterior	ESP018204P-25

STC and OITC Class Values

Marvin Sound Transmission Class and Outdoor - Indoor Transmission Class Values							
Product Type	Exterior Glazing	Airspace	Interior Glazing	STC	OITC	Additional Information	STC Report #
Clad Ultimate Outswing French Door							
CUOFD 6068	1/8″ (3.1) Tempered	1/2" (13)	1/8″ (3.1) Tempered	31	26		ESP018204P-26
CUOFD 6068	1/8″ (3.1) Tempered	7/16" (11.5)	5/32" (3.9) Tempered	33	28		ESP018204P-27
CUOFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (5.7) Tempered	35	30		ESP018204P-28
CUOFD 6068	1/4″ (5.7) Tempered	5/16″ (8)	1/4″ (5.7) Tempered	34	29		ESP018204P-29
CUOFD 6068	1/8″ (3.1) Tempered	3/8″ (9.8)	1/4″ (6) Lami	36	30		ESP018204P-30
CUOFD 6068	3/16″ (4.7) Tempered	5/16″ (8)	1/4″ (6) Lami	36	30		ESP018204P-32
CUOFD 6068	1/4″ (5.7) Tempered	5/16″ (8)	1/4″ (6) Lami	35	30		ESP018204P-33
CUOFD 6068	1/4″ (6) Lami	9/32″ (7)	1/4″ (6) Lami	36	31		ESP018204P-31
Clad Ultimate Outswing French Door IZ3							
COFD 6068 IZ3	1/8″ (3.1) Tempered	9/32″ (7)	11/32" (8.6) SGP	33	29	IZ3	ESP018204P-3
COFD 6068 IZ3	3/16″ (4.7) Tempered	1/4" (6.5)	11/32" (8.6) SGP	34	31	IZ3	ESP018204P-4
Clad Ultimate Marvin Multi Slide Door / Stacked							
Multi Panel Sliding Door CN6070 OX	3/16″ (4.7) Tempered	9/16" (14.5)	3/16″ (4.7) Tempered	30	27		ESP021984P-1
Multi Panel Sliding Door CN6070 OX	3/16″ (4.7) Tempered	1/2" (13.0)	1/4″ (5.7) Tempered	32	29		ESP021984P-3
Multi Panel Sliding Door CN6070 OX	1/4″ (5.7) Tempered	7/16″ (11.5)	1/4″ (5.7) Tempered	31	28		ESP021984P-4
Multi Panel Sliding Door CN6070 OX	3/16″ (4.7) Tempered	1/2" (13.0)	1/4″ (6.0) Lami	33	30		ESP021984P-5
Multi Panel Sliding Door CN6070 OX	1/4″ (6.0) Lami	9/32″ (7)	1/4″ (6.0) Lami	33	30		ESP021984P-2
Multi Panel Sliding Door CN6070 OX	3/16″ (4.7) Tempered	1/4" (11.5)	11/32" (8.6) SGP	31	29	IZ3	ESP021984P-7
Multi Panel Sliding Door CN6070 OX	1/4″ (5.7) Tempered	1/2" (13.0)	15/32" (11.7) SGP	32	30	IZ3	ESP021984P-6
Clad Simulated Double Hung Hopper							
CSDHHOP (1") FS 40 X 59.1"	3/16″ (4.7) Annealed	5/8″ (16)	3/16″ (4.7) Annealed	33	28		ESP017948P-1
CSDHHOP (1") FS 40 X 59.1"	1/8″ (3.1) Annealed	5/16″ (8)	1/8″ (3.1) Annealed	32	28	Tri-pane: two 5/16" air space with 1/8" center	ESP017948P-3
CSDHHOP (1") FS 40 X 59.1"	3/16″ (4.7) Annealed	9/16″ (14.5)	1/4″ (6) LAMI	36	32		ESP017948P-7
CSDHHOP (1") FS 40 X 59.1"	1/4" (5.7) Annealed	1/2″ (13)	1/4″ (6) LAMI	36	32		ESP017948P-5
CSDHHOP (1") FS 40 X 59.1"	1/4″ (6) LAMI	1/2″ (13)	1/4″ (6) LAMI	37	32		ESP017948P-17

Outdoor Areas of Activity Noise Level Calculations
HUD Barrier Performance Module
and Elevation Data from USGS National Map

Barrier Performance Module (BPM) Calculator

This module provides to the user a measure on the barrier's effectiveness on noise reduction. A list of the input/output variables and their definitions, as well as illustrations of different scenarios are provided.

Calculator

View Day/Night Noise Level Calculator (/programs/environmental-review/dnl-calculator/)

View Descriptions of the Input/Output variables.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the Input and Output variables with the mouse.

WARNING: If there is direct line-of-sight between the Source and the Observer, the module will report erroneous attenuation. "Direct line-of-sight" means if the 5' tall Observer can see the noise Source (cars, trucks, trains, etc.) over the Barrier (wall, hill/excavation, building, etc.), the current version of Barrier Performance Module will not accurately calculate the attenuation provided. In this instance, there is unlikely to be any appreciable attenuation.

Note: Barrier height must block the line of sight

Input Data

H	20	**R^1**	126
S	10	**D^1**	165
O	16	**α**	180

Calculate Output

Output Data

h	7	**R**	126
D	165	**FS**	9.2043

Reduction From Barrier (dB):

-9.2043

Note: If you have separate Road and Rail DNL values, please enter the values below to calculate the new combined Road/Rail DNL :

Road DNL:

73

Rail DNL:

Calculate

Combined Road/Rail DNL with Barrier Reduction:

63.7957

Input/Output Variables

Input Variables

The following variables and definitions from the barrier being assessed are the input required for the web-based barrier performance module:

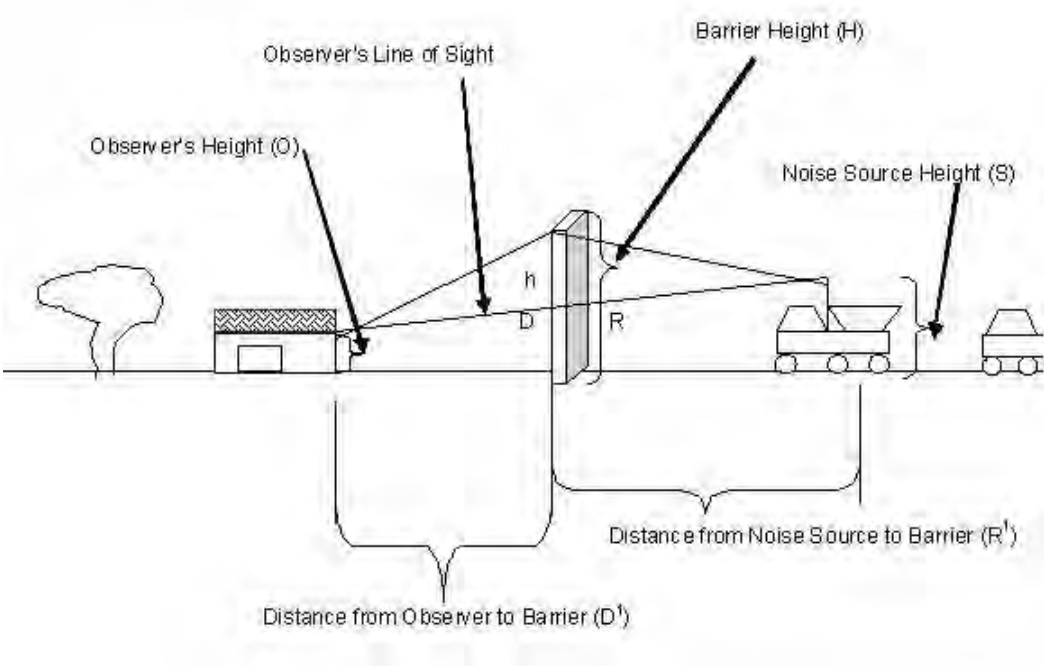
- H = Barrier Height
- S = Noise Source Height
- O = Observer Height (known as the receiver)
- R^1 = Distance from Noise Source to Barrier
- D^1 = Distance from the Observer to the Barrier
- α = Line of sight angle between the Observer and the Noise Source, subtended by the barrier at observer's location

Output Variables

Definitions of the output variables from the mitigation module of the Day/Night Noise Level Assessment Tools as part of the Assessment Tools for Environmental Compliance:

- h = The shortest distance from the barrier top to the line of sight from the Noise source to the Observer.
- R = Slant distance along the line of sight from the Barrier to the Noise Source
- D = Slant distance along the line of sight from the Barrier to the Observer

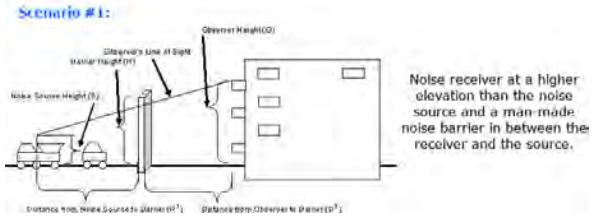
The “actual barrier performance for barriers of finite length” is noted on the worksheets(in the Guidebook) as **FS**.



Barrier Implementation Scenarios

Locate the cursor on the following thumbnails to enlarge the respective scenario as implementation examples of the barrier performance module.

Scenario #1:

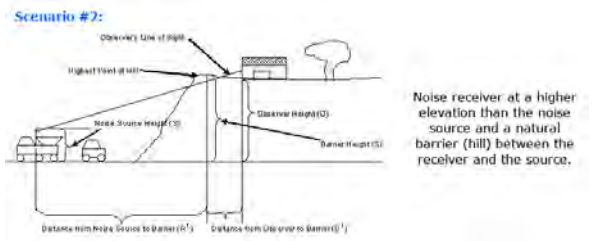


(https://www.hudexchange.info/resources/documents/Barrier-Performance-Module-Barrier-Implementation-Scenario-1.gif)

view larger version of image (/resource/3841/barrier-performance-module-bpm-barrier-implementation-scenarios/)

Noise receiver at a higher elevation than the noise source and a man-made noise barrier in between the receiver and the source.

Scenario #2:

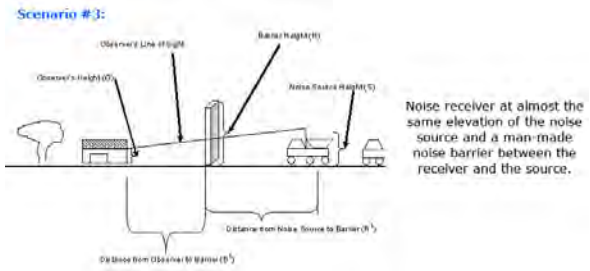


Noise receiver at a higher elevation than the noise source and a natural barrier (hill) between the receiver and the source.

documents/Barrier-Performance-Module-Barrier-Implementation-Scenario-2.gif)

view larger version of image (/resource/3841/barrier-performance-module-bpm-barrier-implementation-scenarios/)

Scenario #3:

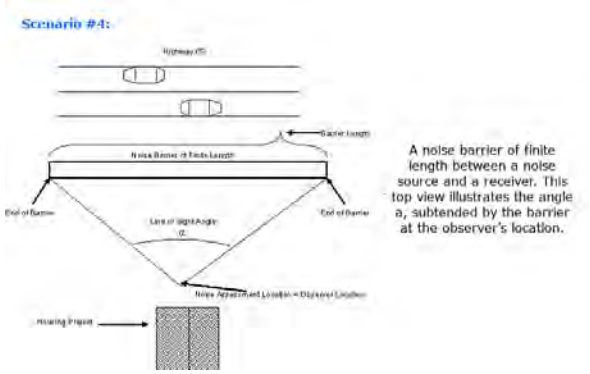


(https://www.hudexchange.info/resources/documents/Barrier-Performance-Module-Barrier-Implementation-Scenario-3.gif)

view larger version of image (/resource/3841/barrier-performance-module-bpm-barrier-implementation-scenarios/)

Noise receiver at almost the same elevation of the noise source and a man-made noise barrier between the receiver and the source.

Scenario #4:



(https://www.hudexchange.info/resources/documents/Barrier-Performance-Module-Barrier-Implementation-Scenario-4.gif)

view larger version of image (/resource/3841/barrier-performance-module-bpm-barrier-implementation-scenarios/)

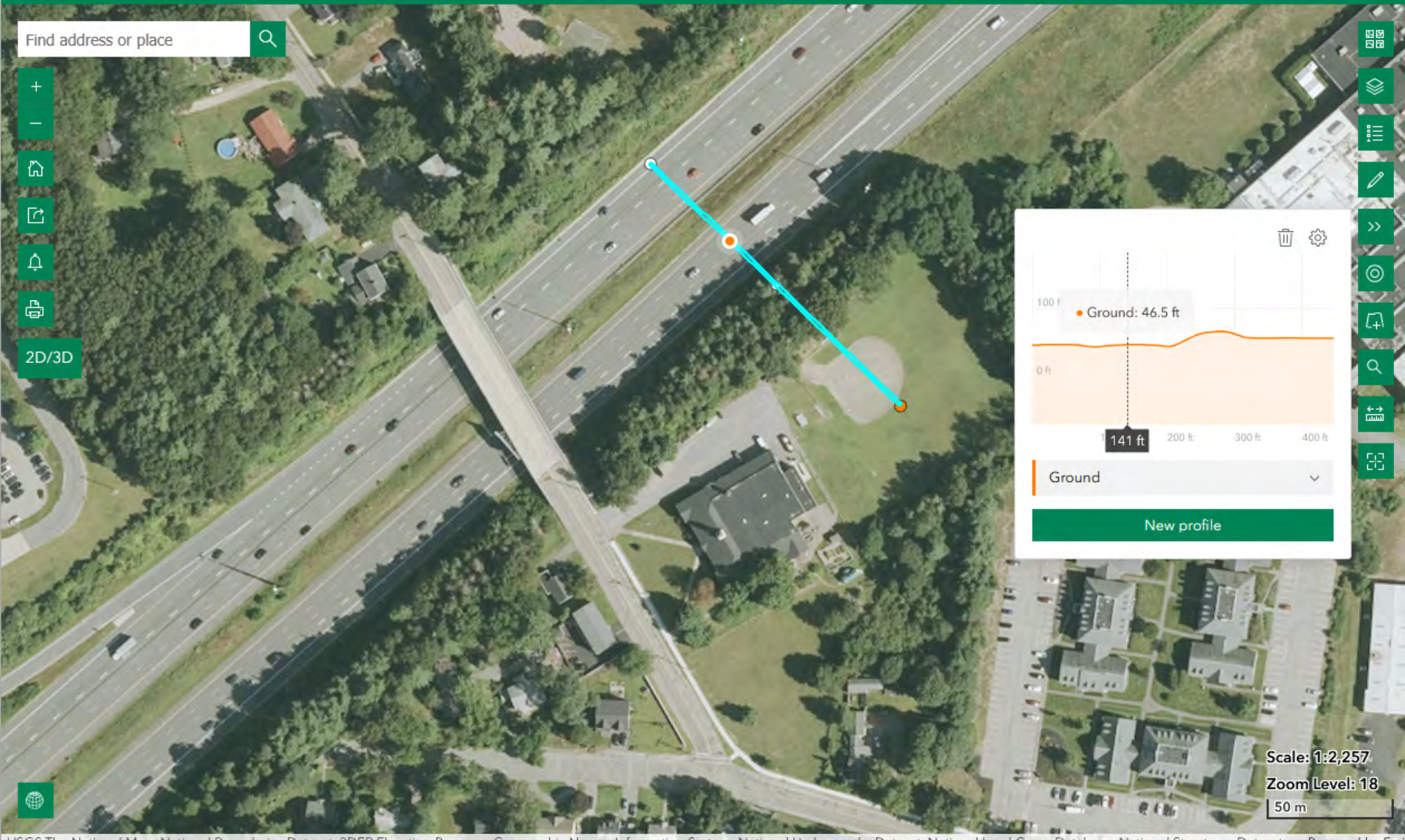
A noise barrier of finite length between a noise source and a receiver. This top view illustrates the angle α, subtended by the barrier at the observer's location.

Contents

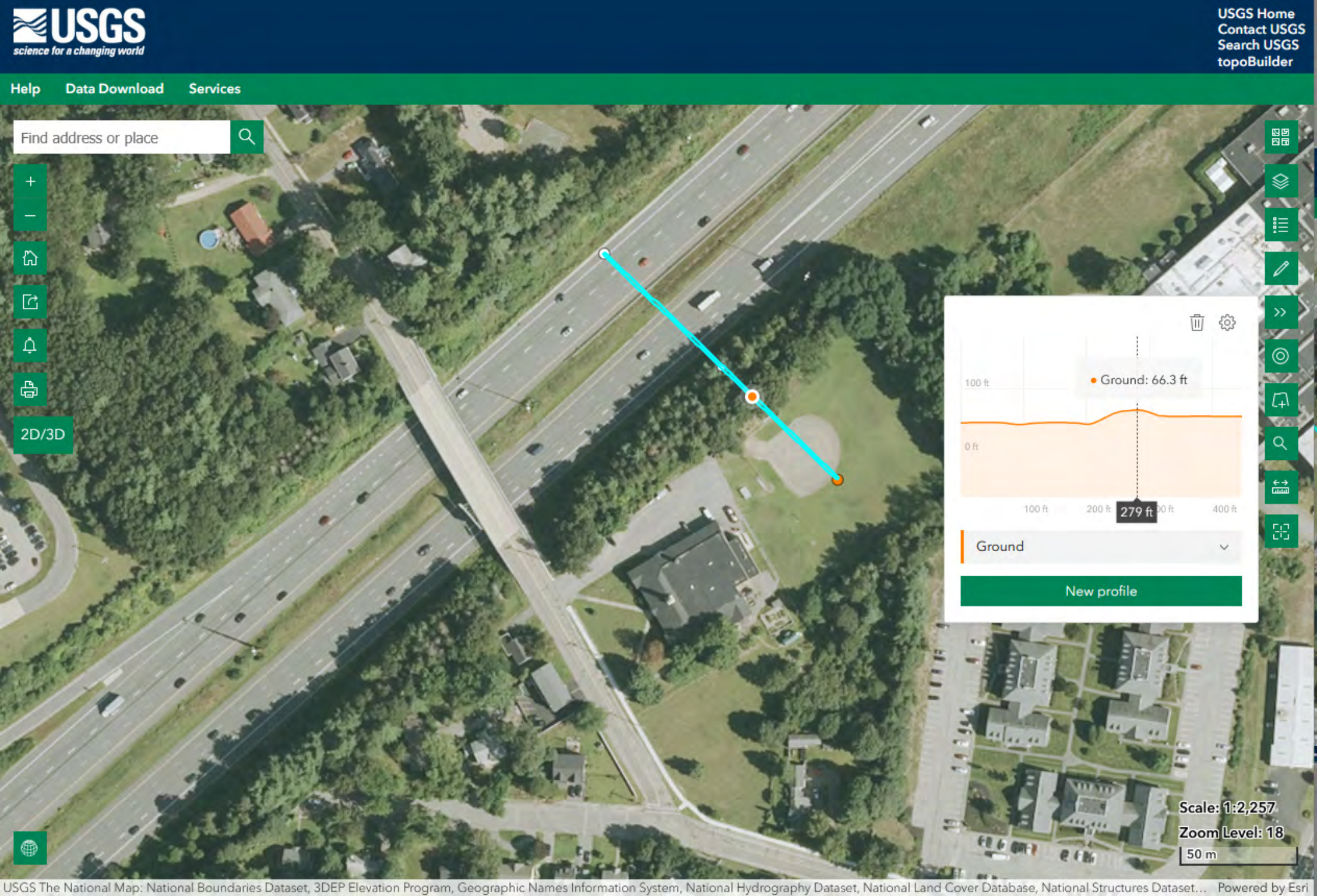
Calculator

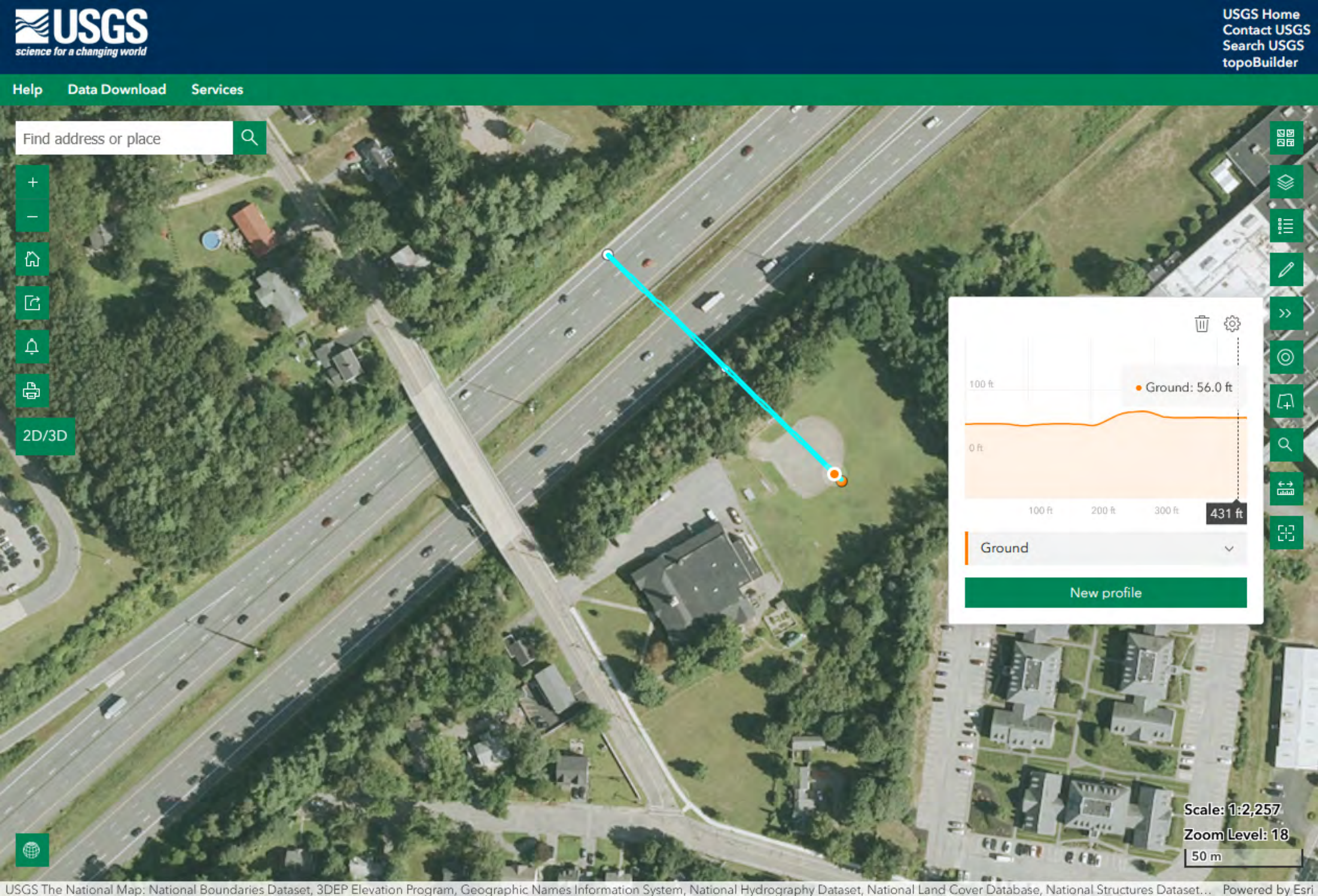
Input/Output Variables

Barrier Implementation Scenarios



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset... Powered by Esri


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Data Download
Services
Find address or place
2D/3D
Ground: 66.3 ft
100 ft
0 ft
100 ft
200 ft
279 ft
400 ft
Ground
New profile
Scale: 1:2,257
Zoom Level: 18
50 m
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset…
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Services
Find address or place
2D/3D
100 ft
Ground: 56.0 ft
0 ft
100 ft
200 ft
300 ft
431 ft
Ground
New profile
Scale: 1:2,257
Zoom Level: 18
50 m
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset...
Powered by Esri

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Irina Donskaia, MSC a division of TFMoran, Inc.
170 Commerce Way, Suite 102

Portsmouth, NH 03801

From: NH Natural Heritage Bureau
Date: 1/31/2023 (valid until 1/31/2024)
Re: Review by NH Natural Heritage Bureau of request submitted 1/23/2023
Permits: USEPA - Stormwater Pollution Prevention

NHB ID: **NHB23-0240** **Applicant:** Irina Donskaia

Location: Portsmouth
35 Sherburne Road

Project Description: Redevelopment of a School and associated property. To become multifamily unit workforce housing.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 1/23/2023 10:59:32 AM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

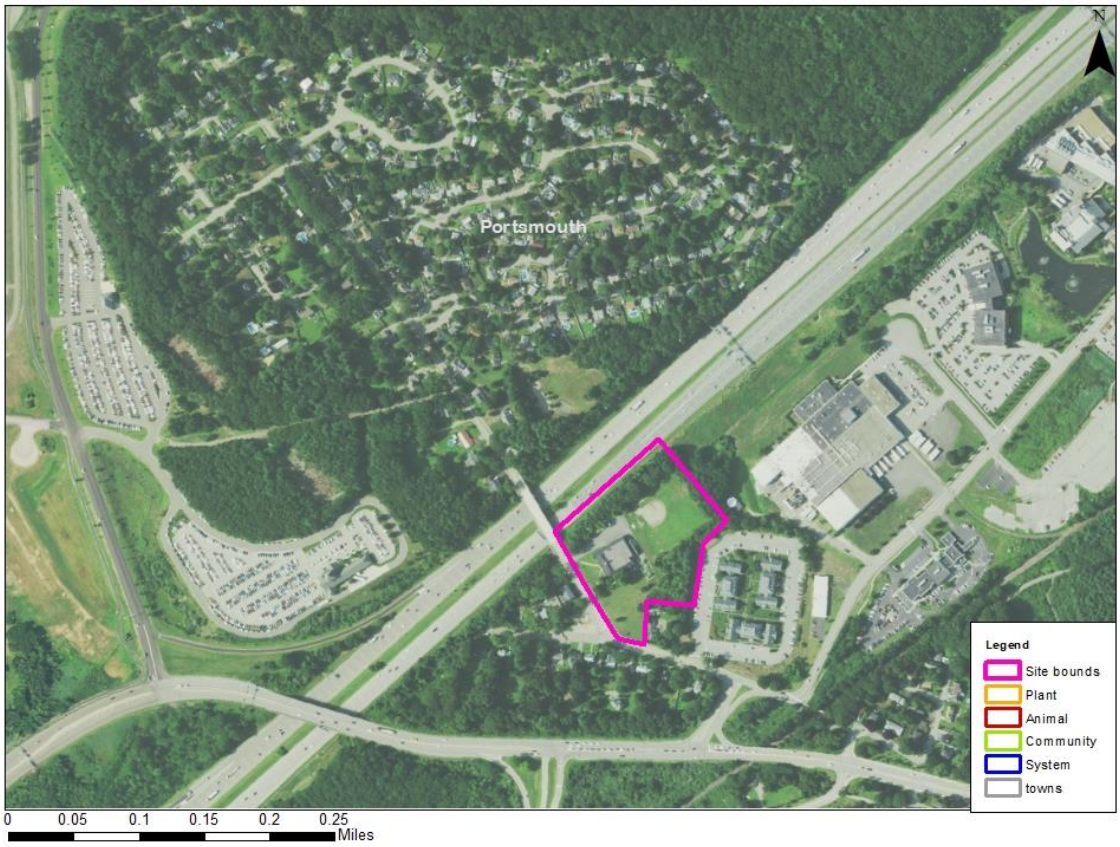
Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: **NHB23-0240**

NHB23-0240



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Jack McTigue

From: Patrick R. Howe <prhowe@portsmouthnh.gov>
Sent: Friday, July 25, 2025 11:34 AM
To: Jack McTigue
Subject: Re: Sherburne Road - TAC Comments - TFM PIN 47528.00

Looks good. Thank you.

Patrick R. Howe
Deputy Fire Chief
Portsmouth Fire Department
170 Court St.
Portsmouth, NH 03801
603.610.7350
prhowe@portsmouthnh.gov

From: Jack McTigue <jmctigue@tfmoran.com>
Sent: Friday, July 25, 2025 10:27 AM
To: Patrick R. Howe <prhowe@portsmouthnh.gov>
Subject: Sherburne Road - TAC Comments - TFM PIN 47528.00

You don't often get email from jmctigue@tfmoran.com. Learn why this is important

Mr. Howe,

Per our discussions at the July 1st TAC Meeting, we moved the two trees that impinged on the grass paver access and relocated the fire between the buildings to the northeast side of the grass paver access.

I have included a color up of the full build-out which shows all the tree locations. The fire hydrants are small on this plan, so I circled them with a red revision cloud.

Let us know if this meets your approval.

Thanks.

Sincerely,

Jack McTigue, PE, CPESC
Project Manager
Tel: (603) 431-2222
Cell: (603) 315-3078



Notice: Email Address Change
Our email domain has changed. Please use **@portsmouthnh.gov** instead of **@cityofportsmouth.com** for future communications. Thank you for your attention!

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Location Map: 250694 Portsmouth, NH

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
TF Moran	J. McTigue		Tues 7/15 thru Thurs 7/17/2025	250694	Portsmouth, NH

Sherburne Road
at I-95 Overpass
City, State: Portsmouth, NH
Client: TFMoran/ J. McTigue
Site Code: 47528.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Tuesday, July 15, 2025

Speed (60-minute)

NB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	1	1	3	3	0	0	0	0	0	0	0	0	8	31.9	27.8
1:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	30.3	28.5
2:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	31.4	30.0
3:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	38.0	38.0
4:00 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	4	32.1	30.0
5:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	2	39.9	35.0
6:00 AM	0	0	2	2	5	1	0	0	0	0	0	0	0	10	32.7	29.4
7:00 AM	0	0	5	9	11	6	0	0	0	0	0	0	0	31	35.5	30.0
8:00 AM	0	0	5	11	15	5	1	1	0	0	0	0	0	38	36.0	30.6
9:00 AM	0	1	2	13	19	11	0	0	0	0	0	0	0	46	36.0	30.8
10:00 AM	2	0	3	16	23	5	0	0	0	0	0	0	0	49	34.0	29.5
11:00 AM	0	1	4	26	19	9	0	0	0	0	0	0	0	59	34.3	29.6
12:00 PM	0	1	4	26	20	7	4	0	0	0	0	0	0	62	35.9	30.1
1:00 PM	0	3	4	21	25	5	1	0	0	0	0	0	0	59	33.3	29.4
2:00 PM	0	1	5	30	27	9	0	0	0	0	0	0	0	72	34.0	29.8
3:00 PM	0	0	10	26	39	12	0	0	0	0	0	0	0	87	34.0	30.3
4:00 PM	0	1	4	35	30	12	0	0	0	0	0	0	0	82	34.0	29.8
5:00 PM	0	0	5	28	39	16	1	0	0	0	0	0	0	89	35.0	30.9
6:00 PM	0	0	5	23	45	7	1	0	0	0	0	0	0	81	34.0	30.8
7:00 PM	0	1	4	26	20	3	1	0	0	0	0	0	0	55	33.0	29.2
8:00 PM	0	0	2	23	25	4	0	0	0	0	0	0	0	54	33.0	29.8
9:00 PM	0	1	4	10	8	6	0	0	0	0	0	0	0	29	35.0	29.1
10:00 PM	0	0	2	9	6	0	1	0	0	0	0	0	0	18	31.0	28.9
11:00 PM	0	0	2	4	3	2	0	0	0	0	0	0	0	11	34.0	29.5
Total	2	11	73	346	386	121	11	1	0	0	0	0	0	951	34.0	30.0
Percent	0.21%	1.16%	7.68%	36.38%	40.59%	12.72%	1.16%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%			
AM Peak	10:00 AM	12:00 AM	7:00 AM	11:00 AM	10:00 AM	9:00 AM	5:00 AM	8:00 AM						11:00 AM		
Volume	2	1	5	26	23	11	1	1	0	0	0	0	0	59		
PM Peak		1:00 PM	3:00 PM	4:00 PM	6:00 PM	5:00 PM	12:00 PM							5:00 PM		
Volume	0	3	10	35	45	16	4	0	0	0	0	0	0	89		

15th Percentile:	26.0 MPH	Average Speed:	30.0 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	30.0 MPH	10 MPH Pace:	25 to 34 MPH	Number of Vehicles > 30 MPH:	443
85th Percentile:	34.0 MPH	Number in Pace:	732	Percent of Vehicles > 30 MPH:	46.6%
95th Percentile:	37.0 MPH	Percent in Pace:	77.0%		

Sherburne Road
at I-95 Overpass
City, State: Portsmouth, NH
Client: TFMoran/ J. McTigue
Site Code: 47528.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Tuesday, July 15, 2025

Speed (60-minute)

SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33.0	33.0
3:00 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	4	37.6	34.5
4:00 AM	0	0	1	0	10	1	0	0	0	0	0	0	0	12	34.0	32.0
5:00 AM	0	0	2	7	9	6	0	0	0	0	0	0	0	24	36.0	30.8
6:00 AM	0	1	3	7	29	12	0	0	0	0	0	0	0	52	37.0	31.8
7:00 AM	1	1	3	13	40	17	1	0	0	0	0	0	0	76	35.0	31.7
8:00 AM	1	1	1	16	45	15	1	0	0	0	0	0	0	80	35.2	31.6
9:00 AM	0	1	1	9	34	11	0	0	0	0	0	0	0	56	35.8	31.7
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11:00 AM	2	0	2	18	21	11	0	0	0	0	0	0	0	54	35.0	30.3
12:00 PM	0	0	3	15	18	8	1	0	0	0	0	0	0	45	35.0	30.8
1:00 PM	2	1	3	19	19	4	0	0	0	0	0	0	0	48	33.0	28.9
2:00 PM	0	1	1	9	29	16	1	0	0	0	0	0	0	57	36.6	32.1
3:00 PM	5	1	6	15	18	16	2	0	0	0	0	0	0	63	36.0	29.5
4:00 PM	1	0	2	16	40	7	0	0	0	0	0	0	0	66	34.0	31.1
5:00 PM	2	0	3	9	33	11	1	0	0	0	0	0	0	59	35.0	30.7
6:00 PM	1	1	1	7	30	15	0	0	0	0	0	0	0	55	37.0	32.1
7:00 PM	0	0	1	10	17	6	0	0	0	0	0	0	0	34	35.0	31.3
8:00 PM	0	0	0	6	11	4	1	0	0	0	0	0	0	22	37.9	32.0
9:00 PM	0	1	1	1	6	7	0	0	0	0	0	0	0	16	36.8	32.1
10:00 PM	0	0	0	1	5	3	2	0	0	0	0	0	0	11	39.0	34.4
11:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	26.8	24.0
Total	17	10	38	192	441	177	10	0	0	0	0	0	0	885	35.4	31.1
Percent	1.92%	1.13%	4.29%	21.69%	49.83%	20.00%	1.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
AM Peak	10:00 AM	6:00 AM	6:00 AM	11:00 AM	8:00 AM	7:00 AM	7:00 AM							8:00 AM		
Volume	2	1	3	18	45	17	1	0	0	0	0	0	0	80		
PM Peak	3:00 PM	1:00 PM	3:00 PM	1:00 PM	4:00 PM	2:00 PM	3:00 PM							4:00 PM		
Volume	5	1	6	19	40	16	2	0	0	0	0	0	0	66		

15th Percentile:	27.0 MPH	Average Speed:	31.1 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	32.0 MPH	10 MPH Pace:	27 to 36 MPH	Number of Vehicles > 30 MPH:	566
85th Percentile:	35.4 MPH	Number in Pace:	688	Percent of Vehicles > 30 MPH:	64.0%
95th Percentile:	38.0 MPH	Percent in Pace:	77.7%		

Sherburne Road
at I-95 Overpass
City, State: Portsmouth, NH
Client: TFMoran/ J. McTigue
Site Code: 47528.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Tuesday, July 15, 2025

Speed (60-minute)

Combined NB and SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	1	1	3	3	0	0	0	0	0	0	0	0	8	31.9	27.8
1:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	30.3	28.5
2:00 AM	0	0	0	1	2	0	0	0	0	0	0	0	0	3	32.7	31.0
3:00 AM	0	0	0	0	2	3	0	0	0	0	0	0	0	5	38.0	35.2
4:00 AM	0	0	1	2	12	1	0	0	0	0	0	0	0	16	33.8	31.5
5:00 AM	0	0	2	8	9	6	1	0	0	0	0	0	0	26	36.0	31.1
6:00 AM	0	1	5	9	34	13	0	0	0	0	0	0	0	62	37.0	31.4
7:00 AM	1	1	8	22	51	23	1	0	0	0	0	0	0	107	35.0	31.2
8:00 AM	1	1	6	27	60	20	2	1	0	0	0	0	0	118	36.0	31.3
9:00 AM	0	2	3	22	53	22	0	0	0	0	0	0	0	102	36.0	31.3
10:00 AM	4	1	6	29	47	10	0	0	0	0	0	0	0	97	34.0	29.5
11:00 AM	2	1	6	44	40	20	0	0	0	0	0	0	0	113	35.0	29.9
12:00 PM	0	1	7	41	38	15	5	0	0	0	0	0	0	107	35.1	30.4
1:00 PM	2	4	7	40	44	9	1	0	0	0	0	0	0	107	33.0	29.2
2:00 PM	0	2	6	39	56	25	1	0	0	0	0	0	0	129	35.0	30.8
3:00 PM	5	1	16	41	57	28	2	0	0	0	0	0	0	150	36.0	30.0
4:00 PM	1	1	6	51	70	19	0	0	0	0	0	0	0	148	34.0	30.4
5:00 PM	2	0	8	37	72	27	2	0	0	0	0	0	0	148	35.0	30.8
6:00 PM	1	1	6	30	75	22	1	0	0	0	0	0	0	136	35.0	31.3
7:00 PM	0	1	5	36	37	9	1	0	0	0	0	0	0	89	34.0	30.0
8:00 PM	0	0	2	29	36	8	1	0	0	0	0	0	0	76	33.8	30.4
9:00 PM	0	2	5	11	14	13	0	0	0	0	0	0	0	45	36.0	30.2
10:00 PM	0	0	2	10	11	3	3	0	0	0	0	0	0	29	36.8	31.0
11:00 PM	0	0	3	5	3	2	0	0	0	0	0	0	0	13	32.8	28.7
Total	19	21	111	538	827	298	21	1	0	0	0	0	0	1836	35.0	30.5
Percent	1.03%	1.14%	6.05%	29.30%	45.04%	16.23%	1.14%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%			
AM Peak	10:00 AM	9:00 AM	7:00 AM	11:00 AM	8:00 AM	7:00 AM	8:00 AM	8:00 AM						8:00 AM		
Volume	4	2	8	44	60	23	2	1	0	0	0	0	0	118		
PM Peak	3:00 PM	1:00 PM	3:00 PM	4:00 PM	6:00 PM	3:00 PM	12:00 PM							3:00 PM		
Volume	5	4	16	51	75	28	5	0	0	0	0	0	0	150		

15th Percentile:	26.0 MPH	Average Speed:	30.5 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	31.0 MPH	10 MPH Pace:	27 to 36 MPH	Number of Vehicles > 30 MPH:	1009
85th Percentile:	35.0 MPH	Number in Pace:	1390	Percent of Vehicles > 30 MPH:	55.0%
95th Percentile:	37.0 MPH	Percent in Pace:	75.7%		

Sherburne Road
at I-95 Overpass
City, State: Portsmouth, NH
Client: TFMoran/ J. McTigue
Site Code: 47528.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Wednesday, July 16, 2025

Speed (60-minute)

NB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	1	0	1	0	1	1	0	0	0	0	0	0	4	40.3	32.0
1:00 AM	0	0	1	0	3	1	0	0	0	0	0	0	0	5	34.2	31.6
2:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	34.0	34.0
3:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	35.0	35.0
4:00 AM	0	0	0	2	1	0	0	0	0	0	0	0	0	3	31.1	29.7
5:00 AM	0	1	0	1	3	0	0	0	0	0	0	0	0	5	34.0	29.2
6:00 AM	0	0	0	2	6	2	0	0	0	0	0	0	0	10	35.0	31.5
7:00 AM	0	0	3	10	15	3	0	0	1	0	0	0	0	32	34.0	30.9
8:00 AM	0	0	1	12	17	1	0	0	0	0	0	0	0	31	33.0	30.0
9:00 AM	0	0	2	11	22	9	2	0	0	0	0	0	0	46	36.0	31.6
10:00 AM	0	0	5	14	26	5	0	0	0	0	0	0	0	50	33.0	29.9
11:00 AM	0	1	2	13	23	11	0	0	1	0	0	0	0	51	36.5	31.8
12:00 PM	0	0	5	19	35	13	1	1	0	0	0	0	0	74	35.0	30.9
1:00 PM	0	0	3	12	34	11	1	0	0	0	0	0	0	61	36.0	31.4
2:00 PM	0	0	4	17	40	15	0	1	0	0	0	0	0	77	35.6	31.7
3:00 PM	0	0	9	22	32	11	2	0	0	0	0	0	0	76	35.0	30.6
4:00 PM	0	1	5	26	31	10	4	0	0	0	0	0	0	77	35.0	30.6
5:00 PM	0	0	3	32	48	10	2	0	0	0	0	0	0	95	34.0	30.9
6:00 PM	1	1	0	18	29	6	3	0	0	0	0	0	0	58	34.5	30.9
7:00 PM	0	0	6	18	15	9	0	0	0	0	0	0	0	48	35.0	30.0
8:00 PM	0	0	2	26	21	8	0	1	0	0	0	0	0	58	34.5	30.2
9:00 PM	0	1	3	17	6	3	1	0	0	0	0	0	0	31	32.5	28.7
10:00 PM	0	0	0	9	7	1	1	0	0	0	0	0	0	18	31.9	29.8
11:00 PM	0	0	2	4	3	5	0	0	0	0	0	0	0	14	36.1	31.1
Total	1	6	56	286	418	136	18	3	2	0	0	0	0	926	35.0	30.8
Percent	0.11%	0.65%	6.05%	30.89%	45.14%	14.69%	1.94%	0.32%	0.22%	0.00%	0.00%	0.00%	0.00%			
AM Peak		12:00 AM	10:00 AM	10:00 AM	10:00 AM	11:00 AM	9:00 AM		7:00 AM					11:00 AM		
Volume	0	1	5	14	26	11	2	0	1	0	0	0	0	51		
PM Peak	6:00 PM	4:00 PM	3:00 PM	5:00 PM	5:00 PM	2:00 PM	4:00 PM	12:00 PM						5:00 PM		
Volume	1	1	9	32	48	15	4	1	0	0	0	0	0	95		

15th Percentile:	26.0 MPH	Average Speed:	30.8 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	31.0 MPH	10 MPH Pace:	27 to 36 MPH	Number of Vehicles > 30 MPH:	492
85th Percentile:	35.0 MPH	Number in Pace:	707	Percent of Vehicles > 30 MPH:	53.1%
95th Percentile:	38.0 MPH	Percent in Pace:	76.3%		

Sherburne Road
at I-95 Overpass
City, State: Portsmouth, NH
Client: TFMoran/ J. McTigue
Site Code: 47528.00

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Wednesday, July 16, 2025

Speed (60-minute)

SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28.0	28.0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3:00 AM	0	0	0	1	2	1	1	1	0	0	0	0	0	6	42.3	35.0
4:00 AM	0	1	4	0	4	0	0	0	0	0	0	0	0	9	32.0	25.9
5:00 AM	1	1	3	6	14	8	1	0	0	0	0	0	0	34	35.1	30.9
6:00 AM	2	0	4	4	19	10	2	0	0	0	0	0	0	41	36.0	31.1
7:00 AM	2	0	1	17	35	12	3	0	0	0	0	0	0	70	36.0	31.4
8:00 AM	1	1	1	17	54	6	0	1	0	0	0	0	0	81	34.0	31.0
9:00 AM	0	1	2	10	31	14	2	0	0	0	0	0	0	60	37.0	32.0
10:00 AM	0	3	0	16	27	4	0	0	0	0	0	0	0	50	33.0	30.0
11:00 AM	3	0	3	12	24	12	1	0	0	0	0	0	0	55	35.0	30.4
12:00 PM	0	1	1	16	35	18	0	1	0	0	0	0	0	72	35.0	31.9
1:00 PM	2	0	0	12	14	7	2	2	0	0	0	0	0	39	36.3	31.3
2:00 PM	0	0	4	16	18	14	0	0	0	0	0	0	0	52	36.0	31.2
3:00 PM	2	2	3	12	41	26	3	0	0	0	0	0	0	89	36.0	31.8
4:00 PM	2	1	2	8	25	26	1	0	0	0	0	0	0	65	38.0	32.4
5:00 PM	0	1	1	8	18	13	1	0	0	0	0	0	0	42	37.9	32.5
6:00 PM	0	1	3	13	25	9	1	0	0	0	0	0	0	52	35.0	31.0
7:00 PM	1	1	0	7	12	4	0	0	0	0	0	0	0	25	34.4	30.3
8:00 PM	1	0	0	7	11	0	0	0	0	0	0	0	0	19	31.3	29.0
9:00 PM	0	0	0	0	10	1	0	0	0	0	0	0	0	11	34.0	32.6
10:00 PM	0	0	0	2	4	1	0	0	0	0	0	0	0	7	32.3	30.6
11:00 PM	0	0	0	2	1	0	0	0	0	0	0	0	0	3	31.9	29.3
Total	17	14	32	187	424	186	18	5	0	0	0	0	0	883	36.0	31.3
Percent	1.93%	1.59%	3.62%	21.18%	48.02%	21.06%	2.04%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%			
AM Peak	11:00 AM	10:00 AM	4:00 AM	7:00 AM	8:00 AM	9:00 AM	7:00 AM	3:00 AM						8:00 AM		
Volume	3	3	4	17	54	14	3	1	0	0	0	0	0	81		
PM Peak	1:00 PM	3:00 PM	2:00 PM	12:00 PM	3:00 PM	3:00 PM	3:00 PM	1:00 PM						3:00 PM		
Volume	2	2	4	16	41	26	3	2	0	0	0	0	0	89		

15th Percentile:	28.0 MPH	Average Speed:	31.3 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	32.0 MPH	10 MPH Pace:	27 to 36 MPH	Number of Vehicles > 30 MPH:	564
85th Percentile:	36.0 MPH	Number in Pace:	698	Percent of Vehicles > 30 MPH:	63.9%
95th Percentile:	38.0 MPH	Percent in Pace:	79.0%		

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Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Wednesday, July 16, 2025

Speed (60-minute)

Combined NB and SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	1	0	1	0	1	1	0	0	0	0	0	0	4	40.3	32.0
1:00 AM	0	0	1	1	3	1	0	0	0	0	0	0	0	6	33.8	31.0
2:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	34.0	34.0
3:00 AM	0	0	0	1	2	2	1	1	0	0	0	0	0	7	41.5	35.0
4:00 AM	0	1	4	2	5	0	0	0	0	0	0	0	0	12	32.0	26.8
5:00 AM	1	2	3	7	17	8	1	0	0	0	0	0	0	39	35.0	30.6
6:00 AM	2	0	4	6	25	12	2	0	0	0	0	0	0	51	36.0	31.2
7:00 AM	2	0	4	27	50	15	3	0	1	0	0	0	0	102	35.0	31.3
8:00 AM	1	1	2	29	71	7	0	1	0	0	0	0	0	112	34.0	30.7
9:00 AM	0	1	4	21	53	23	4	0	0	0	0	0	0	106	36.3	31.8
10:00 AM	0	3	5	30	53	9	0	0	0	0	0	0	0	100	33.0	29.9
11:00 AM	3	1	5	25	47	23	1	0	1	0	0	0	0	106	35.3	31.1
12:00 PM	0	1	6	35	70	31	1	2	0	0	0	0	0	146	35.0	31.4
1:00 PM	2	0	3	24	48	18	3	2	0	0	0	0	0	100	36.0	31.4
2:00 PM	0	0	8	33	58	29	0	1	0	0	0	0	0	129	36.0	31.5
3:00 PM	2	2	12	34	73	37	5	0	0	0	0	0	0	165	36.0	31.2
4:00 PM	2	2	7	34	56	36	5	0	0	0	0	0	0	142	36.0	31.4
5:00 PM	0	1	4	40	66	23	3	0	0	0	0	0	0	137	35.0	31.4
6:00 PM	1	2	3	31	54	15	4	0	0	0	0	0	0	110	35.0	30.9
7:00 PM	1	1	6	25	27	13	0	0	0	0	0	0	0	73	35.0	30.1
8:00 PM	1	0	2	33	32	8	0	1	0	0	0	0	0	77	33.0	29.9
9:00 PM	0	1	3	17	16	4	1	0	0	0	0	0	0	42	34.0	29.7
10:00 PM	0	0	0	11	11	2	1	0	0	0	0	0	0	25	32.4	30.0
11:00 PM	0	0	2	6	4	5	0	0	0	0	0	0	0	17	36.0	30.8
Total	18	20	88	473	842	322	36	8	2	0	0	0	0	1809	35.0	31.0
Percent	1.00%	1.11%	4.86%	26.15%	46.55%	17.80%	1.99%	0.44%	0.11%	0.00%	0.00%	0.00%	0.00%			
AM Peak	11:00 AM	10:00 AM	10:00 AM	10:00 AM	8:00 AM	9:00 AM	9:00 AM	3:00 AM	7:00 AM					8:00 AM		
Volume	3	3	5	30	71	23	4	1	1	0	0	0	0	112		
PM Peak	1:00 PM	3:00 PM	3:00 PM	5:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM						3:00 PM		
Volume	2	2	12	40	73	37	5	2	0	0	0	0	0	165		

15th Percentile:	27.0 MPH	Average Speed:	31.0 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	31.0 MPH	10 MPH Pace:	27 to 36 MPH	Number of Vehicles > 30 MPH:	1056
85th Percentile:	35.0 MPH	Number in Pace:	1405	Percent of Vehicles > 30 MPH:	58.4%
95th Percentile:	38.0 MPH	Percent in Pace:	77.7%		

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Site Code: 47528.00

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Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 250694 ATR-A (Speed)

Count Date
Thursday, July 17, 2025

Speed (60-minute)

NB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	3	2	1	0	0	0	0	0	0	0	6	33.8	30.3
1:00 AM	0	0	1	1	0	1	0	0	0	0	0	0	0	3	33.2	28.7
2:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	24.8	22.0
3:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	45.0	45.0
4:00 AM	0	0	0	2	1	0	0	0	0	0	0	0	0	3	31.5	29.0
5:00 AM	0	0	0	0	4	1	0	0	0	0	0	0	0	5	34.4	33.0
6:00 AM	0	0	0	6	3	4	0	0	0	0	0	0	0	13	35.2	30.2
7:00 AM	1	0	5	11	16	3	0	0	0	0	0	0	0	36	34.0	29.2
8:00 AM	0	0	0	27	18	11	0	0	0	0	0	0	0	56	35.0	30.3
9:00 AM	0	1	3	22	28	6	2	0	0	0	0	0	0	62	33.9	30.0
10:00 AM	0	0	3	20	17	9	0	0	0	0	0	0	0	49	35.0	30.6
11:00 AM	0	1	8	19	24	11	0	0	0	0	0	0	0	63	35.0	30.0
12:00 PM	0	0	5	23	34	17	0	0	0	0	0	0	0	79	35.0	30.8
1:00 PM	0	0	5	20	16	9	0	0	0	0	0	0	0	50	35.0	30.2
2:00 PM	0	0	6	33	28	8	1	1	1	0	0	0	0	78	34.0	30.4
3:00 PM	0	0	10	31	37	6	0	0	0	0	0	0	0	84	33.0	29.4
4:00 PM	0	1	9	38	33	8	1	0	0	0	0	0	0	90	33.0	29.5
5:00 PM	0	0	2	20	28	20	2	0	0	0	0	0	0	72	36.4	32.1
6:00 PM	1	1	4	23	29	11	0	0	0	0	0	0	0	69	34.8	30.1
7:00 PM	0	0	1	17	23	6	0	0	0	0	0	0	0	47	34.0	30.7
8:00 PM	0	1	5	23	14	6	0	0	0	0	0	0	0	49	32.0	29.2
9:00 PM	0	0	1	11	16	3	2	0	0	0	0	0	0	33	33.4	30.8
10:00 PM	0	0	1	6	6	1	0	0	0	0	0	0	0	14	34.0	29.5
11:00 PM	0	0	2	4	2	3	0	0	0	0	0	0	0	11	36.5	29.6
Total	2	6	71	361	379	145	8	2	1	0	0	0	0	975	35.0	30.2
Percent	0.21%	0.62%	7.28%	37.03%	38.87%	14.87%	0.82%	0.21%	0.10%	0.00%	0.00%	0.00%	0.00%			
AM Peak	7:00 AM	2:00 AM	11:00 AM	8:00 AM	9:00 AM	8:00 AM	9:00 AM	3:00 AM						11:00 AM		
Volume	1	1	8	27	28	11	2	1	0	0	0	0	0	63		
PM Peak	6:00 PM	4:00 PM	3:00 PM	4:00 PM	3:00 PM	5:00 PM	5:00 PM	2:00 PM	2:00 PM					4:00 PM		
Volume	1	1	10	38	37	20	2	1	1	0	0	0	0	90		

15th Percentile:	26.0 MPH	Average Speed:	30.2 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	30.0 MPH	10 MPH Pace:	26 to 35 MPH	Number of Vehicles > 30 MPH:	457
85th Percentile:	35.0 MPH	Number in Pace:	758	Percent of Vehicles > 30 MPH:	46.9%
95th Percentile:	37.0 MPH	Percent in Pace:	77.7%		

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Thursday, July 17, 2025

Speed (60-minute)

SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	3	34.5	32.7
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
3:00 AM	0	0	0	0	2	0	2	0	0	0	0	0	0	4	40.6	36.5
4:00 AM	0	0	0	2	2	1	0	0	0	0	0	0	0	5	34.8	32.0
5:00 AM	0	0	1	10	13	12	0	0	0	0	0	0	0	36	36.0	32.0
6:00 AM	1	1	0	9	20	21	3	0	0	0	0	0	0	55	37.0	32.8
7:00 AM	0	1	2	17	42	9	0	0	0	0	0	0	0	71	33.5	30.7
8:00 AM	2	2	2	21	47	8	0	0	0	0	0	0	0	82	34.0	30.3
9:00 AM	1	0	3	16	26	9	0	1	0	0	0	0	0	56	35.0	30.6
10:00 AM	2	0	2	11	38	13	2	0	0	0	0	0	0	68	36.0	31.3
11:00 AM	1	0	2	13	20	5	3	0	0	0	0	0	0	44	35.0	30.8
12:00 PM	0	2	2	21	34	9	3	0	0	0	0	0	0	71	36.0	30.6
1:00 PM	1	1	4	17	17	7	1	0	0	0	0	0	0	48	35.0	29.6
2:00 PM	0	0	3	12	26	8	1	0	0	0	0	0	0	50	35.7	31.7
3:00 PM	0	2	2	18	33	14	0	1	0	0	0	0	0	70	35.0	31.3
4:00 PM	2	2	0	20	27	8	3	0	0	0	0	0	0	62	35.0	30.6
5:00 PM	2	0	4	15	23	14	2	1	0	0	0	0	0	61	37.0	31.2
6:00 PM	0	1	2	7	22	11	1	0	0	0	0	0	0	44	35.0	32.2
7:00 PM	0	0	0	4	9	5	1	0	0	0	0	0	0	19	37.6	32.9
8:00 PM	0	0	0	6	9	2	2	0	0	0	0	0	0	19	35.0	31.7
9:00 PM	0	1	1	4	8	2	0	0	0	0	0	0	0	16	33.0	29.8
10:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	29.9	29.5
11:00 PM	0	0	0	1	4	0	0	0	0	0	0	0	0	5	33.4	31.4
Total	12	13	30	225	425	159	24	3	0	0	0	0	0	891	35.0	31.1
Percent	1.35%	1.46%	3.37%	25.25%	47.70%	17.85%	2.69%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%			
AM Peak	8:00 AM	8:00 AM	9:00 AM	8:00 AM	8:00 AM	6:00 AM	6:00 AM	9:00 AM						8:00 AM		
Volume	2	2	3	21	47	21	3	1	0	0	0	0	0	82		
PM Peak	4:00 PM	12:00 PM	1:00 PM	12:00 PM	12:00 PM	3:00 PM	12:00 PM	3:00 PM						12:00 PM		
Volume	2	2	4	21	34	14	3	1	0	0	0	0	0	71		

15th Percentile:	27.0 MPH	Average Speed:	31.1 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	31.0 MPH	10 MPH Pace:	27 to 36 MPH	Number of Vehicles > 30 MPH:	542
85th Percentile:	35.0 MPH	Number in Pace:	691	Percent of Vehicles > 30 MPH:	60.8%
95th Percentile:	39.0 MPH	Percent in Pace:	77.6%		

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Combined NB and SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	3	4	2	0	0	0	0	0	0	0	9	35.4	31.1
1:00 AM	0	0	1	1	0	1	0	0	0	0	0	0	0	3	33.2	28.7
2:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	24.8	22.0
3:00 AM	0	0	0	0	2	0	2	1	0	0	0	0	0	5	42.6	38.2
4:00 AM	0	0	0	4	3	1	0	0	0	0	0	0	0	8	34.0	30.9
5:00 AM	0	0	1	10	17	13	0	0	0	0	0	0	0	41	36.0	32.1
6:00 AM	1	1	0	15	23	25	3	0	0	0	0	0	0	68	37.0	32.3
7:00 AM	1	1	7	28	58	12	0	0	0	0	0	0	0	107	34.0	30.2
8:00 AM	2	2	2	48	65	19	0	0	0	0	0	0	0	138	34.0	30.3
9:00 AM	1	1	6	38	54	15	2	1	0	0	0	0	0	118	34.5	30.3
10:00 AM	2	0	5	31	55	22	2	0	0	0	0	0	0	117	36.0	31.0
11:00 AM	1	1	10	32	44	16	3	0	0	0	0	0	0	107	35.0	30.3
12:00 PM	0	2	7	44	68	26	3	0	0	0	0	0	0	150	35.0	30.7
1:00 PM	1	1	9	37	33	16	1	0	0	0	0	0	0	98	35.0	29.9
2:00 PM	0	0	9	45	54	16	2	1	1	0	0	0	0	128	35.0	30.9
3:00 PM	0	2	12	49	70	20	0	1	0	0	0	0	0	154	34.0	30.3
4:00 PM	2	3	9	58	60	16	4	0	0	0	0	0	0	152	34.0	29.9
5:00 PM	2	0	6	35	51	34	4	1	0	0	0	0	0	133	37.0	31.7
6:00 PM	1	2	6	30	51	22	1	0	0	0	0	0	0	113	35.0	30.9
7:00 PM	0	0	1	21	32	11	1	0	0	0	0	0	0	66	36.0	31.3
8:00 PM	0	1	5	29	23	8	2	0	0	0	0	0	0	68	33.9	29.9
9:00 PM	0	1	2	15	24	5	2	0	0	0	0	0	0	49	33.0	30.4
10:00 PM	0	0	1	7	7	1	0	0	0	0	0	0	0	16	33.8	29.5
11:00 PM	0	0	2	5	6	3	0	0	0	0	0	0	0	16	35.5	30.2
Total	14	19	101	586	804	304	32	5	1	0	0	0	0	1866	35.0	30.6
Percent	0.75%	1.02%	5.41%	31.40%	43.09%	16.29%	1.71%	0.27%	0.05%	0.00%	0.00%	0.00%	0.00%			
AM Peak	8:00 AM	8:00 AM	11:00 AM	8:00 AM	8:00 AM	6:00 AM	6:00 AM	3:00 AM						8:00 AM		
Volume	2	2	10	48	65	25	3	1	0	0	0	0	0	138		
PM Peak	4:00 PM	4:00 PM	3:00 PM	4:00 PM	3:00 PM	5:00 PM	4:00 PM	2:00 PM	2:00 PM					3:00 PM		
Volume	2	3	12	58	70	34	4	1	1	0	0	0	0	154		

15th Percentile:	27.0 MPH	Average Speed:	30.6 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	31.0 MPH	10 MPH Pace:	26 to 35 MPH	Number of Vehicles > 30 MPH:	999
85th Percentile:	35.0 MPH	Number in Pace:	1442	Percent of Vehicles > 30 MPH:	53.5%
95th Percentile:	38.0 MPH	Percent in Pace:	77.3%		

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

JANUARY 29, 2025
LAST REVISED JULY 23, 2025

GENERAL INFORMATION

OWNER
MAP 259 LOT 10
CITY OF PORTSMOUTH
PO BOX 628
PORTSMOUTH, NH 03801

APPLICANT
PHA HOUSING DEVELOPMENT LTD.
CRAIG WELCH
245 MIDDLE STREET
PORTSMOUTH, NH 03801

RESOURCE LIST

PLANNING/ZONING DEPARTMENT
1JUNKINS AVE, 3RD FLOOR
PORTSMOUTH, NH 03801
603-610-7216
PETER BRITZ, DIRECTOR

BUILDING DEPARTMENT
1JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7243
SHANTI WOLPH, CHIEF BUILDING INSPECTOR

PUBLIC WORKS
680 PEVERLY HILL RD,
PORTSMOUTH, NH 03801
603-427-1530
PETER RICE, DIRECTOR

POLICE DEPARTMENT
3JUNKINS AVE, STE 1
PORTSMOUTH, NH 03801
603-427-1500
MARK NEWPORT, CHIEF

FIRE DEPARTMENT
170 COURT ST
PORTSMOUTH, NH 03801
603-427-1515
WILLIAM MCQUILLEN, FIRE CHIEF

NHDES AOT
29 HAZEN DR
CONCORD, NH 03302-0095
603-271-3503

ASSOCIATED PROFESSIONALS

ARCHITECT
MARKET SQUARE ARCHITECTS
104 CONGRESS STREET, SUITE 203
PORTSMOUTH, NH 03801
603-330-3537
ROBERT HARBESON, AIA, PRINCIPAL

ENVIRONMENTAL SERVICES
SRW ENVIRONMENTAL CONSULTING, LLC
143 ROCHESTER HILL ROAD
ROCHESTER, NH 03867
TODD SCHEFFER, P.G., PRINCIPAL
603-330-3537

GEOTECHNICAL SERVICES
GEOTECHNICAL SERVICES, INC.
55 NORTH STARK HIGHWAY
WEARE, NH 03281
HARRY K. WETHERBEE, PE, PRINCIPAL
603-529-7766

TRAFFIC ENGINEER
TFMORAN, INC
48 CONSTITUTION DRIVE
BEDFORD, NH 03110
603-472-4488
JENNIFER PORTER, TRAFFIC ENGINEER

LIGHTING DESIGN
EXPOSURE
501 ISLINGTON ST., UNIT 1A
PORTSMOUTH, NH 03801
603 759-1043
KEN SWEENEY, APPLICATION ENGINEER



HORIZONTAL SCALE 1"=500'
500 250 0 500

INDEX OF SHEETS

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C-03	SITE PREPARATION & DEMOLITION PLAN PROJECT 2
C-04	SITE LAYOUT PLAN PROJECT 1
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-	ARCHITECTURAL ELEVATION PLAN

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
PORTSMOUTH PLANNING BOARD SITE PLAN REVIEW APPROVAL	-	-	-
NHDES AOT PERMIT	-	-	-
NHDES SEWER CONNECTION PERMIT	-	-	-
EPA NPDES ENOI CGP & SWPPP	-	-	-

APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10
COVER
PROPOSED HOUSING DEVELOPMENT
35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE
OWNED BY
CITY OF PORTSMOUTH
PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

SCALE: NTS **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	JKC	FB		
47528.00	CK	JJM	CADFILE	47528-00_COVER	C-00

Jul 30, 2025 - 12:48 jm
F:\MSC Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-00 Cover.dwg

LEGEND

PROPOSED

- PROPERTY LINE
- ZONING LINE
- EASEMENT
- BASELINE
- FLOODPLAIN
- EDGE OF WATERBODY
- EDGE OF WETLAND
- SETBACK (WETLAND)
- SETBACK (STRUCTURE)
- SETBACK (PARKING)
- SETBACK (LANDSCAPE)
- GRAVEL ROAD
- EOP — EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB
- CC — CONCRETE CURB
- ICC — INTEGRATED CONCRETE CURB
- BIT — BITUMINOUS ASPHALT CURB
- CCB — CAPE COD BERM
- SAWCUT
- BUILDING
- BUILDING ROOF OVERHANG
- BUILDING FOUNDATION
- BUILDING ENTRANCE
- OVERHEAD DOOR
- TREE LINE
- FENCE (CHAIN LINK)
- FENCE (WIRE)
- FENCE (STOCKADE)
- GUARDRAIL
- STONE WALL
- RETAINING WALL
- SF — SILT FENCE
- SS — SILT SOCK
- XXXX — SOIL BOUNDARY
- LIMIT OF GRADING
- 100 — CONTOUR
- TC100.50 / BC100.00 OR 100.00 — SPOT GRADE
- ## — PARKING COUNT
- DSLY — YELLOW DOUBLE SOLID LINE
- SSLY — YELLOW SINGLE SOLID LINE
- SSLW — WHITE SINGLE SOLID LINE
- SBLW — WHITE SINGLE BROKEN LINE
- STOP — STOP BAR
- CROSSWALK
- ACCESSIBLE PARKING SYMBOL
- PAVEMENT ARROW
- TRAFFIC FLOW ARROW (NOT PAINTED)
- SIGN (SINGLE POST)
- SIGN (DOUBLE POST)
- SIGN (PYLON)
- SIGN (MONUMENT)
- BOLLARD
- D — DUMPSTER PAD

PROPOSED

- CONCRETE
- GRAVEL
- HEAVY DUTY PAVEMENT
- CONSTRUCTION ENTRANCE
- SNOW STORAGE
- RIPRAP
- INLET PROTECTION
- FLOW ARROW
- D — DRAIN LINE
- DRAINAGE SWALE
- STORMWATER BMP
- S — SEWER LINE
- FM — SEWER FORCE MAIN LINE
- W — WATER LINE
- G — GAS LINE
- OHE — OVERHEAD UTILITY LINE
- UGE — UNDERGROUND UTILITY LINE
- CATCH BASIN
- DRAIN INLET
- OUTLET CONTROL STRUCTURE
- ROOF DRAIN
- DRAIN CLEANOUT
- DRAIN MANHOLE
- FARED END SECTION
- SEWER CLEAN OUT
- SEWER MANHOLE
- SEWER VENT
- DRAIN/SEWER/WATER PLUG OR CAP
- HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER GATE VALVE
- WATER SHUTOFF
- THRUST BLOCK
- WATER METER
- WATER MANHOLE
- WELL
- GAS GATE VALVE
- GAS SHUT OFF
- GAS METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- TRAFFIC CONTROL CABINET
- ELECTRIC HANDHOLE
- ELECTRIC PULL BOX
- ELECTRIC METER
- FLOOD LIGHT
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- T — TRANSFORMER PAD
- B-# — BORING LOCATION
- TP-# — TEST PIT LOCATION
- IT-# — INFILTRATION TEST LOCATION
- MW-# — MONITORING WELL

ABBREVIATIONS

GENERAL

ABAN	ABANDON
AC	ACRES
ADJ	ADJUST
APPROX	APPROXIMATE
BC	BOTTOM OF CURB
BIT	BITUMINOUS
BK/PG	BOOK & PAGE
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
BS	BOTTOM OF SLOPE
BW	BOTTOM OF WALL
CONC	CONCRETE
COORD	COORDINATE
DIA	DIAMETER
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FFE	FINISHED FLOOR ELEVATION
FND	FOUNDATION
HP	HIGH POINT
INV	INVERT ELEVATION
IT	INFILTRATION TEST
L	LENGTH
LF	LINEAR FEET
LSA	LANDSCAPE AREA
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
NHFG	NEW HAMPSHIRE FISH & GAME
NTS	NOT TO SCALE
OC	ON CENTER
PAVE	PAVEMENT
PERF	PERFORATED
PROP	PROPOSED
R	RADIUS
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
REM	REMOVE
RET	RETAIN
RIM	RIM ELEVATION
ROW	RIGHT OF WAY
S	SLOPE
SF	SQUARE FEET
SW	SIDEWALK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TP	TEST PIT
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
WCR	ACCESSIBLE WHEELCHAIR RAMP
W/	WITH

UTILITIES

CB	CATCH BASIN
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COND	CONDUIT
DCB	DOUBLE CATCH BASIN
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FES	FLARED END SECTION
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
LP	LIGHT POLE
OCS	OUTLET CONTROL STRUCTURE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
SOS	SEDIMENT OIL SEPARATOR
TSV	TAPPING SLEEVE, VALVE, AND BOX
UP	UTILITY POLE

GENERAL NOTES

1. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
2. THE SITE CONTRACTOR SHALL NOTIFY THE ENGINEER ONE WEEK IN ADVANCE OF CONSTRUCTION OF EACH STORMWATER FACILITY TO COORDINATE REQUIRED INSPECTIONS. THE CONTRACTOR SHALL TAKE PROGRESS PHOTOS DURING CONSTRUCTION OF ALL STORMWATER DRAINAGE COMPONENTS AND SEND TO THE ENGINEER.
3. SEE EXISTING CONDITIONS PLAN FOR THE HORIZONTAL AND VERTICAL DATUM. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
4. CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN EASEMENTS.
5. PRIOR TO COMMENCING ANY SITE WORK, ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.
6. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
7. TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
8. PRIOR WRITTEN PERMISSION FROM THE LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.
9. REFER TO ARCHITECTURAL PLANS FOR LAYOUT OF BUILDING FOUNDATIONS AND CONCRETE ELEMENTS WHICH ABUT THE BUILDING SUCH AS STAIRS, SIDEWALKS, LOADING DOCK RAMPS, PADS, AND COMPACTOR PADS. DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.
10. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
11. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
12. CONTRACTOR'S GENERAL RESPONSIBILITIES:
    - A. BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS AND CONDITIONS OF ALL PROJECT-SPECIFIC PERMITS AND APPROVALS AS LISTED ON THE COVER SHEET TO THESE PLANS OR OTHERWISE REQUIRED.
    - B. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES IN PROPOSED LAYOUT AND IN EXISTING FEATURES.
    - C. EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.
    - D. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. NOTIFY ALL APPROPRIATE AUTHORITY OF CONSTRUCTION ACTIVITIES REQUIRING TESTS OR INSPECTIONS IN ADVANCE.
    - E. TAKE APPROPRIATE MEASURES TO MINIMIZE NOISE, DUST, AND DEBRIS. CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT BETWEEN THE HOURS OF 7:00 AM AND 5:00 PM, MONDAY THROUGH FRIDAY IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, PORTSMOUTH, NEW HAMPSHIRE.
    - F. MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
    - G. IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
    - H. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
    - I. PROTECT NEW AND EXISTING BURIED UTILITIES DURING ALL SITE WORK. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
    - J. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
    - K. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED OR COORDINATE DIMENSIONS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
    - L. PROVIDE AN AS-BUILT PLAN AT THE COMPLETION OF THE PROJECT AS REQUIRED BY CITY REGULATIONS.
    - M. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.
    - N. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTATION TO OWNER AND ENGINEER:
        1) ADVANCE WRITTEN NOTICE AT LEAST ONE WEEK PRIOR TO COMMENCING ANY WORK UNDER THE PERMIT AND NOTIFICATION TO AOT VIA THE START OF CONSTRUCTION FORM.
        2) IF ANY UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS WERE INSTALLED, FOR EACH SUCH SYSTEM:
            - A) REPRESENTATIVE PHOTOGRAPHS OF THE SYSTEM AFTER COMPLETION BUT PRIOR TO BACKFILLING; AND
            - B) A LETTER SIGNED BY THE ENGINEER WHO OBSERVED THE SYSTEM PRIOR TO BACKFILLING, THAT THE SYSTEM CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS.
        3) UPON COMPLETION OF CONSTRUCTION, WRITTEN CERTIFICATION THAT:
            - A) ALL WORK HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
            - B) IF ANY DEVIATIONS FROM THE APPROVED PLANS WERE MADE, WRITTEN DESCRIPTIONS AND AS-BUILT DRAWINGS OF ALL SUCH DEVIATIONS, STAMPED BY A QUALIFIED ENGINEER, SHALL BE PROVIDED.

GRADING & DRAINAGE NOTES

1. THE CONTRACTOR SHALL ENSURE THAT ALL WORK INCLUDING INSPECTIONS AND TESTS IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 AS APPLICABLE.
2. THE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
3. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
5. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT SOIL AND GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEER'S RECOMMENDED METHODS TO ADDRESS ANY SOIL AND GROUNDWATER ISSUES THAT ARE FOUND ON SITE, INCLUDING AND NOT LIMITED TO DEWATERING METHODS, PERIMETER DRAINS AND TIE INTO STORMWATER MANAGEMENT SYSTEM, ETC.
6. COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
7. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED LAYOUT AND GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES, FOOTING DRAINS, AND ROOF DRAIN INFORMATION.
8. LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS, AND ALIGNMENTS.
9. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE, RAMPS, AND LOADING AREAS.
10. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE AND SHALL NOT POND WATER.
11. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
12. ALL SIDEWALK AND OTHER CURB REVEALS SHALL BE 6" WITH A TOLERANCE OF PLUS OR MINUS 3/8". WHERE SIDEWALK IS TO BE FLUSH, THE PAVEMENT REVEAL SHALL BE WITHIN 1/4".
13. THE FINISHED GRADE AT BOTTOM OF ALL ACCESSIBLE RAMPS SHALL BE FLUSH WITH PAVEMENT WITH A TOLERANCE OF PLUS OR MINUS 1/4".
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE PRIOR TO INSTALLATION OF FINISHED PAVEMENT.
15. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
16. STORMWATER DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
17. NO FILL SHALL BE PLACED IN ANY WETLAND AREA WITHOUT A WETLANDS PERMIT.
18. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
19. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER, AND MULCH.
20. DENSITY REQUIREMENTS:

MINIMUM DENSITY*	LOCATION
95%*	BELOW PAVED OR CONCRETE AREAS
95%**	TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL
90%**	BELOW LOAM AND SEED AREAS

ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT.
* ASTM D-1557
** ASTM D-698.

UTILITY NOTES

1. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
2. ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES, AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
4. COORDINATE ALL WORK ADJACENT TO PROPOSED BUILDINGS WITH ARCHITECTURAL BUILDING DRAWINGS. CONFIRM UTILITY PENETRATIONS AND INVERT ELEVATIONS ARE COORDINATED PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY, AND/OR PRIVATE UTILITY COMPANY.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
8. ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH TELEPHONE, CABLE, AND ELECTRIC COMPANIES REGARDING NUMBER, SIZE, AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
9. SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). FORCE MAINS AND FITTINGS SHALL CONFORM TO NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. ALL SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. SANITARY MANHOLES SHALL CONFORM TO NHDES WATER DIVISION WASTEWATER ENGINEERING BUREAU STANDARDS AND SPECIFICATIONS SHOWN HEREON.
10. ON-SITE WATER DISTRIBUTION SHALL BE TO CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5' COVER. WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10' MINIMUM. WHERE A SANITARY LINE CROSSES A WATER LINE, SEWER LINE MUST BE CONSTRUCTED OF FORCE MAIN MATERIALS (PER ENV-WQ 704.08) FROM BUILDING OR MANHOLE TO MANHOLE, OR SUBSTITUTE RUBBER-GASKETED PRESSURE PIPE FOR THE SAME DISTANCE. WHEN SANITARY LINES PASS BELOW WATER LINES, LAY PIPE SO THAT NO JOINT IN THE SANITARY LINE WILL BE CLOSER THAN 6' HORIZONTALLY TO THE WATER LINE.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL LOCATIONS WHERE WATER LINE CHANGES DIRECTIONS OR CONNECTS TO ANOTHER WATER LINE.
12. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
13. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
14. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING, AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
15. PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT, AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
16. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
17. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	MUNICIPAL
SEWER	MUNICIPAL
WATER	MUNICIPAL
GAS	UNITIL
ELECTRIC	EVERSOURCE
TELEPHONE	CONSOLIDATED COMMUNICATIONS FKA FAIRPOINT COMMUNICATIONS
CABLE	COMCAST XFINITY

APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

NOTES & LEGEND

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
CITY OF PORTSMOUTH
PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

SCALE: NTS **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE — JOHN J. MCTIGUE No. 14950 — LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

TFM — Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive, Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	JKC	FB		
47528.00	CK	JJM	CADFILE	47528-00_COVER	C-01

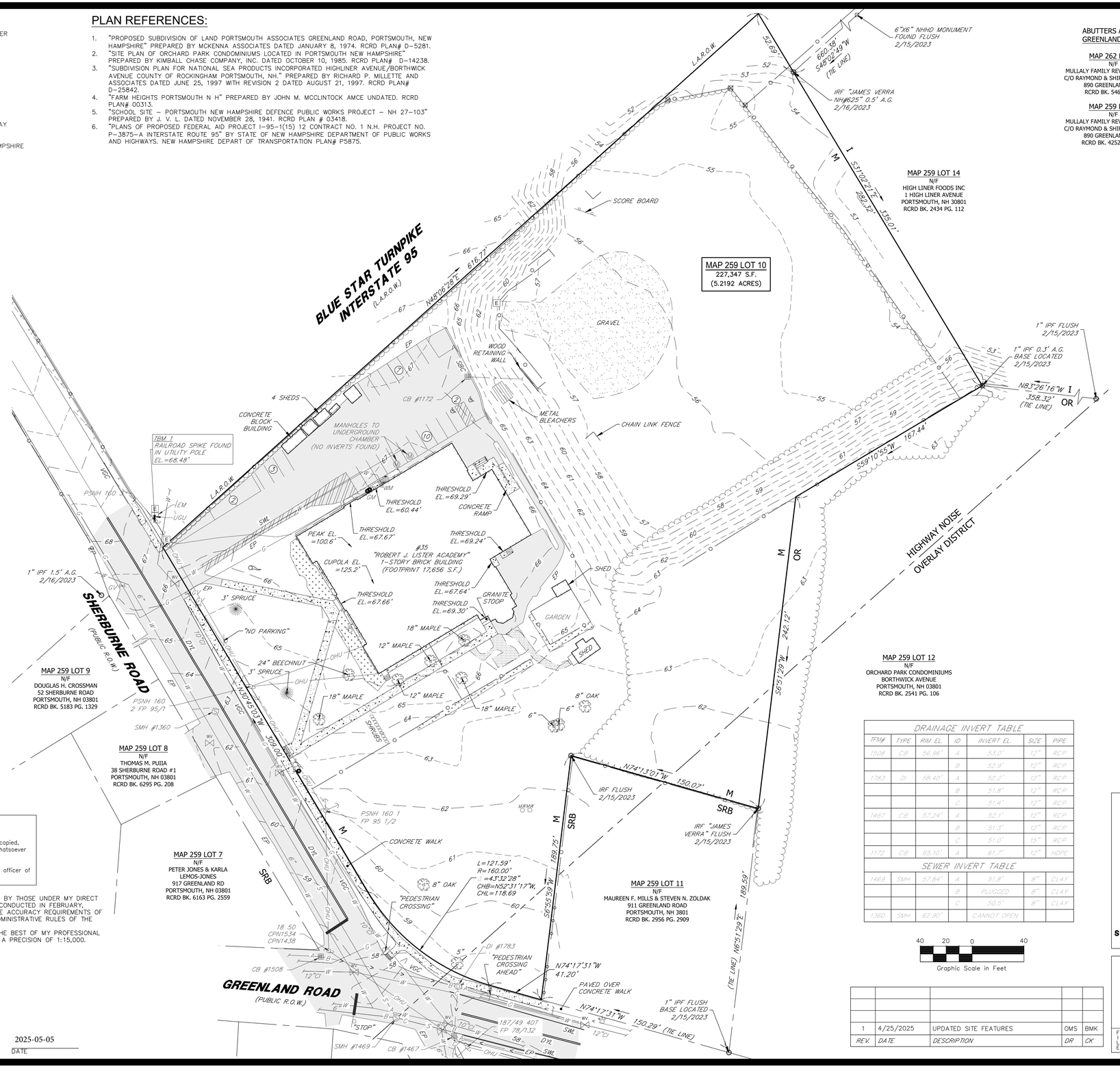
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LEGEND:

MAP 259 LOT 10	ASSESSORS MAP/ LOT NUMBER
A.G.	ABOVE GRADE
BK. PG.	BOOK/PAGE
CI	CAST IRON
DI	DROP INLET
DYL	DOUBLE YELLOW LINE
EL.	ELEVATION
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FP	FAIR POINT
GM	GAS METER
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
L.A.R.O.W.	LIMITED ACCESS RIGHT OF WAY
MW	MONITORING WELL
N/F	NOW OR FORMERLY
PSNH	PUBLIC SERVICE OF NEW HAMPSHIRE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
R.O.W.	RIGHT OF WAY
S.F.	SQUARE FEET
SBC	SLOPED BITUMINOUS CURB
SMH	SEWER MANHOLE
SWL	SINGLE WHITE LINE
TBM	TEMPORARY BENCHMARK
VGC	VERTICAL GRANITE CURB
VCC	VERTICAL CONCRETE CURB
WM	WATER METER
I	INDUSTRIAL
M	MUNICIPAL
OR	OFFICE RESEARCH
SRB	SINGLE RESIDENCE B
	BOLLARD
	CATCH BASIN
	DROP INLET
E	ELECTRIC BOX
	GUY WIRE
	IRON PIPE/ROD FOUND
	UTILITY POLE
	POST
	FLAG POLE
	CONIFEROUS TREE
	DECIDUOUS TREE
	CLEAN OUT
S	SEWER MANHOLE
GV	GAS VALVE
	HANDICAP PARKING
MW	MONITORING WELL
	HYDRANT
WV	WATER GATE VALVE
	SIGN
3	PARKING COUNT
	BOUNDARY LINE
	APPROX. ABUTTERS LINE
	ZONE LINE
	CHAINLINK FENCE
	TREE LINE
S	SEWER LINE
G	GAS LINE
W	WATER LINE
OHU	OVERHEAD UTILITIES
	DRAINAGE LINE
100	EXISTING CONTOUR
	CONCRETE
	CRUSHED STONE
	GRAVEL
	PAVEMENT
	LANDSCAPED AREA
	TRACTION MAT

PLAN REFERENCES:

1. "PROPOSED SUBDIVISION OF LAND PORTSMOUTH ASSOCIATES GREENLAND ROAD, PORTSMOUTH, NEW HAMPSHIRE" PREPARED BY MCKENNA ASSOCIATES DATED JANUARY 8, 1974. RCRD PLAN# D–5281.
2. "SITE PLAN OF ORCHARD PARK CONDOMINIUMS LOCATED IN PORTSMOUTH NEW HAMPSHIRE" PREPARED BY KIMBALL CHASE COMPANY, INC. DATED OCTOBER 10, 1985. RCRD PLAN# D–14238.
3. "SUBDIVISION PLAN FOR NATIONAL SEA PRODUCTS INCORPORATED HIGHLINER AVENUE/BORTHWICK AVENUE COUNTY OF ROCKINGHAM PORTSMOUTH, NH." PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES DATED JUNE 25, 1997 WITH REVISION 2 DATED AUGUST 21, 1997. RCRD PLAN# D–25842.
4. "FARM HEIGHTS PORTSMOUTH N H" PREPARED BY JOHN M. MCCLINTOCK AMCE UNDATED. RCRD PLAN# 00313.
5. "SCHOOL SITE – PORTSMOUTH NEW HAMPSHIRE DEFENCE PUBLIC WORKS PROJECT – NH 27–103" PREPARED BY J. V. L. DATED NOVEMBER 28, 1941. RCRD PLAN # 03418.
6. "PLANS OF PROPOSED FEDERAL AID PROJECT I–95–1(15) 12 CONTRACT NO. 1 N.H. PROJECT NO. P–3875–A INTERSTATE ROUTE 95" BY STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS. NEW HAMPSHIRE DEPART OF TRANSPORTATION PLAN# P5875.

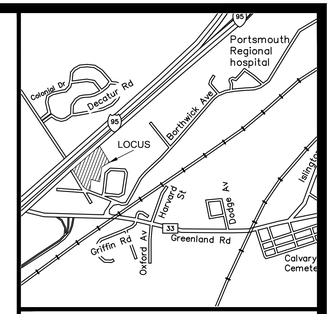


ABUTTERS ACROSS GREENLAND ROAD:

MAP 262 LOT 1
N/F
MULLALY FAMILY REVOCABLE TRUST
C/O RAYMOND & SHIRLEY J. MULLALY
890 GREENLAND ROAD
RCRD BK. 5461 PG. 47

MAP 259 LOT 4
N/F
MULLALY FAMILY REVOCABLE TRUST
C/O RAYMOND & SHIRLEY J. MULLALY
890 GREENLAND ROAD
RCRD BK. 4252 PG. 2877

N
NAD83(2011)



LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE MUNICIPAL (M) ZONING DISTRICT AND THE HIGHWAY NOISE OVERLAY DISTRICT.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 259 AS LOT 10.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X, AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP), FLOOD INSURANCE RATE MAP (FIRM) ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, MAP NUMBER 33015C0270F, MAP REVISED JANUARY 21, 2021.
4. PER THE CITY OF PORTSMOUTH ZONING ORDINANCE ARTICLE 5 SECTION 10.560 LOTS AND BUILDINGS IN THE MUNICIPAL DISTRICT ARE EXEMPT FROM ALL DIMENSIONAL AND INTENSITY REGULATIONS.
5. OWNER OF RECORD:
   MAP 259 LOT 10:
   CITY OF PORTSMOUTH
   PO BOX 628
   PORTSMOUTH, NH 03802
   RCRD BK#2389 PG#1272
6. PARCEL AREA:
   MAP 259 LOT 10:
   227,347 S.F.
   (5.2192 ACRES)
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. THE PURPOSE OF THIS PLAN IS TO SHOW THE BOUNDARY LINES, TOPOGRAPHY AND CURRENT SITE CONDITIONS OF MAP 259 LOT 10.
9. FIELD SURVEY COMPLETED BY TCE & RJB IN FEBRUARY, 2023 & APRIL 24, 2025 USING A LEICA TS–16, A TOPCON HIPER–V AND CARLSON DATA COLLECTION SOFTWARE.
10. HORIZONTAL DATUM IS NAD83 (2011) PER NETWORK RTK GPS OBSERVATIONS. THE VERTICAL DATUM IS NAVD88 PER NETWORK RTK GPS OBSERVATIONS. THE CONTOUR INTERVAL IS 1 FOOT.
11. EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL(S) WOULD DETERMINE.
12. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.

DIG SAFE
MA ME NH RI VT
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CALL 811 TOLL FREE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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48 Constitution Drive, Bedford, N.H. 03110

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This plan is not effective unless signed by a duly authorized officer of TFMoran, Inc.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN FEBRUARY, 2023 & APRIL 24, 2025. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.
I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR
NO. 01037
BRENDA M. KOLBOW
SIGNATURE

LICENSED LAND SURVEYOR — 2025-05-05 DATE

DRAINAGE INVERT TABLE						
TFM#	TYPE	RIM EL.	ID	INVERT EL.	SIZE	PIPE
1508	CB	56.96'	A	53.0'	12"	RCP
			B	52.9'	12"	RCP
1783	DI	58.40'	A	53.2'	12"	RCP
			B	51.8'	12"	RCP
			C	51.4'	12"	RCP
1467	CB	57.24'	A	52.1'	12"	RCP
			B	51.3'	12"	RCP
			C	51.0'	15"	RCP
1172	CB	65.10'	A	61.7'	12"	HDPE
SEWER INVERT TABLE						
1469	SMH	57.84'	A	51.8'	8"	CLAY
			B	PLUGGED	8"	CLAY
			C	50.5'	8"	CLAY
1360	SMH	62.90'		CANNOT OPEN		

40 20 0 40
Graphic Scale in Feet

REV.	DATE	DESCRIPTION	DR	CK
1	4/25/2025	UPDATED SITE FEATURES	OMS	BMK

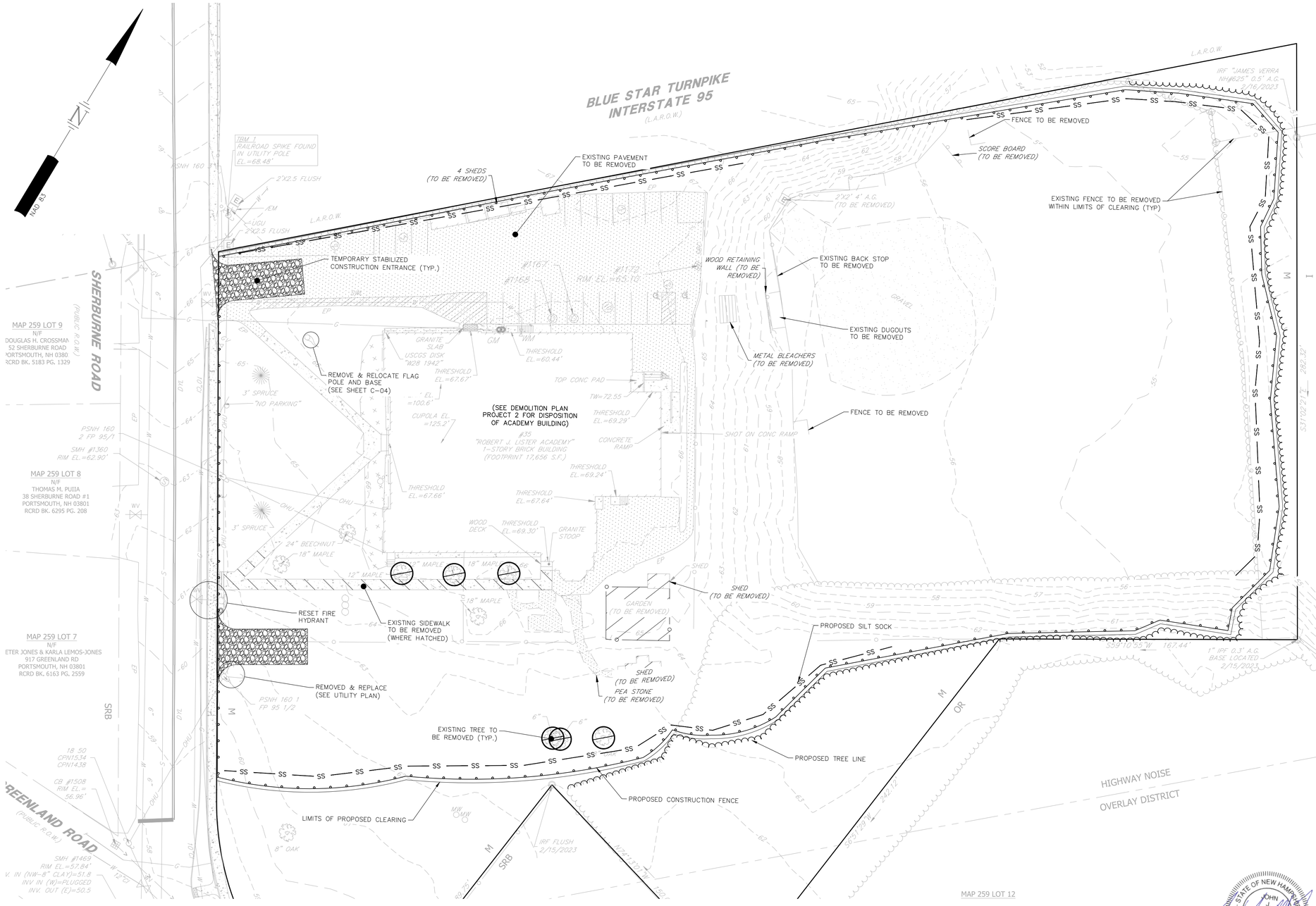
TAX MAP 259 LOT 10
EXISTING CONDITIONS PLAN
PORTSMOUTH HOUSING AUTHORITY
35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
CITY OF PORTSMOUTH

SCALE: 1" = 40' (22x34)
1" = 80' (11x17)
March 10, 2023

Seacoast Division
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431–2222
Fax (603) 431–0910
www.tfmoran.com

FILE	DR	RJB	FB	593	S-1
47528-00	CK	BMK	CADFILE		

May 05, 2025 - 11:11am
\\TFM-BEDFORD4\Projects\Civil-Survey\MSC Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Carlson Survey\Dwgs\47528-00 Survey.dwg



NOTES

1. SEE NOTES ON SHEET C-01.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATIONS, SIZE, AND ELEVATIONS OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY DEMOLITION. THE LOCATIONS SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DEMOLITION TO DETERMINE APPROPRIATE ACTION TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
4. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
5. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
6. CONSTRUCTION DEBRIS AND INVASIVE SPECIES SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
7. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PLACE ORANGE CONSTRUCTION FENCING AROUND EACH TREE TO BE RETAINED THROUGHOUT CONSTRUCTION. NO STOCKPILES OF MATERIAL ARE PERMITTED WITHIN THE DRIP LINE OF THE TREES TO BE SAVED.
8. CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY IF ANY TREES ARE DAMAGED DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE NOTES

TO MINIMIZE EROSION AND SEDIMENTATION DUE TO CONSTRUCTION, CONSTRUCTION SHALL FOLLOW THIS GENERAL CONSTRUCTION SEQUENCE.

MODIFICATIONS TO THE SEQUENCE NECESSARY DUE TO THE CONTRACTOR'S SCHEDULE SHALL INCLUDE APPROPRIATE TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES.

THE CONTRACTOR SHALL SCHEDULE WORK SUCH THAT ANY CONSTRUCTION AREA IS STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE EXCEPT AS NOTED BELOW. NO MORE THAN 5 ACRES OF DISTURBED LAND SHALL BE UNSTABILIZED AT ANY ONE TIME.

THE PROJECT SHALL BE MANAGED SO THAT IT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER ARC 3800 RELATIVE TO INVASIVE SPECIES.

DO NOT TRAFFIC EXPOSED SOIL SURFACE OF INFILTRATION SYSTEMS WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO STORMWATER BMP'S. STORMWATER RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'S ARE STABILIZED.

DO NOT PLACE STORMWATER BMP'S INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

AFTER THE INFILTRATION SYSTEM IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE THE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

1. NOTIFY EASEMENT OWNERS PRIOR TO COMMENCEMENT OF WORK.
2. INSTALL ALL PERIMETER EROSION PROTECTION MEASURES AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. STORMWATER TREATMENT PONDS AND SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
4. DURING CONSTRUCTION EVERY EFFORT SHALL BE MADE TO MANAGE SURFACE RUNOFF QUALITY.
5. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT BARRIERS, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED. (TEMPORARY SEED MIXTURE OF WINTER RYE APPLIED AT A RATE OF 2.5 LBS/1000 SF SHALL BE USED).
6. CONDUCT MAJOR EARTHWORK, INCLUDING CLEARING AND GRUBBING, WITHIN THE LIMITS OF WORK. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
7. ALL STRIPPED TOPSOIL AND OTHER EARTH MATERIALS SHALL BE STOCKPILED OUTSIDE THE IMMEDIATE WORK AND WETLAND AREAS. A SILT BARRIER SHALL BE CONSTRUCTED AROUND THESE PILES IN A MANNER TO PROVIDE ACCESS AND AVOID SEDIMENT OUTSIDE OF THE WORK AREA.
8. CONSTRUCT BUILDING PAD AND COMMENCE NEW BUILDING CONSTRUCTION.
9. CONSTRUCT TEMPORARY CULVERTS AND DIVERSIONS AS REQUIRED.
10. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH.
11. PERFORM EARTHWORK NECESSARY TO ESTABLISH ROUGH GRADING AROUND PARKING FIELDS AND ACCESS DRIVES. MANAGE EXPOSED SOIL SURFACES TO AVOID TRANSPORTING SEDIMENTS INTO WETLANDS. PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. INSTALL SUBSURFACE UTILITIES (WATER, SEWER, GAS, ELECTRIC, COMMUNICATIONS, DRAINAGE, DRAINAGE FACILITIES, ETC.).
13. CONSTRUCT PROPOSED ROADWAY, RAIN GARDENS, GRAVEL WETLANDS AND DRAINAGE SWALES. ALL DITCHES, SWALES, AND GRAVEL WETLANDS SHALL BE FULLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
14. COMPLETE BUILDING AND ALL OFF-SITE IMPROVEMENTS.
15. COMPLETE SEEDING AND MULCHING. SEED TO BE APPLIED WITH BROADCAST SPREADER OR BY HYDRO-SEEDING, THEN ROLLED, RAKED, OR DRAGGED TO ASSURE SEED/SOIL CONTACT.
16. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE BECOME FIRMLY ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE.
17. DURING THE COURSE OF THE WORK AND UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT DEPOSITS, EITHER ON OR OFF SITE, INCLUDING CATCH BASINS, AND SUMPS, DRAIN PIPES AND DITCHES, CURB LINES, ALONG SILT BARRIERS, ETC. RESULTING FROM SOIL AND/OR CONSTRUCTION OPERATIONS.
18. SEE WINTER CONSTRUCTION SEQUENCE FOR WORK CONDUCTED AFTER OCTOBER 15TH.

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE PREPARATION & DEMOLITION PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

PROJECT 1 IS THE CONSTRUCTION OF A 4-STORY, 90-UNIT RESIDENTIAL BUILDING WITH PARKING, PLAYGROUND, UTILITIES, AND LANDSCAPING. THE EXISTING SHERBURNE SCHOOL BUILDING IS TO REMAIN DURING THE CONSTRUCTION OF PROJECT 1. THIS PLAN OUTLINES THE SITE PREPARATION AND DEMOLITION REQUIRED FOR THE 90-UNIT BUILDING, AS WELL AS ITS ASSOCIATED IMPROVEMENTS.

UNDER TYPICAL MARKET, WEATHER, AND OTHER UNCONTROLLABLE CONDITIONS, PROJECT 1 IS ANTICIPATED TO TAKE 17 MONTHS TO COMPLETE. DURING THE CONSTRUCTION OF PROJECT 1, WE WILL INITIATE SCHEMATIC DESIGN AND FINANCING APPLICATIONS FOR PROJECT 2. THE CONSTRUCTION START OF PROJECT 2 WILL BE CONTINGENT UPON THE AVAILABILITY OF FINANCING, RECEIPT OF ANY ADDITIONAL LAND USE PERMITS REQUIRED, AND THE AVAILABILITY OF COST-EFFECTIVE MATERIALS AND LABOR.

HORIZONTAL SCALE 1"=30'

30 15 0 30

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

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Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE 47528.00 | DR JKC | CK JJM | FB | CADFILE 47528-00_SITE PREP_PHASE 1

C-02

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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STATE OF NEW HAMPSHIRE JOHN J. MCTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

Jul 30, 2025 - 12:50:1m
F:\MSC Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-00 Site Pre - Phase 1.dwg



NOTES

1. SEE NOTES ON SHEET C–01.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATIONS, SIZE, AND ELEVATIONS OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY DEMOLITION. THE LOCATIONS SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DEMOLITION TO DETERMINE APPROPRIATE ACTION TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
4. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
5. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
6. CONSTRUCTION DEBRIS AND INVASIVE SPECIES SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
7. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PLACE ORANGE CONSTRUCTION FENCING AROUND EACH TREE TO BE RETAINED THROUGHOUT CONSTRUCTION. NO STOCKPILES OF MATERIAL ARE PERMITTED WITHIN THE DRIP LINE OF THE TREES TO BE SAVED.
8. CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY IF ANY TREES ARE DAMAGED DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE NOTES

TO MINIMIZE EROSION AND SEDIMENTATION DUE TO CONSTRUCTION, CONSTRUCTION SHALL FOLLOW THIS GENERAL CONSTRUCTION SEQUENCE.

MODIFICATIONS TO THE SEQUENCE NECESSARY DUE TO THE CONTRACTOR'S SCHEDULE SHALL INCLUDE APPROPRIATE TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES.

THE CONTRACTOR SHALL SCHEDULE WORK SUCH THAT ANY CONSTRUCTION AREA IS STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE EXCEPT AS NOTED BELOW. NO MORE THAN 5 ACRES OF DISTURBED LAND SHALL BE UNSTABILIZED AT ANY ONE TIME.

THE PROJECT SHALL BE MANAGED SO THAT IT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER ARG 3800 RELATIVE TO INVASIVE SPECIES.

DO NOT TRAFFIC EXPOSED SOIL SURFACE OF INFILTRATION SYSTEMS WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO STORMWATER BMP'S. STORMWATER RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'S ARE STABILIZED.

DO NOT PLACE STORMWATER BMP'S INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

AFTER THE INFILTRATION SYSTEM IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE THE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

1. NOTIFY EASEMENT OWNERS PRIOR TO COMMENCEMENT OF WORK.
2. INSTALL ALL PERIMETER EROSION PROTECTION MEASURES AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. STORMWATER TREATMENT PONDS AND SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
4. DURING CONSTRUCTION EVERY EFFORT SHALL BE MADE TO MANAGE SURFACE RUNOFF QUALITY.
5. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT BARRIERS, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED. (TEMPORARY SEED MIXTURE OF WINTER RYE APPLIED AT A RATE OF 2.5 LBS/1000 SF SHALL BE USED).
6. CONDUCT MAJOR EARTHWORK, INCLUDING CLEARING AND GRUBBING, WITHIN THE LIMITS OF WORK. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
7. ALL STRIPPED TOPSOIL AND OTHER EARTH MATERIALS SHALL BE STOCKPILED OUTSIDE THE IMMEDIATE WORK AND WETLAND AREAS. A SILT BARRIER SHALL BE CONSTRUCTED AROUND THESE PILES IN A MANNER TO PROVIDE ACCESS AND AVOID SEDIMENT OUTSIDE OF THE WORK AREA.
8. CONSTRUCT BUILDING PAD AND COMMENCE NEW BUILDING CONSTRUCTION.
9. CONSTRUCT TEMPORARY CULVERTS AND DIVERSIONS AS REQUIRED.
10. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH.
11. PERFORM EARTHWORK NECESSARY TO ESTABLISH ROUGH GRADING AROUND PARKING FIELDS AND ACCESS DRIVES. MANAGE EXPOSED SOIL SURFACES TO AVOID TRANSPORTING SEDIMENTS INTO WETLANDS. PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. INSTALL SUBSURFACE UTILITIES (WATER, SEWER, GAS, ELECTRIC, COMMUNICATIONS, DRAINAGE, DRAINAGE FACILITIES, ETC.).
13. CONSTRUCT PROPOSED ROADWAY, RAIN GARDENS, GRAVEL WETLANDS AND DRAINAGE SWALES. ALL DITCHES, SWALES, AND GRAVEL WETLANDS SHALL BE FULLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
14. COMPLETE BUILDING AND ALL OFF–SITE IMPROVEMENTS.
15. COMPLETE SEEDING AND MULCHING. SEED TO BE APPLIED WITH BROADCAST SPREADER OR BY HYDRO–SEEDING, THEN ROLLED, RAKED, OR DRAGGED TO ASSURE SEED/SOIL CONTACT.
16. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE BECOME FIRMLY ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE.
17. DURING THE COURSE OF THE WORK AND UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT DEPOSITS, EITHER ON OR OFF SITE, INCLUDING CATCH BASINS, AND SUMPS, DRAIN PIPES AND DITCHES, CURB LINES, ALONG SILT BARRIERS, ETC. RESULTING FROM SOIL AND/OR CONSTRUCTION OPERATIONS.
18. SEE WINTER CONSTRUCTION SEQUENCE FOR WORK CONDUCTED AFTER OCTOBER 15TH.

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE PREPARATION & DEMOLITION PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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PROJECT 2 INCLUDES THE RENOVATION OF THE FRONT PORTION OF THE SHERBURNE SCHOOL BUILDING INTO EIGHT RESIDENTIAL UNITS, WITH A 3–STORY, 29–UNIT RESIDENTIAL BUILDING TO BE CONSTRUCTED BETWEEN THE REMAINING SHERBURNE SCHOOL BUILDING AND PROJECT 1. PROJECT 2 WILL INCLUDE THE CONSTRUCTION OF ADDITIONAL PARKING, UTILITIES, AND LANDSCAPING. THIS PLAN DEMONSTRATES THE SITE PREPARATION AND DEMOLITION REQUIRED FOR THE 29–UNIT BUILDING, RENOVATION OF THE SHERBURNE SCHOOL BUILDING, AND RELATED SITE IMPROVEMENTS.

UNDER TYPICAL MARKET, WEATHER, AND OTHER UNCONTROLLABLE CONDITIONS, PROJECT 1 IS ANTICIPATED TO TAKE 17 MONTHS TO COMPLETE. DURING THE CONSTRUCTION OF PROJECT 1, WE WILL INITIATE SCHEMATIC DESIGN AND FINANCING APPLICATIONS FOR PROJECT 2. THE CONSTRUCTION START OF PROJECT 2 WILL BE CONTINGENT UPON THE AVAILABILITY OF FINANCING, RECEIPT OF ANY ADDITIONAL LAND USE PERMITS REQUIRED, AND THE AVAILABILITY OF COST–EFFECTIVE MATERIALS AND LABOR.

CONSTRUCTION SEQUENCE NOTES (FOR ALTERATION OF TERRAIN)

1. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO BMP'S DURING ANY STAGE OF CONSTRUCTION.
2. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.
3. AFTER INFILTRATION SYSTEMS ARE EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
4. DO NOT PLACE STORMWATER BMP'S INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
5. DO NOT PLACE STORMWATER BMP'S INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED, IF NECESSARY, AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

HORIZONTAL SCALE 1"=30'
30 15 0 30

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

TFM
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Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
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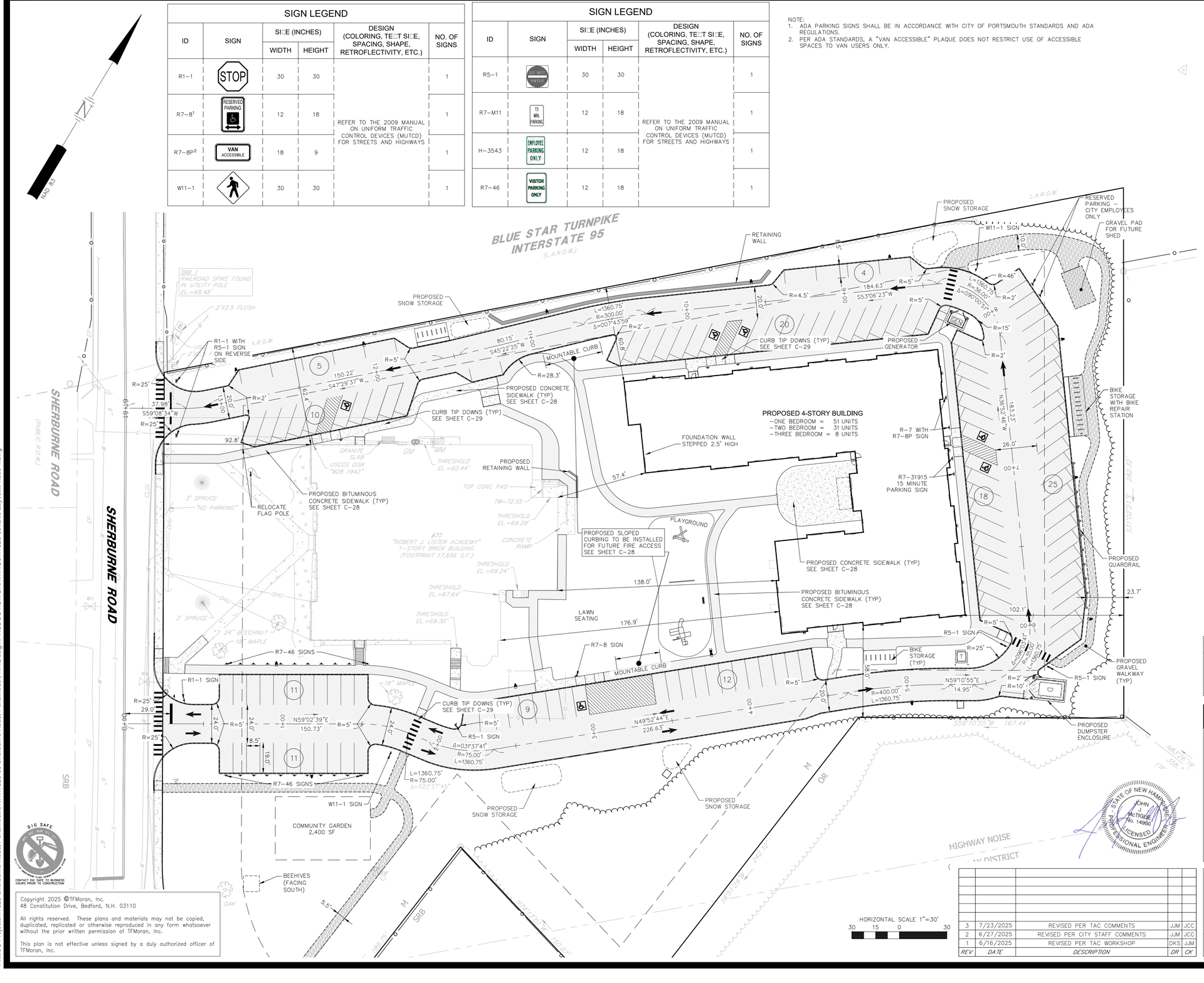
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47528.00	CK	JJM	CADFILE	47528–00_SITE PREP_PHASE 2	C–03

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SIGN LEGEND					
ID	SIGN	SIZE (INCHES)		DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
		WIDTH	HEIGHT		
R1–1	STOP	30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7–8P[1]	RESERVED PARKING	12	18		1
R7–8P[2]	VAN ACCESSIBLE	18	9		1
W11–1		30	30		1

SIGN LEGEND					
ID	SIGN	SIZE (INCHES)		DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
		WIDTH	HEIGHT		
R5–1	DO NOT ENTER	30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7–M11	15 MIN. PARKING	12	18		1
H–3543	EMPLOYEE PARKING ONLY	12	18		1
R7–46	VISITOR PARKING ONLY	12	18		1

NOTE:
1. ADA PARKING SIGNS SHALL BE IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS AND ADA REGULATIONS.
2. PER ADA STANDARDS, A "VAN ACCESSIBLE" PLAQUE DOES NOT RESTRICT USE OF ACCESSIBLE SPACES TO VAN USERS ONLY.



SITE DATA

OWNER OF RECORD OF MAP 259 LOT 10: CITY OF PORTSMOUTH SCHOOLS, PO BOX 628, PORTSMOUTH, NH 03802.
DEED REFERENCE TO PARCEL IS BK 2389 PG 1272
AREA OF PARCEL = 227,347± SF OR 5.22± ACRES

ZONED: MUNICIPAL
EXISTING USE: SCHOOL
PROPOSED USE: MIXED USE

THE PURPOSE OF THIS PLAN IS TO DEPICT A 90 UNIT WORK FORCE HOUSING BUILDING WITH ASSOCIATED IMPROVEMENTS INCLUDING ACCESS, GRADING, STORMWATER MANAGEMENT SYSTEMS, UTILITIES, LIGHTING, AND LANDSCAPING.

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	NA SF	227,347± SF (5.22± AC)
LOT FRONTAGE	NA FT	471.79 FT
DEPTH	NA FT	606 FT
MAXIMUM STRUCTURE DIMENSIONS:		
STRUCTURE HEIGHT	NA	38.8 FEET
STRUCTURE STORIES	NA	4 STORIES
ROOF APPURTENANCE HEIGHT	NA	44.1 FT
LOT COVERAGE	NA	53.0%
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	NA FT	92.8 FT (EXISTING)
BUILDING SIDE	NA FT	58.0 FT (NEW)
BUILDING REAR	NA FT	102.1 FT (NEW)
MINIMUM OPEN SPACE	NA	46.6%

PHASE 1 – PARKING REQUIREMENTS

RESIDENTIAL (SEE CALCULATION)	120 SPACES	124 RESIDENTIAL SPACES
OFFICE	1 SPACES	1 SPACE
TOTAL	121 SPACES	125 SPACES
ACCESSIBLE SPACES (REQ'D BY ADA)	6 SPACES	6 SPACES
PARKING SPACE SIZE	8.5 FT X 19 FT	8.5 FT X 19 FT
AISLE WIDTH	18–24 FT	18–24 FT

PHASE 1 – PARKING CALCULATIONS

REQUIRED PARKING RATIO:
RESIDENTIAL: 1.3 SPACES PER UNIT > 750 SF
1 SPACE PER UNIT 600–750 SF
1 VISITOR SPACE PER 5 UNITS OR PORTION THEREOF
OFFICE:
1 SPACE REQUIRED

TOTAL REQUIRED =	51 UNITS * 10 SPACES/UNIT	=	51.0 SPACES
	39 UNITS * 1 SPACE	=	50.7 SPACES
	90 UNITS * 1 SPACE/5 UNITS	=	18.0 SPACES
	1 OFFICE * 1 SPACE/OFFICE	=	1.0 SPACES
TOTAL		=	120.7 SPACES

NOTES

1. SEE NOTES ON SHEET C–01.
2. ALL PAVING DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
3. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE PORTSMOUTH, NH ZONING ORDINANCE AND SITE PLAN REVIEW REGULATIONS.
4. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLAND BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.
5. THE 3' PANEL ALONG THE PARKING LOT EDGE & DRIVE SHALL BE USED FOR SNOW STORAGE.
6. UPON APPROVAL THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
7. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
8. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON DATE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE LAYOUT PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
CITY OF PORTSMOUTH

PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

TFM Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
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FILE	DR	JKC	FB		
47528.00	CK	JJM	CADFILE	47528–00_SITE LAYOUT_PHASE 1	C–04

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DIG SAFE — CALL OR CLICK 811 OR IN NH DIAL 811 — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

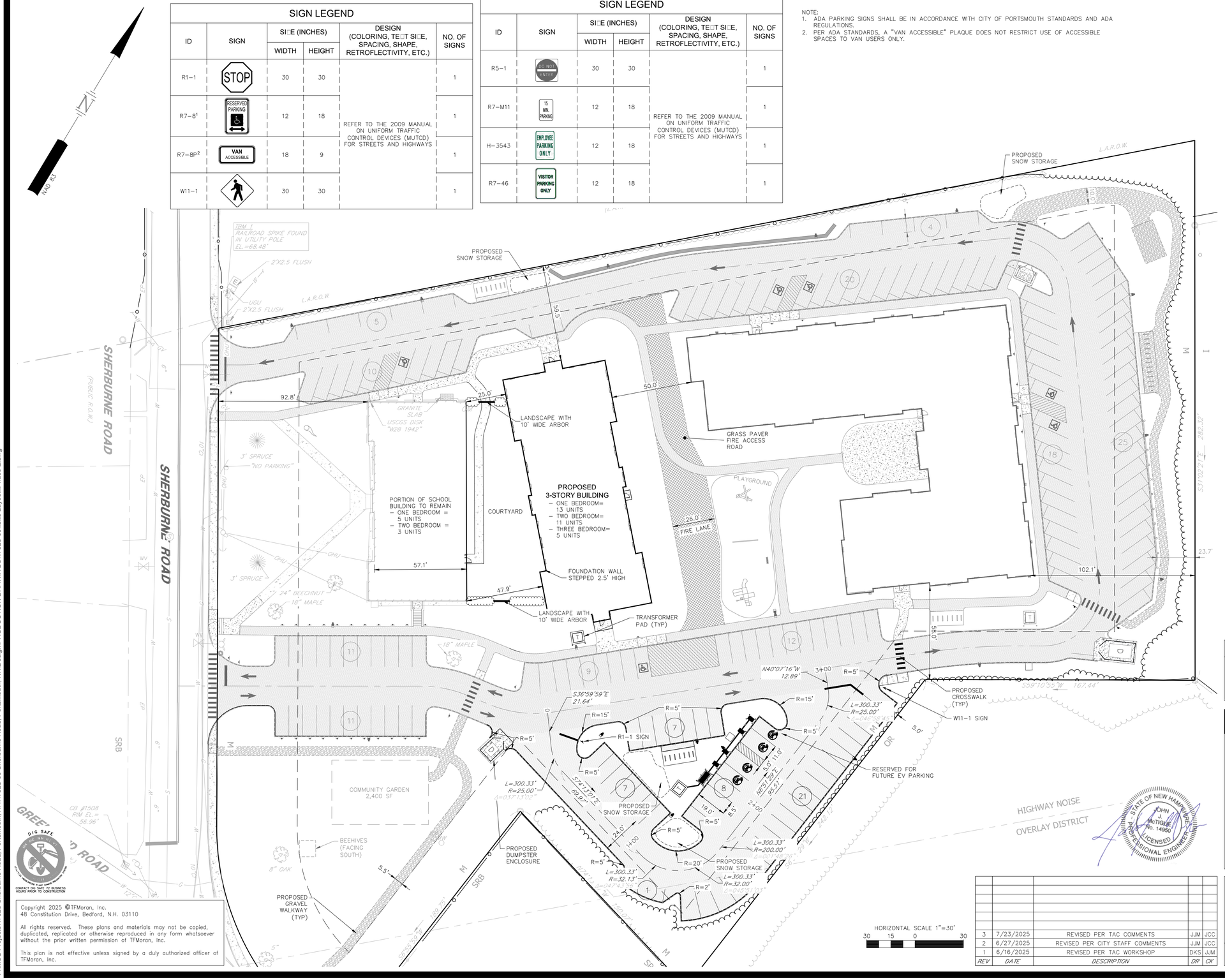
SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R1-1	STOP	30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7-8[1]	RESERVED PARKING	12	18		1
R7-8P[2]	VAN ACCESSIBLE	18	9		1
W11-1		30	30		1

SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R5-1	DO NOT ENTER	30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7-M11	15 MIN. PARKING	12	18		1
H-3543	EMPLOYEE PARKING ONLY	12	18		1
R7-46	VISITOR PARKING ONLY	12	18		1

NOTE:
1. ADA PARKING SIGNS SHALL BE IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS AND ADA REGULATIONS.
2. PER ADA STANDARDS, A "VAN ACCESSIBLE" PLAQUE DOES NOT RESTRICT USE OF ACCESSIBLE SPACES TO VAN USERS ONLY.



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THE PURPOSE OF THIS PLAN IS TO CONSTRUCT WORK FORCE HOUSING. ASSOCIATED IMPROVEMENTS INCLUDE AND ARE NOT LIMITED TO ACCESS, GRADING, STORMWATER MANAGEMENT SYSTEMS, UTILITIES, LIGHTING, AND LANDSCAPING.

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	NA SF	227,347± SF (5.22± AC)
LOT FRONTAGE	NA FT	471.79 FT
DEPTH	NA FT	606 FT
MAXIMUM STRUCTURE DIMENSIONS:		
STRUCTURE HEIGHT	NA	38.8 FEET
STRUCTURE STORIES	NA	4 STORIES
ROOF APPURTENANCE HEIGHT	NA	44.1 FT
LOT COVERAGE	NA	58.6%
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	NA FT	92.8 FT (EXISTING)
BUILDING SIDE	NA FT	58.0 FT (NEW)
BUILDING REAR	NA FT	102.1 FT (NEW)
MINIMUM OPEN SPACE	NA	40.7%

PARKING REQUIREMENTS

RESIDENTIAL		
PARKING SPACES (SEE CALCULATION)	165 SPACES	165 RESIDENTIAL SPACES
OFFICE		
OFFICE	1 SPACE	1 SPACE
	166 SPACES	166 SPACES
TOTAL		
ACCESSIBLE SPACES (REQ'D BY ADA)	6 SPACES	6 SPACES
PARKING SPACE SIZE	8.5 FT X 19 FT	8.5 FT X 19 FT
AISLE WIDTH	18–24 FT	18–24 FT

PARKING CALCULATIONS

REQUIRED PARKING RATIO:
RESIDENTIAL: 1.3 SPACES PER UNIT > 750 SF
1 SPACE PER UNIT 600–750 SF
1 VISITOR SPACE PER 5 UNITS OR PORTION THEREOF
OFFICE:
1 SPACE REQUIRED

TOTAL REQUIRED =	53 UNITS * 1.3 SPACES/UNIT	=	74.0 SPACES
	74 UNITS * 1 SPACE	=	65.9 SPACES
	127 UNITS * 1 SPACE/5 UNITS	=	25.4 SPACES
	1 OFFICE * 1 SPACE/OFFICE	=	1.0 SPACES
TOTAL		=	166.3 SPACES

NOTES

1. SEE NOTES ON SHEET C-01.
2. ALL PAVING DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
3. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE PORTSMOUTH, NH ZONING ORDINANCE AND SITE PLAN REVIEW REGULATIONS.
4. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLAND BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.
5. THE 3' PANEL ALONG THE PARKING LOT EDGE & DRIVE SHALL BE USED FOR SNOW STORAGE.
6. UPON APPROVAL THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
7. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
8. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE LAYOUT PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
CITY OF PORTSMOUTH
PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

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FILE 47528.00 | DR JKC | CK JJM | FB | CADFILE 47528-00_SITE LAYOUT_PHASE 2 | C-05

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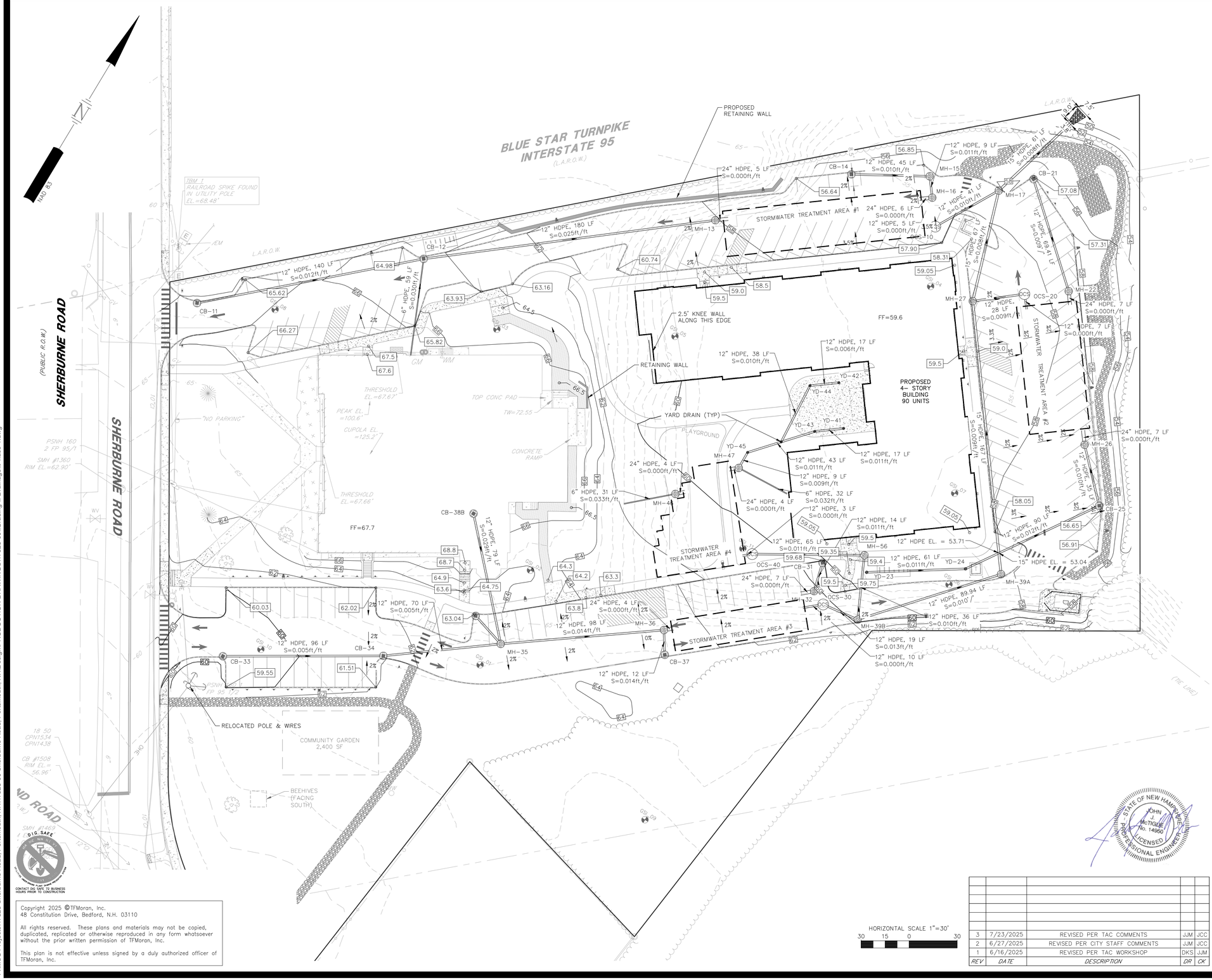
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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

Jul 30, 2025 - 12:55:1m
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NOTES

1. SEE NOTES ON SHEET C-01.
2. ALL DOORS AND ENTRANCES SHALL BE AT FINISHED FLOOR ELEVATION UNLESS OTHERWISE NOTED.
3. PROPOSED SPOT GRADES ARE PROVIDED TO THE NEAREST 0.05. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE FINISHED GRADES MEET ADA STANDARDS FOR WHEEL CHAIR RAMPS, ADA SPACES AND ACCESS AISLES, CROSSWALKS, SIDEWALKS, ETC.
4. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
5. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
6. DRAINAGE PIPES WITH LESS THAN 3' COVER SHALL BE INSULATED (SEE UTILITY TRENCH DETAIL) AND DRAINAGE CATCH BASINS WITH LESS THAN 3.5' OF COVER OVER INVERTS SHALL USE SLAB TOP CATCH BASIN (SEE DETAILS).
7. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND ARCHITECTURAL PLANS FOR SUBDRAINAGE SYSTEMS FOR THE BUILDING FOUNDATION. SUBDRAINAGE MUST DAYLIGHT OR TIE INTO THE STORMWATER MANAGEMENT SYSTEM.



HORIZONTAL SCALE 1"=30'

30 15 0 30

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

GRADING & DRAINAGE PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE JOHN J. MCTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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FILE	DR	JKC	FB		
47528.00	CK	JJM	CADFILE	47528-00_GRADING & DRAINAGE_PHASE 1	C-06

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NOTES

1. SEE NOTES ON SHEET C-01.
2. ALL DOORS AND ENTRANCES SHALL BE AT FINISHED FLOOR ELEVATION UNLESS OTHERWISE NOTED.
3. PROPOSED SPOT GRADES ARE PROVIDED TO THE NEAREST 0.05. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE FINISHED GRADES MEET ADA STANDARDS FOR WHEEL CHAIR RAMPS, ADA SPACES AND ACCESS AISLES, CROSSWALKS, SIDEWALKS, ETC.
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STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
CB-51	RIM = 62.47 CB-51 INV OUT = 58.30
CB-53	RIM = 60.04 CB-53 INV OUT = 55.90
MH-52	RIM = 62.08 CB-51 INV IN = 57.90 MH-52 INV OUT = 54.10
MH-54	RIM = 61.06 CB-53 INV IN = 55.68 MH-54 INV OUT = 54.10
OCS-50	RIM = 61.41 ST-50 INV IN = 54.10 OCS-50 INV OUT = 57.30

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

GRADING & DRAINAGE PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE
JOHN J. McCUSKER
No. 14950
LICENSED
PROFESSIONAL ENGINEER

HORIZONTAL SCALE 1"=30'
30 15 0 30

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FILE 47528.00 | DR JKC FB | CK JJM | CADFILE 47528-00_GRADING & DRAINAGE_PHASE 2 | C-07

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STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
CB-11	RIM = 65.15 CB-11 INV OUT = 60.75
CB-12	RIM = 64.45 CB-11 INV IN = 59.05 RL-39 INV IN = 59.65 CB-12 INV OUT = 57.75
CB-14	RIM = 56.48 CB-14 INV OUT = 52.40
CB-21	RIM = 57.08 CB-21 INV OUT = 53.00
CB-25	RIM = 56.60 YD-24 INV IN = 53.00 CB-25 INV OUT = 52.90
CB-31	RIM = 59.68 CB-31 INV OUT = 55.45
CB-33	RIM = 59.11 CB-33 INV OUT = 55.00
CB-34	RIM = 61.38 CB-33 INV IN = 54.45 CB-34 INV OUT = 54.35
CB-37	RIM = 62.70 CB-37 INV OUT = 58.65
CB-38A	RIM = 62.80 CB-38A INV OUT = 58.40
CB-38B	RIM = 67.13 CB-38B INV OUT = 61.65
MH-13	RIM = 58.32 CB-12 INV IN = 53.15 MH-13 INV OUT = 49.55
MH-15	RIM = 57.02 CB-14 INV IN = 51.90 MH-15 INV OUT = 51.80
MH-16	RIM = 57.29 MH-15 INV IN = 51.65 MH-16 INV OUT = 49.55

STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
MH-17	RIM = 57.51 OCS-10 INV IN = 53.15 MH-27 INV IN = 50.10 MH-17 INV OUT = 50.00
MH-22	RIM = 57.73 CB-21 INV IN = 52.35 MH-22 INV OUT = 50.10
MH-26	RIM = 57.16 CB-25 INV IN = 52.50 MH-26 INV OUT = 50.10
MH-27	RIM = 58.94 OCS-20 INV IN = 53.95 MH-39A INV IN = 50.80 MH-27 INV OUT = 50.70
MH-32	RIM = 60.08 CB-31 INV IN = 55.25 MH-32 INV OUT = 52.50
MH-35	RIM = 63.35 CB-34 INV IN = 53.95 CB-38B INV IN = 59.20 CB-38A INV IN = 58.00 MH-35 INV OUT = 53.85
MH-36	RIM = 62.55 MH-36 INV IN = 52.50 CB-37 INV IN = 58.45 MH-35 INV IN = 52.44
MH-39A	RIM = 58.14 MH-39B INV IN = 53.45 MH-39A INV OUT = 52.30
MH-39B	RIM = 59.94 OCS-30 INV IN = 55.50 MH56 INV IN = 54.50 MH-39B INV OUT = 54.40
MH-46	RIM = 60.55 RL-48 INV IN = 57.00 MH-46 INV OUT = 51.50
MH-47	RIM = 58.63 YD-45 INV IN = 53.60 RL-47 INV IN = 53.80 MH-47 INV OUT = 51.50
MH-56	RIM = 59.33 OCS-40 INV IN = 55.00 MH56 INV OUT = 54.90
OCS-10	RIM = 57.66 ST-10 INV IN = 49.55 OCS-10 INV OUT = 53.60
OCS-20	RIM = 58.28 ST-20 INV IN = 50.10 OCS-20 INV OUT = 54.25

STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
OCS-30	RIM = 60.13 ST-30 INV IN = 52.50 OCS-30 INV OUT = 55.80
OCS-40	RIM = 60.73 ST-40 INV IN = 51.50 OCS-40 INV OUT = 55.75
Y-1	RIM = 58.91 YD-44 INV IN = 54.56
YD-23	RIM = 59.23 YD-23 INV OUT = 54.95
YD-24	RIM = 58.51 YD-23 INV IN = 54.25 YD-24 INV OUT = 54.15
YD-41	RIM = 58.88 YD-41 INV OUT = 55.25
YD-42	RIM = 58.88 YD-42 INV OUT = 55.15
YD-43	RIM = 58.88 YD-41 INV IN = 55.05 YD-43 INV OUT = 54.80
YD-44	RIM = 58.88 YD-42 INV IN = 55.05 YD-44 INV OUT = 54.95
YD-45	RIM = 58.10 YD-43 INV IN = 54.30 YD-45 INV OUT = 53.70

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STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14950
LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DRAINAGE STRUCTURE TABLE

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

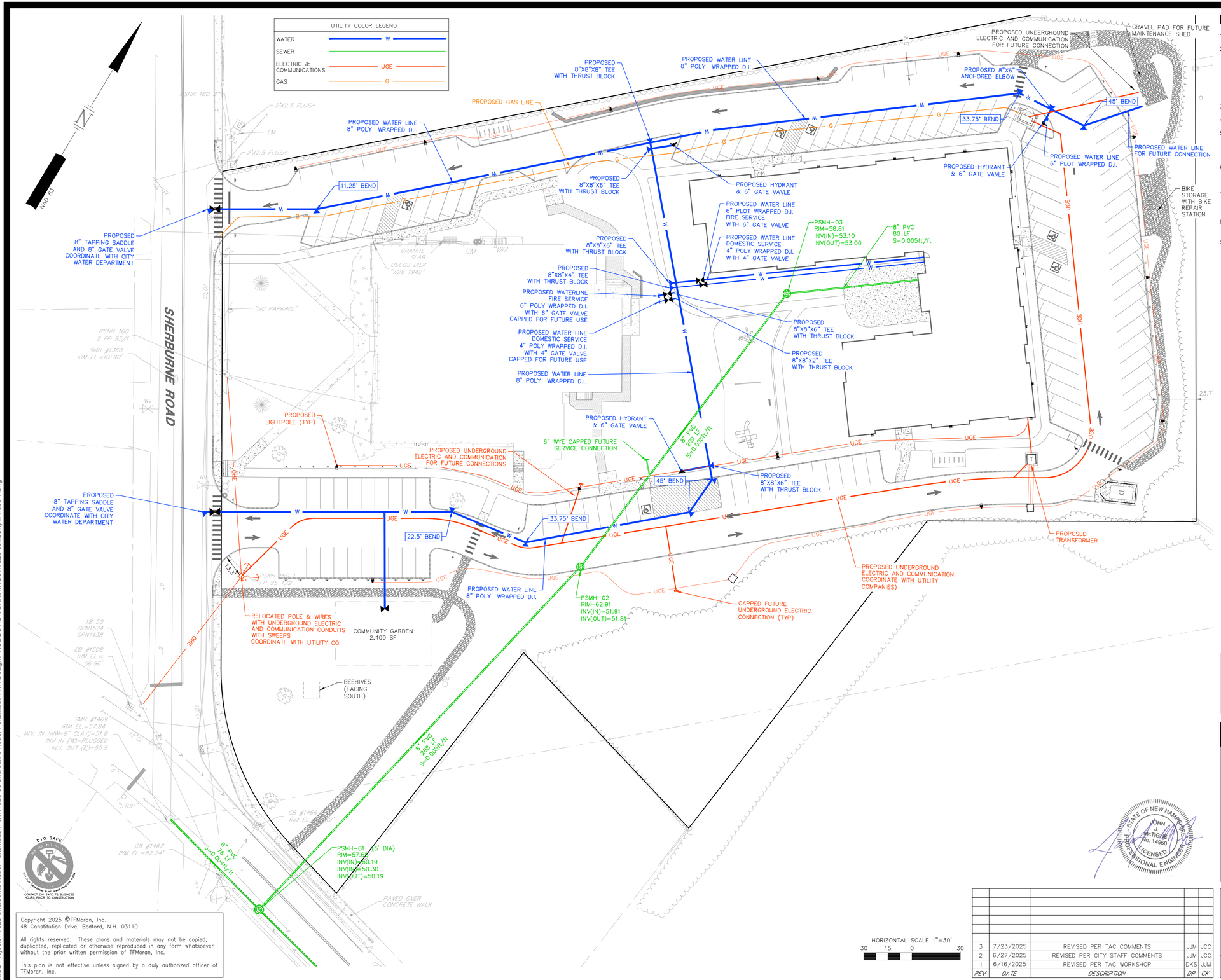
1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
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Fax (603) 472-9747
www.tfmoran.com

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47528.00	CK	JJM	CADFILE	47528-00_GRADING & DRAINAGE_PHASE 1	C-08



NOTES

1. SEE NOTES ON SHEET C-01.
2. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	MUNICIPAL
SEWER	MUNICIPAL
WATER	MUNICIPAL
GAS	UNITIL
ELECTRIC	EVERSOURCE
TELEPHONE	CONSOLIDATED COMMUNICATIONS FKA FAIRPOINT COMMUNICATIONS
CABLE	COMCAST

3. THIRD PARTY INSPECTOR SHALL BE ON SITE TO INSPECT THE INSTALLATION OF UTILITIES.
4. SDR-35 SHALL BE USED FOR ALL GRAVITY SEWER LINES.
5. CONTRACTOR SHALL PROVIDE 18" MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN/SERVICES AND SEWER MAIN/SERVICES AT CROSSINGS, WATER OVER SEWER (UNLESS OTHERWISE NOTED) WHERE 18" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE SDR-21 PVC PIPE FOR SEWER MAIN PIPE BETWEEN STRUCTURES.
6. CONTRACTOR SHALL PROVIDE 24" MINIMUM VERTICAL CLEARANCE BETWEEN SEWER MAIN/SERVICES AND STORM DRAIN LINES. WHERE 24" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION PER DETAIL ON SHEET C-31.
7. CONTRACTOR SHALL PROVIDE 24" MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN/SERVICES AND STORM DRAIN LINES. WHERE 24" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION PER DETAIL ON SHEET C-31.
8. CONTRACTOR SHALL PROVIDE 5' MINIMUM COVER OVER WATER MAIN/SERVICES. WHERE 5' COVER CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION.
9. CONTRACTOR SHALL PROVIDE 2' MINIMUM HORIZONTAL CLEARANCE BETWEEN UTILITY MAIN/SERVICES AND STRUCTURES.

APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

UTILITY PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

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STATE OF NEW HAMPSHIRE JOHN J. MCTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

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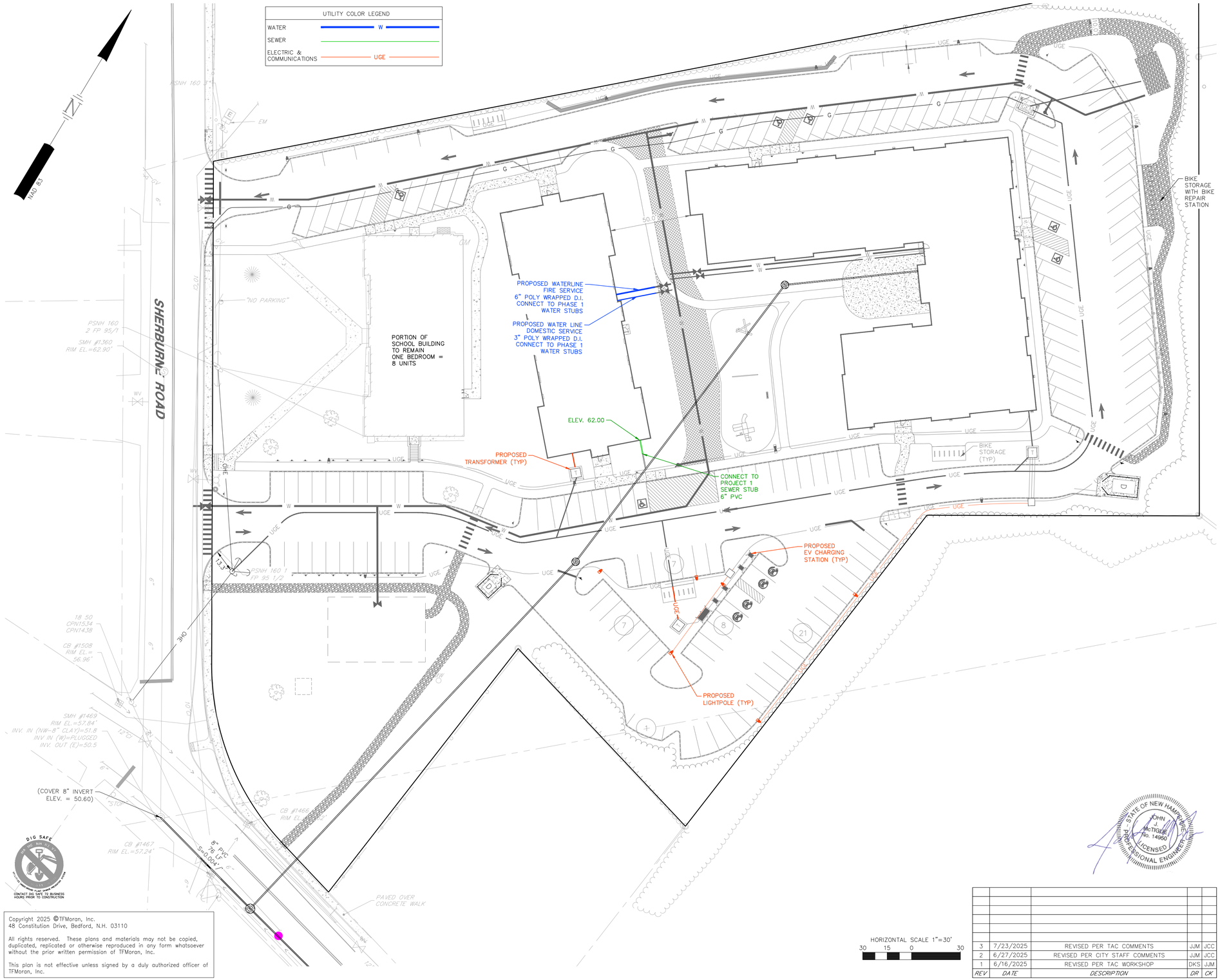
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47528.00	CK	JJM	CADFILE	47528-00_UTILITY_PHASE 1	C-09

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NOTES

1. SEE NOTES ON SHEET C-01.
2. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	MUNICIPAL
SEWER	MUNICIPAL
WATER	MUNICIPAL
GAS	UNITIL
ELECTRIC	EVERSOURCE
TELEPHONE	CONSOLIDATED COMMUNICATIONS FKA FAIRPOINT COMMUNICATIONS
CABLE	COMCAST

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6. CONTRACTOR SHALL PROVIDE 24" MINIMUM VERTICAL CLEARANCE BETWEEN SEWER MAIN/SERVICES AND STORM DRAIN LINES. WHERE 24" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION PER DETAIL ON SHEET C-76.
7. CONTRACTOR SHALL PROVIDE 24" MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN/SERVICES AND STORM DRAIN LINES. WHERE 24" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION PER DETAIL ON SHEET C-76.
8. CONTRACTOR SHALL PROVIDE 5' MINIMUM COVER OVER WATER MAIN/SERVICES. WHERE 5' COVER CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION.
9. CONTRACTOR SHALL PROVIDE 2' MINIMUM HORIZONTAL CLEARANCE BETWEEN UTILITY MAIN/SERVICES AND STRUCTURES.

APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

UTILITY PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE JOHN McTIGUE No. 14966 LICENSED PROFESSIONAL ENGINEER

DIG SAFE STATE OF NH (811) CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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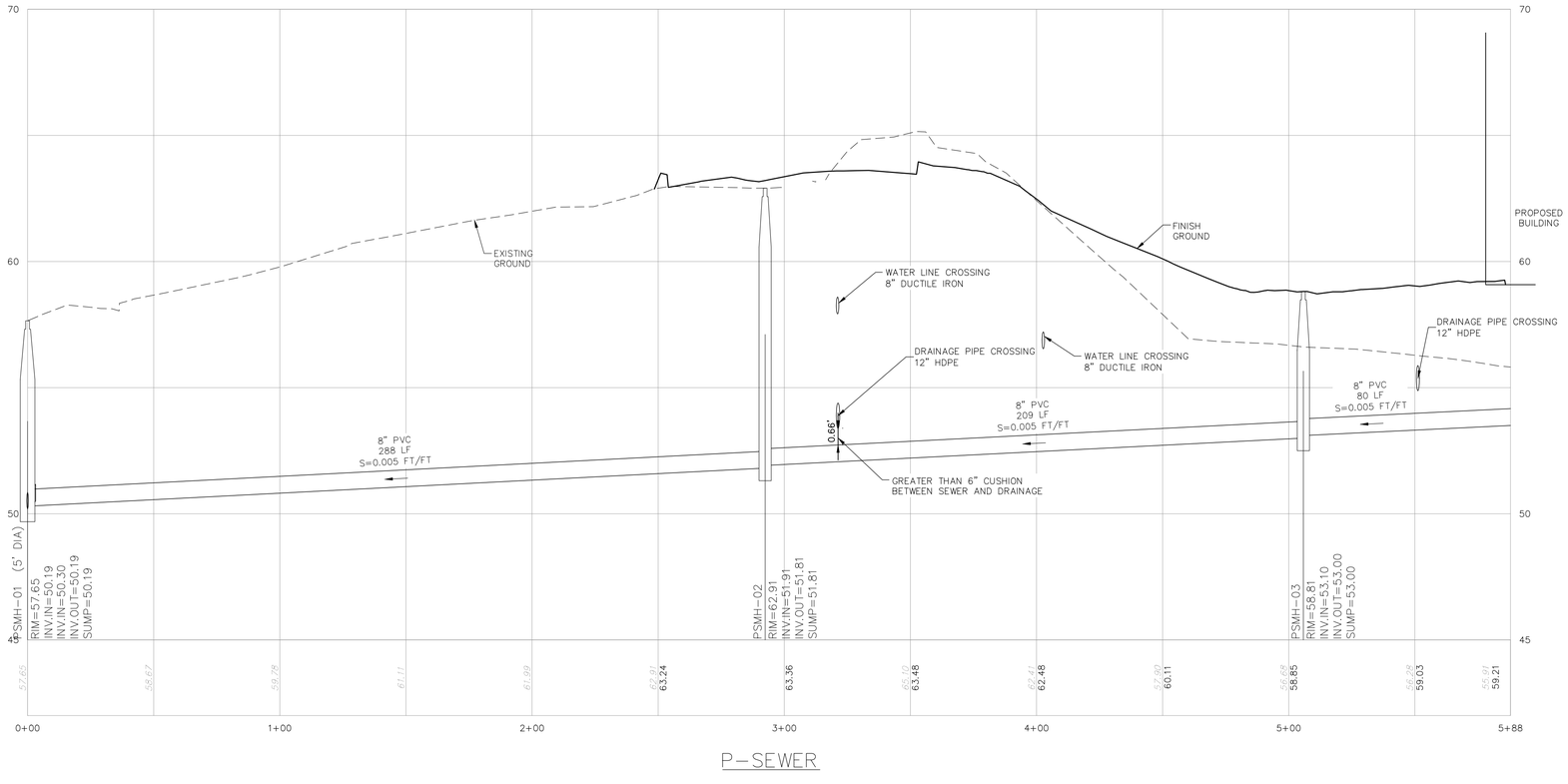
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47528.00	CK	JJM	CADFILE	47528-00_UTILITY_PHASE 2	C-10

NOTES

1. CONTRACTOR SHALL PROVIDE 18" MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN/SERVICES AND SEWER MAIN/SERVICES AT CROSSINGS, WATER OVER SEWER (UNLESS OTHERWISE NOTED) WHERE 18" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE SDR-21 PVC PIPE FOR SEWER MAIN PIPE BETWEEN STRUCTURES.
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3. CONTRACTOR SHALL PROVIDE 24" MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN/SERVICES AND STORM DRAIN LINES. WHERE 24" VERTICAL CLEARANCE CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION PER DETAIL ON SHEET C-34.
4. CONTRACTOR SHALL PROVIDE 5' MINIMUM COVER OVER WATER MAIN/SERVICES. WHERE 5' COVER CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE INSULATION.
5. CONTRACTOR SHALL PROVIDE 2' MINIMUM HORIZONTAL CLEARANCE BETWEEN UTILITY MAIN/SERVICES AND STRUCTURES.
6. SDR-35 PIPE SHALL BE USED FOR GRAVITY SEWER LINES.



P-SEWER

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SEWER PROFILE

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE JOHN J. McTIGUE No. 14960 LICENSED PROFESSIONAL ENGINEER

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HORIZONTAL SCALE 1"=30'
30 15 0 30
3 0 3
VERTICAL SCALE 1"=3'

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1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

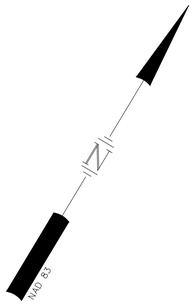
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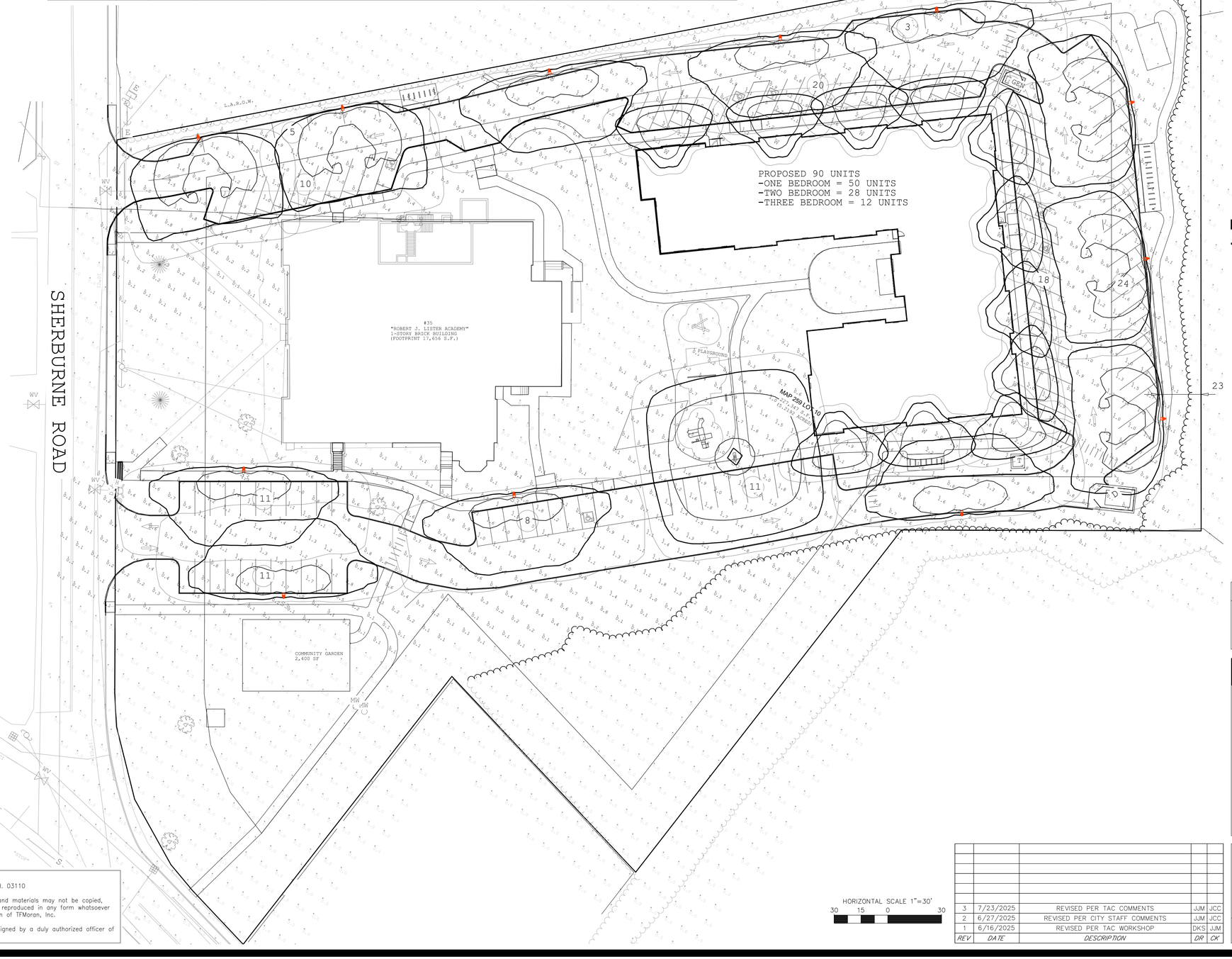
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47528.00	CK	JJM	CADFILE	47528-00_SEWER-PROFILE	C-11

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Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	8	S3	Single	VALS-09L-3W-UNV-30K8-IS-CXX / 4SQ B3 S11G20 S AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	5	S4	Single	VALS-09L-4F-UNV-30K8-IS-CXX / 4SQ B3 S11G20 S AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	1	S5-2	Back-Back	VALS-06L-5M-UNV-30K8-CXX / 4SQ B3 S11G20 D180 CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	11	W	Single	XWS-LED-02L-SIL-3-UNV-DIM-30-70CRI-CXX	WALL MOUNTED 12' AFG	LSI INDUSTRIES, INC.







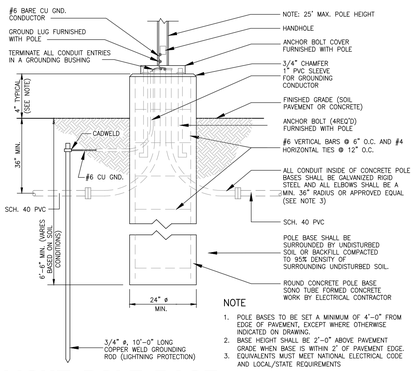
WALL MOUNTED – XWS-LED



POLE MOUNTED – VALS

NOTES

- PROPOSED LIGHTING SHALL BE DARK SKY COMPLIANT.



NOTE
1. POLE BASES TO BE SET A MINIMUM OF 4'-0" FROM EDGE OF PAVEMENT, EXCEPT WHERE OTHERWISE INDICATED ON DRAWING.
2. BASE HEIGHT SHALL BE 2'-0" ABOVE PAVEMENT GRADE WHEN BASE IS WITHIN 2' OF PAVEMENT EDGE.
3. EQUIVALENTS MUST MEET NATIONAL ELECTRICAL CODE AND LOCAL/STATE REQUIREMENTS

LIGHT POLE BASE

NOT TO SCALE

APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

LIGHTING PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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HORIZONTAL SCALE 1"=30'
30 15 0 30

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

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Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

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47528.00	CK	JJM	CADFILE	47528-00_LIGHTING_PHASE 1	C-12

SITE LAYOUT PLAN

Jul 30, 2025 - 1:09 pm
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Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	11	S3	Single	VALS-09L-3W-UNV-30K8-IS-CXX / 4SQ B3 S11G20 S AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	7	S4	Single	VALS-09L-4F-UNV-30K8-IS-CXX / 4SQ B3 S11G20 S AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	1	S5-2	Back-Back	VALS-06L-5M-UNV-30K8-CXX / 4SQ B3 S11G20 D180 CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	11	W	Single	XWS-LED-02L-SIL-3-UNV-DIM-30-70CRI-CXX	WALL MOUNTED 12' AFG	LSI INDUSTRIES, INC.

PHASE I

Illuminance (Fc)
Average = 1.13
Maximum = 2.9
Minimum = 0.4
Avg/Min Ratio = 2.83
Max/Min Ratio = 7.25

PHASE II
DRIVES AND PARKING
Illuminance (Fc)
Average = 1.48
Maximum = 3.9
Minimum = 0.4
Avg/Min Ratio = 3.70
Max/Min Ratio = 9.75





HORIZONTAL SCALE 1"=30'
30 15 0 30



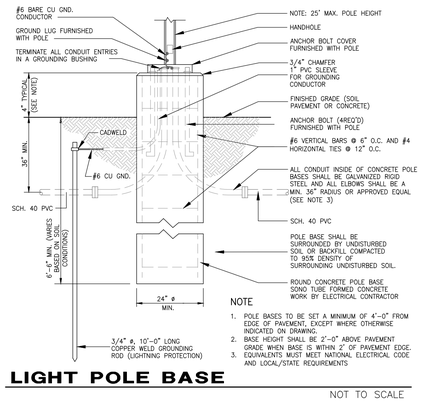
WALL MOUNTED – XWS-LED



POLE MOUNTED – VALS

NOTES

- PROPOSED LIGHTING SHALL BE DARK SKY COMPLIANT.



NOTE
1. POLE BASES TO BE SET A MINIMUM OF 4'-0" FROM EDGE OF PAVEMENT, EXCEPT WHERE OTHERWISE INDICATED ON DRAWING.
2. BASE HEIGHT SHALL BE 2'-0" ABOVE PAVEMENT GRADE WHEN BASE IS WITHIN 3' OF PAVEMENT EDGE.
3. EQUIVALENTS MUST MEET NATIONAL ELECTRICAL CODE AND LOCAL/STATE REQUIREMENTS

LIGHT POLE BASE
NOT TO SCALE

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

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TAX MAP 259 LOT 10

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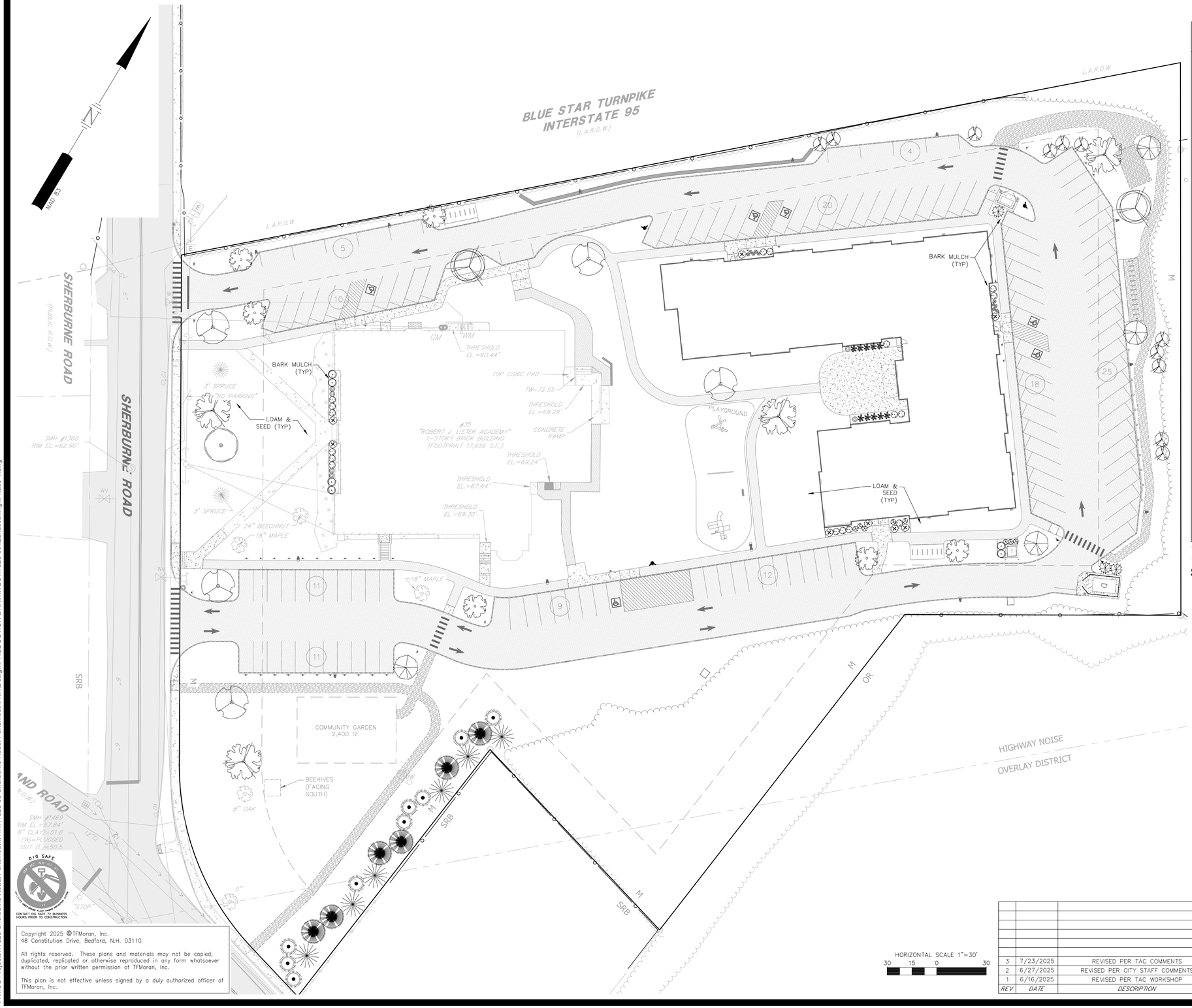
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SITE LAYOUT PLAN

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LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	MATURE HEIGHT/ SPREAD	GROWTH HABIT
	6	ACER RUBRUM 'BOWHALL' BOWHALL RED MAPLE	2" TO 2 1/2" CAL.	B&B	40' TO 60' 10' TO 15'	UPRIGHT
	4	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2" TO 2 1/2" CAL.	B&B	40' TO 60' 30' TO 40'	OVAL
	4	AMELANCHIER X GRANDIFLORA 'ROBIN HILL' ROBIN HILL SERVICEBERRY	2" TO 2 1/2" CAL.	B&B	15' TO 20' 10' TO 15'	UPRIGHT
	2	BETULA NIGRA 'DURA HEAT' DURA HEAT RIVER BIRCH	8' TO 10' CLUMP	B&B	40' TO 60' 20' TO 30'	PYRAMIDAL
	4	PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANETREE	2" TO 2 1/2" CAL.	B&B	60' + 60' +	ROUNDED
	1	QUERCUS ALBA WHITE OAK	2" TO 2 1/2" CAL.	B&B	60' + 60' +	BROAD
	6	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	6' TO 7'	B&B	30' TO 40' 15' TO 20'	UPRIGHT
	6	PICEA GLAUCA WHITE SPRUCE	6' TO 7'	B&B	40' TO 60' 15' TO 20'	PYRAMIDAL
	9	THUJA OCCIDENTALIS 'NIGRA' DARK AMERICAN ARBORVITAE	6' TO 7'	B&B	20' TO 30' 10' TO 15'	PYRAMIDAL
	10	ASTILBE 'MONTGOMERY' MONTGOMERY ASTILBE	1 GAL	CONT.	18"' TO 24"' 18"' TO 24"'	MOUNDED
	8	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES' SIXTEEN CANDLES SUMMERSWEET	3 GAL.	CONT.	4' TO 5' 2' TO 3'	COMPACT
	11	FORSYTHIA 'LYNWOOD GOLD' LYNWOOD GOLD FORSYTHIA	3 GAL.	CONT.	6' TO 8' 6' TO 8'	ROUNDED
	17	HYDRANGEA ENDLESS SUMMER 'B.B.' BLUSHING BRIDE HYDRANGEA	3 GAL.	CONT.	3' TO 4' 3' TO 4'	MOUNDED
	6	ILEX GLABRA 'DENSA' DENSA INKBERRY	3 GAL.	CONT.	5-6' 4-5'	ROUNDED
	8	JUNIPERUS H. 'PLUMOSA COMPACTA' YOUNGSTOWN JUNIPER	3 GAL.	CONT.	12" TO 24" 6' TO 8'	SPREADING
	10	PANICUM VIRGATUM 'SHENANDOAH' SHENANDOAH SWITCH GRASS	1 GAL.	CONT.	3' TO 4' 3' TO 4'	CLUMPING
	3	THUJA OCCIDENTALIS 'TECHNY' MISSION ARBORVITAE	4' TO 5'	B&B	10' TO 15' 6' TO 8'	PYRAMIDAL
	6	SALVIA 'BLUE HILL' BLUE HILL SAGE	1 GAL.	CONT.	12" TO 24" 2' TO 3'	COMPACT

* ALL PLANTS CONTAINED IN LEGEND HAVE BEEN SELECTED FOR URBAN GROWING CONDITIONS.
* TREES LABELED AND SHOWN IN GRAY DENOTES EXISTING TREE

SEE DETAILS FOR LANDSCAPE NOTES

CITY OF PORTSMOUTH PLANNING BOARD

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TAX MAP 259 LOT 10

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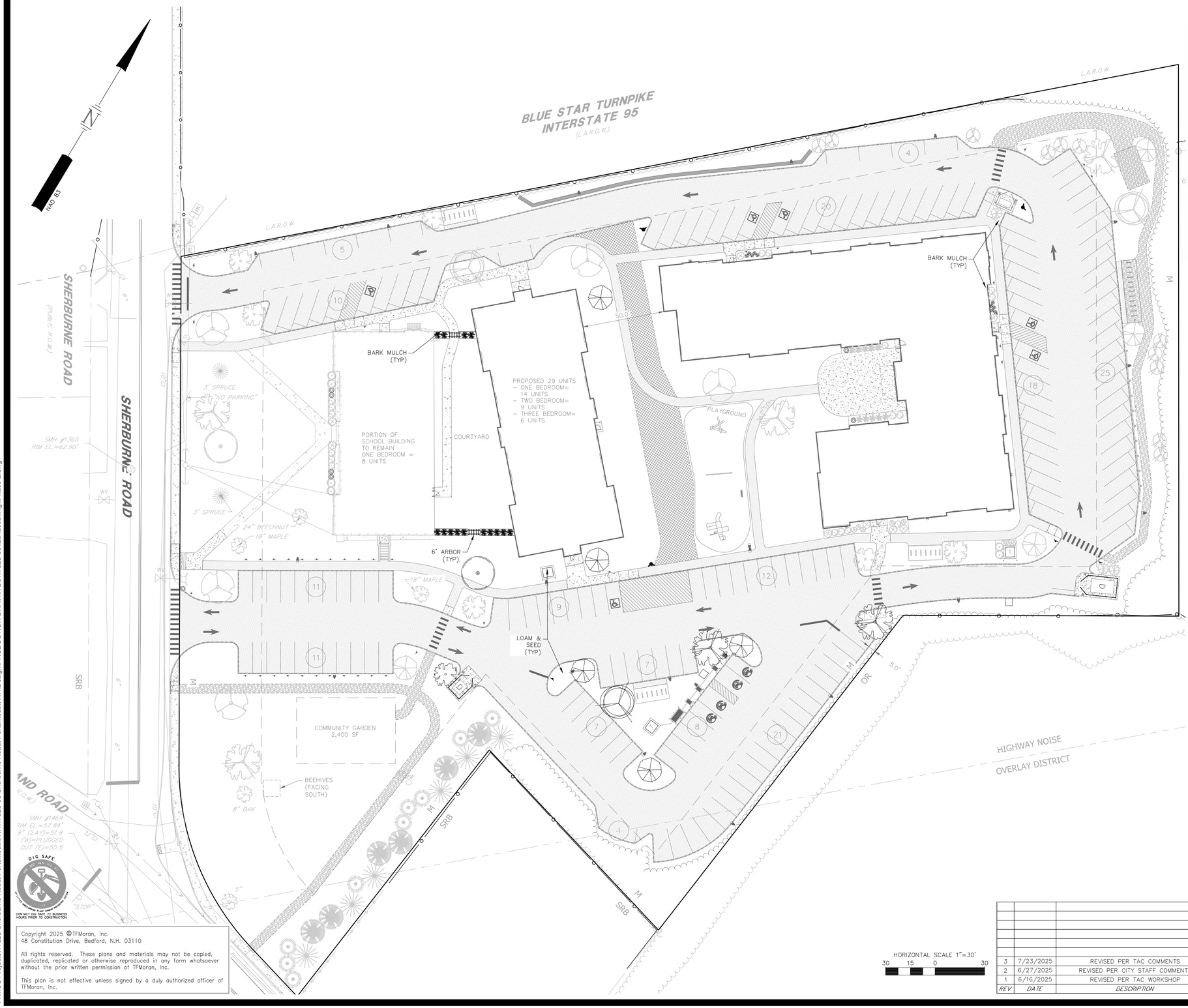
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	14	ILEX CRENATA 'CHESAPEAKE' CHESAPEAKE JAPANESE HOLLY	3 GAL.	CONT.	6' TO 8' 3' TO 4'	PYRAMIDAL

* ALL PLANTS CONTAINED IN LEGEND HAVE BEEN SELECTED FOR URBAN GROWING CONDITIONS.
* TREES LABELED AND SHOWN IN GRAY DENOTES EXISTING TREE

SEE DETAILS FOR LANDSCAPE NOTES

HORIZONTAL SCALE 1"=30'
30 15 0 30

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CHAIRPERSON	DATE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

LANDSCAPE PLAN PROJECT 2

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LANDSCAPE NOTES

GENERAL

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES HAVING JURISDICTION OVER THIS PROJECT SITE.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. LANDSCAPE QUANTITIES SHOWN ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN LANDSCAPE LEGEND.
4. THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO STARTING WORK AND VERIFY THAT THE PLANS IN THE CONTRACTOR'S POSSESSION ARE THE MOST CURRENT PLANS AVAILABLE AND ARE THE APPROVED PLAN SET FOR USE IN CONSTRUCTION.
5. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
6. ALL PLANTS SHALL BE FIRST CLASS AND SHALL BE REPRESENTATIVE OF THEIR NORMAL SPECIES AND/OR VARIETIES. ALL PLANTS MUST HAVE GOOD, HEALTHY, WELL-FORMED UPPER GROWTH AND A LARGE, FIBEROUS, COMPACT ROOT SYSTEM.
7. ALL PLANTS SHALL BE FREE FROM DISEASE AND INSECT PESTS AND SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS PERTAINING TO PLANT DISEASES AND INFESTATIONS.
8. ALL TREES SHALL BE BALLED AND BURLAPPED (B & B) UNLESS OTHERWISE NOTED OR APPROVED BY LANDSCAPE ARCHITECT.
9. IF APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.
10. ALL INVASIVE PLANT SPECIES FROM THE "NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST", TO BE REMOVED SHALL BE DONE SO IN ACCORDANCE WITH THE "INVASIVE SPECIES ACT, HB 1258-FN."

GUARANTEE

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE WORK FOR A PERIOD OF ONE YEAR, BEGINNING AT THE START OF THE MAINTENANCE PERIOD.

LANDSCAPE SPECIFICATIONS

SITE AND SOIL PREPARATION

1. WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR LEDGE, NOTIFY LANDSCAPE ARCHITECT/ENGINEER BEFORE PLANTING.
2. ALL DISTURBED AREAS & PLANTING AREAS, INCLUDING AREAS TO BE SODDED, SHALL RECEIVE THE FOLLOWING SOIL PREPARATION PRIOR TO PLANTING: A MINIMUM OF 6 INCHES OF LIGHTLY COMPACTED TOPSOIL SHALL BE INSTALLED OVER THE SUBSOIL IF TOPSOIL HAS BEEN REMOVED OR IS NOT PRESENT.
3. LOAM SHALL CONSIST OF LOOSE FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. LOAM SHALL BE FREE FROM STONES, LUMPS, STUMPS, OR SIMILAR OBJECTS LARGER THAN TWO INCHES (2") IN GREATEST DIAMETER, SUBSOIL, ROOTS, AND WEEDS. THE MINIMUM AND MAXIMUM PH VALUE SHALL BE FROM 5.5 TO 7.6. LOAM SHALL CONTAIN A MINIMUM OF THREE PERCENT (3%) AND A MAXIMUM OF TWENTY PERCENT (20%) ORGANIC MATTER AS DETERMINED BY LOSS BY IGNITION. NOT MORE THAN SIXTY-FIVE PERCENT (65%) SHALL PASS A NO. 200 SIEVE AS DETERMINED BY THE WASH TEST IN ACCORDANCE WITH ASTM D1140. IN NO INSTANCE SHALL MORE THAN 20% OF THAT MATERIAL PASSING THE #4 SIEVE CONSIST OF CLAY SIZE PARTICLES.
4. NATURAL TOPSOIL NOT CONFORMING TO THE PARAGRAPH ABOVE OR CONTAINING EXCESSIVE AMOUNTS OF CLAY OR SAND SHALL BE TREATED BY THE CONTRACTOR TO MEET THOSE REQUIREMENTS.
5. SUBMIT TEST RESULTS OBTAINED FROM SOURCE TO ENGINEER/LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL, PRIOR TO SPREADING OPERATIONS.
6. APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT TO USE THE TOPSOIL WILL DEPEND UPON THE RESULTS OF THE SOIL TESTS.
7. THE BURDEN OF PROOF OF SOIL AMENDMENT INSTALLATION RESTS WITH THE CONTRACTOR. SOIL TESTS MAY BE REQUIRED AT THE CONTRACTOR'S EXPENSE IN ORDER TO CONFIRM AMENDMENT INSTALLATION.

PLANTING

1. EXCAVATE PITS, PLANTERS, BEDS AND TRENCHES WITH VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY RAISED AT CENTER TO PROVIDE PROPER DRAINAGE. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION.
2. ANY LEDGE OR RUBBLE MATERIAL SHALL BE FRACTURED TO A DEPTH OF 3 FEET AND EXCAVATED TO A DEPTH OF 30 INCHES FOR TREE POCKETS AND 18 INCHES FOR SHRUB BEDS. THIS PROCEDURE SHALL BE HANDLED BY THE SITE CONTRACTOR. SITE TOPSOIL SHALL BE DEPOSITED IN ALL EXCAVATED POCKETS.
3. DISPOSE OF SUBSOIL REMOVED FROM PLANTING EXCAVATIONS. DO NOT MIX WITH PLANTING SOIL OR USE AS BACKFILL.
4. FILL EXCAVATIONS FOR TREES AND SHRUBS WITH WATER AND ALLOW TO PERCOLATE OUT BEFORE PLANTING.
5. DISH TOP OF BACKFILL TO ALLOW FOR MULCH – PLANT SAUCERS SHALL BE AS SHOWN ON DETAIL SHEETS; 6' DIAMETER FOR ALL DECIDUOUS TREES, AND FOR EVERGREEN TREES A RADIUS 2' BEYOND THE OUTER MOST BRANCHES.
6. MULCH TREES, SHRUBS, PLANTERS AND BEDS. PROVIDE NOT LESS THAN 3" THICKNESS OF BARK MULCH, 3/8"-2" OF WIDTH, AND WORK INTO TOP OF BACKFILL. FINISH LEVEL WITH ADJACENT FINISH GRADES AS DIRECTED IN THE FIELD.
7. STAKE AND GUY TREES IMMEDIATELY AFTER PLANTING (TREE SUPPORT STAKES SHALL BE 2" X 3" X 8', WOOD STAKES. GUYING WIRE SHALL BE NO. 12 GAUGE GALVANIZED SOFT STEEL WIRE. HOSE FOR COVERING WIRE SHALL BE NEW OR USED TWO PLY RUBBER HOSE NOT LESS THAN 1/2 INCH INSIDE DIAMETER. (PLASTIC "CINCH-TIES" OR EQUIVALENT FASTENING DEVICE MAY BE AN ACCEPTABLE GUY WIRE AND HOSE PROTECTOR SUBSTITUTE.)
8. TREEGATOR WATERING SYSTEM OR APPROVED EQUAL SHALL BE INSTALLED FOR ALL DECIDUOUS TREES AT TIME OF PLANTING AND REMOVED BEFORE FROST. WATERING RATE TO BE APPLIED PER MANUFACTURER'S SPECIFICATIONS.
9. ALL PLANT MATERIALS SHALL HAVE DEAD OR DAMAGED BRANCHES REMOVED AT TIME OF PLANTING. ALL TAGS AND RIBBONS SHALL BE REMOVED AT THIS TIME.
10. TREES TO REMAIN STAKED FOR 1 FULL GROWING SEASON.
11. THE CONTRACTOR SHALL REQUEST A FINAL OBSERVATION BY THE OWNER'S REPRESENTATIVE UPON COMPLETION OF INSTALLATION.

SEEDING

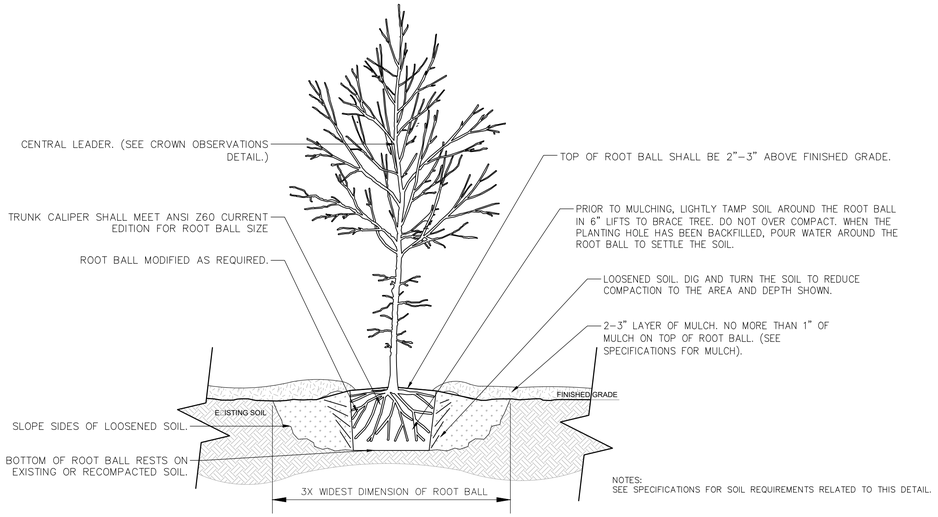
1. SLOPES UP TO AND INCLUDING 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA.
2. SLOPES STEEPER THAN 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA. SEE CIVIL FOR ADDITIONAL EROSION CONTROL MEASURES.
3. GENERAL SEED WILL BE NHDOT SPECIFICATION SECTION 644, TABLE 644-1-PARK SEED TYPE 15, INCLUDING NOTES TO TABLE 1, 2 & 3.

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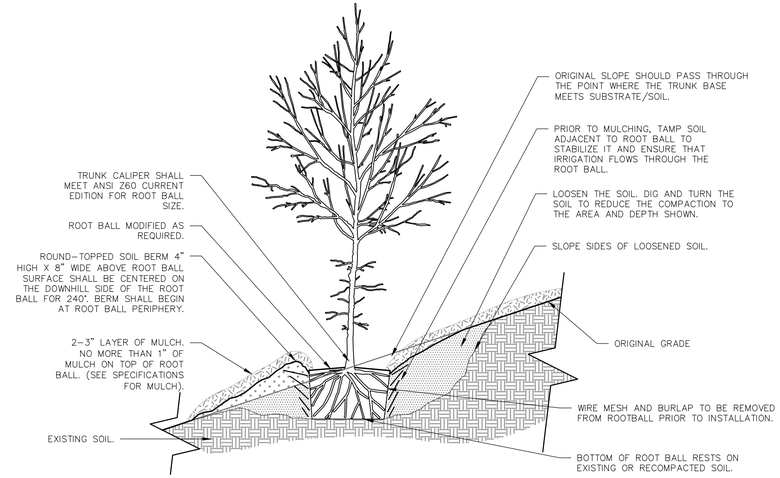
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SECTION VIEW

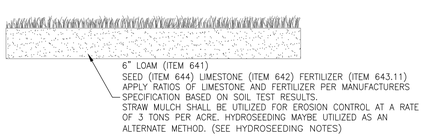
TREE WITH BERM

NOT TO SCALE



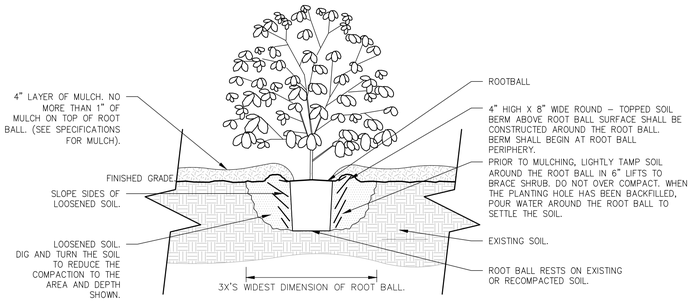
TREE ON SLOPE 5% (20:1) TO 50% (2:1)

NOT TO SCALE



LOAM & SEED

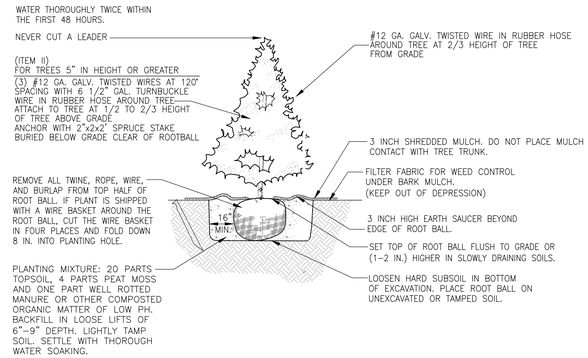
NOT TO SCALE



SECTION VIEW

SHRUB PLANTING

NOT TO SCALE



EVERGREEN PLANTING

NOT TO SCALE

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PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

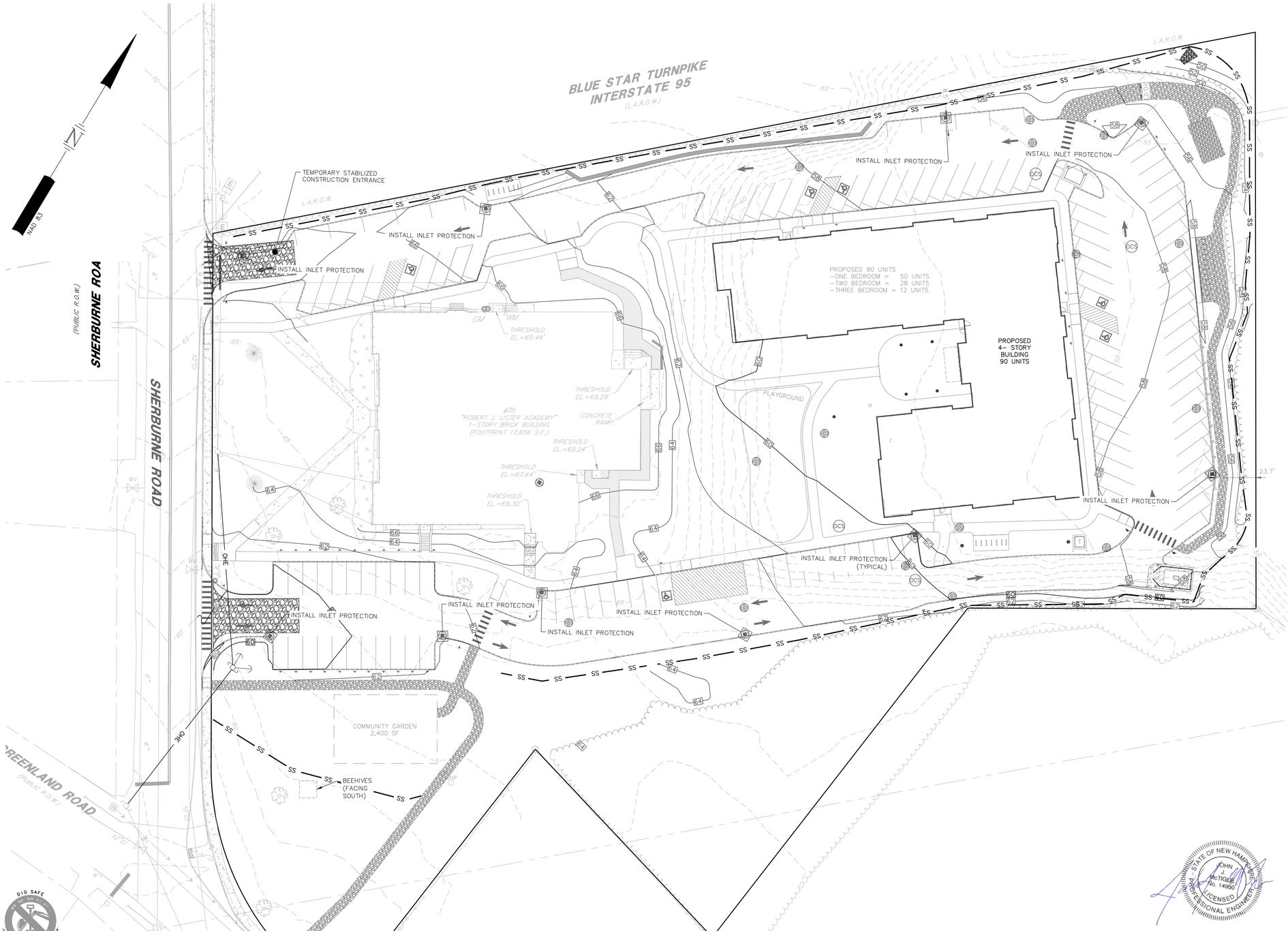
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
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SITE LAYOUT PLAN

Jul 30, 2025 - 1:1□m
P:\MSC Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-00 Landsca ing Phase 1.dwg



NOTES

1. INSTALL SILT BARRIER ALONG THE PERIMETER OF THE AREA TO BE DISTURBED AS FIRST ORDER OF WORK.
2. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED. INLET PROTECTION BARRIERS SHALL BE IN PLACE AT ALL CATCH BASINS PRIOR TO THE DISTURBANCE OF SOIL.
3. DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. IT SHALL BE ACCOMPLISHED BY THE UNIFORM APPLICATION OF CALCIUM CHLORIDE AT THE RATE OF 1-1/2 POUNDS PER SQUARE YARD BY MEANS OF A LIME SPREADER OR OTHER APPROVED METHOD. WATER MAY ALSO BE USED FOR DUST CONTROL, AND APPLIED BY SPRINKLING WITH WATER TRUCK DISTRIBUTORS, AS REQUIRED.
4. THE SITE WILL REQUIRE A USEPA NPDES PERMIT FOR STORMWATER DISCHARGE FOR THE SITE CONSTRUCTION IF THE DISTURBANCE EXCEEDS ONE ACRE. THE CONSTRUCTION SITE OPERATOR SHALL DEVELOP AND IMPLEMENT A CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT WHICH SHALL REMAIN ON SITE AND MADE ACCESSIBLE TO THE PUBLIC. THE SITE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE. A COMPLETED NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO NPDES PERMITTING AUTHORITY WITHIN 30 DAYS AFTER EITHER OF THE FOLLOWING CONDITIONS HAVE BEEN MET: FINAL STABILIZATION HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE FOR, OR ANOTHER OPERATOR/PERMITTEE HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
5. SILT PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS CONTAINED IN THIS PLAN SET.
6. CONSTRUCT JUTE MATTING ON ALL SLOPES STEEPER THAN 3:1, DISTURBED AREAS SLOPING TOWARDS WETLANDS AND ALL LOCATIONS SHOWN ON PLAN.
7. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RAIN STORM OF 0.10" OR GREATER. REPAIR/MODIFY SILT BARRIER AS NECESSARY TO MAXIMIZE FILTER EFFICIENCY. REMOVE SEDIMENT WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
8. PROVIDE SILT BARRIERS AT THE BASE OF CUT AND FILL SLOPES UNTIL COMPLETION OF THE PROJECT OR UNTIL VEGETATION BECOMES ESTABLISHED ON SLOPES. EROSION PROTECTION BELOW FILL SLOPES SHALL BE PLACED IMMEDIATELY AFTER CLEARING, PRIOR TO EMBANKMENT CONSTRUCTION.
9. ALL DISTURBED AREAS SHALL BE REVEGETATED AS QUICKLY AS POSSIBLE. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
10. ALL WORK AREAS TO BE STABILIZED AT THE END OF EACH WORK DAY AND PRIOR TO ANY PREDICTED SIGNIFICANT RAIN EVENT.
11. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    A. BASE COURSE GRAVELS, WHICH MEET THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2, ARE INSTALLED IN AREAS TO BE PAVED
    B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
    C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED
    D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
13. ALL CATCH BASINS, MANHOLES, AND DRAIN LINES SHALL BE THOROUGHLY CLEANED OF ALL SEDIMENT AND DEBRIS AFTER ALL AREAS HAVE BEEN STABILIZED.
14. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SLOPE STABILITY DURING CONSTRUCTION.
15. THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.
16. SEE ADDITIONAL NOTES NEXT SHEET.

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

EROSION CONTROL PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE — JOHN McTIGUE No. 14950 — LICENSED PROFESSIONAL ENGINEER

DIG SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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HORIZONTAL SCALE 1"=30'
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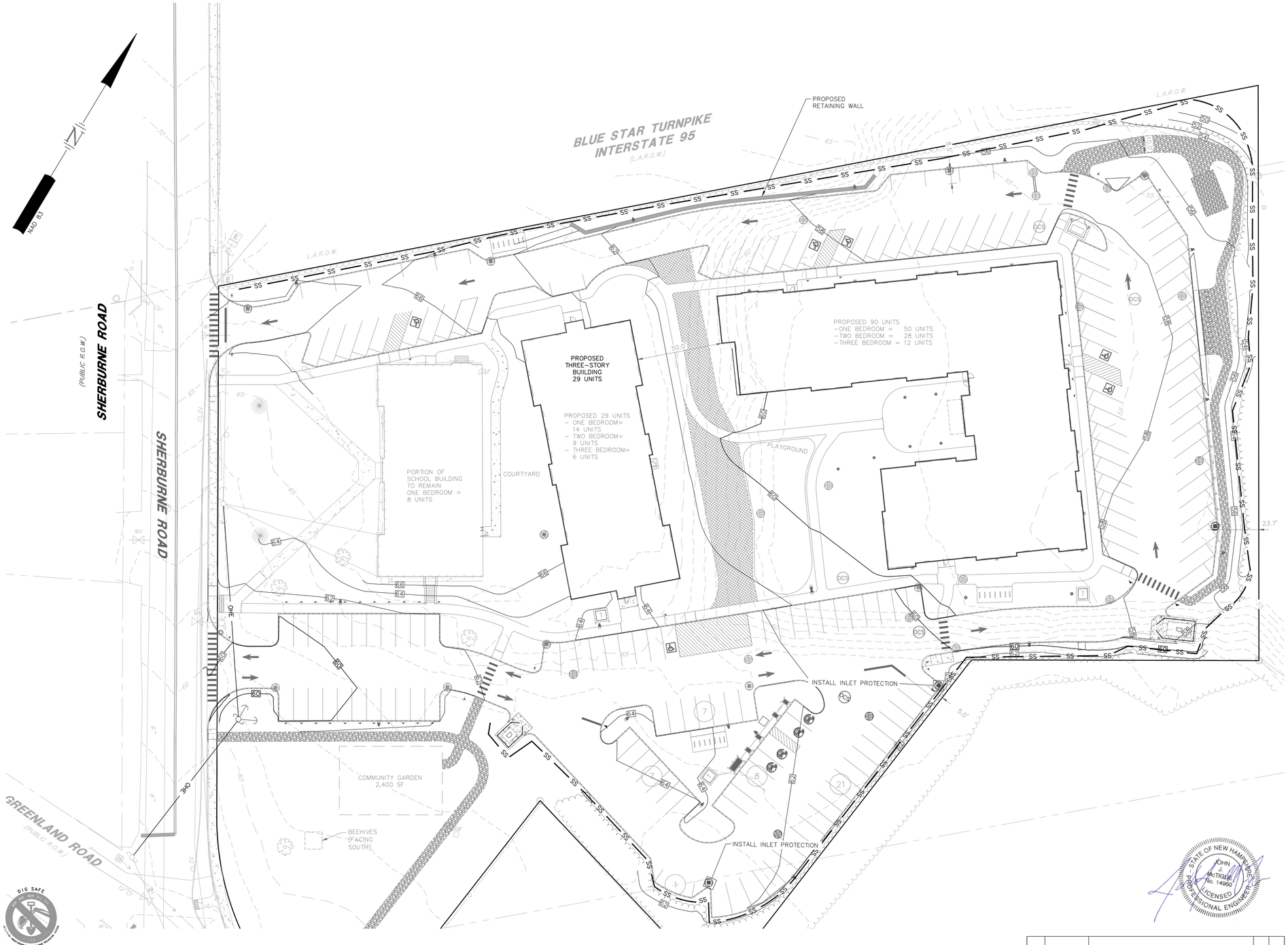
REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

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EROSION CONTROL PLAN

Jul 30, 2025 - 1:19:pm
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15. THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.
16. SEE ADDITIONAL NOTES NEXT SHEET.

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

EROSION CONTROL PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34")

JANUARY 29, 2025

STATE OF NEW HAMPSHIRE
JOHN J. ACTIGUE
No. 14960
LICENSED
PROFESSIONAL ENGINEER

DIG SAFE
811 OR 1-888-DIG-SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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HORIZONTAL SCALE 1"=30'
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SOIL CHARACTERISTICS

THE SOIL IN THE VICINITY OF THE SITE CONSIST OF URBAN LAND–HOOSIC COMPLEX, THE MAJORITY OF THE SOIL IS HSG TYPE A.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 183,500 SQUARE FEET (4.21 ACRES). CONSTRUCTION SHALL BE PHASED TO LIMIT DISTURBED AREAS TO LESS THAN 5 ACRES.

CRITICAL NOTE: THIS DRAWING IS PROVIDED FOR GENERAL GUIDANCE. ALL SPECIAL EROSION CONTROL MEASURES MUST BE EXECUTED IN ACCORDANCE WITH APPLICABLE CURRENT STATE AND LOCAL REGULATIONS, APPROVED SWPPP, AND PERMIT REQUIREMENTS.

SEQUENCE OF MAJOR ACTIVITIES

1. INSTALL PERIMETER CONTROLS, STABILIZED CONSTRUCTION ENTRANCE, AND TEMPORARY EROSION CONTROL MEASURES PER APPROVED SITE DEVELOPMENT PLANS, PERMITS, OR SWPPP IF REQUIRED, PRIOR TO EARTH MOVING OPERATIONS.
2. DEMOLISH EXISTING SITE WORK DESIGNATED FOR REMOVAL.
3. INSTALL STORMWATER TREATMENT PONDS AND SWALES BEFORE ROUGH GRADING THE SITE.
4. COMPLETE MAJOR GRADING OF SITE.
5. CONSTRUCT BUILDING PAD, STORMWATER SYSTEM, AND SITE UTILITIES.
6. CONSTRUCT PARKING AREAS.
7. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND SITE IS STABILIZED, REMOVE ALL INLET PROTECTION, SILT BARRIERS, AND SEDIMENT THAT HAS BEEN TRAPPED BY THESE DEVICES.
8. CONSULT APPLICABLE REGULATIONS, PERMITS, CONDITIONS, AND APPROVED SWPPP FOR CONDITIONS RELATED TO NOTICE OF TERMINATION, IF REQUIRED.

EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR MORE THAN TWENTY ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

1. BASE COURSE GRAVELS, WHICH MEET THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2, HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
3. A MINIMUM OF 3" OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT BARRIERS. ALL STORM DRAIN INLETS SHALL BE PROVIDED WITH BARRIER FILTERS. STONE RIPRAP SHALL BE PROVIDED AT THE OUTLETS OF DRAINAGE PIPES WHERE EROSIVE VELOCITIES ARE ENCOUNTERED.

OFF SITE VEHICLE TRACKING

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.

INSTALLATION, MAINTENANCE, AND INSPECTION OF EROSION AND SEDIMENT CONTROLS

A. GENERAL

THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.

1. STABILIZATION OF ALL SWALES, DITCHES, AND PONDS IS REQUIRED PRIOR TO DIRECTING FLOW TO THEM.
2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME. (5 AC MAX)
3. ALL CONTROL MEASURES WILL BE INSPECTED IN ACCORDANCE WITH APPLICABLE REGULATIONS, PERMITS, AND CONDITIONS AND AT LEAST EVERY 7 DAYS AND AFTER A 0.5 INCH RAIN EVENT OR GREATER, AND INSPECTIONS SHALL BE CONDUCTED BY THE ENVIRONMENTAL MONITOR IF ONE IS REQUIRED, PURSUANT TO ENV–WQ 1505.03(B).
4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT BARRIER WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE BARRIER.
6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
9. THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING AN ENVIRONMENTAL MONITOR, IF ONE IS REQUIRED, PURSUANT TO ENV–WQ 1505.03(B), IS CONTRACTED.

B. FILTERS / BARRIERS

1. SILT SOCKS

   A. KNOTTED MESH NETTING MATERIAL SHALL BE DELIVERED TO SITE IN A 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" MATERIAL, FILLED WITH COMPOST CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
PH	TMECC 04.11–A	5.0 TO 8.0
PARTICLE SIZE	TMECC 02.02–B	2" SIEVE AND MIN. 60% GREATER THAN THE $\frac{3}{8}$" SIEVE
MOISTURE CONTENT		STND TESTING < 60%

   MATERIAL SHALL BE RELATIVELY FREE OF INERT OR FOREIGN MAN–MADE MATERIALS

   MATERIAL SHALL BE WEED FREE AND DERIVED FROM A WELL–DECOMPOSED SOURCE OF ORGANIC MATTER, FREE FROM ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH.

   B. SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK SHALL BE REMOVED ONCE IT HAS REACHED 1/3 OF THE EXPOSED HEIGHT OF THE SILT SOCK.

   C. SILT BARRIER SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAS BEEN PERMANENTLY STABILIZED.

2. SEQUENCE OF INSTALLATION

   SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.

3. MAINTENANCE

   A. SILT BARRIERS SHALL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHALL BE REPAIRED IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.

   B. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

   C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) THE HEIGHT OF THE BARRIER.

   D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

C. MULCHING

1. TIMING

   IN ORDER FOR MULCH TO BE EFFECTIVE, IT MUST BE IN PLACE PRIOR TO MAJOR STORM EVENTS. THERE ARE TWO (2) TYPES OF STANDARDS WHICH SHALL BE USED TO ASSURE THIS:

   A. APPLY MULCH PRIOR TO ANY STORM EVENT.

   THIS IS APPLICABLE WHEN WORKING WITHIN 100' OF WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE, TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.

   B. REQUIRED MULCHING WITHIN A SPECIFIED TIME PERIOD.

   THE TIME PERIOD CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON AN AREA, WHERE THE LENGTH OF TIME VARIES WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.

2. GUIDELINES FOR WINTER MULCH APPLICATION.

   WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 6,000 POUNDS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH.

3. MAINTENANCE

   ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.

D. VEGETATIVE PRACTICE

1. AFTER ROUGH GRADING OF THE SUBGRADE HAS BEEN COMPLETED AND APPROVED, THE SUB GRADE SURFACE SHALL BE SCARIFIED TO A DEPTH OF 4". THEN, FURNISH AND INSTALL A LAYER OF LOAM PROVIDING A ROLLED THICKNESS AS SPECIFIED IN THESE PLANS. ANY DEPRESSIONS WHICH MAY OCCUR DURING ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM, REGRADED AND REROLLED UNTIL THE SURFACE IS TRUE TO THE FINISHED LINES AND GRADES. ALL LOAM NECESSARY TO COMPLETE THE WORK UNDER THIS SECTION SHALL BE SUPPLIED BY THE SITE SUBCONTRACTOR.
2. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, DEBRIS, GLASS, STUMPS, LITTER, AND OTHER FOREIGN MATERIAL, AS WELL AS STONES OVER 1" IN DIAMETER, SHALL BE REMOVED FROM THE LOAM AND DISPOSED OF OFF SITE. THE LOAM SHALL BE RAKED SMOOTH AND EVEN.
3. THE LOAM SHALL BE PREPARED TO RECEIVE SEED BY REMOVING STONES, FOREIGN OBJECTS AND GRADING TO ELIMINATE WATER POCKETS AND IRREGULARITIES PRIOR TO PLACING SEED. FINISH GRADING SHALL RESULT IN STRAIGHT UNIFORM GRADES AND SMOOTH, EVEN SURFACES WITHOUT IRREGULARITIES TO LOW POINTS.
4. SHAPE THE AREAS TO THE LINES AND GRADES REQUIRED. THE SITE SUBCONTRACTOR'S ATTENTION IS DIRECTED TO THE SCHEDULING OF LOAMING AND SEEDING OF GRADED AREAS TO PERMIT SUFFICIENT TIME FOR THE STABILIZATION OF THESE AREAS. IT SHALL BE THE SITE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE AREAS DURING THE CONSTRUCTION PERIOD AND REGRADE, LOAM AND RESEED ANY DAMAGED AREAS.
5. ALL AREAS DISTURBED BY CONSTRUCTION WITHIN THE PROPERTY LINES AND NOT COVERED BY STRUCTURES, PAVEMENT, OR MULCH SHALL BE LOAMED AND SEEDED.
6. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
7. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10–20–20 FERTILIZER.
8. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4 1/2 POUNDS AND 5 1/2 POUNDS PER INCH OF WIDTH.
9. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4" AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
10. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH THAT BLOWS OR WASHES AWAY SHALL BE REPLACED IMMEDIATELY AND ANCHORED USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.
11. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.
12. THE SITE SUBCONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED, INCLUDING CUTTING, AS SPECIFIED HEREIN AFTER UNDER MAINTENANCE AND PROTECTION.
13. UNLESS OTHERWISE APPROVED, SEEDING SHALL BE DONE DURING THE APPROXIMATE PERIODS OF EARLY SPRING TO SEPTEMBER 30, WHEN SOIL CONDITIONS AND WEATHER ARE SUITABLE FOR SUCH WORK. IN NO CASE SHALL THE WEED CONTENT EXCEED 1 PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. FOR TEMPORARY PLANTINGS AFTER SEPTEMBER 30, TO EARLY SPRING AND FOR TEMPORARY PROTECTION OF DISTURBED AREAS:

    A. FOLLOW ABOVE SLOPE, LOAM DEPTH AND GRADING REQUIREMENTS.
    B. FERTILIZER SHALL BE SPREAD AND WORKED INTO THE SURFACE AT A RATE OF 500 POUNDS PER ACRE.

    MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:

WINTER RYE (FALL SEEDING)	2.5 LBS/1,000 SF
OATS (SPRING SEEDING)	2.0 LBS/1,000 SF
MULCH	1.5 TONS/ACRE

E. CATCH BASIN INLET PROTECTION

1. INLET BASKET STRUCTURE

   A. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO DISTURBING PAVEMENT AND SHALL REMAIN IN PLACE AND MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

   B. MOLD 6X6, 42 LB. WIRE SUPPORT AROUND INLET FRAME AND GRATE AND EXTEND 6" BEYOND SIDES. SECURE FILTER FABRIC TO WIRE SUPPORT.

   C. THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:

      GRAB STRENGTH: 45 LB. MINIMUM IN ANY PRINCIPAL DIRECTION (ASTM D1682)

      MULLEN BURST STRENGTH: MIN. 60PSI (ASTM D774)

   D. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 GPM.

   E. THE INLET PROTECTION SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

   F. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

F. WINTER CONSTRUCTION SEQUENCE

1. ALL PROPOSED POST–DEVELOPMENT LANDSCAPED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1 AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENT.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER ALL TRAVEL SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOWFALL AFTER EACH STORM EVENT.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

FOR SINGLE/DUPLEX FAMILY SUBDIVISIONS, WHEN LOT DEVELOPMENT IS NOT PART OF THE PERMIT, THEN LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

WASTE DISPOSAL

1. WASTE MATERIALS
   ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE
   ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE
   ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION

1. MATERIAL MANAGEMENT PRACTICES
   THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:

   GOOD HOUSEKEEPING:
   THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:

   A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.

   B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.

   C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

   D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

   E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

   F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.

   HAZARDOUS PRODUCTS:
   THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

   A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.

   B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.

   C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

2. PRODUCT SPECIFICATION PRACTICES
   THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

   PETROLEUM PRODUCTS:
   ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

   FERTILIZERS:
   FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

   PAINTS:
   ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

   CONCRETE TRUCKS:
   CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA DESIGNATED ON SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.

F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.

G. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

DUST CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL METHODS SHALL INCLUDE, BUT NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
PROFESSIONAL ENGINEER
LICENSED

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1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

EROSION CONTROL NOTES

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

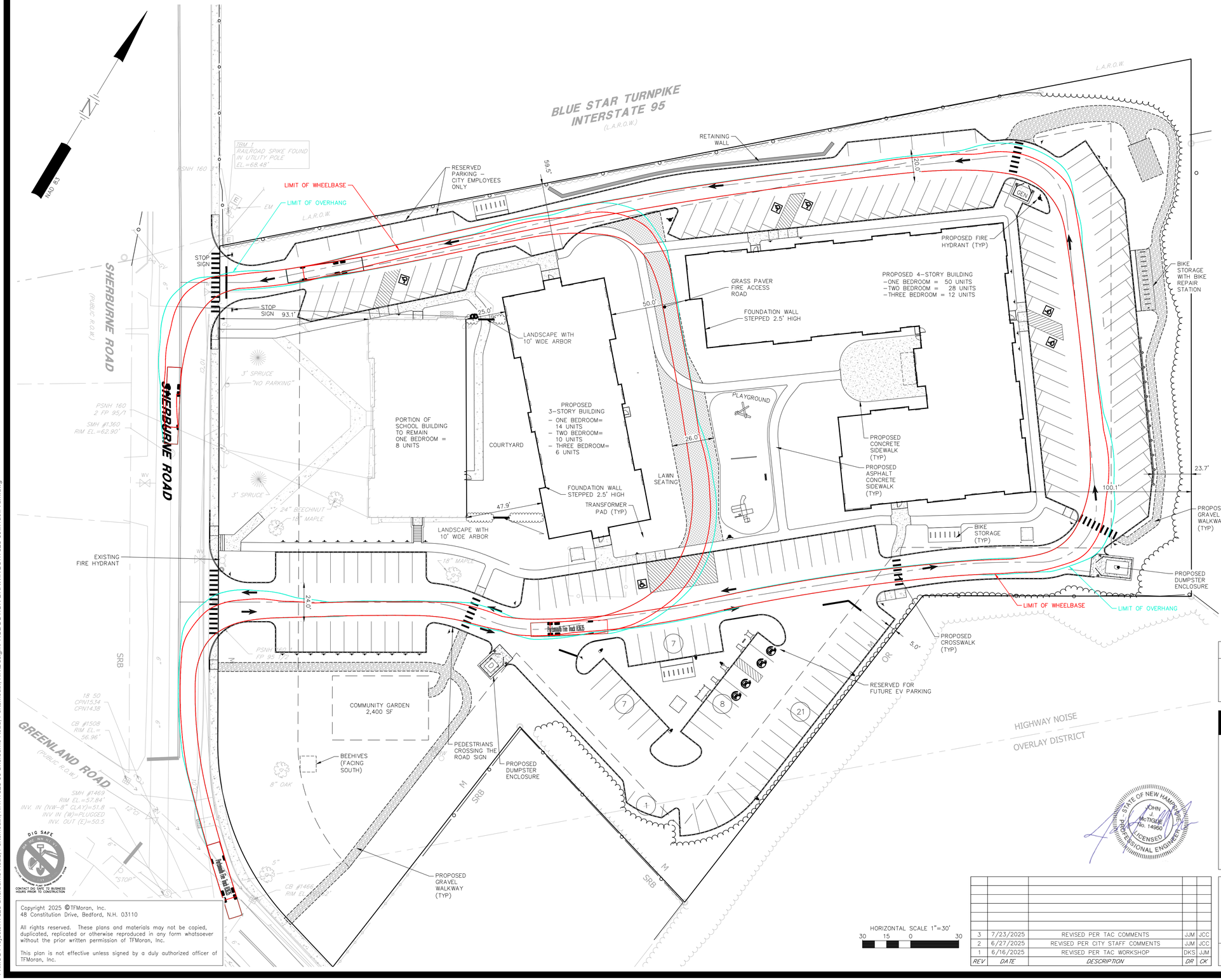
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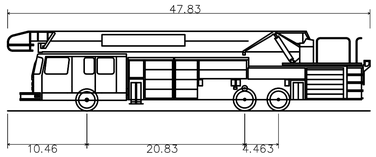
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JANUARY 29, 2025

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Portsmouth Fire Truck H3635	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.505ft
Min Body Ground Clearance	0.935ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	38.00°

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

TRUCK TURN - FIRE

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

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STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14960
LICENSED PROFESSIONAL ENGINEER

HORIZONTAL SCALE 1"=30'
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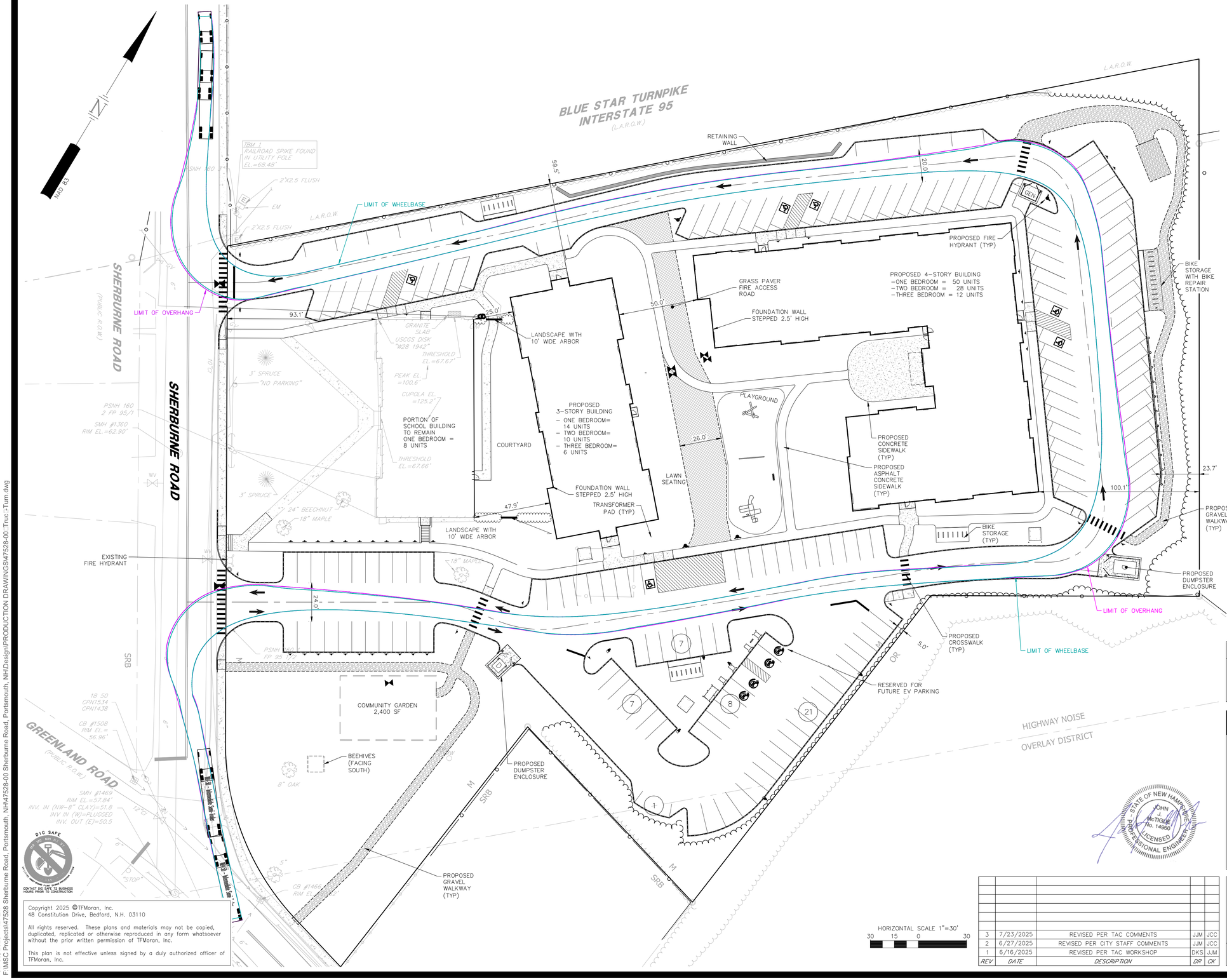
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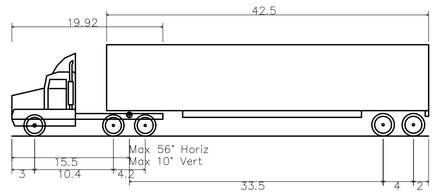
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C-20

SITE LAYOUT PLAN

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WB-50 - Intermediate Semi-Trailer

Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	17.90°

HORIZONTAL SCALE 1"=30'
30 15 0 30

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CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

TRUCK TURN - WB-50

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

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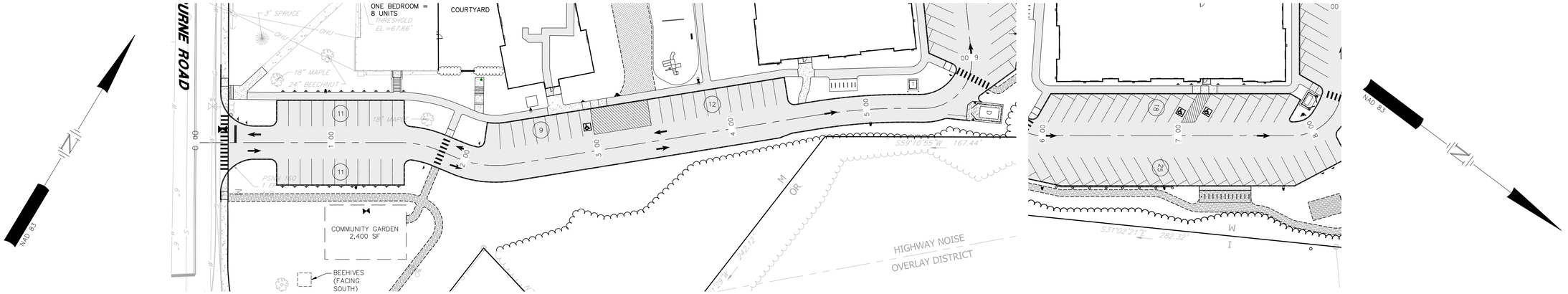
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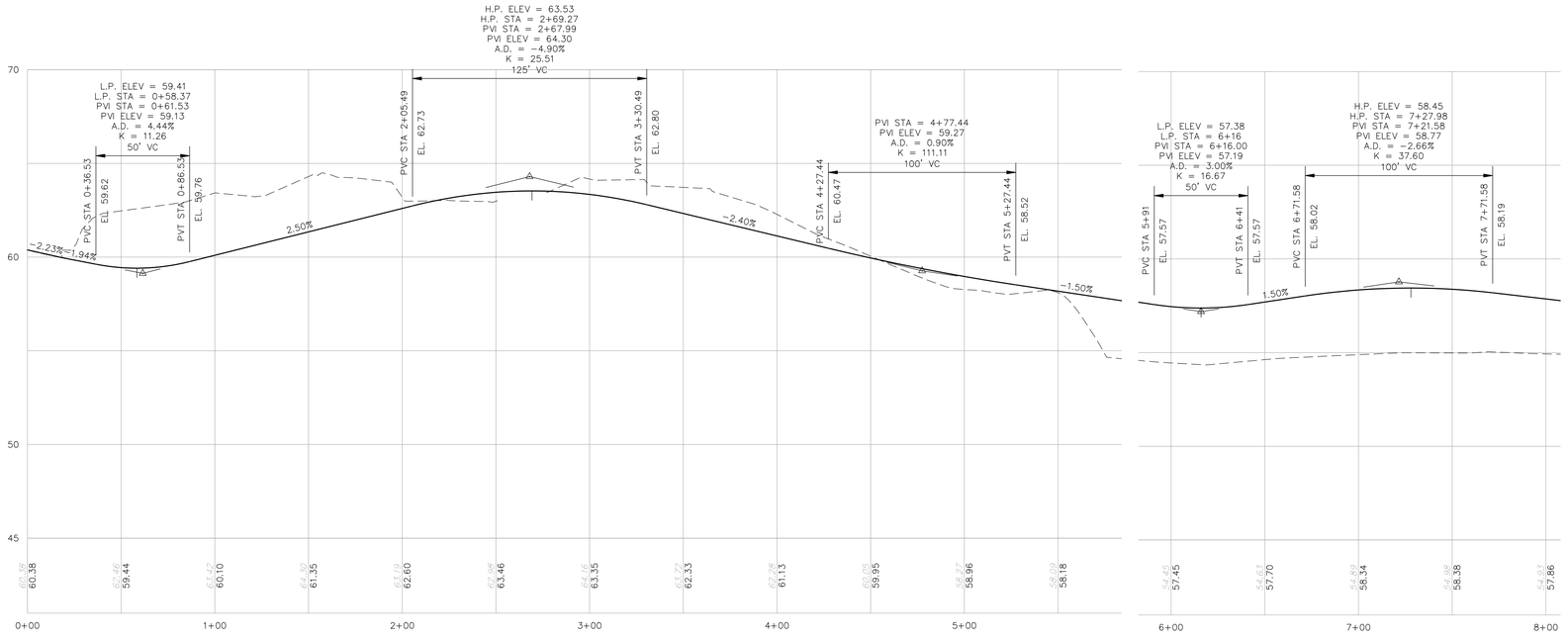
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HORIZONTAL SCALE 1"=40'
VERTICAL SCALE 1"=4'

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14960 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DRIVE PROFILE A

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
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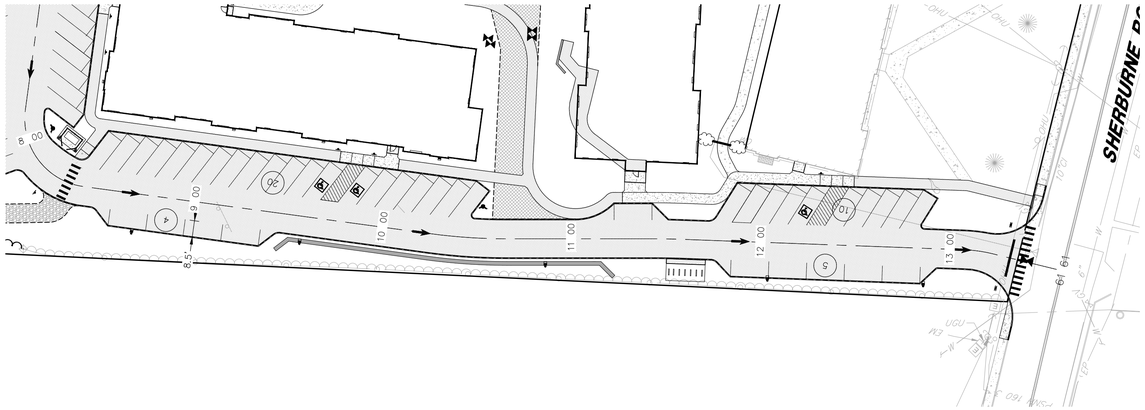
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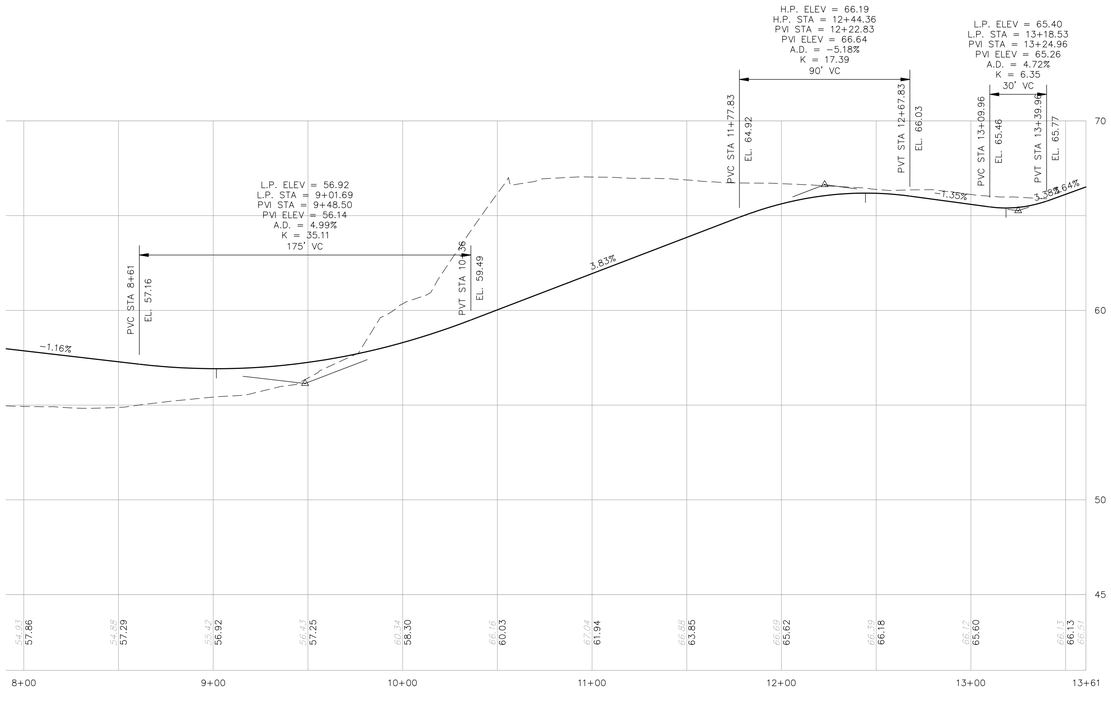
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HORIZONTAL SCALE 1"=40'
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4 0 4
VERTICAL SCALE 1"=4'

JOHN J. McTIGUE No. 14995 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DRIVE PROFILE B

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
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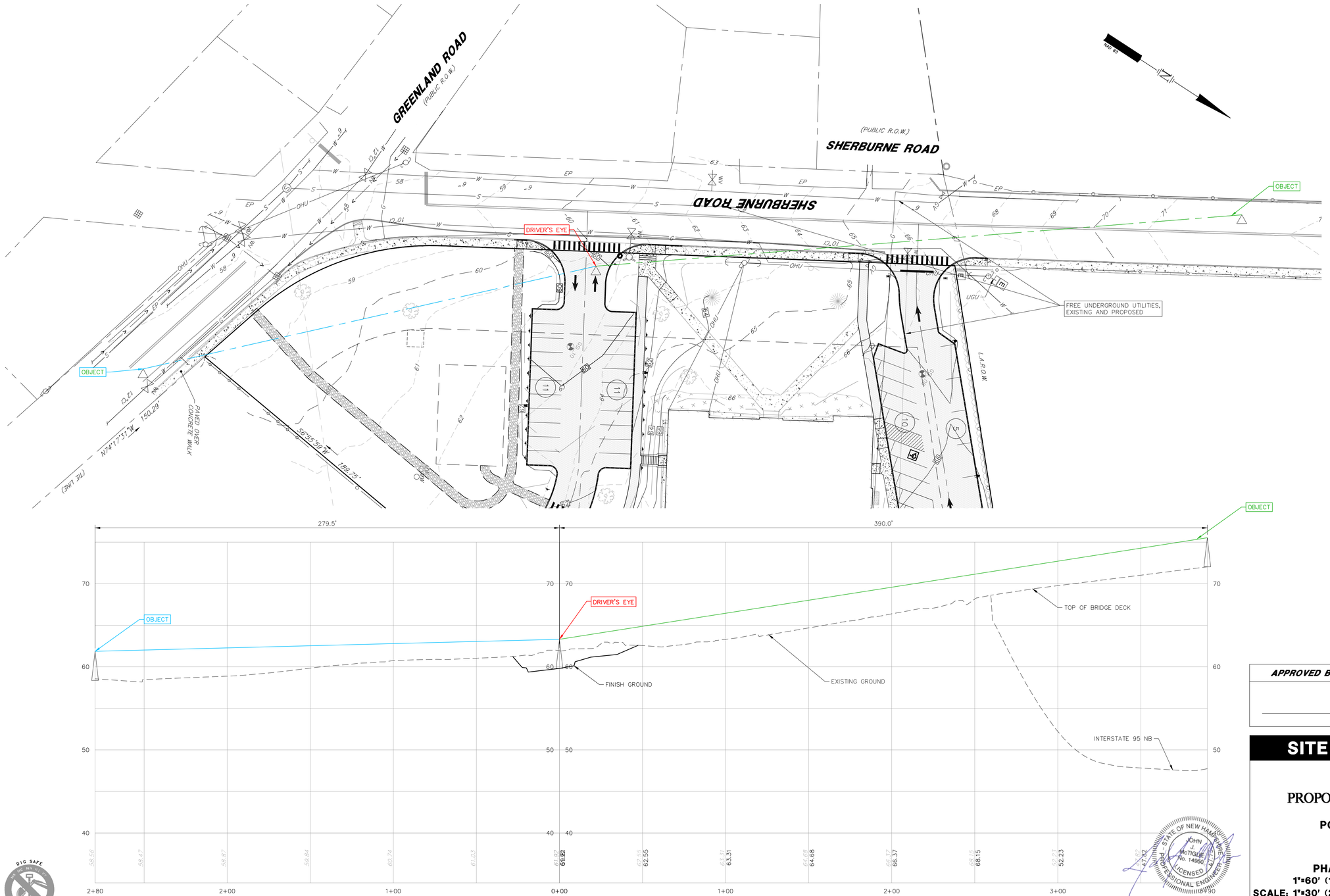
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APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE DISTANCE PLAN

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

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JOHN J. McCAUSE No. 14950 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

DIG SAFE

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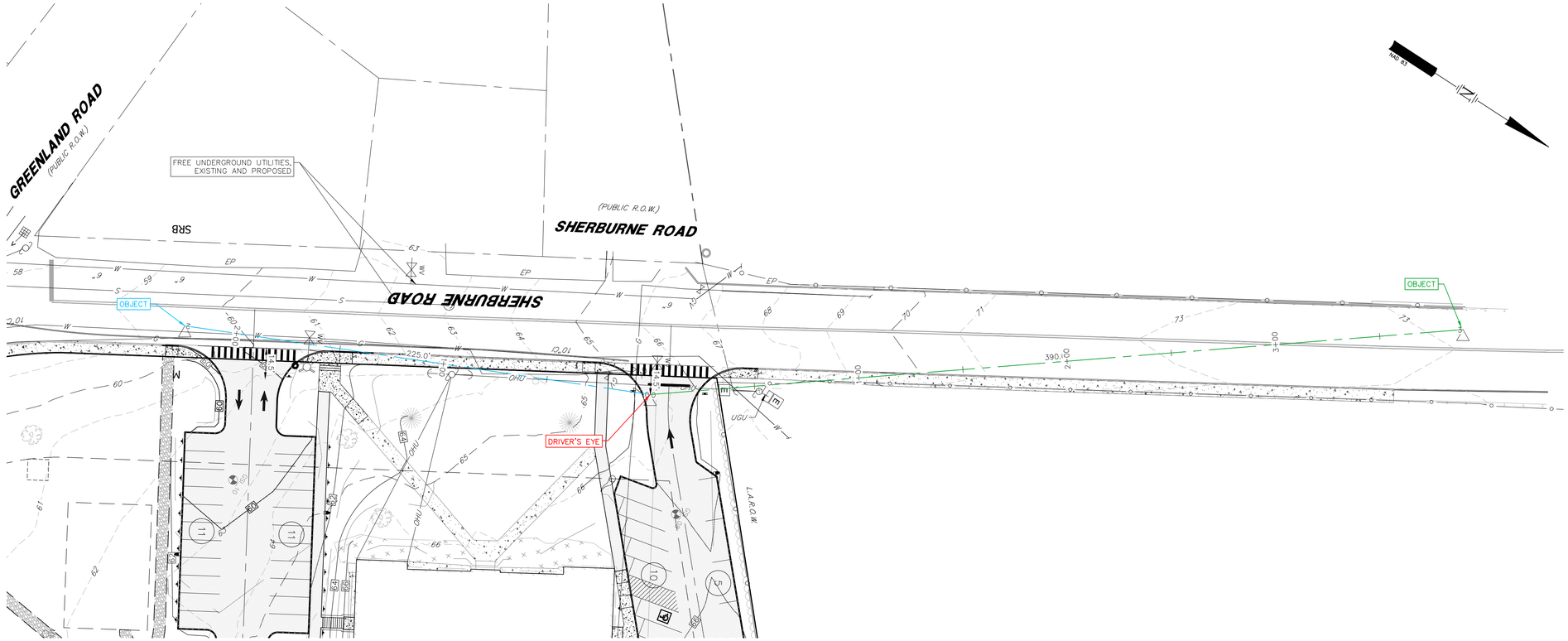
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1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

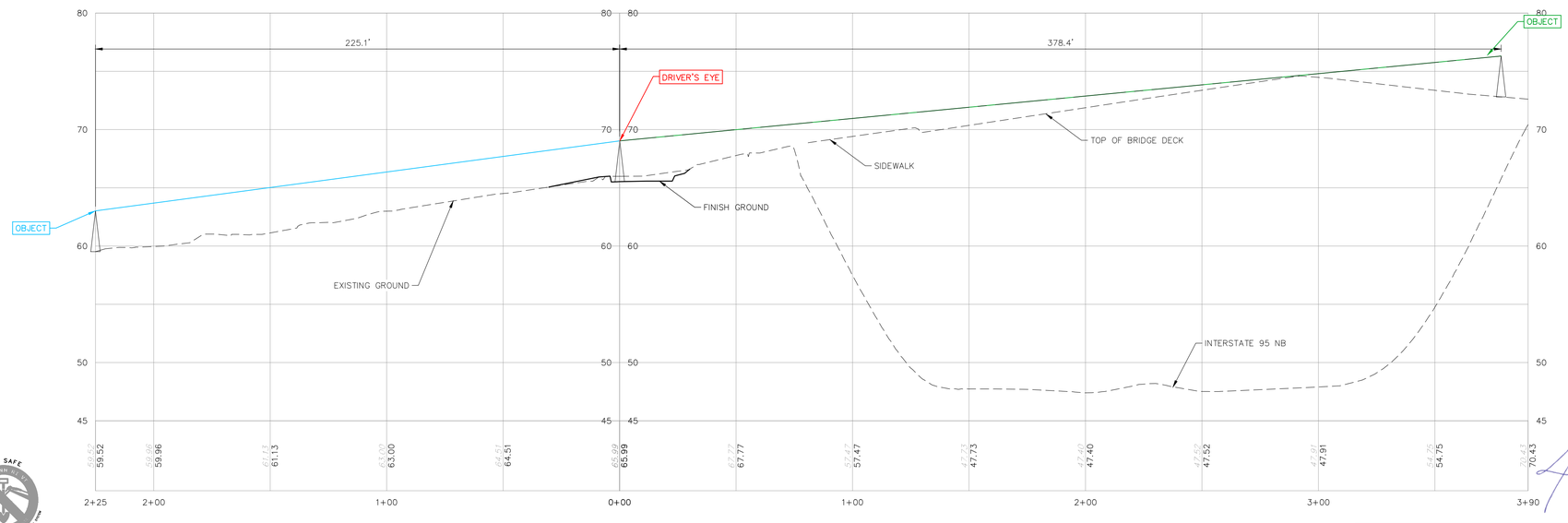
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SITE LAYOUT PLAN

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SD–LT

SD_RT

HORIZONTAL SCALE 1"=30'

VERTICAL SCALE 1"=3'

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APPROVED BY THE CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON DATE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE DISTANCE PLAN

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
CITY OF PORTSMOUTH

PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE — JOHN J. McTIGUE No. 14950 — LICENSED PROFESSIONAL ENGINEER

DIG SAFE — CALL DIG SAFE NH U.C.C. 811 — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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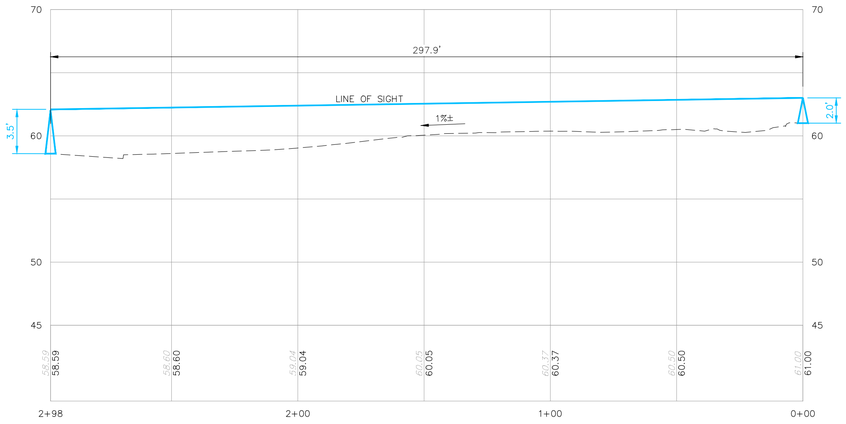
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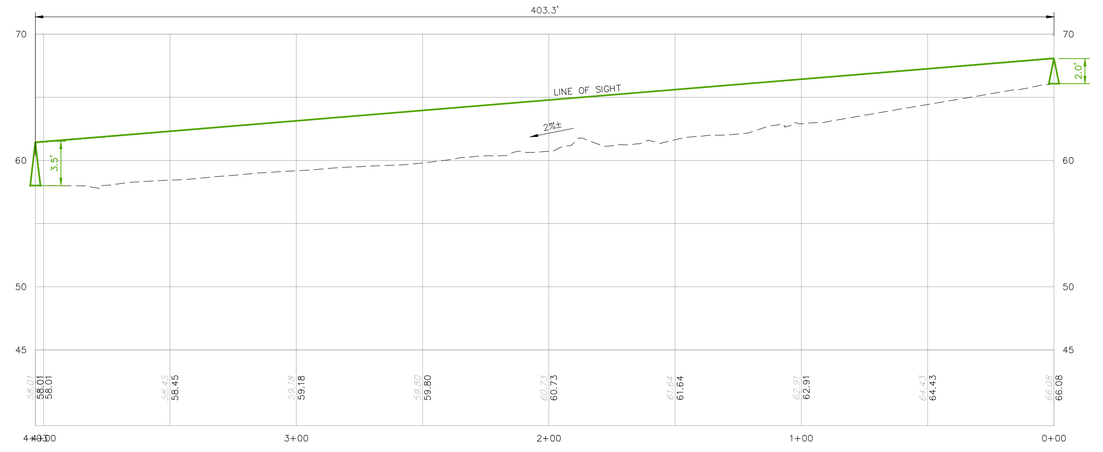
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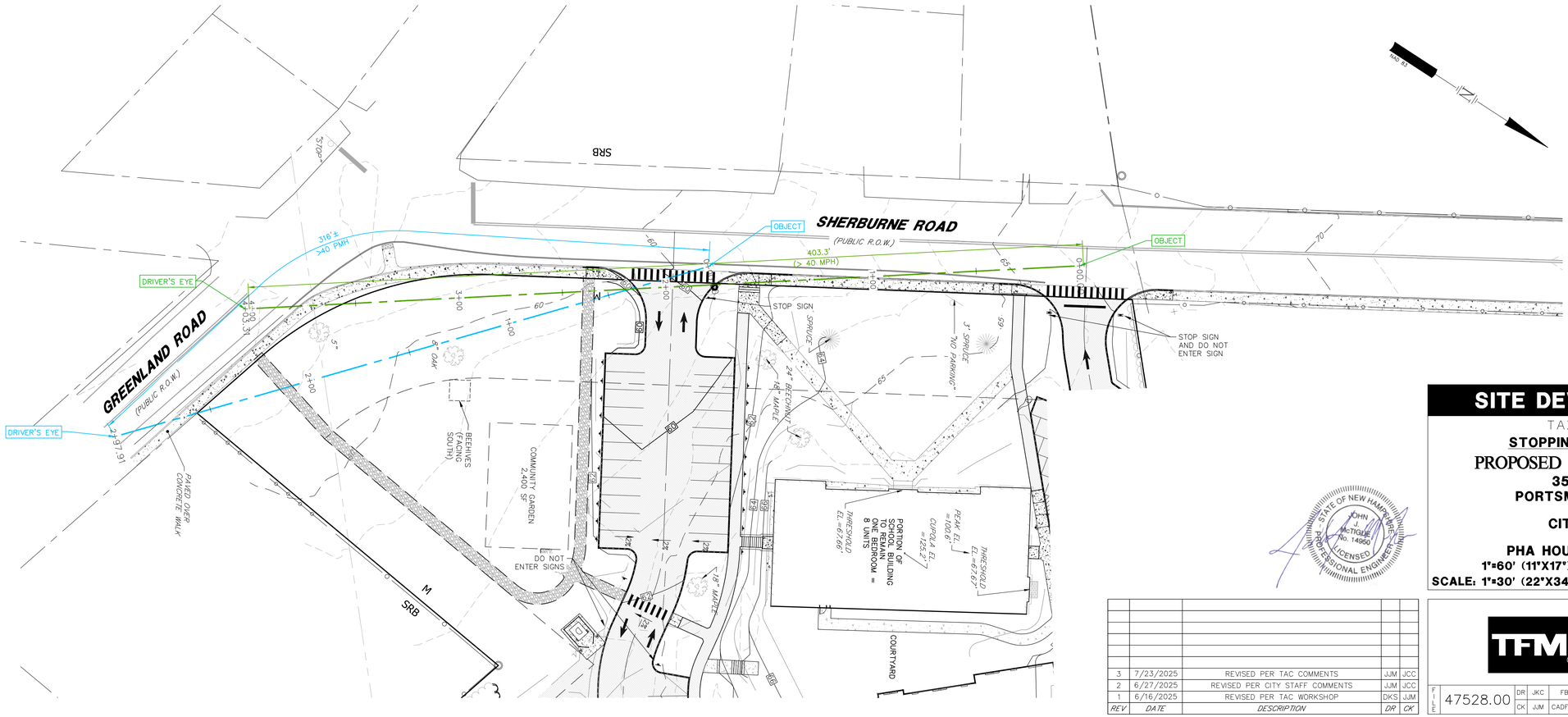
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SOUTHERN ENTRANCE



NORTHERN ENTRANCE



HORIZONTAL SCALE 1"=30'

30 15 0 30

VERTICAL SCALE 1"=6'

6 0 6

NOTE:

THE 85TH PERCENTILE SPEED AS RECORDED BETWEEN JULY 16 TO JULY 18 WAS 35 MPH. PROVIDED STOPPING SITE DISTANCE EXCEEDS THE 250 LF DESIGN STOPPING SIGHT DISTANCE FOR THIS SPEED.

DESIGN STOPPING SITE DISTANCE	
MPH	FEET
25	155
30	200
35	250
40	305
45	360
50	425

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

STOPPING SIGHT DISTANCE PLAN

PROPOSED HOUSING DEVELOPMENT

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JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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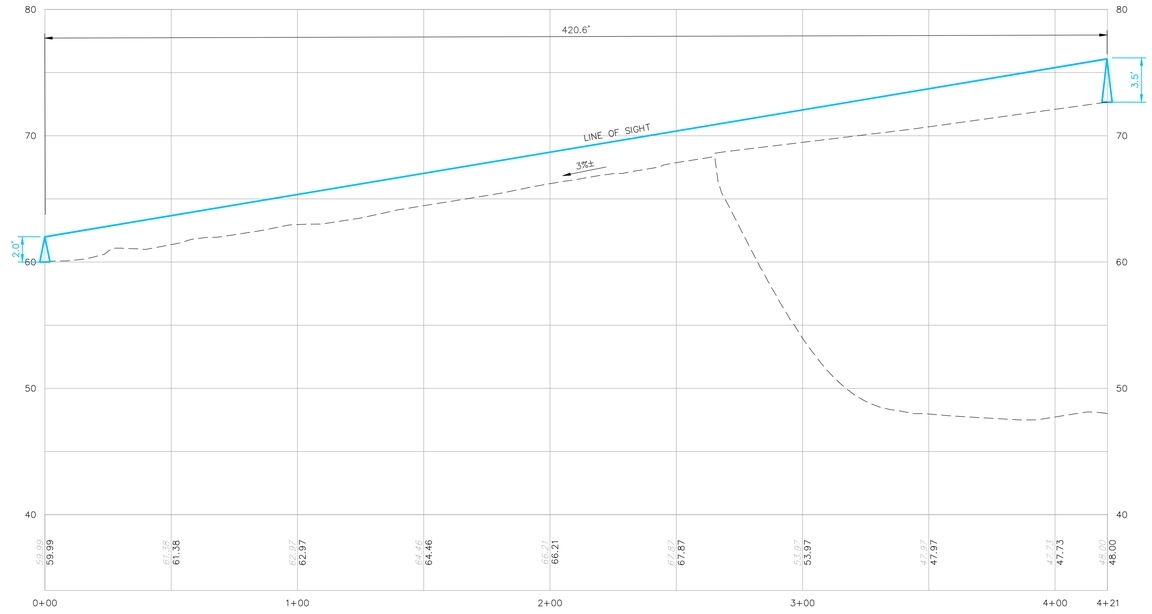
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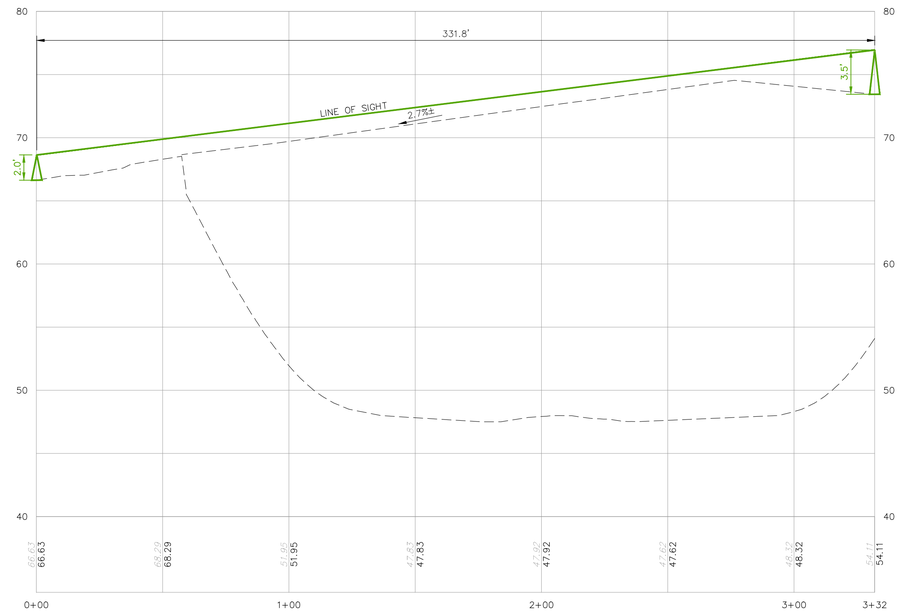
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SOUTHERN ENTRANCE

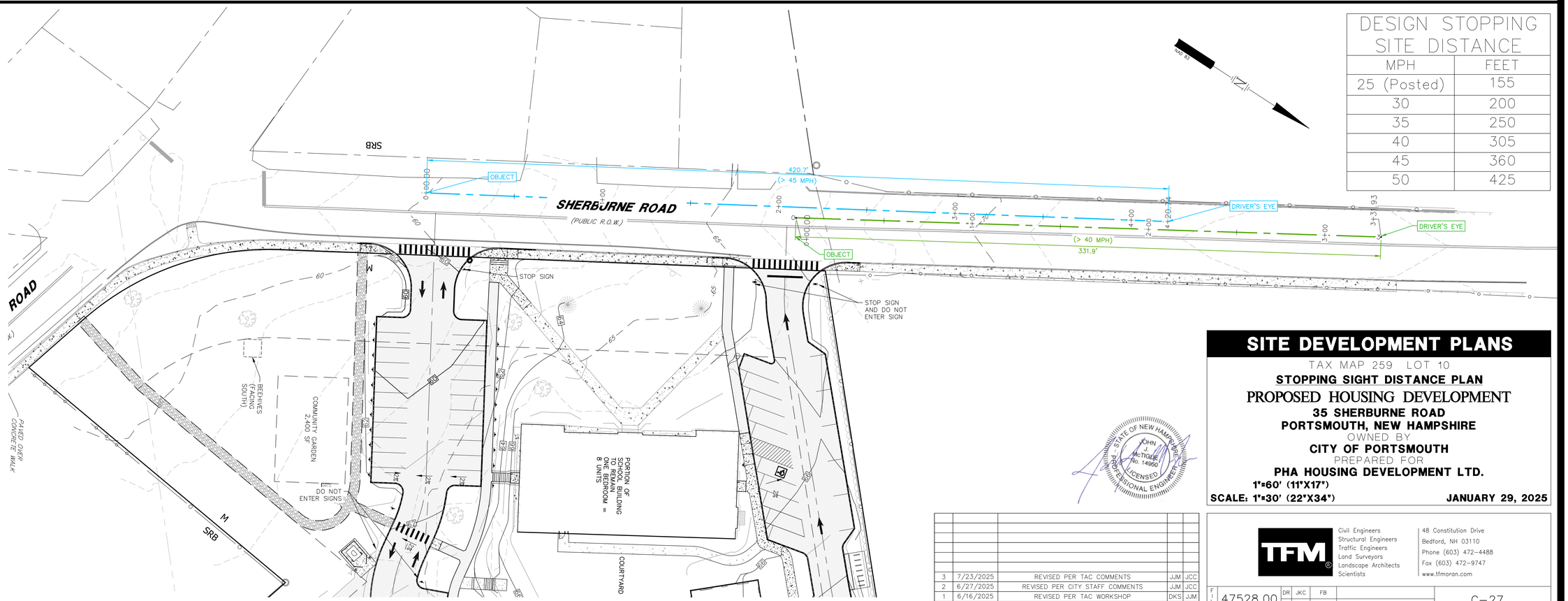


NORTHERN ENTRANCE

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HORIZONTAL SCALE 1"=30'
30 15 0 30
VERTICAL SCALE 1"=6'
6 0 6



DESIGN STOPPING SITE DISTANCE

MPH	FEET
25 (Posted)	155
30	200
35	250
40	305
45	360
50	425

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

STOPPING SIGHT DISTANCE PLAN

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STATE OF NEW HAMPSHIRE — JOHN J. McTIGUE No. 14950 — LICENSED PROFESSIONAL ENGINEER

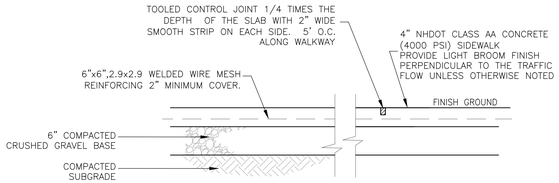
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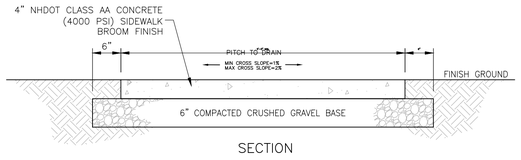
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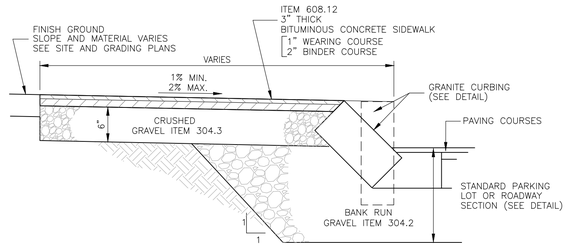




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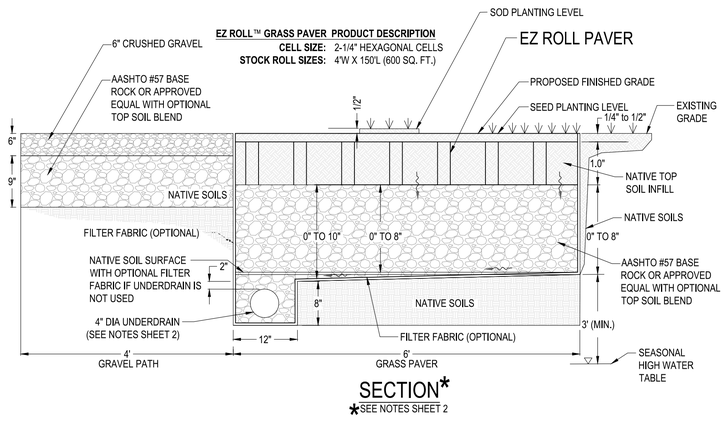
CONCRETE SIDEWALK (WITHOUT CURB)

NOT TO SCALE



BITUMINOUS SIDEWALK - WITH SLOPED GRANITE CURB

NOT TO SCALE

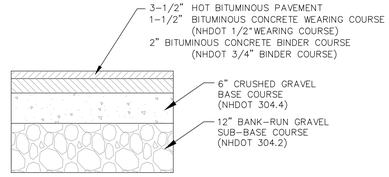


SECTION*

*SEE NOTES SHEET 2

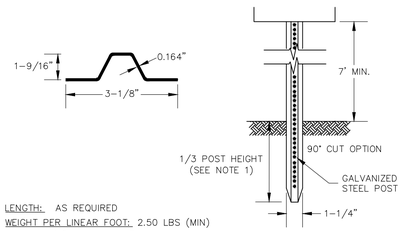
GRASS PAVER PATH

NOT TO SCALE



TYPICAL SECTION PAVEMENT ON-SITE

NOT TO SCALE



LENGTH: AS REQUIRED

WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN)

HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH

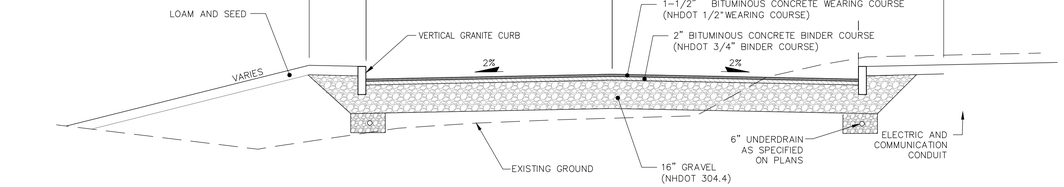
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)

FINISH: SHALL BE PAINTED WITH 2 COATS OF AN APPROVED MEDIUM GREEN BAKED-ON OR AIR-DRIED PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTE:
1. WHERE LEDGE APPLICATION EXISTS, DRILL & GROUT TO A MINIMUM OF 2'.
2. ALL SIGNAGE SHALL FOLLOW THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES STANDARDS AND NHDOT STANDARDS.
3. SIGN, HARDWARE, AND INSTALLATION SHALL CONFORM TO THE LATEST NHDOT STANDARD SPECIFICATIONS.

SIGN POST

NOT TO SCALE

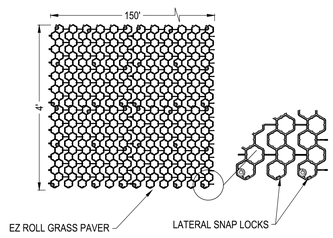


DRIVE TYPICAL SECTION

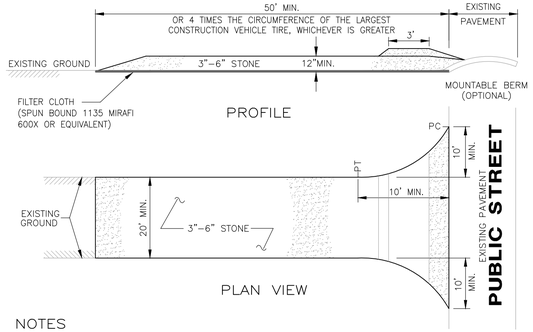
NOT TO SCALE

NOTES:

1. SEE GRADING & DRAINAGE PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
2. PROPOSED PAVEMENT SHALL BUTT INTO AND NOT OVERLOAD EXISTING PAVEMENT WHERE JOINED USE TACK COAT. SPECIFICALLY, A TACK COAT SHALL BE PLACED ATOP THE BINDER COURSE PAVEMENT PRIOR TO PLACING THE WEARING COURSE.
3. REMOVE ALL LOAM AND/OR YIELDING MATERIAL BELOW PAVEMENT.
4. ALL ROADWAY TO CONFORM TO THE STREET DESIGN AND CONSTRUCTION REQUIREMENTS IN THE TOWN OF PORTSMOUTH, NH SUBDIVISION REGULATIONS.
5. BITUMINOUS CONCRETE SHALL BE COMPACTED TO AT LEAST 92.5% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D2041 OR AASHTO T209. PLACEMENT TEMPERATURES OF BITUMINOUS CONCRETE MIXES, IN GENERAL, RANGE BETWEEN 270 AND 310 DEGREES FAHRENHEIT.
6. PAVEMENT BASE COURSE AGGREGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304, ITEM 304.4 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
7. PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROOF ROLLED AND COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY.
8. THE EXPOSED SOIL SUBGRADE SHOULD BE PROOF ROLLED PRIOR TO THE PLACEMENT OF SUBBASE GRAVEL, AND SOFT AREAS SHOULD BE REPAIRED AND REPLACED.



PLAN VIEW

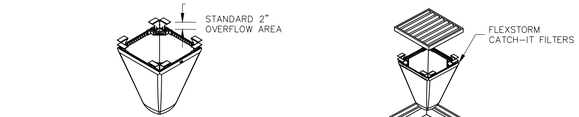


NOTES

1. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

USDA - SCS STABILIZED CONSTRUCTION ENTRANCE

SEE PLAN FOR PROPOSED LOCATION NOT TO SCALE



TYPICAL RECTANGULAR INLET FILTER

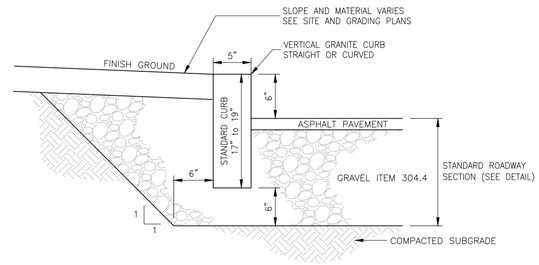
NOTES:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. INSPECTION SHOULD OCCUR FOLLOWING ANY RAIN EVENT > ½".
3. EMPTY THE SEDIMENT BAG PER MANUFACTURER'S SPECIFICATIONS.
4. REMOVED CAKED ON SILT FROM SEDIMENT BAG AND FLUSH WITH MEDIUM SPRAY WITH OPTIMAL FILTRATION.
5. REPLACE BAG IF TORN OR PUNCTURED TO > ¾" DIAMETER ON LOWER HALF OF BAG.
6. REFER TO EROSION AND SEDIMENT CONTROL NOTES ON SHEET C-00 REGARDING PROHIBITED MATERIALS.

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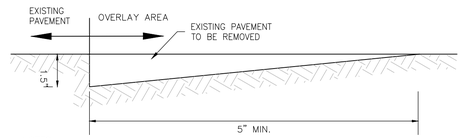


NOTES

1. MORTAR JOINTS AND OTHER INSTALLATION TO BE AS SPECIFIED IN NHDOT SECTION 609.
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. PROVIDE TRANSITIONS & RAMPS PER A.D.A.

VERTICAL GRANITE CURB

NOT TO SCALE



NOTES

1. USE KEY JOINT AT ALL LOCATIONS WHERE OVERLAY MEETS EXISTING PAVEMENT OR CONCRETE.
2. NEW PAVEMENT SHALL BE FLUSH WITH EXISITING PAVEMENT AND SHALL MEET OVERLAY GRADE WHERE IT ABUTS EXISTING PAVEMENT TO BE OVERLAYED.

KEY JOINT

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 1

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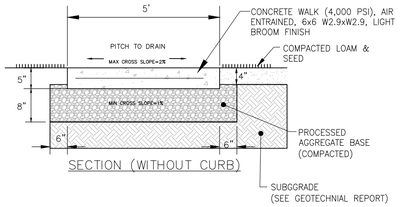
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47528.00	CK	JJM	CADFILE	47528-00_DETAILS	C-28

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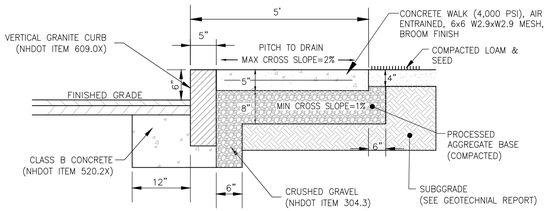
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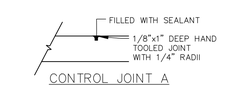
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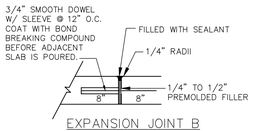
SECTION (WITHOUT CURB)



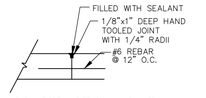
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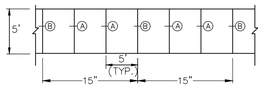
CONTROL JOINT A



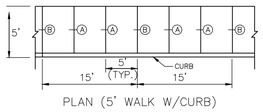
EXPANSION JOINT B



CONSTRUCTION JOINT



PLAN (5' WALK W/OUT CURB)



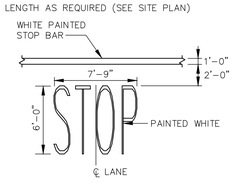
PLAN (5' WALK W/CURB)

CONCRETE SIDEWALK

NOT TO SCALE

NOTE:

1. COORDINATE SIDEWALK DETAILS WITH STRUCTURAL

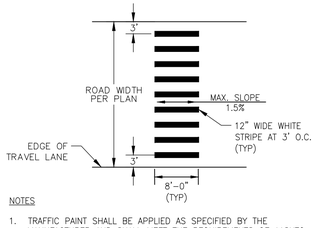


STOP BAR & LEGEND

NOT TO SCALE

NOTES

1. TRAFFIC PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURER AND SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F". APPLY TWO COATS.
2. SYMBOLS AND PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT, LATEST EDITION.

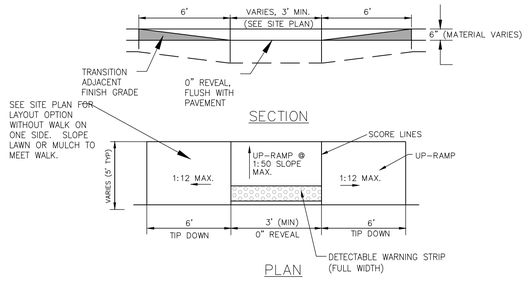


NOTES

1. TRAFFIC PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURER AND SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F". APPLY TWO COATS.
2. 12" LINES SHALL BE APPLIED IN ONE APPLICATION. NO COMBINATION OF LINES (E.G., 2 – 6" LINES) WILL BE ACCEPTED.
3. CROSS WALK SIDESLOPE SHALL NOT EXCEED 1.5% IN ANY DIRECTION.

PAINTED CROSSWALK

NOT TO SCALE

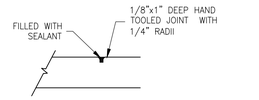


NOTE

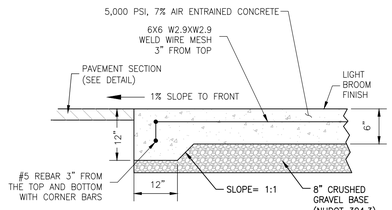
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT, LATEST EDITION.

SIDEWALK TIP DOWN RAMP (TYPE D)

NOT TO SCALE



CONTROL JOINT



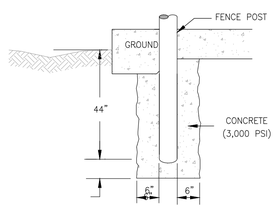
SECTION VIEW

CONCRETE PAD

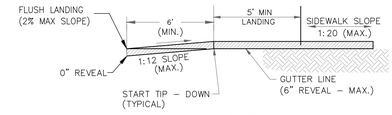
NOT TO SCALE

NOTES

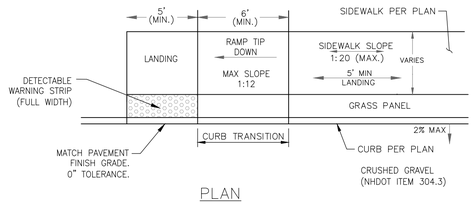
1. PROVIDE CLEAN BUTT TO EXISTING PAVEMENT – USE TACK COAT.
2. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.



FENCE POST FOOTING DETAIL



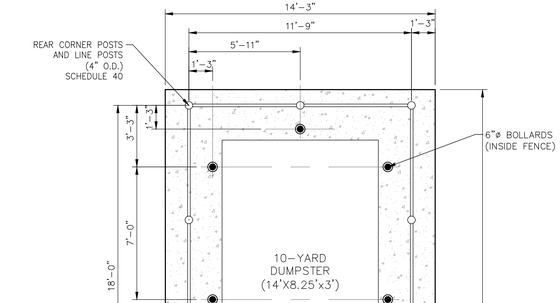
SECTION



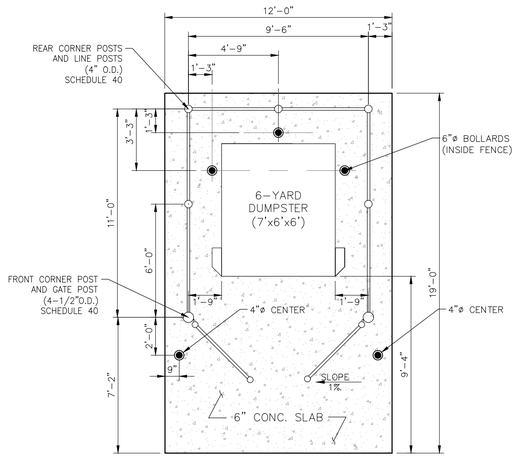
PLAN

SIDEWALK TIP DOWN RAMP (TYPE E)

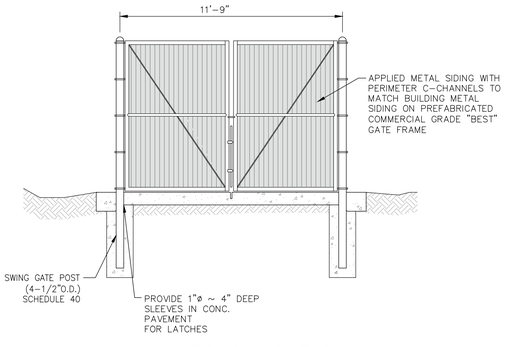
NOT TO SCALE



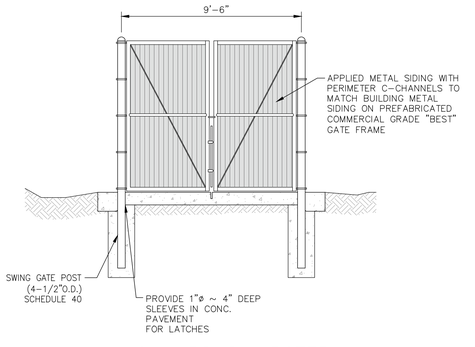
10-YARD DUMPSTER PLAN DETAIL



8-YARD DUMPSTER PLAN DETAIL



10-YARD DUMPSTER GATE DETAIL



8-YARD DUMPSTER GATE DETAIL

DUMPSTER ENCLOSURE

NOT TO SCALE

NOTE:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. CHAIN LINK FENCE TO BE COMMERCIAL "BEST" GRADE. 2" MESH MADE OF 8 GAUGE OR 6 GAUGE WIRE. 1-5/8" O.D. TOP AND BOTTOM RAILS, SCHEDULE 40. SEE DETAIL FOR POST SIZES.
3. POSTS, GATES, WIRE MESH AND HARDWARE TO BE VINYL COATED TO MATCH THE GATE METAL SIDING COATING.
4. SEE CONCRETE PAD DETAIL FOR SPECIFICATION ON THE PAD.

STATE OF NEW HAMPSHIRE JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
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1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

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Landscape Architects
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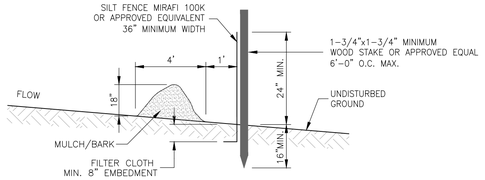
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Jul 30, 2025 - 1:40 pm
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NOTE
WOOD WASTE COMPOST/BARK FILTER BERMS MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE WOOD WASTE COMPOST/BARK BERM BY LARGER SEDIMENT PARTICLES. (SILT FENCE PLACED TO FILTER RUNOFF BEFORE WOOD WASTE COMPOST/BARK). STUMP GRINDINGS MAY BE SUBSTITUTED FOR MULCH.

WOOD WASTE COMPOST/BARK FILTER BERMS
THE FILTER BERM SHALL CONSIST OF A WOOD WASTE COMPOST/BARK MULCH MIX OR RECYCLED COMPOSTED BARK FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. COMPARABLE COMPOSTED MIXES CAN BE USED UPON APPROVAL OF THE ENVIRONMENTAL OFFICE LANDSCAPE UNIT.

THE MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
(A) MOISTURE CONTENT – 30–60%
(B) pH–5.0 – 8.0.
(C) SCREEN SIZE – 100% LESS THAN 75 mm, MAXIMUM 70% LESS THAN 25 mm.
(D) NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION.
(E) NO STONES LARGER THAN 50 mm IN DIAMETER.
(F) SEE WOOD WASTE COMPOST BERM STANDARD DETAIL 800(43) FOR WIDTH AND HEIGHT SPECIFICATIONS.
THE COMPOSTED BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

MAINTENANCE/PERFORMANCE OF SEDIMENT BARRIERS

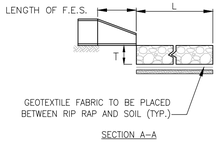
ALL SEDIMENT BARRIERS REQUIRE FREQUENT INSPECTION AND MAINTENANCE TO BE EFFECTIVE. THEY MUST BE INSPECTED BEFORE, DURING AND AFTER EACH RAINFALL, AND AT LEAST DAILY DURING EXTENDED PERIODS OF RAIN. SHOULD THE BARRIER BECOME INEFFECTIVE AS EVIDENCED BY DECOMPOSITION OF THE FILTER FABRIC ON SILT FENCE, BREAKAGE OF THE BALES OR BINDINGS ON HAY BALES, OR OBSERVANCE OF FLOW ESCAPING UNDERNEATH ANY TYPE OF BARRIER, IMMEDIATE REPAIRS MUST BE MADE. RESHAPE BERMS AS NEEDED. SEDIMENT MUST BE REMOVED WHEN DEPOSITS REACH 1/2 THE HEIGHT OF THE BARRIER. SEDIMENTS REMOVED MUST BE PLACED IN AN APPROVED SITE AND STABILIZED.

MULCH BERM WITH SILT FENCE

NOT TO SCALE

MAINTENANCE:

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

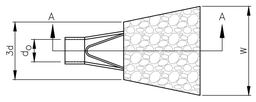


SECTION A–A

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12".
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. ADD ANIMAL SCREEN TO FLARED END SECTION OUTLET.

% OF WEIGHT SMALLER FOR d50=6" THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)
100	9.00 TO 12.00
85	7.80 TO 10.80
50	6.00 TO 9.00
15	1.80 TO 30

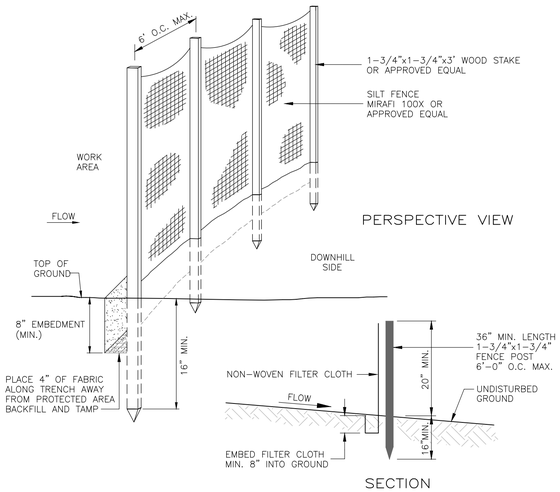


RIPRAP DIMENSIONS									
LOCATION	FES01	FES02	FES03*	FES04*	FES05	FES06	FES07	FES08*	FES09
d50 STONE SIZE (IN)	6	6	6	6	6	6	6	6	6
L– LENGTH OF APRON (FT)	5	24	21	20	14	17	16	35	8
W–WIDTH OF APRON (FT)	5	13	15	11	12	13	12	22	8
T–DEPTH OF APRON (IN)	9	9	9	9	9	9	9	9	9

NOTE: * RIPRAP COMPLETE FOREBAY FROM BOTTOM TO TOP OF FOREBAY SPILLWAY.

RIP RAP AND FLARED END SECTION WITH OUTLET PROTECTION

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

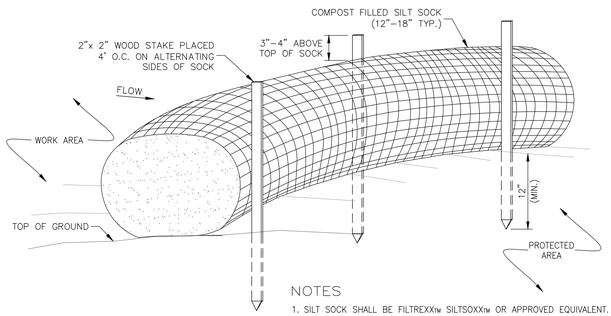
1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR ALL SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. THE GEOTEXTILE FABRIC SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH STAPLES.
4. WHEN TWO SECTIONS OF GEOTEXTILE FABRIC ADJION EACH OTHER, THEY SHOULD BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED.
5. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

MAINTENANCE NOTES

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EVERY RAIN STORM AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON THE SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH A MAXIMUM OF ONE HALF THE DEPTH OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL

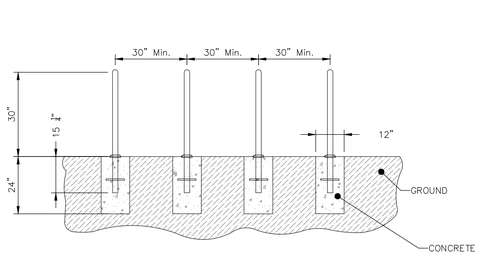
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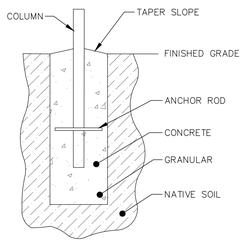


NOTES
1. SILT SOCK SHALL BE FILTREXXtm SILTSOXXtm OR APPROVED EQUIVALENT.
2. SEE SPECIFICATIONS FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
3. SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

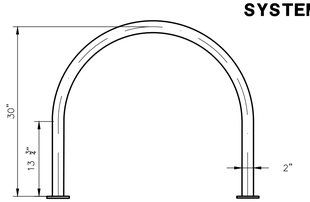
SILT SOCK

NOT TO SCALE



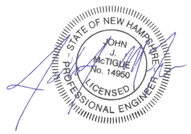


MOUNTING SYSTEMS



BIKE RACK DETAIL

NOT TO SCALE



SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 3

PROPOSED HOUSING DEVELOPMENT
35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE
OWNED BY
CITY OF PORTSMOUTH
PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.
1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

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Traffic Engineers
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Landscape Architects
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Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

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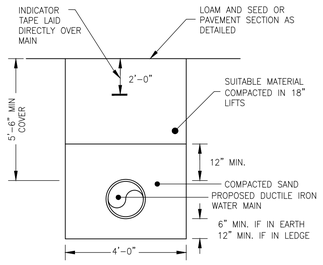
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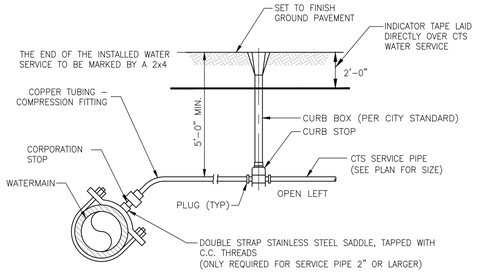


WATER MAIN TRENCH

NOT TO SCALE

NOTE:

1. WATER MAIN SHALL BE CLASS 52 DUCTILE IRON PIPE WRAPPED IN POLYETHYLENE WITH CONTINUITY WEDGES AS PER CITY STANDARDS.

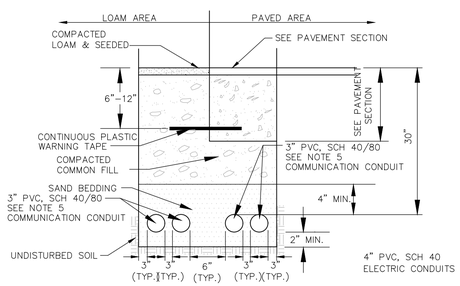


WATER SERVICE CONNECTION

NOT TO SCALE

NOTES

1. CURB STOPS TO OPEN TO THE RICHT.



NOTES

1. ELECTRIC SERVICE INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES.
2. COMMUNICATION SERVICE INSTALLATION SHALL MEET ALL CONSTRUCTION REQUIREMENTS.
3. ACTUAL NUMBER OF CONDUITS TO BE DETERMINED BY RESPECTIVE COMPANIES.
4. VERIFY INSTALLATION REQUIREMENTS WITH RESPECTIVE COMPANIES.
5. SCHEDULE 80 CONDUIT TO BE USED UNDER TRAFFIC SITUATIONS (PRIMARY AND SECONDARY LINES).
6. ALL 90 DEGREE SWEEPS MUST BE STEEL AND THE FIRST 10' STICK OUT OF THE 90 MUST BE STEEL ON ALL PRIMARY CONDUIT RUNS

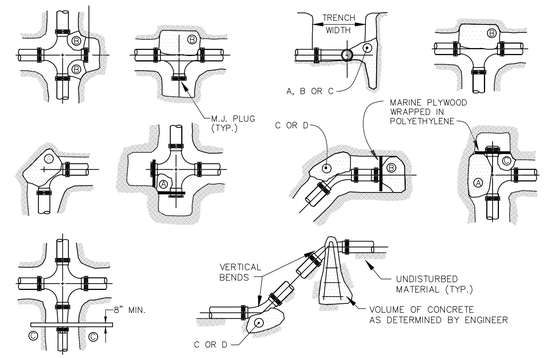
ELECTRIC/COMMUNICATIONS CONDUIT

NOT TO SCALE

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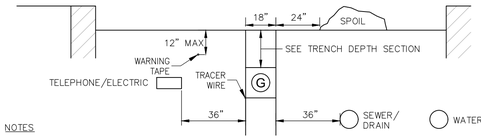
NOTES

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED. EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO PIPE JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE MECHANICAL JOINT PIPE IS USED, MECHANICAL JOINT PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN ESTABLISHED RULES AND PROCEDURES.

TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE		PIPE SIZE			
			4"	6"	8"	10"	12"
	A	90°	0.89	2.19	3.82	11.14	17.24
	B	180°	0.65	1.55	2.78	8.38	12.00
	C	45°	0.48	1.19	2.12	6.02	9.32
	D	22-1/2°	0.25	0.60	1.06	3.08	4.74
	E	11-1/4°	0.13	0.30	0.54	1.54	2.38

THRUST BLOCKS

NOT TO SCALE

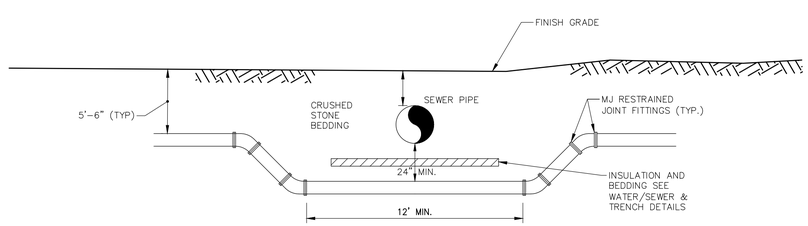


NOTES

1. MAINS–THE TRENCH SHALL BE DEEP ENOUGH TO PROVIDE 36" OF COVER FROM FINISHED GRADE TO TOP OF MAIN. FOR ALL SERVICES AND GAS MAINS, ON PRIVATE PROPERTY, 24" OF COVER IS REQUIRED.
2. THE TRENCH SHALL BE AT LEAST 18" WIDE. THE SPOIL SHOULD BE AT LEAST 24" FROM EDGE OF TRENCH.
3. THE TRENCH SHALL BE LAID OUT SO AS TO PROVIDE A MINIMUM OFFSET OF 36" FROM OTHER UTILITIES. WHERE PRACTICAL, GAS MAINS SHOULD BE ON THE OPPOSITE SIDE OF THE STREET FROM THE WATER MAIN.
4. THE NATURAL BOTTOM OF THE TRENCH SHALL BE PADDED WITH 4" OF SAND ON BOTTOM AND 6" OF SAND ON TOP. ALSO, SUFFICIENT SAND MUST BE PROVIDED FOR A MINIMUM OF 6" OF COVER ABOVE THE MAIN. SAND SHALL BE PROVIDED BY EXCAVATOR AND MUST BE ON SITE PRIOR TO INSTALLATION OF PIPE.
5. NO TRENCHING SHALL BE STARTED UNTIL AN ON SITE MEETING HAS BEEN HELD BETWEEN EXCAVATING CONTRACTOR AND UNITIL PERSONNEL. PRIOR TO THE MEETING, THE CONTRACTOR MUST NOTIFY DIG SAFE OF THE PROPOSED WORK. THE ROUTE OF TRENCH AND TENTATIVE START DATE SHALL BE CONFIRMED AT THE MEETING.
6. IF WORK TAKES PLACE OUTSIDE OF APRIL THROUGH NOVEMBER OFF SITE TIE–INS ON CITY STREETS SHALL BE DONE SUBJECT TO UNITIL CREW AVAILABILITY AND ISSUANCE OF REQUIRED PERMITS
7. ONCE UNITIL HAS INSTALLED THE MAIN AND SERVICES, CONTRACTOR WILL COVER THE PIPE WITH 6" OF SAND AND INSTALL THE TRACING WIRE AND WARNING TAPE PRIOR TO BACKFILLING. THE EXCAVATING CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER COMPACTING OF THE TRENCH AND MAINTAINING ALL SURFACE (VALVE) BOXES PRIOR TO AND DURING ON–SITE PAVING.

UNITIL GAS MAIN

NOT TO SCALE

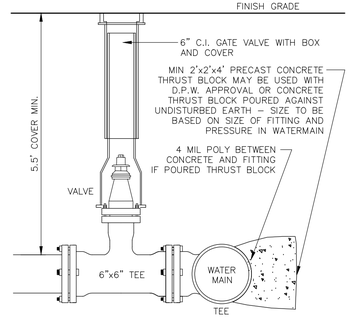


NOTE:

1. INSTALL (4) FOUR 45° MJ BENDS WITH RESTRAINED JOINT FITTINGS.
2. ALL WATER MAINS (DUCTILE IRON) AND SERVICES SHALL HAVE POLYETHYLENE WRAP.

WATER/SEWER CROSSING DETAIL

NOT TO SCALE

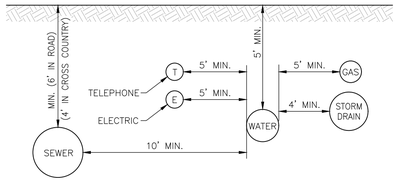


NOTES:

1. VALVE TO OPEN RIGHT.

BURIED GATE VALVE

NOT TO SCALE

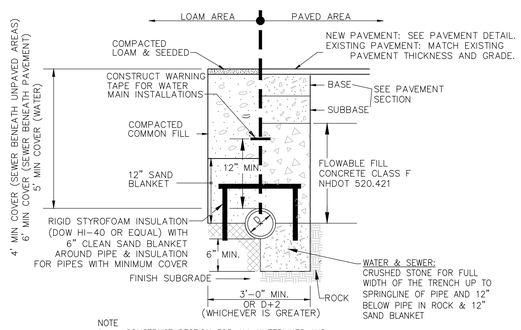


NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO EXETER DPW TECHNICAL SPECIFICATIONS.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. GAS MAIN SHALL HAVE A TYPICAL DEPTH OF 3' FROM THE TOP OF PIPE TO FINISH GRADE
4. DETAIL REPRESENTS LATERAL SEPARATION ONLY UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANY FOR DEPTHS FOR GAS, TELEPHONE, AND ELECTRIC.

TYPICAL UTILITY LATERAL SEPARATION

NOT TO SCALE



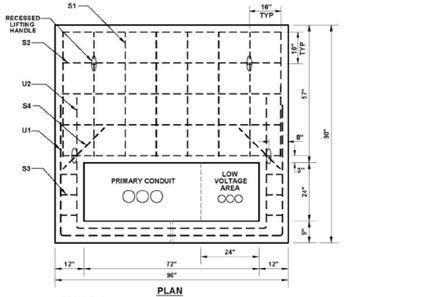
NOTE

1. CONSTRUCT SECTION FOR ALL WATERLINES AND SANITARY SEWERS.

UTILITY TRENCH

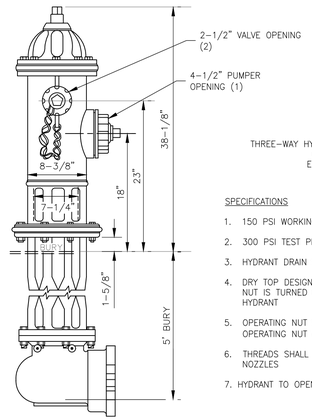
NOT TO SCALE

3 Phase Padmounted Transformer Slab 15KV 750-2500 KVA Dead Front
34KV 75-2500 KVA Dead Front



REINFORCING SCHEDULE (#6 BAR)			
Type	Qty	Length	Diagram
S1	16	51"	Straight
S2	10	90"	Straight
S3	12	7"	Straight
S4	4	24"	Straight
U1	2	198"	54 / 90 / 54
U2	2	186"	54 / 78 / 54

Total Foundation Weight, 14,200 lbs.



THREE–WAY HYDRANT KENNEDY K–81A
GUARDIAN
ELMIRA, N.Y.

SPECIFICATIONS

1. 150 PSI WORKING PRESSURE
2. 300 PSI TEST PRESSURE
3. HYDRANT DRAIN SHALL BE PLUGGED
4. DRY TOP DESIGN VALVE SHALL OPEN WHEN OPERATING NUT IS TURNED CLOCKWISE AND BE SO INDICATED ON HYDRANT
5. OPERATING NUT SHALL BE STANDARD AWWA PENTAGON OPERATING NUT WITH 1 1/2" POINT TO FLAT DIMENSION
6. THREADS SHALL BE NATIONAL STANDARD HOSE THREAD NOZZLES
7. HYDRANT TO OPEN RIGHT.

PORTSMOUTH FIRE HYDRANT

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 4

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

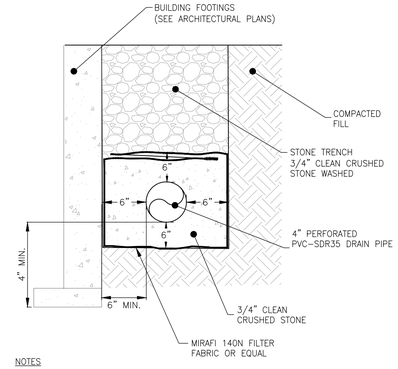
1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

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Landscape Architects
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47528.00	CK	JJM	CADFILE	47528-00_DETAILS	C-31

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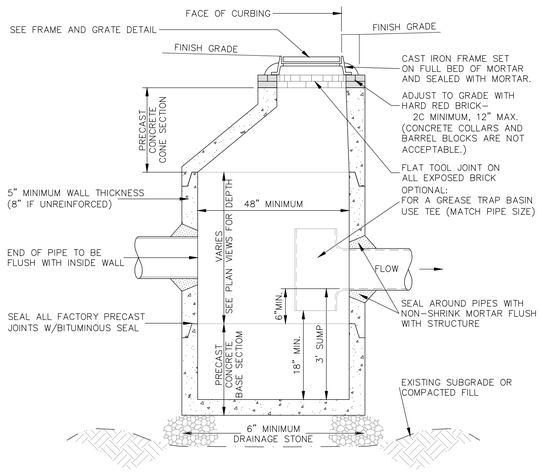


NOTES

1. FOR MINIMUM DIMENSIONAL REQUIREMENT REFER TO THE GEOTECHNICAL REPORT PREPARED BY JOHN TURNER COUNSULTING, INC. ON JULY 3, 2013.

FOUNDATION DRAIN LINES

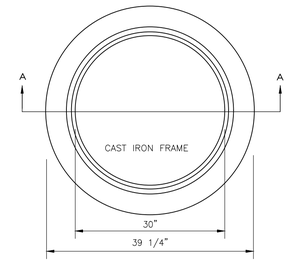
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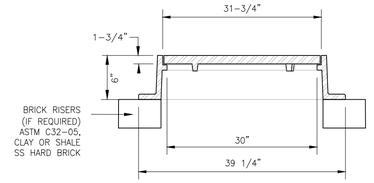
NOTE: ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

CATCH BASIN

ECCENTRIC CONE (FOR USE IN CURBED AREAS) NOT TO SCALE



PLAN VIEW

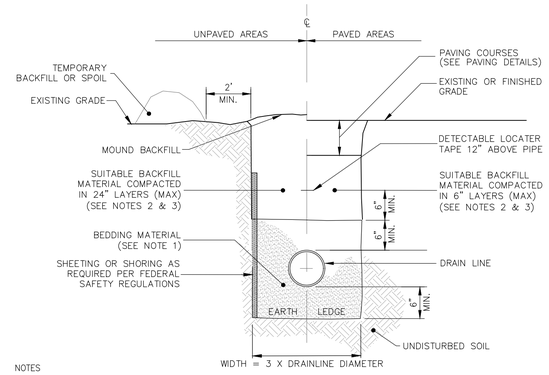


SECTION A-A

BRICK RISERS (IF REQUIRED)
ASTM C32-05, CLAY OR SHALE
SS HARD BRICK

MANHOLE FRAME & COVER

NOT TO SCALE

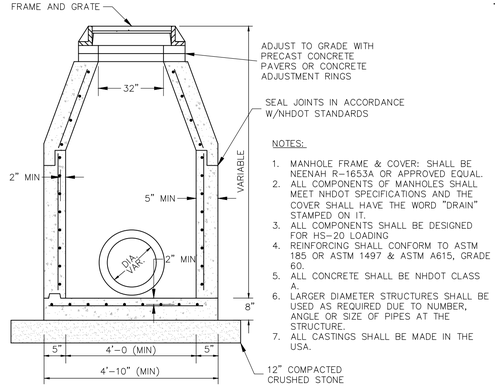


NOTES

1. BEDDING – BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED STONE SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS. NORMAL PIPE BEDDING IS CRUSHED STONE TO THE HAUNCH OF THE PIPE AND SAND BEDDING 6" ABOVE THE CROWN. IF THE TOP OF THE PIPE IS LESS THAN 30" FROM FINISH GRADE, BED PIPE COMPLETELY IN STONE UP TO 6" ABOVE PIPE CROWN. UNDERDRAIN TO HAVE 4" MINIMUM OF STONE OVER PIPE OR AS NECESSARY TO BE IN CONTACT WITH GRAVEL LAYER OF SELECTS ABOVE.
2. COMPACTION – ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T99, METHOD C.
3. SUITABLE MATERIAL – IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6" IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
4. BASE COURSE AND PAVEMENT – SHALL MEET THE REQUIREMENT OF THE NHDOT LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DIVISION 300 AND 400 RESPECTIVELY.

TRENCH FOR DRAIN LINE

NOT TO SCALE

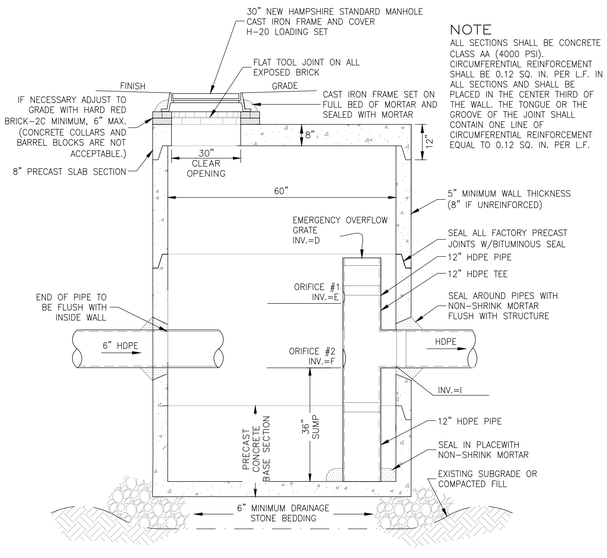


NOTES:

1. MANHOLE FRAME & COVER: SHALL BE NEENAH R-1653A OR APPROVED EQUAL.
2. ALL COMPONENTS OF MANHOLES SHALL MEET NHDOT SPECIFICATIONS AND THE COVER SHALL HAVE THE WORD "DRAIN" STAMPED ON IT.
3. ALL COMPONENTS SHALL BE DESIGNED FOR HS-20 LOADING
4. REINFORCING SHALL CONFORM TO ASTM 185 OR ASTM 1497 & ASTM A615, GRADE 60.
5. ALL CONCRETE SHALL BE NHDOT CLASS A.
6. LARGER DIAMETER STRUCTURES SHALL BE USED AS REQUIRED DUE TO NUMBER, ANGLE OR SIZE OF PIPES AT THE STRUCTURE.
7. ALL CASTINGS SHALL BE MADE IN THE USA.

DRAIN MANHOLE

NOT TO SCALE



NOTE

ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.

NOTE: ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

OUTLET CONTROL STRUCTURE

FOR BIORETENTION SYSTEMS NOT TO SCALE

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SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

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STATE OF NEW HAMPSHIRE JOHN J. MCTIGUE No. 14960 LICENSED PROFESSIONAL ENGINEER

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Structural Engineers
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Landscape Architects
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ADVANCED DRAINAGE SYSTEMS, INC.

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BAC□FILL, AND THE INSTALLATION RE□UIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUC□ WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE RE□UIREMENTS OF ASTM F2418-1□, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
□. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON RE□UEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR E□UAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM RE□UIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BAC□FILLED WITH A DO□ER OR E□CAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BAC□FILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BAC□FILL AS ROWS ARE BUILT USING AN E□CAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BAC□FILL FROM OUTSIDE THE E□CAVATION USING A LONG BOOM HOE OR E□CAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
□. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF □3 OR □4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLE□STORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF E□UIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO E□UIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUC□, OR E□CAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION E□UIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 3□" (900 mm) OF STABILI□ED COVER MATERIALS OVER THE CHAMBERS IS RE□UIRED FOR DUMP TRUC□ TRAVEL OR DUMPING.

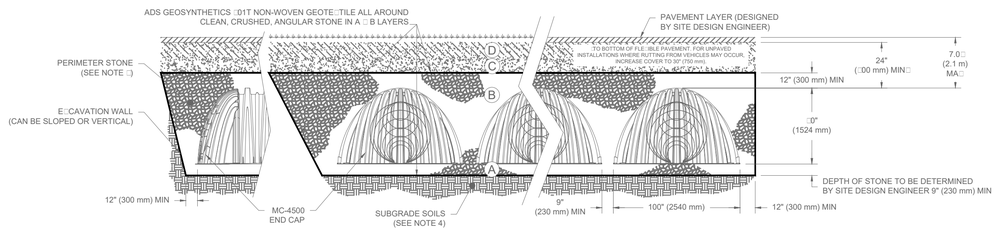
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2□94 WITH ANY □UESTIONS ON INSTALLATION RE□UIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION E□UIPMENT.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION □DENSITY RE□UIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE C LAYER TO THE BOTTOM OF FLE□IBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROC□ MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHEC□ PLANS FOR PAVEMENT SUBGRADE RE□UIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION RE□UIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (□00 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MI□TURES, <35□ FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 4□7, 5, 5□, 57, □, □7, □8, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (□00 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MA□ LIFTS TO A MIN. 95□ PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95□ RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A□ LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION RE□UIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR E□AMPLE, A SPECIFICATION FOR □4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION RE□UIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MA□) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RA□NG OR DRAGGING WITHOUT COMPACTION E□UIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION RE□UIREMENTS.



NOTES:

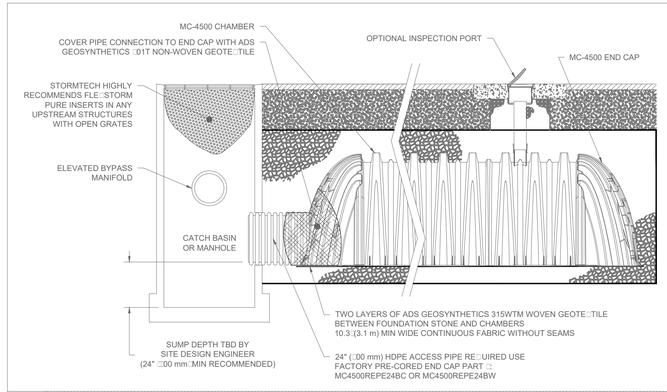
1. MC-4500 CHAMBERS SHALL CONFORM TO THE RE□UIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION RE□UIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF E□PECTED SOIL MOISTURE CONDITIONS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL RE□UIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
□. PERIMETER STONE MUST BE E□TENDED HORI□ONTALLY TO THE E□CAVATION WALL FOR BOTH VERTICAL AND SLOPED E□CAVATION WALLS.

1 MC-4500 CROSS SECTION DETAIL

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INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE□OPEN LID□ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLE□STORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FI□ED CULVERT CLEANING NO□□LE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BAC□FLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS RE□UIRED

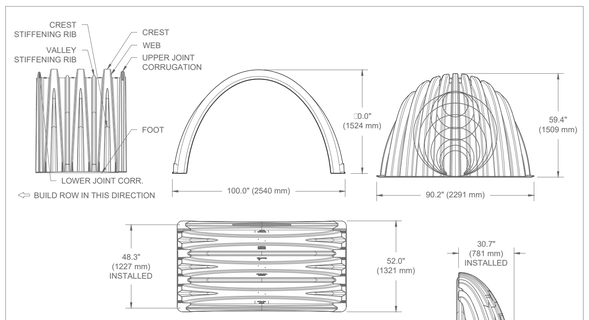
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS□RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY □MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

3 MC-4500 ISOLATOR ROW DETAIL



NOMINAL CHAMBER SPECIFICATIONS

SI□E (W □ H □ INSTALLED LENGTH)	100.0" □ □0.0" □ 48.3"	(2540 mm □ 1524 mm □ 1227 mm)
CHAMBER STORAGE	10□.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE□	1□2.□ CUBIC FEET	(4.60 m³)
WEIGHT	130.0 lbs.	(59.0 □g)

NOMINAL END CAP SPECIFICATIONS

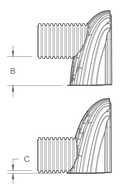
SI□E (W □ H □ INSTALLED LENGTH)	90.2" □ 59.4" □ 30.7"	(2291 mm □ 1509 mm □ 781 mm)
END CAP STORAGE	35.7 CUBIC FEET	(1.01 m³)
MINIMUM INSTALLED STORAGE□	108.7 CUBIC FEET	(3.08 m³)
WEIGHT	135.0 lbs.	(□1.2 □g)

□ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40□ STONE POROSITY.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

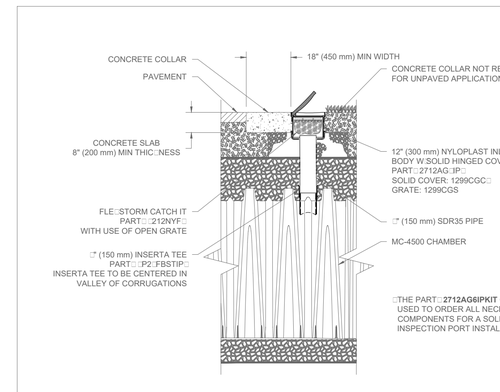
PART #	STUB	B	C
MC4500REPE0□T	□" (150 mm)	42.54" (1.081 m)	---
MC4500REPE0□B		---	0.8□" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1.029 m)	---
MC4500REPE08B		---	1.01" (2□ mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	---
MC4500REPE10B		---	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.□9" (907 mm)	---
MC4500REPE12B		---	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	---
MC4500REPE15B		---	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.3□" (74□ mm)	---
MC4500REPE18TW			
MC4500REPE18BC		---	1.97" (50 mm)
MC4500REPE18BW			
MC4500REPE24TC	24" (□00 mm)	23.05" (585 mm)	---
MC4500REPE24TW			
MC4500REPE24BC		---	2.2□" (57 mm)
MC4500REPE24BW			
MC4500REPE30BC	30" (750 mm)	---	2.95" (75 mm)
MC4500REPE3□BC	3□" (900 mm)	---	3.25" (83 mm)
MC4500REPE42BC	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON RE□UEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-□00 mm) SI□E ON SI□E AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SI□ES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B□' ARE THE HIGHEST POSSIBLE FOR THE PIPE SI□E.

2 MC-4500 TECHNICAL SPECIFICATIONS



□THE PART□**2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4 MC-4500 □" (150 mm) INSPECTION PORT DETAIL

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 6

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
CITY OF PORTSMOUTH

PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE JOHN J. McTIGUE No. 14960 PROFESSIONAL ENGINEER LICENSED

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
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ADVANCED DRAINAGE SYSTEMS, INC.

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BAC□FILL, AND THE INSTALLATION RE□UIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUC□ WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE RE□UIREMENTS OF ASTM F2418-1□, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".

□. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".

7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON RE□UEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR E□UAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM RE□UIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BAC□FILLED WITH A DO□ER OR E□CAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BAC□FILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BAC□FILL AS ROWS ARE BUILT USING AN E□CAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BAC□FILL FROM OUTSIDE THE E□CAVATION USING A LONG BOOM HOE OR E□CAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.

□. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.

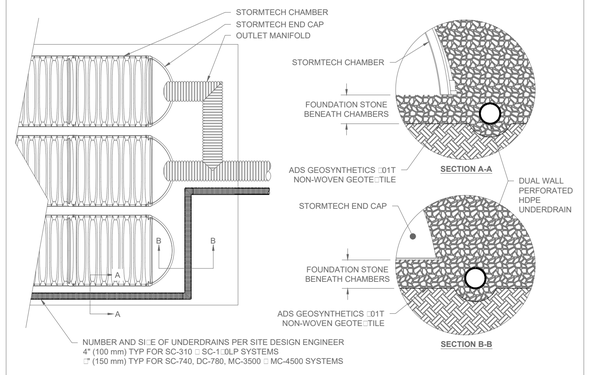
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF □3 OR □4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLE□STORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

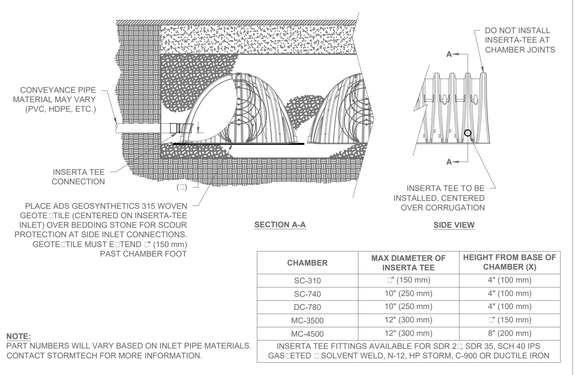
1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF E□UIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO E□UIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUC□, OR E□CAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION E□UIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 3□" (900 mm) OF STABILI□ED COVER MATERIALS OVER THE CHAMBERS IS RE□UIRED FOR DUMP TRUC□ TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2□94 WITH ANY □UESTIONS ON INSTALLATION RE□UIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION E□UIPMENT.



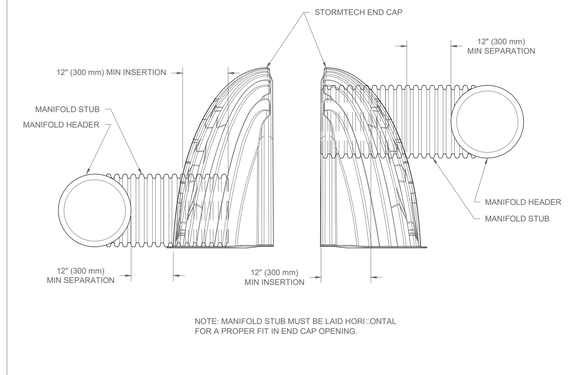
5 UNDERDRAIN DETAIL



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	□" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	□" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 2□, SDR 35, SCH 40 IPS GAS□ETED □ SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

□ INSERTA-TEE SIDE INLET DETAIL



NOTE: MANIFOLD STUB MUST BE LAID HORI□ONTAL FOR A PROPER FIT IN END CAP OPENING.

7 MC-SERIES END CAP INSERTION DETAIL

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SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 7

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

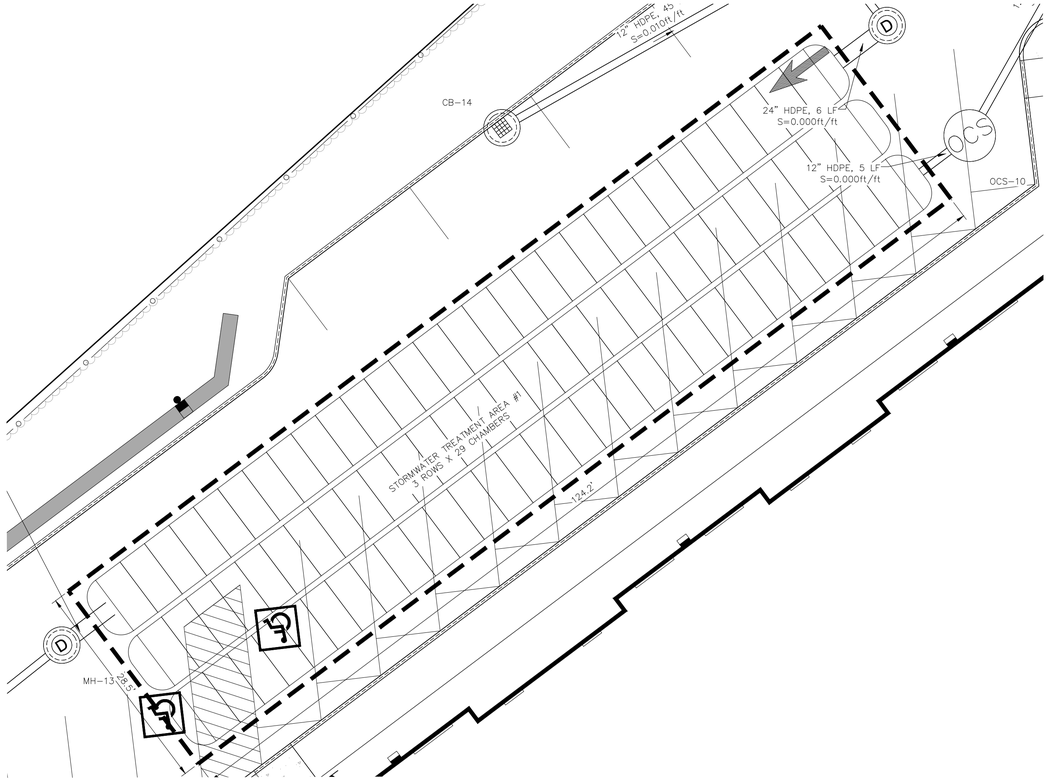
STATE OF NEW HAMPSHIRE JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK
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2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

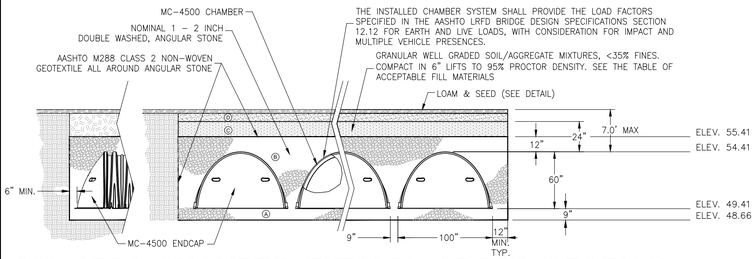
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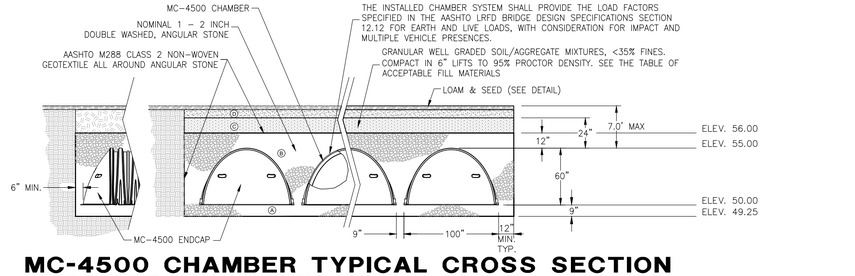






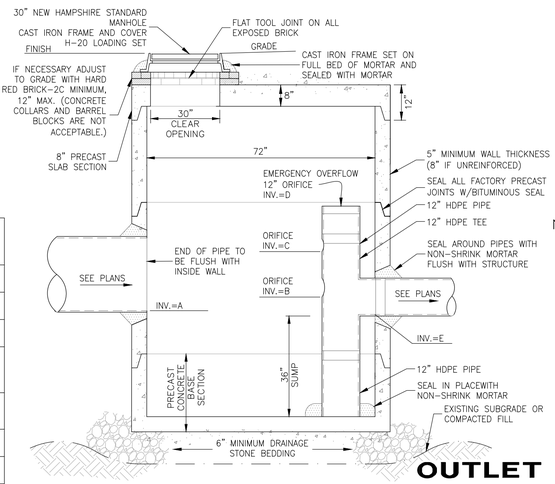
MC-4500 CHAMBER TYPICAL CROSS SECTION STORMTECH SYSTEM #1

NOT TO SCALE



MC-4500 CHAMBER TYPICAL CROSS SECTION STORMTECH SYSTEM #2

NOT TO SCALE



OUTLET STRUCTURE

OUTLET CONTROL STRUCTURE TABLE		
INV.	OCS-10	OCS-20
RIM	60.73	58.28
A	53.60	54.25
B	55.00 12" ORIFICE	NA
C	NA	NA
D	NA	55.50
E	48.70	49.25

NOTE

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
2. ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

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STATE OF NEW HAMPSHIRE JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 8

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

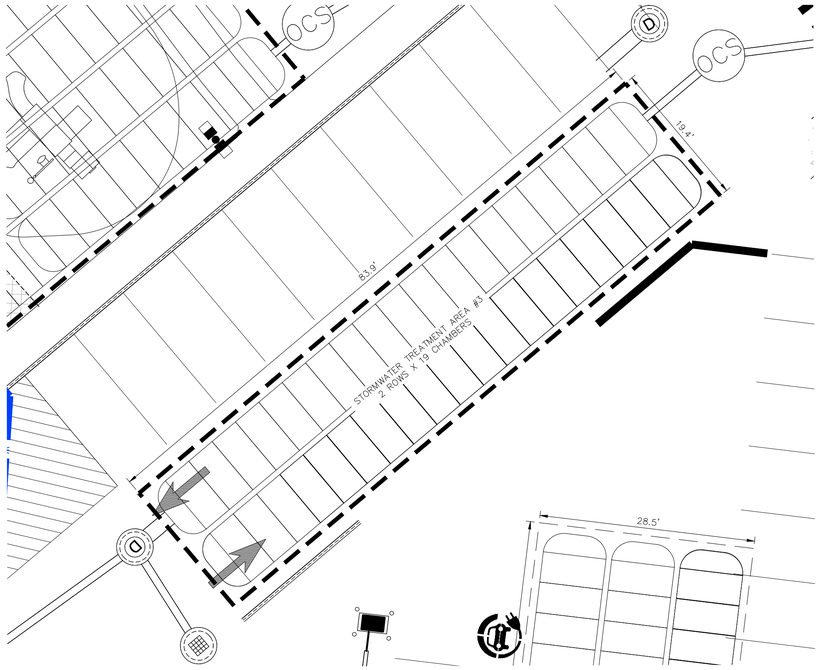
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

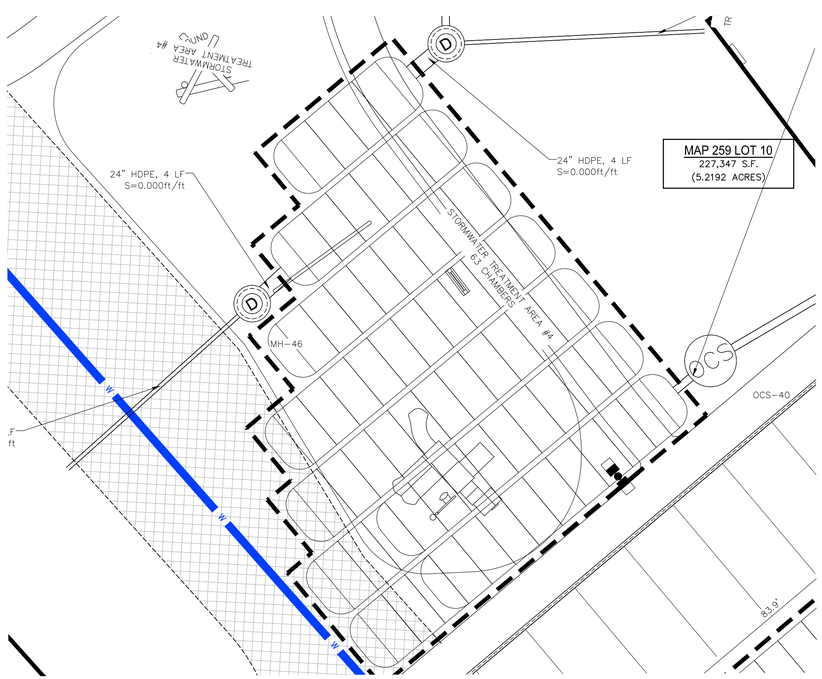
48 Constitution Drive
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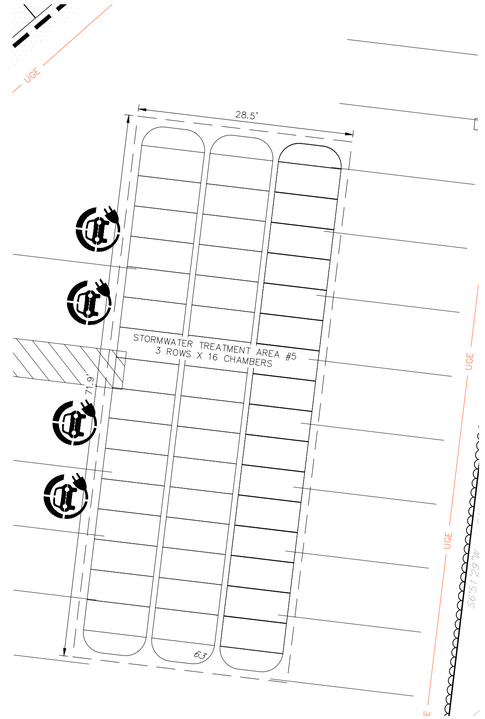
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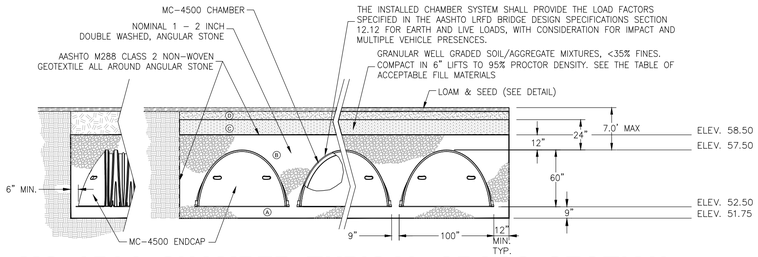
C-35

Jul 30, 2025 - 1:40pm
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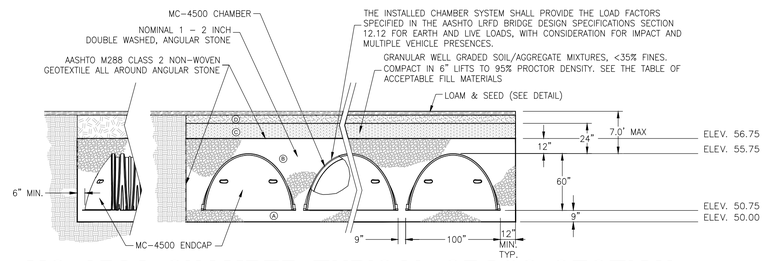






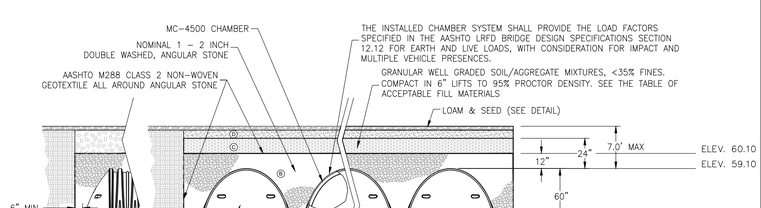
MC-4500 CHAMBER TYPICAL CROSS SECTION STORMTECH SYSTEM #3

NOT TO SCALE



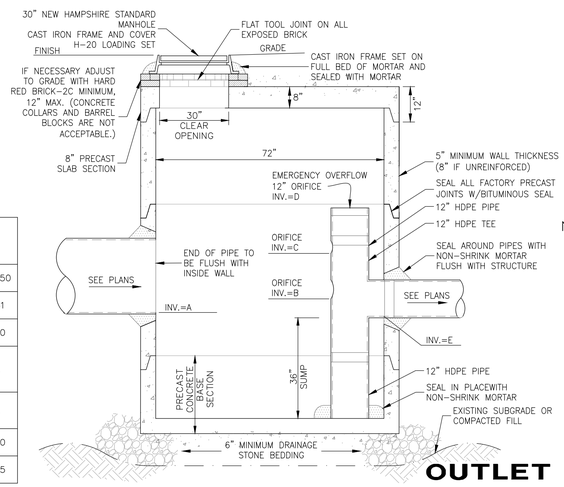
MC-4500 CHAMBER TYPICAL CROSS SECTION STORMTECH SYSTEM #4

NOT TO SCALE



MC-4500 CHAMBER TYPICAL CROSS SECTION STORMTECH SYSTEM #5

NOT TO SCALE



OUTLET STRUCTURE

OUTLET CONTROL STRUCTURE TABLE			
INV.	OCS-30	OCS-40	OCS-50
RIM	60.13	60.73	61.41
A	55.80	55.75	57.30
B	58.00 12" ORIFICE	57.00 12" ORIFICE	NA
C	NA	NA	NA
D	NA	NA	59.50
E	51.75	50.75	53.35

NOTE

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
2. ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

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TAX MAP 259 LOT 10

DETAILS 9

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OWNED BY

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1"=60' (11"X17")
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STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

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FILE		DR	JKC	FB		
	47528.00	CK	JJM	CADFILE	47528-00_DETAILS	C-36

Jul 30, 2025 - 1:40:7m
F:\MSG Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-00 Details.dwg

SEWER SERVICE NOTES

1. MINIMUM SIZE PIPE FOR SEWER SERVICE SHALL BE FOUR INCHES.

2. PIPE AND JOINT MATERIALS:
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	*ABS (COMPOSITES WALL)	8" THROUGH 15"

*PVC: POLY VINYL CHLORIDE
*ABS: ACRYLONITRILE-BUTADIENE-STYRENE

      2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

         ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680, POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322).

         JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.

   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.
      1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
         A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
         A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
      2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
         A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS

3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5. TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURERS' INSTRUCTIONS USING A BOLTED, CLAMPED OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER.

6. SEWER SERVICE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 6 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

   THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4" INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7. TESTING: THE COMPLETED SEWER SERVICE SHALL BE SUBJECTED TO A THIRD PARTY LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)

   A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.

   B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.

   C. DRY FLUORESCENE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWN-STREAM MANHOLE.

   LEAKAGE OBSERVED IN ANY ONE OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.

8. ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9. WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.

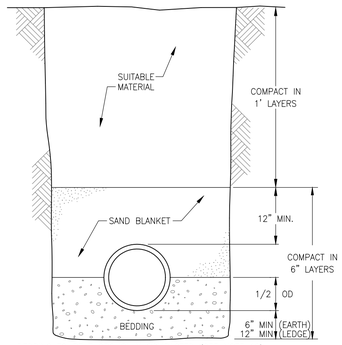
10. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%-55% PASSING	3/8 INCH SCREEN
0%-10% PASSING	#4 SIEVE
0%-5% PASSING	#8 SIEVE

    WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

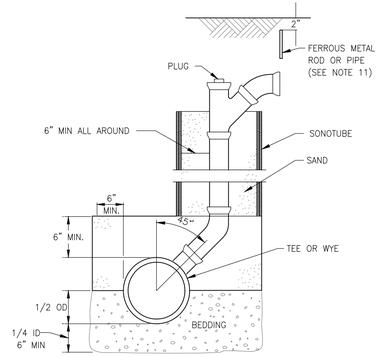
11. LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.

12. CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE SEWER CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.



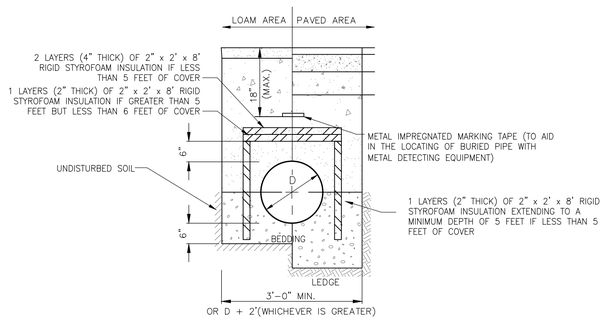
BEDDING TO BE THOROUGHLY COMPACTED (SEE NOTE 10)

TRENCH CROSS-SECTION
NOT TO SCALE



BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

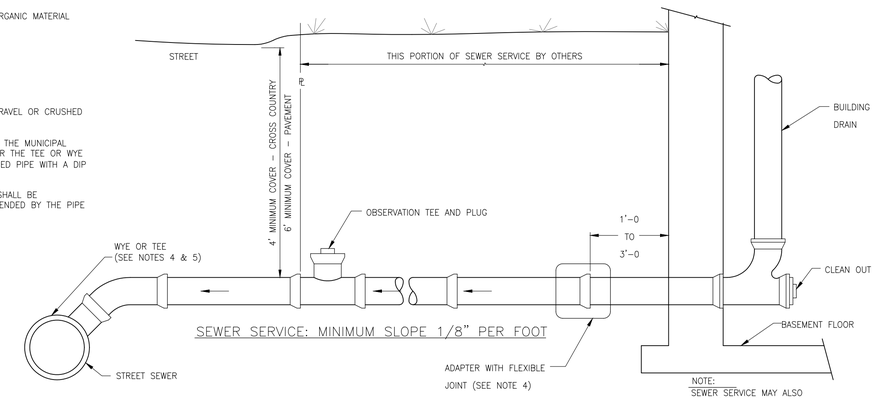
CHIMNEY (SEE NOTE 12)
NOT TO SCALE



NOTES

1. GAPS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2" x 2' x 2' PIECE OF INSULATION CENTERED OVER GAP.

SEWER TRENCH WITH INSULATION
NOT TO SCALE



SEWER SERVICE DETAILS
NOT TO SCALE

GRAVITY SEWER NOTES

1. MINIMUM SIZE PIPE FOR GRAVITY SEWER SHALL BE 8-INCHES.

2. PIPE AND JOINT MATERIALS FOR PLASTIC SEWER PIPE SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034-04a	* PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679-03	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F794-03	PVC (RIBBED WALL)	8" THROUGH 36"
F1760-01(2005)e1	PVC, RECYCLED	ALL DIAMETERS

*PVC: POLY VINYL CHLORIDE

3. PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5 PERCENT PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2412-02 DURING MANUFACTURE.

4. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212-96(a)(2003)e1 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

5. DUCTILE-IRON PIPE, FITTINGS AND JOINTS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA).

   AWWA C151/A21.51-02 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536-84 (2004) DUCTILE IRON CASTINGS.

   AWWA C151/A21.51-02 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.

   JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO AWWA C151/A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS.

6. CONCRETE PIPE SHALL CONFORM TO AWWA C302-04.

7. PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS SHALL CONFORM TO AWWA C301-99.

   JOINTS SEALS FOR CONCRETE CYLINDER PIPE SHALL BE OIL RESISTANT ELASTOMERIC MATERIAL CONFORMING TO ASWWA C301-99 SPECIFICATIONS.

8. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

9. GRAVITY SEWER PIPE TESTING SHALL BE AS FOLLOWS:

   ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.

   LOW PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:

   ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR".

   UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE".

10. ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED AND SHALL BE TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE AND VISUALLY INSPECT USING LAMP TEST.

11. ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS AND NO MORE THAN 90 DAYS FOLLOWING INSTALLATION.

12. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5 PERCENT OF THE AVERAGE INSIDE DIAMETER.

13. TRENCH CONSTUCTION SHALL CONFORM TO THE FOLLOWING:

    SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6' BELOW GRADE IN ALL ROADWAY LOCATIONS AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS COUNTRY LOCATIONS.

    WHERE SEWER LINES CROSS WATER PIPES, A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. AT SEWER/WATER INTERSECTIONS, A MINIMUM OF 6 FEET SHALL BE PROVIDED FROM THE WATER LINE TO THE SEWER PIPE JOINT. 12" SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE REQUIRED BETWEEN SEWER LINES AND ALL OTHER PIPES.

    TRENCH DIMENSIONS FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER, THE ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES AND FOR PIPE 15 INCHES AND LARGER, THE ALLOWABLE WIDTH SHALL BE EQUAL TO THE PIPES OUTSIDE DIAMETER PLUS 24 INCHES.

PIPE TRENCH BEDDING MATERIAL AND FILL MATERIAL FOR EXCAVATION BELOW GRADE SHALL BE SCREENED GRAVEL OR CRUSHED STONE TO ASTM C33-03 STONE SIZE NO. 67. THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ANY ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSED THE 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE. IN LIEU OF A SAND BLANKET, A STONE ENVELOPE 6 INCHES THICK COMPLETELY AROUND THE PIPE USING 3/4-INCH STONE MAY BE USED.

PIPE BEDDING MATERIAL SHALL EXTEND FROM A HORIZONTAL PLANE THROUGH THE PIPE AXIS TO 6-INCHES BELOW THE BOTTOM OF THE OUTSIDE SURFACE OF THE PIPE.

PIPE SAND BLANKET MATERIAL SHALL COVER THE PIPE A MINIMUM OF 12 INCHES ABOVE THE CROWN OF THE OUTSIDE SURFACE.

COMPACTION SHALL BE IN 12-INCH LAYERS FOR BEDDING AND BLANKET MATERIALS.

BACKFILL MATERIAL SHALL BE IN 3-FOOT LAYERS TO THE GROUND SURFACE EXCEPT FOR ROAD CONSTRUCTION WHERE THE FINAL 3-FEET SHALL BE COMPACTED IN 12-INCH LAYERS TO THE ROAD BASE SURFACE.

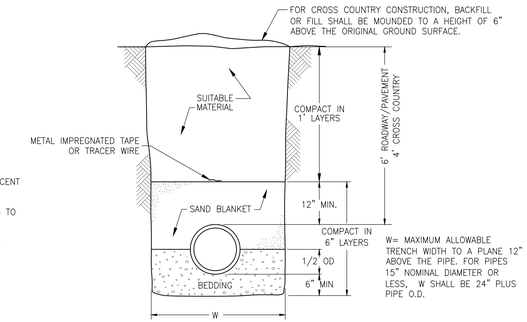
TRENCH BACKFILL MATERIAL IN ROADWAY LOCATIONS SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION, EXCLUDING DEBRIS, PAVEMENT PIECES, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT, CLAY, EXCAVATED LEDGE, ROCKS OVER 6 INCHES IN THE LARGEST DIMENSION, OR ANY OTHER UNSUITABLE MATERIAL NOT APPROVED BY THE ENGINEER.

TRENCH BACKFILL AT CROSS-COUNTRY LOCATIONS SHALL BE AS DESCRIBED ABOVE EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED. BACKFILL SHALL BE MOUNDED 6-INCHES ABOVE ORIGINAL GROUND.

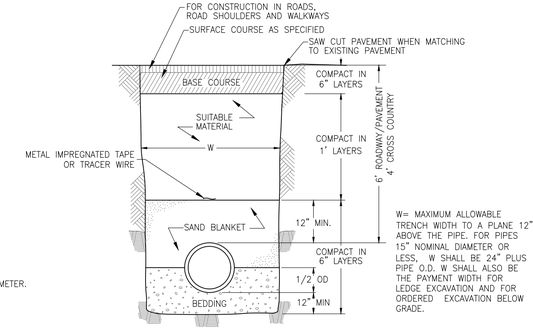
BASE COURSE MATERIALS FOR TRENCH REPAIRS SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.

WHERE SHEETING IS PLACED ALONG SIDE OF THE PIPE AND EXTENDS BELOW MID-DIAMETER, THE SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE AND AT LEAST 3 FEET BELOW FINISH GRADE.

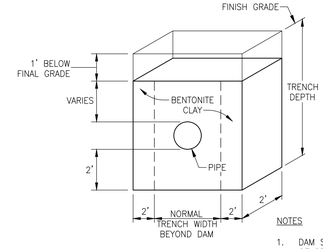
TRENCHES FOR SEWER PIPES WITH SLOPES OVER 0.08 FEET PER FOOT AND TRENCHES FOR SEWER PIPES BELOW THE SEASONAL HIGH GROUND WATER LEVEL SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET TO PREVENT POTENTIAL DISTURBANCE TO PIPE BEDDING AND BLANKET MATERIALS.



EARTH CONSTRUCTION
NOT TO SCALE



LEDGE CONSTRUCTION
NOT TO SCALE



NOTES

1. DAM SHALL BE LOCATED EVERY 300' OF SEWER PIPE RUN.
2. NO FITTING SHALL BE LOCATED WITHIN 4' OF DAM.

SEWER TRENCH DAM
NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 10

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

STATE OF NEW HAMPSHIRE — JOHN J. McTIGUE No. 14950 — LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

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FILE	DR	JKC	FB		
47528.00	CK	JJM	CADFILE	47528-00_DETAILS	C-37

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GENERAL NOTES

1. IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H–20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. BARRELS, CONE SECTIONS AND CONCRETE GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AND SHALL CONFORM ENV–WQ 704.12 & 704.13.
3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478–06.
4. BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
5. MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
6. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.
7. ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP–PROOFING COATING.
8. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H–20 LOADS.
9. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC–LIKE SEALANT. APPROVED ELASTOMERIC SEALANTS ARE:
   - SIKAFLEX–12–SL
   - SONNEBORN BUILING PRODUCTS–SONOLASTIC SL–1
10. THE MINIMUM INTERNAL DIAMETER OF MANHOLES SHALL BE 48 INCHES. FOR SEWERS LARGER THAN 24–INCH DIAMETER. MANHOLE DIAMETERS SHALL BE INCREASED SO AS TO PROVIDE AT LEAST 12–INCHES OF SHELF ON EACH SIDE OF THE SEWER.
11. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE TO ENV–WQ 704.17.
    (a) ALL MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST IN ACCORDANCE WITH THE ASTM C1244 STARNDARD IN EFFECT WHEN THE TESTING IS PERFORMED.
    (b) THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
        1. THE INITIAL VACUUM GUAGE TEST PRESSURE SHALL BE 10 INCHES Hg.
        2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR 1–INCH Hg PRESSURE DROP TO 9 INCHES SHALL BE:
            A. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP.
            B. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP.
            C. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
    (c) THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (b) ABOVE.
    (d) INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETE.
    (e) FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS, UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENT TO GRADE.
12. BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL COMPLY WITH ASTM C32–05, CLAY OR SHALE, FOR GRADE SS HARD BRICK.
13. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
    (a) 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
    (b) 4.5 PARTS SAND, 1 PART CEMENT AND 0.5 PART HYDRATED LIME

    CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150–05. HYDRATED LIME SHALL BE TYPE S CONFORMING TO ASTM C207–06 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES". SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO ASTM C33–03 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES".
14. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED OR PRECAST CONCRETE SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
15. FRAMES AND COVERS: FRAMES AND COVERS: SEWER MANHOLE FRAMES AND COVERS SHALL BE CITY OF PORTSMOUTH STANDARD, AND SHALL BE PURCHASED AND PICKED UP AT PORTSMOUTH DEPARTMENT OF PUBLIC WORKS WATER DEPARTMENT. THEY SHALL BE OF HEAVY DUTY DESIGN, CLASS 30, CONFORMING TO ASTM A48/48M AND PROVIDE A 30–INCH CLEAR OPENING. THE CASTING SHALL BE OF EVEN GRAINED CAST IRON, SMOOTH, AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS. CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION.
16. BEDDING: PRECAST BASES SHALL BE PLACED ON A 6–INCH LAYER OF COMPACTED BEDDING MATERIAL THAT CONFORMS TO ASTM C33–03 NO. 67 STONE AND FREE FROM CLAY, LOAM AND ORGANNIC MATTER. THE EXCAVATION SHALL BE PROPERLY DEWATERED WHILE PLACING BEDDING MATERIAL AND SETTING OF THE BASE OR POURING CONCRETE. WATER–STOPS SHALL BE USED AT THE HORIZONTAL JOINT OF THE CAST–IN–PLACE MANHOLES.

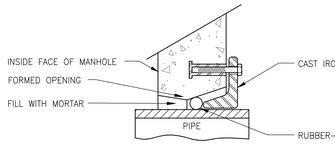
100% PASSING	1" SCREEN
90–100% PASSING	3/4" SCREEN
20–55% PASSING	3/8" SCREEN
0–10% PASSING	#4 SIEVE
0–5% PASSING	#8 SIEVE

17. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WIbHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION: (a) WITHIN 48 INCHES FOR REINFORCED CONCRETE PIPE (RCP). (b) WITHIN 60 INCHES FOR PVC PIPE LARGER THAN 15" DIAMETER.
18. NO FLEXIBLE JOINT SHALL BE REQUIRED FOR DUCTILE IRON PIPE OR PVC PIPE UP THROUGH 15–INCH DIAMETER.
19. INTERNAL STEPS ARE PROHIBITED PER CITY OF PORTSMOUTH DPW STANDARDS.
20. REFERENCE NHDES ENV–WQ 700 IN PLACE OF ASTM STANDARDS.
21. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS FOLLOWS:
    A. ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES.
    B. CAST INTO WALL OR SECUREED WITH STAINLESS STEEL CLAMPS.
    C. ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH THE SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING.
    D. NON–SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
22. THE INVERT OF THE INCOMING PIPE SHALL BE NO MORE THAN 6 INCHES ABOVE THE OUTGOING PIPE UNLESS A DROP ENTRY IS USED.

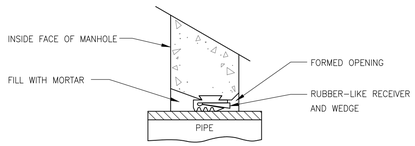
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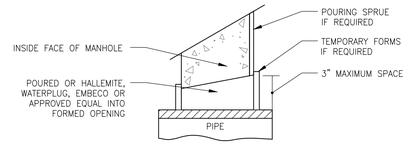
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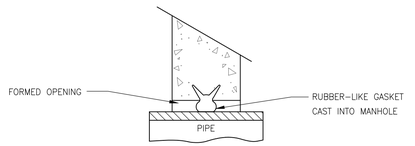
RES–SEAL
(OR ACCEPTABLE SUBSTITUTE)



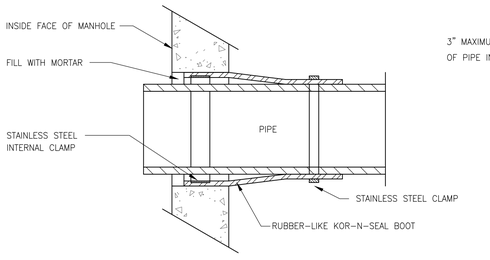
PRESS–WEDGE II
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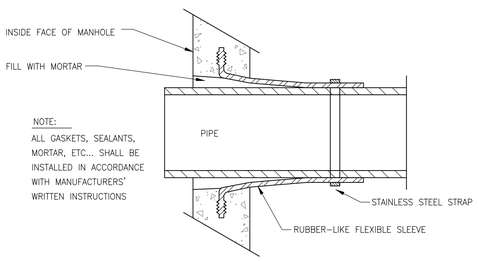
MORTARED JOINT
(OR ACCEPTABLE SUBSTITUTE)



A–LOK
(OR ACCEPTABLE SUBSTITUTE)



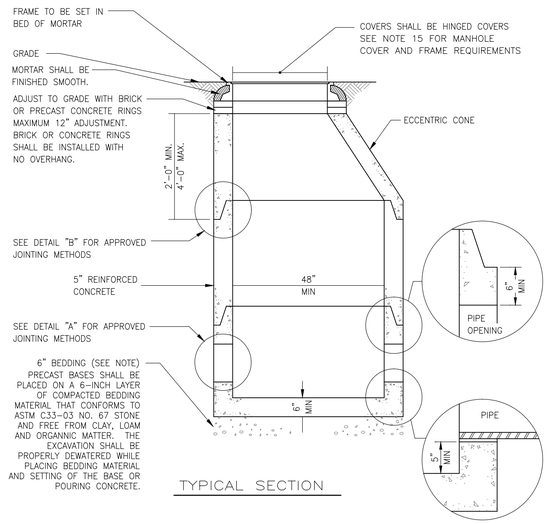
KOR–N–SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)



NOTE:
ALL GASKETS, SEALANTS, MORTAR, ETC... SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS

LOCK–JOINT FLEXIBLE MANHOLE SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

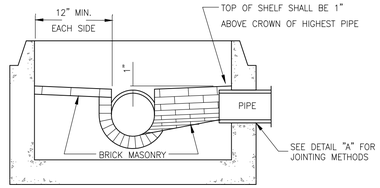
DETAIL "A" – PIPE TO MANHOLE JOINTS



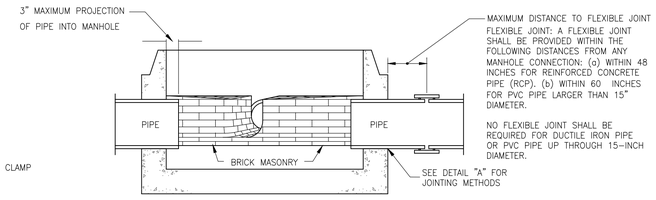
TYPICAL SECTION

NOTES:

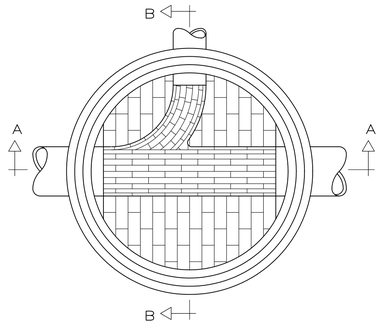
1. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.
3. BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6" ABOVE THE PIPE CROWN.
4. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
5. NO STEPS ARE ALLOWED PER EXETER DPW STANDARDS.
6. BITUMINOUS COATING.



SECTION "B–B"

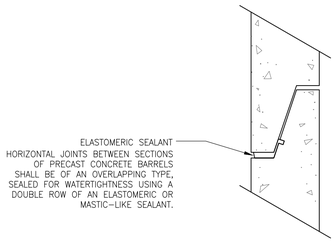


SECTION "A–A"



TYPICAL MANHOLE – PLAN VIEW

STANDARD SEWER MANHOLE

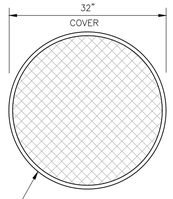


ELASTOMERIC SEALANT

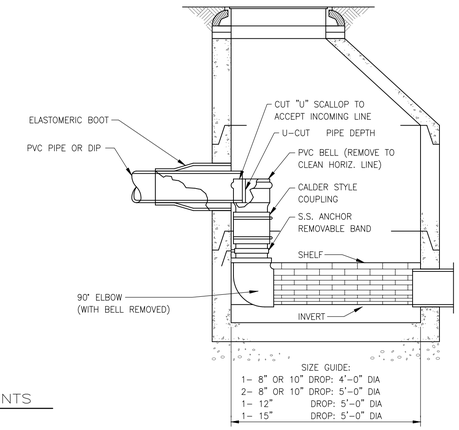
NOTES:
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STATE OF NEW HAMPSHIRE APPROVED PRODUCTS
A) SIKAFLEX–12–SL
B) SONNEBORN BUILDING PRODUCTS SONOLASTIC SL–1

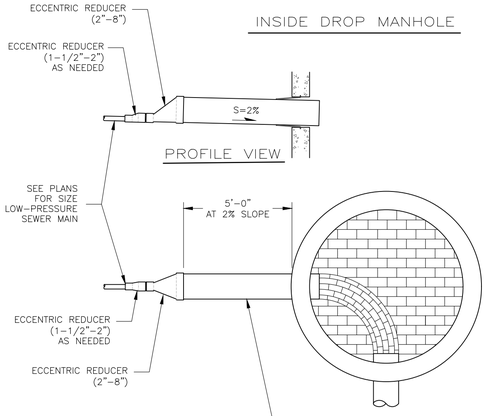
DETAIL "B" – HORIZONTAL JOINTS



COVER



INSIDE DROP MANHOLE

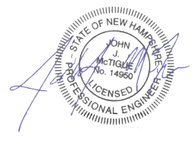


NOTES:
1. CONTRACTOR TO COORDINATE WITH CITY OF PORTSMOUTH DPW FOR REDUCER TYPE REQUIREMENTS.

PLAN VIEW

PRESSURE TO GRAVITY SEWER DETAIL

SCALE: N.T.S



SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

DETAILS 11

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

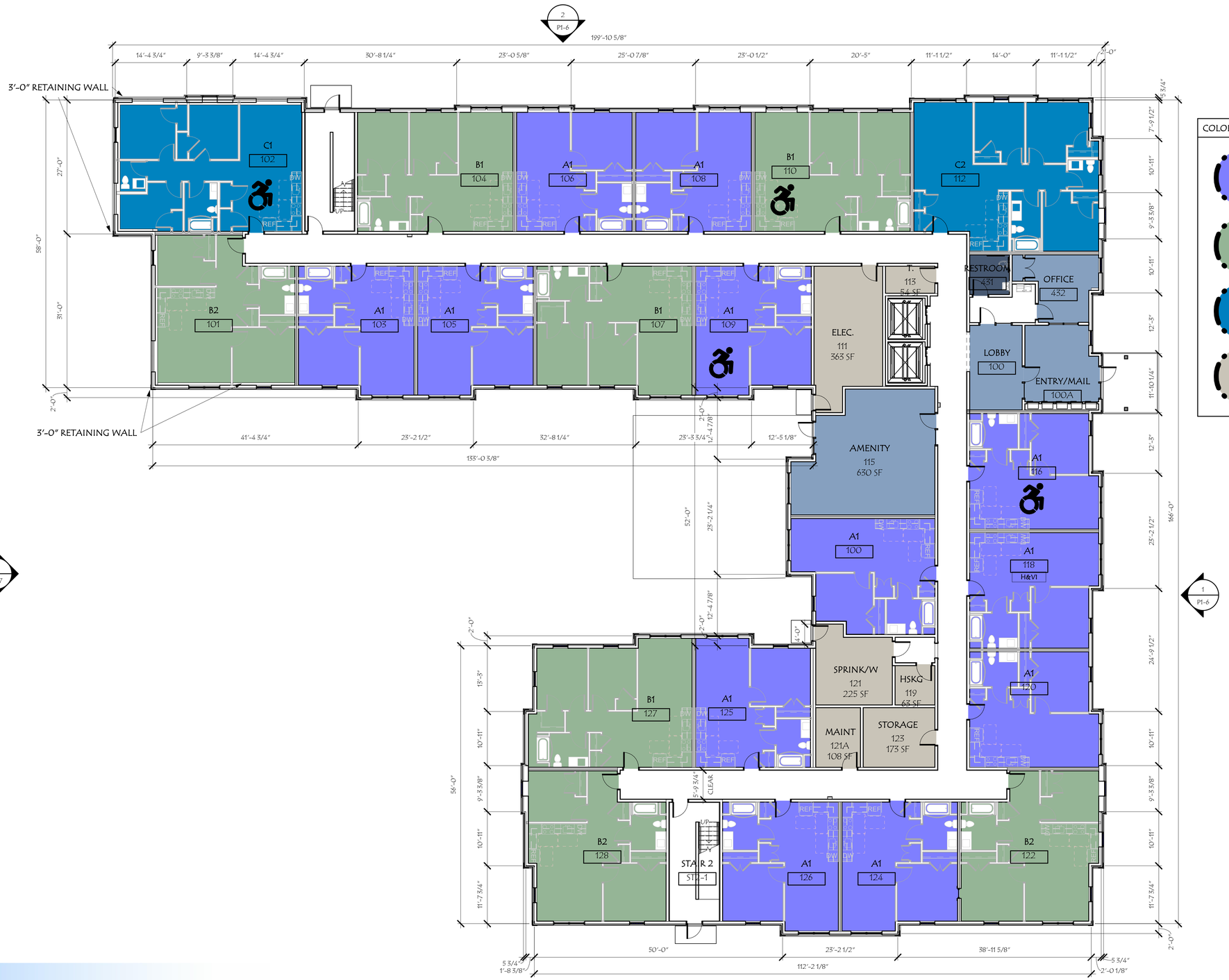
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COLOR KEY

- ONE - BEDROOM = 580 SF
- TWO - BEDROOM = 771-806 SF
- THREE - BEDROOM = 928-1071 SF
- BACK OF HOUSE (BOH)

PROJECT NO. 2023002

SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Floor Plan

07/29/2025

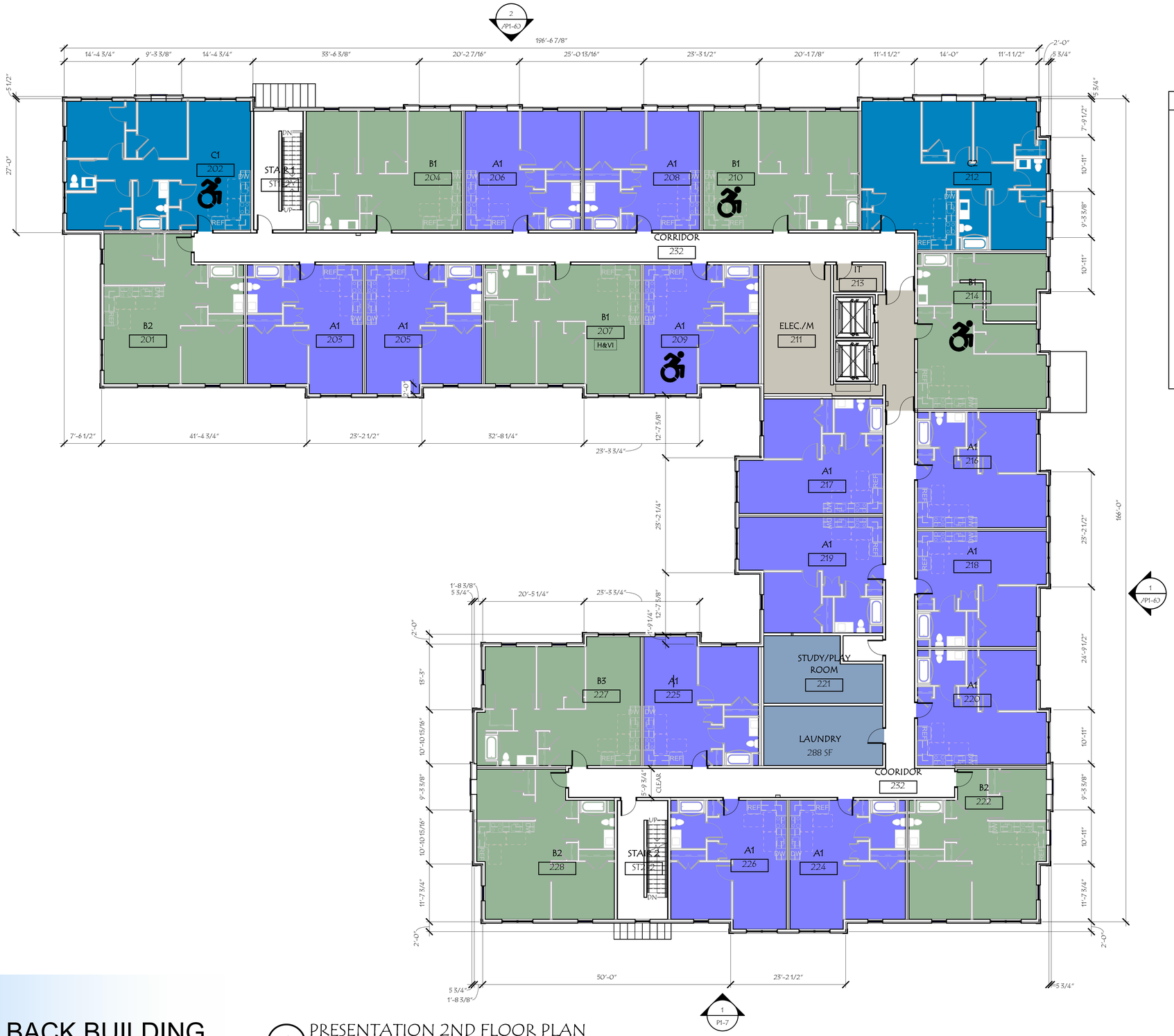
1 PRESENTATION 1ST FLOOR PLAN

SCALE: 1" = 10'-0"

MARKET SQUARE ARCHITECTS

2025 Market Square Architects

PH: 603.501.0202



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SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Floor Plan

07/29/2025

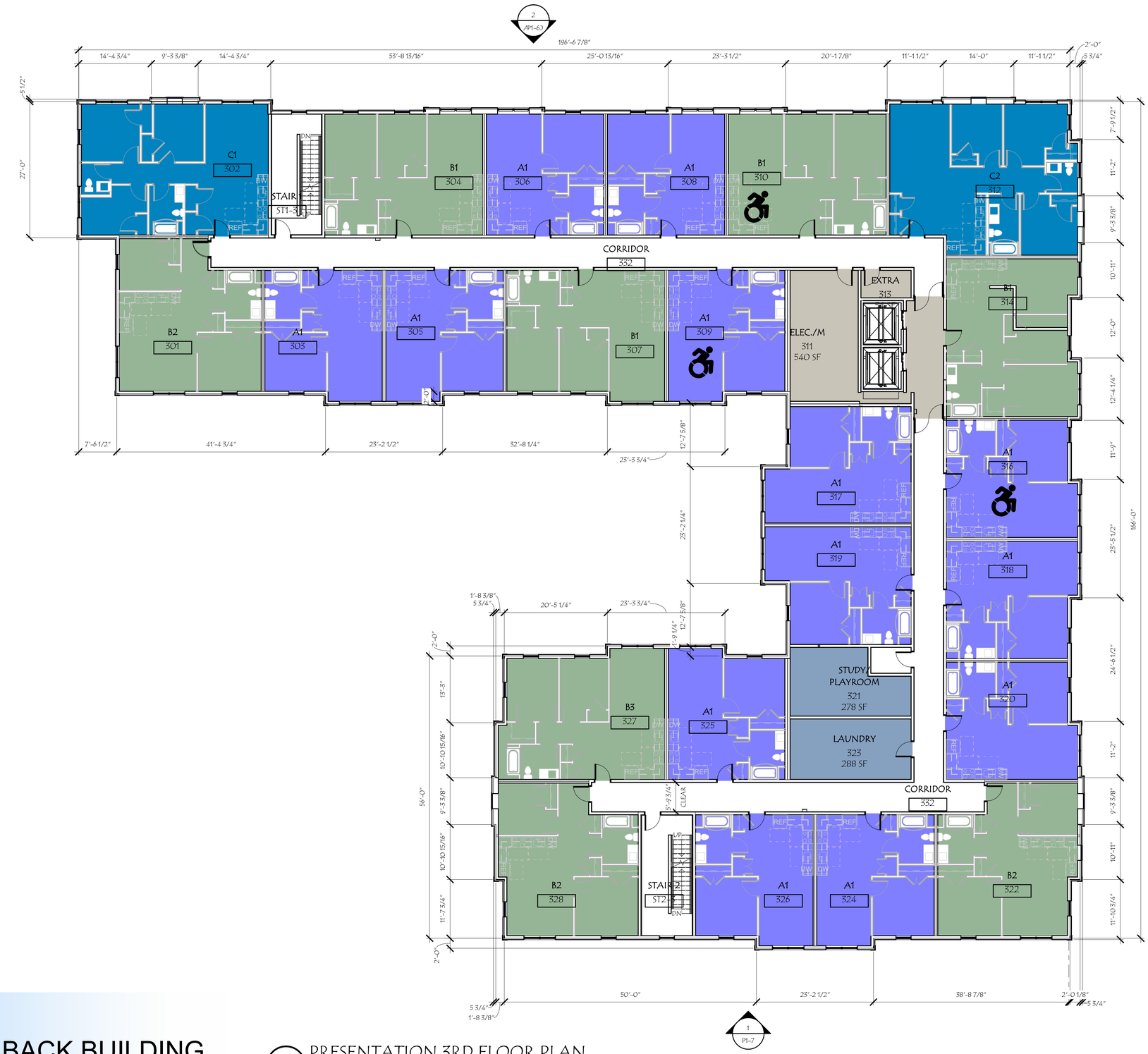
1 PRESENTATION 2ND FLOOR PLAN

SCALE: 1" = 10'-0"

MARKET SQUARE ARCHITECTS

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PROJECT NO. 2023002

SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Floor Plan

07/29/2025

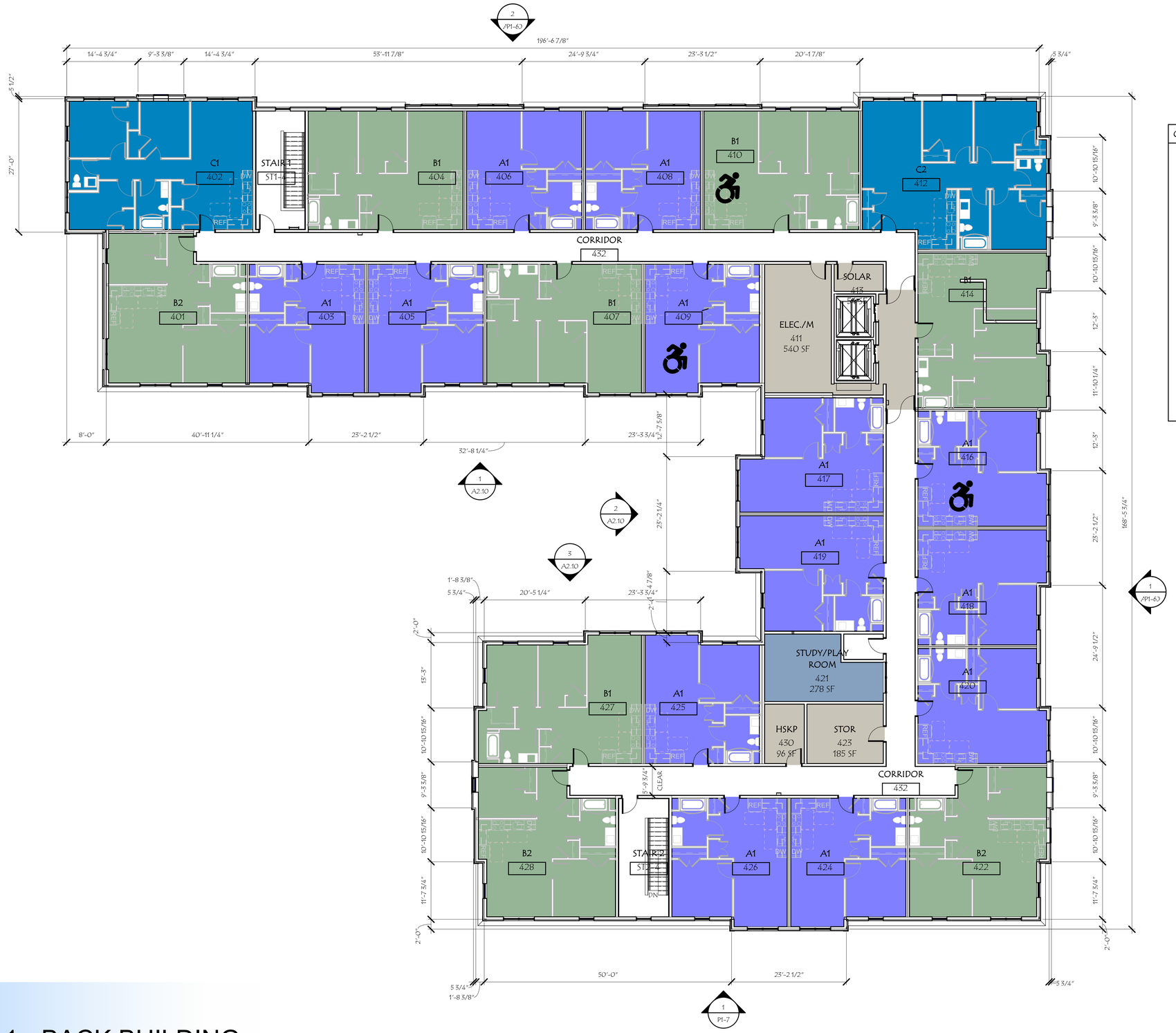
1 PRESENTATION 3RD FLOOR PLAN

SCALE: 1" = 10'-0"

MARKET SQUARE ARCHITECTS

* 2025 Market Square Architects

PH: 603.501.0202



COLOR KEY

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PROJECT NO. 2023002

SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Floor Plan

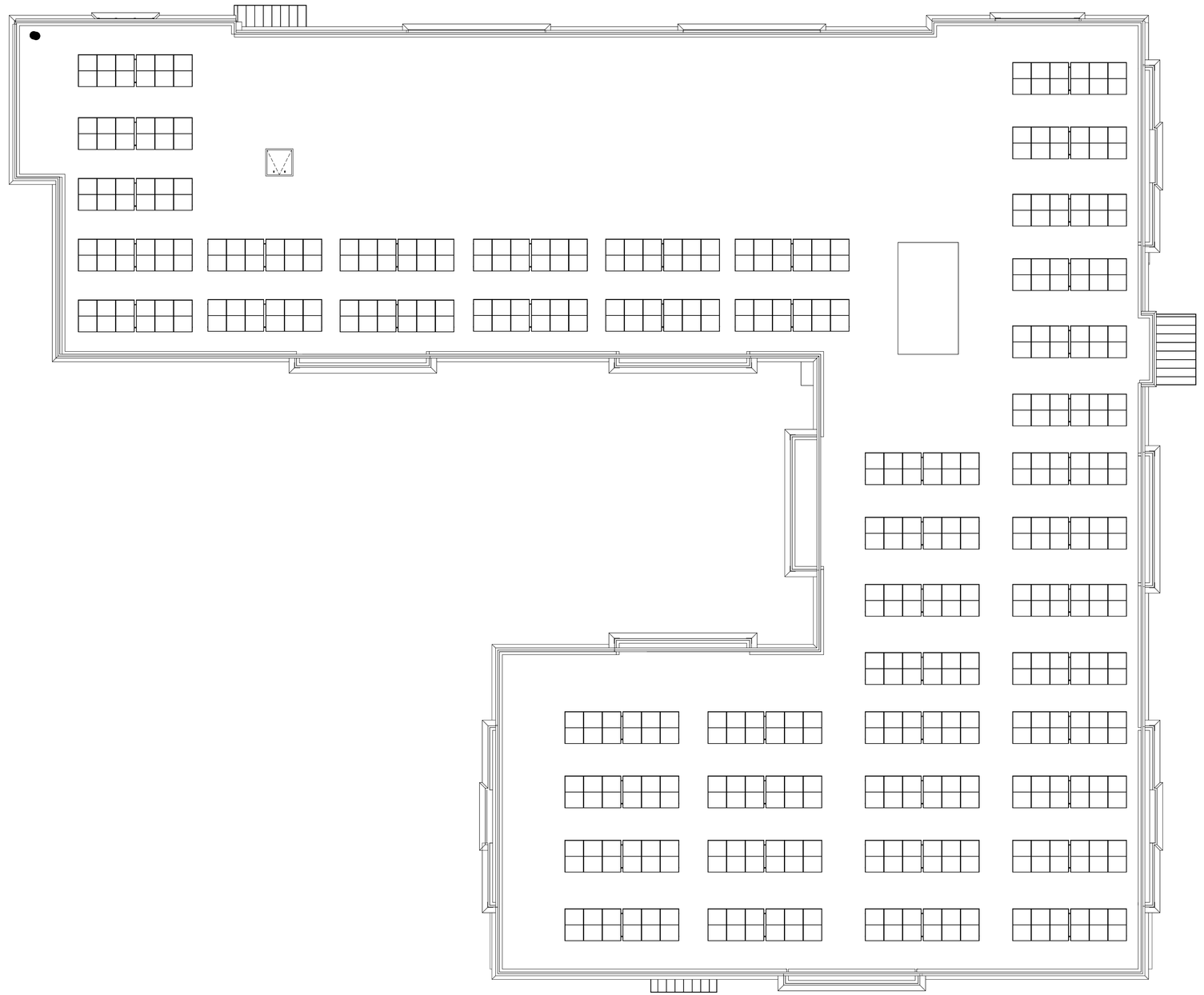
07/29/2025

1 PRESENTATION 4TH FLOOR PLAN

SCALE: 1" = 10'-0"

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2
P1-6



2
P1-7

1
P1-6

1
P1-7

PROJECT NO. 2023002

SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Roof Plan

07/29/2025

1 PRESENTATION ROOF PLAN

SCALE: 1" = 10'-0"

MARKET SQUARE ARCHITECTS

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1 PRESENTATION ELEVATION - EAST

SCALE: 1/8" = 1'-0"



2 PRESENTATION ELEVATION - NORTH

SCALE: 1/8" = 1'-0"

PROJECT NO. 2023002

SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Elevation

07/29/2025

MARKET SQUARE ARCHITECTS

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1 PRESENTATION ELEVATION - SOUTH

SCALE: 1" = 10'-0"



2 PRESENTATION ELEVATION - WEST

SCALE: 1" = 10'-0"

PROJECT NO. 2023002

SHERBURNE PROJECT 1 - BACK BUILDING

Planning Board Presentation Elevation

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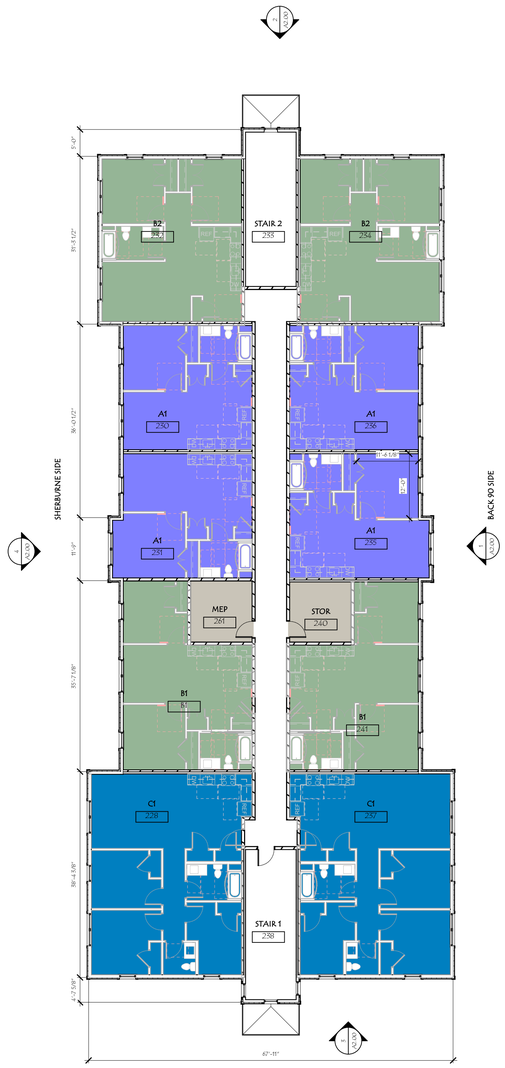
PROJECT 1 - BACK BUILDING

MARKET SQUARE ARCHITECTS



MARKET SQUARE ARCHITECTS

Project 1 - Street View



Typical Floors 2 and 3
NTS

Floor 1
NTS

COLOR KEY

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- BACK OF HOUSE (BOH)

PROJECT NO. 2023002

SHERBURNE PROJECT 2 - MID BUILDING

Planning Board Presentation Concept

07/29/2025

MARKET SQUARE ARCHITECTS

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1 EXT ELEVATION - EAST1

SCALE: NTS



2 EXT ELEVATION - NORTH1

SCALE: NTS

PROJECT NO. 2023002

SHERBURNE PROJECT 2 - MID BUILDING

Planning Board Presentation Concept

07/29/2025

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PH: 603.501.0202



3 EXT ELEVATION - SOUTH1

SCALE: NTS



4 EXT ELEVATION - WEST1

SCALE: NTS

PROJECT NO. 2023002

SHERBURNE PROJECT 2 - MID BUILDING

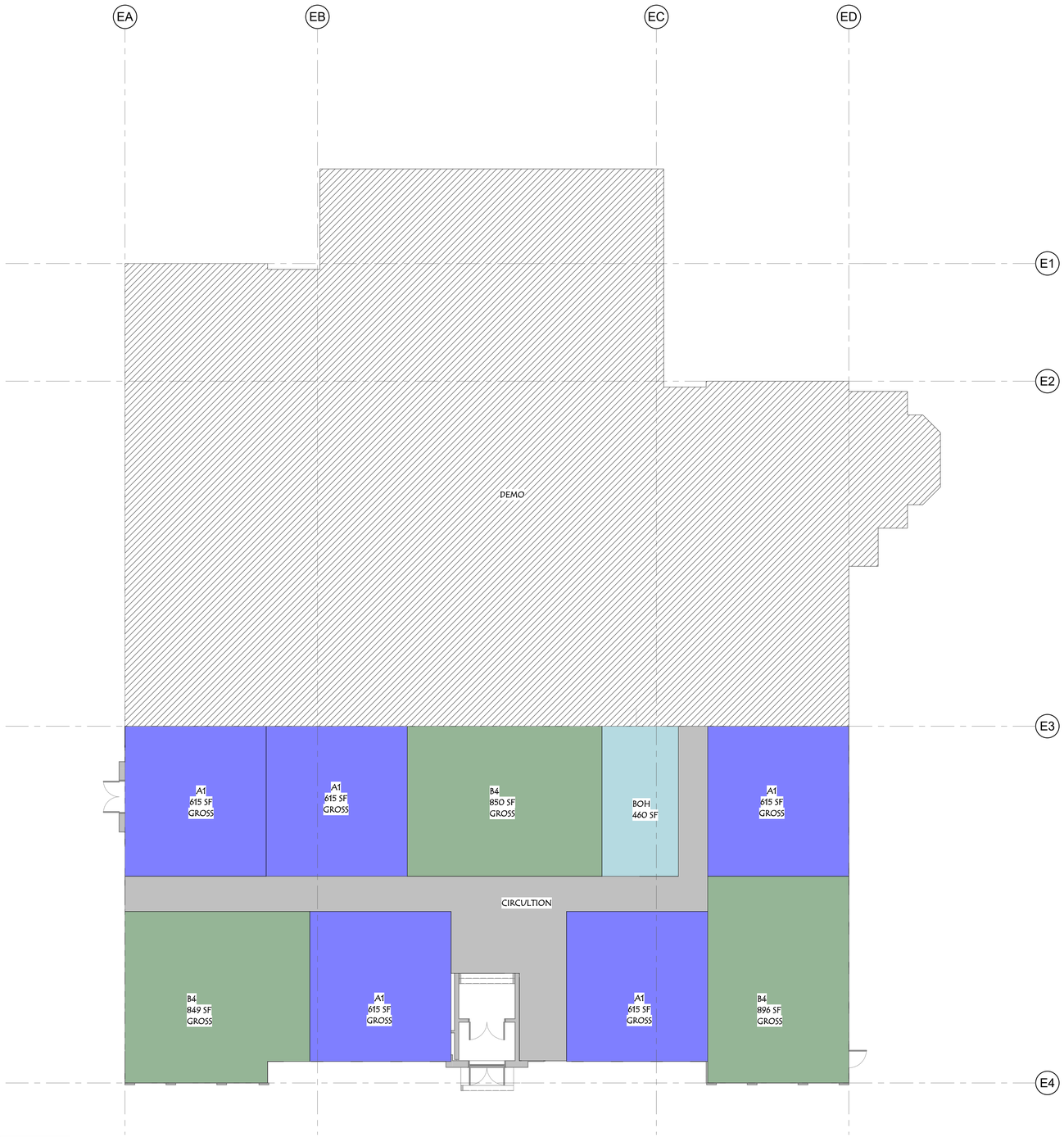
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07/29/2025

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PROJECT No. 2023002

SHERBURNE PROJECT 2 - SCHOOL BUILDING

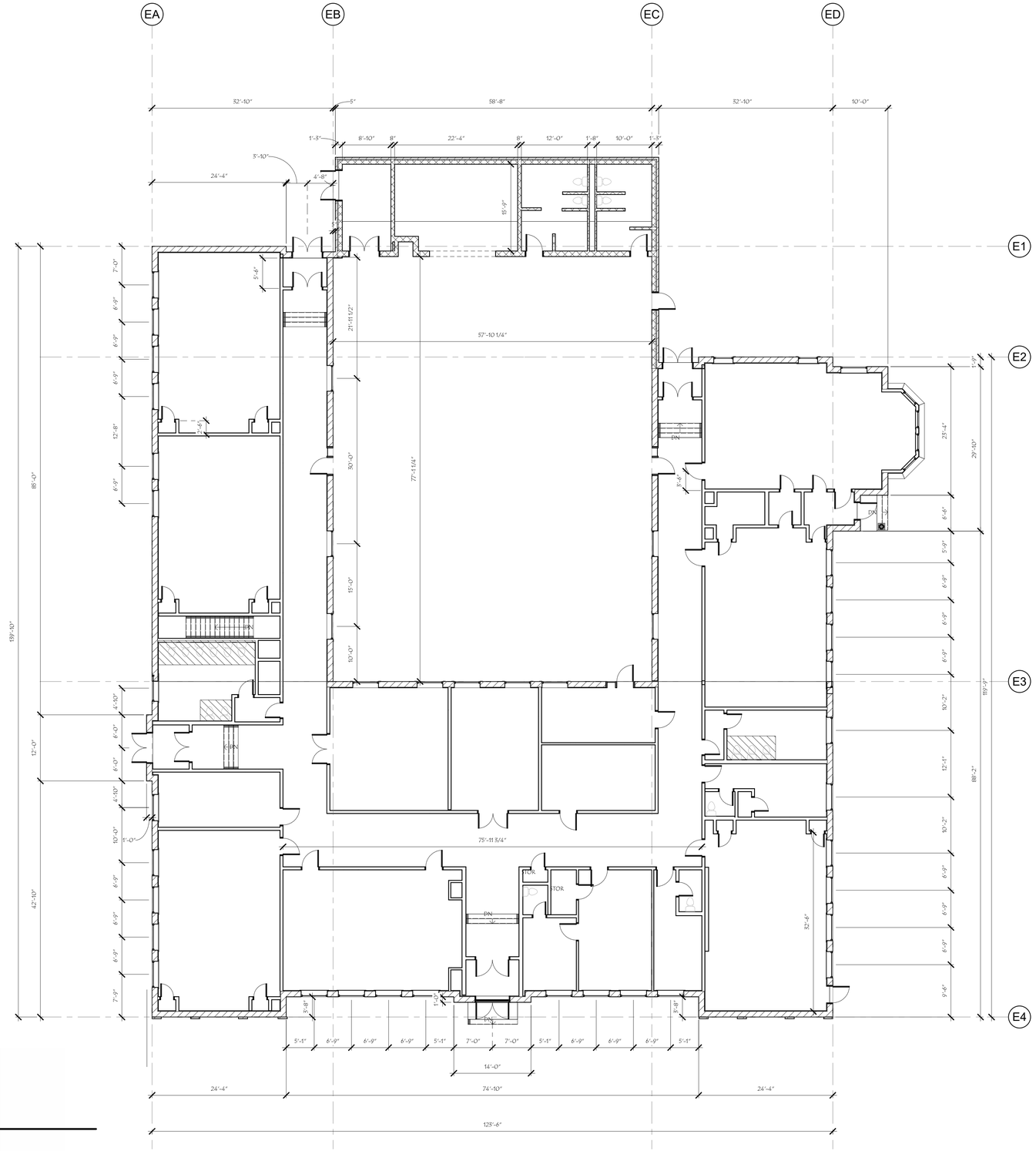
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PROJECT NO. 2023002

SHERBURNE PROJECT 2 - SCHOOL BUILDING

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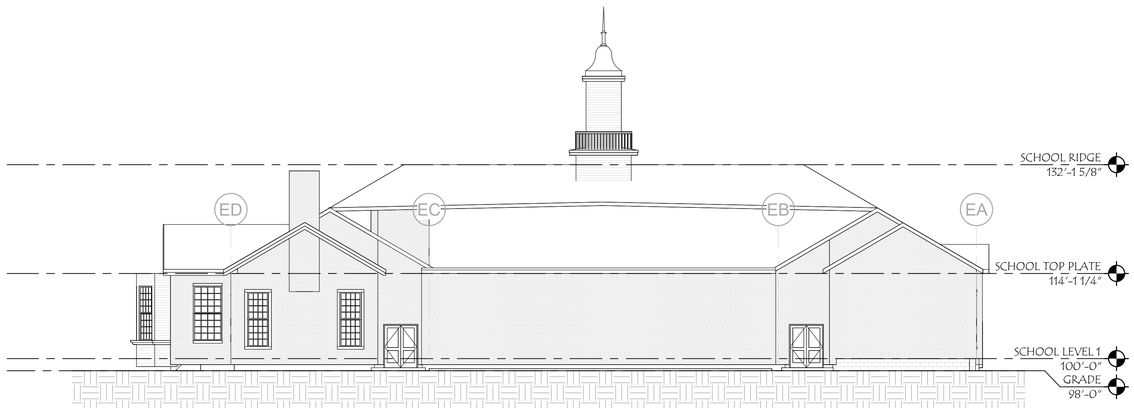
4 EXISTING ELEVATION - SOUTH

SCALE: NTS



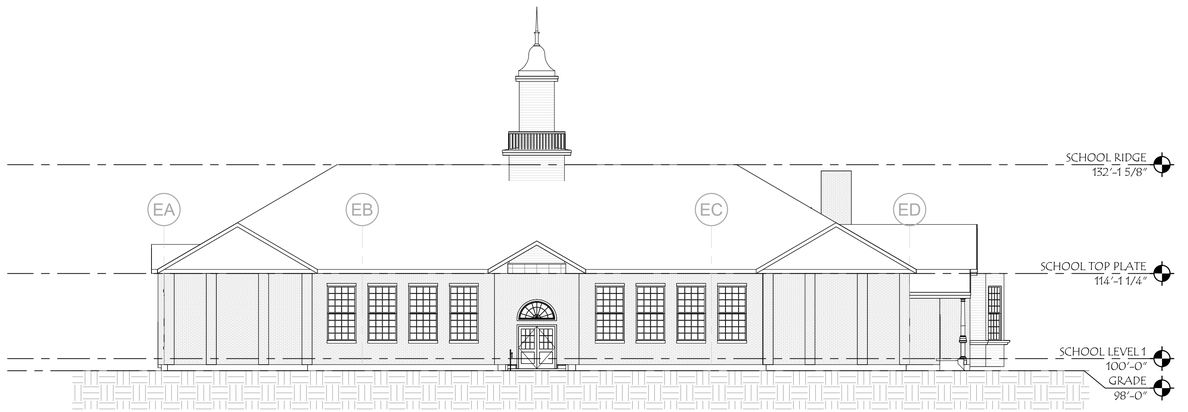
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SCALE: NTS



3 EXISTING ELEVATION - EAST

SCALE: NTS



1 EXISTING ELEVATION - ENTRY

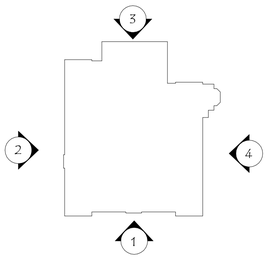
SCALE: NTS

PROJECT 2023002

SHERBURNE PROJECT 2 - SCHOOL BUILDING

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07/29/2025



MARKET SQUARE ARCHITECTS

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PROJECT 2 - Over all visibility

MARKET SQUARE ARCHITECTS



LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	MATURE HEIGHT/ SPREAD	GROWTH HABIT
	6	ACER RUBRUM 'BOWHALL' BOWHALL RED MAPLE	2" TO 2 1/2" CAL.	B&B	40' TO 60' 10' TO 15'	UPRIGHT
	4	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2" TO 2 1/2" CAL.	B&B	40' TO 60' 30' TO 40'	OVAL
	4	AMELANCHIER X GRANDIFLORA 'ROBIN HILL' ROBIN HILL SERVICEBERRY	2" TO 2 1/2" CAL.	B&B	15' TO 20' 10' TO 15'	UPRIGHT
	2	BETULA NIGRA 'DURA HEAT' DURA HEAT RIVER BIRCH	8' TO 10' CLUMP	B&B	40' TO 60' 20' TO 30'	PYRAMIDAL
	4	PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANETREE	2" TO 2 1/2" CAL.	B&B	60' + 60' +	ROUNDED
	1	QUERCUS ALBA WHITE OAK	2" TO 2 1/2" CAL.	B&B	60' + 60' +	BROAD
	6	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	6' TO 7'	B&B	30' TO 40' 15' TO 20'	UPRIGHT
	6	PICEA GLAUCA WHITE SPRUCE	6' TO 7'	B&B	40' TO 60' 15' TO 20'	PYRAMIDAL
	9	THUJA OCCIDENTALIS 'NIGRA' DARK AMERICAN ARBORVITAE	6' TO 7'	B&B	20' TO 30' 10' TO 15'	PYRAMIDAL
	10	ASTILBE 'MONTGOMERY' MONTGOMERY ASTILBE	1 GAL.	CONT.	18" TO 24" 18" TO 24"	MOUNDED
	8	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES' SIXTEEN CANDLES SUMMERSWEET	3 GAL.	CONT.	4' TO 5' 2' TO 3'	COMPACT
	11	FORSYTHIA 'LYNWOOD GOLD' LYNWOOD GOLD FORSYTHIA	3 GAL.	CONT.	6' TO 8' 6' TO 8'	ROUNDED
	17	HYDRANGEA ENDLESS SUMMER 'B.B.' BLUSHING BRIDE HYDRANGEA	3 GAL.	CONT.	3' TO 4' 3' TO 4'	MOUNDED
	6	ILEX GLABRA 'DENSA' DENSA INKBERRY	3 GAL.	CONT.	5-6' 4-5'	ROUNDED
	8	JUNIPERUS H. 'PLUMOSA COMPACTA' YOUNGSTOWN JUNIPER	3 GAL.	CONT.	12" TO 24" 6' TO 8'	SPREADING
	10	PANICUM VIRGATUM 'SHENANDOAH' SHENANDOAH SWITCH GRASS	1 GAL.	CONT.	3' TO 4' 3' TO 4'	CLUMPING
	3	THUJA OCCIDENTALIS 'TECHNY' MISSION ARBORVITAE	4' TO 5'	B&B	10' TO 15' 6' TO 8'	PYRAMIDAL
	6	SALVIA 'BLUE HILL' BLUE HILL SAGE	1 GAL.	CONT.	12" TO 24" 2' TO 3'	COMPACT

* ALL PLANTS CONTAINED IN LEGEND HAVE BEEN SELECTED FOR URBAN GROWING CONDITIONS.
* TREES LABELED AND SHOWN IN GRAY DENOTES EXISTING TREE

SEE DETAILS FOR LANDSCAPE NOTES

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

LANDSCAPE PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

HORIZONTAL SCALE 1"=30'
30 15 0 30

REV	DATE	DESCRIPTION	DR	CK
3	7/23/2025	REVISED PER TAC COMMENTS	JJM	JCC
2.	6/27/2025	REVISED PER CITY STAFF COMMENTS	JJM	JCC
1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

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TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE 47528.00 | DR JKC | CK JJM | FB | CADFILE 47528-00_LANDSCAPING_PHASE 1

SITE LAYOUT PLAN

Jul 25, 2025 - 10:00am
P:\MSC Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\Design\PRODUCTION DRAWINGS\47528-01_Landscaping_Phase 1.dwg



LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	MATURE HEIGHT/ SPREAD	GROWTH HABIT
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	1	BETULA NIGRA 'DURA HEAT' DURA HEAT RIVER BIRCH	8' TO 10' CLUMP	B&B	40' TO 60' 20' TO 30'	PYRAMIDAL
	1	QUERCUS ALBA WHITE OAK	2" TO 2 1/2" CAL.	B&B	60' + 60' +	BROAD
	14	ILEX CRENATA 'CHESAPEAKE' CHESAPEAKE JAPANESE HOLLY	3 GAL.	CONT.	6' TO 8' 3' TO 4'	PYRAMIDAL

* ALL PLANTS CONTAINED IN LEGEND HAVE BEEN SELECTED FOR URBAN GROWING CONDITIONS.
* TREES LABELED AND SHOWN IN GRAY DENOTES EXISTING TREE

SEE DETAILS FOR LANDSCAPE NOTES

HORIZONTAL SCALE 1"=30'
30 15 0 30

REV	DATE	DESCRIPTION	DR	CK
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1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON DATE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

LANDSCAPE PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY

CITY OF PORTSMOUTH

PREPARED FOR

PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")

SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

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FILE 47528.00 | DR JKC | CK JJM | FB | CADFILE 47528-00_LANDSCAPING_PHASE 2 | C-15

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DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

Jul 24, 2025 - 4:51pm
\\TFM-BEDFORD4\Projects\Civil-Survey\MSC Projects\47528 Sherburne Road, Portsmouth, NH\47528-00 Sherburne Road, Portsmouth, NH\design\PRODUCTION DRAWINGS\47528-00_Landscaping_Phase 2.dwg

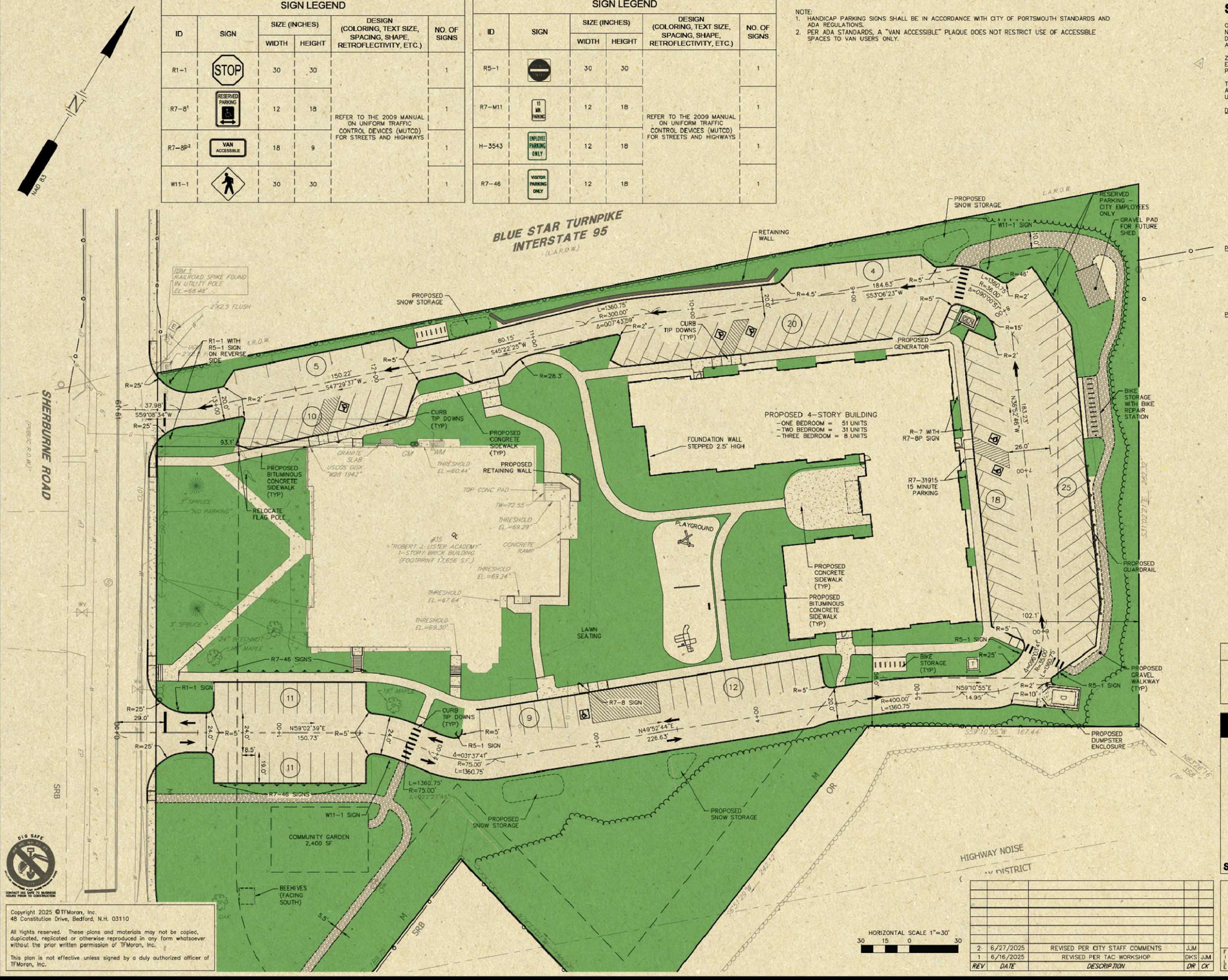
SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R1-1	STOP	30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7-8[1]	RESERVED PARKING	12	18		1
R7-8P[2]	VAN ACCESSIBLE	18	9		1
W11-1		30	30		1

SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R5-1		30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7-M11	15 MIN. PARKING	12	18		1
H-3543	EMPLOYEE PARKING ONLY	12	18		1
R7-46	VISITOR PARKING ONLY	12	18		1

NOTE:
1. HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS AND ADA REGULATIONS.
2. PER ADA STANDARDS, A "VAN ACCESSIBLE" PLAQUE DOES NOT RESTRICT USE OF ACCESSIBLE SPACES TO VAN USERS ONLY.



SITE DATA

OWNER OF RECORD OF MAP 259 LOT 10: CITY OF PORTSMOUTH SCHOOLS, PO BOX 628, PORTSMOUTH, NH 03802
DEED REFERENCE TO PARCEL IS BK 2389 PG 1272
AREA OF PARCEL = 227,347± SF OR 5.22± ACRES

ZONED: MUNICIPAL
EXISTING USE: SCHOOL
PROPOSED USE: MIXED USE

THE PURPOSE OF THIS PLAN IS TO DEPICT A 90 UNIT WORK FORCE HOUSING BUILDING WITH ASSOCIATED IMPROVEMENTS INCLUDING ACCESS, GRADING, STORMWATER MANAGEMENT SYSTEMS, UTILITIES, LIGHTING, AND LANDSCAPING.

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	NA SF	227,347± SF (5.22± AC)
LOT FRONTAGE	NA FT	471.79 FT
DEPTH	NA FT	606 FT
MAXIMUM STRUCTURE DIMENSIONS:		
STRUCTURE HEIGHT	NA	38.8 FEET
STRUCTURE STORIES	NA	4 STORIES
ROOF APPURTENANCE HEIGHT	NA	44.1 FT
LOT COVERAGE	NA	53.0%
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	NA FT	93.1 FT
BUILDING SIDE	NA FT	58.0 FT
BUILDING REAR	NA FT	102.1 FT
MINIMUM OPEN SPACE	NA	46.6%

PHASE 1 – PARKING REQUIREMENTS

RESIDENTIAL (SEE CALCULATION)	120 SPACES	124 RESIDENTIAL SPACES
OFFICE	1 SPACES	1 SPACE
TOTAL	121 SPACES	125 SPACES
ACCESSIBLE SPACES (REQ'D BY ADA)	6 SPACES*	6 SPACES
PARKING SPACE SIZE	8.5 FT X 19 FT	8.5 FT X 19 FT
AISLE WIDTH	18-24 FT	18-24 FT

PHASE 1 – PARKING CALCULATIONS

REQUIRED PARKING RATIO:
RESIDENTIAL: 1.3 SPACES PER UNIT > 750 SF
1 SPACE PER UNIT 600-750 SF
1 VISITOR SPACE PER 5 UNITS OR PORTION THEREOF
OFFICE: 1 SPACE REQUIRED

TOTAL REQUIRED =	51 UNITS * 10 SPACES/UNIT	=	51.0 SPACES
	39 UNITS * 1 SPACE	=	50.7 SPACES
	90 UNITS * 1 SPACE/5 UNITS	=	18.0 SPACES
	1 OFFICE * 1 SPACE/OFFICE	=	1.0 SPACES
TOTAL		=	120.7 SPACES

NOTES

1. SEE NOTES ON SHEET C-01.
2. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
3. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE PORTSMOUTH, NH ZONING ORDINANCE AND SITE PLAN REVIEW REGULATIONS.
4. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLAND BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED; EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.
5. THE 3' PANEL ALONG THE PARKING LOT EDGE & DRIVE SHALL BE USED FOR SNOW STORAGE.
6. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
7. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
8. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON DATE

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE LAYOUT PLAN PROJECT 1

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY
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PREPARED FOR
PHA HOUSING DEVELOPMENT LTD.

1"=60' (11"X17")
SCALE: 1"=30' (22"X34") **JANUARY 29, 2025**

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1	6/16/2025	REVISED PER TAC WORKSHOP	DKS	JJM

TFM Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive, Bedford, NH 03110, Phone (603) 472-4488, Fax (603) 472-9747, www.tfmoran.com

FILE	47528.00	DR	JKC	FB	
		CK	JJM	CADFILE	47528-00_SITE LAYOUT_PHASE 1

C-04

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Jul 09, 2025 - 11:40am
\\tfm-bedford\projects\civil-survey\msc projects\47528 sherburne road, portsmouth, nh\47528-00 sherburne road, portsmouth, nh\Design\production drawings\47528-00_Site Layout_Phase 1.dwg

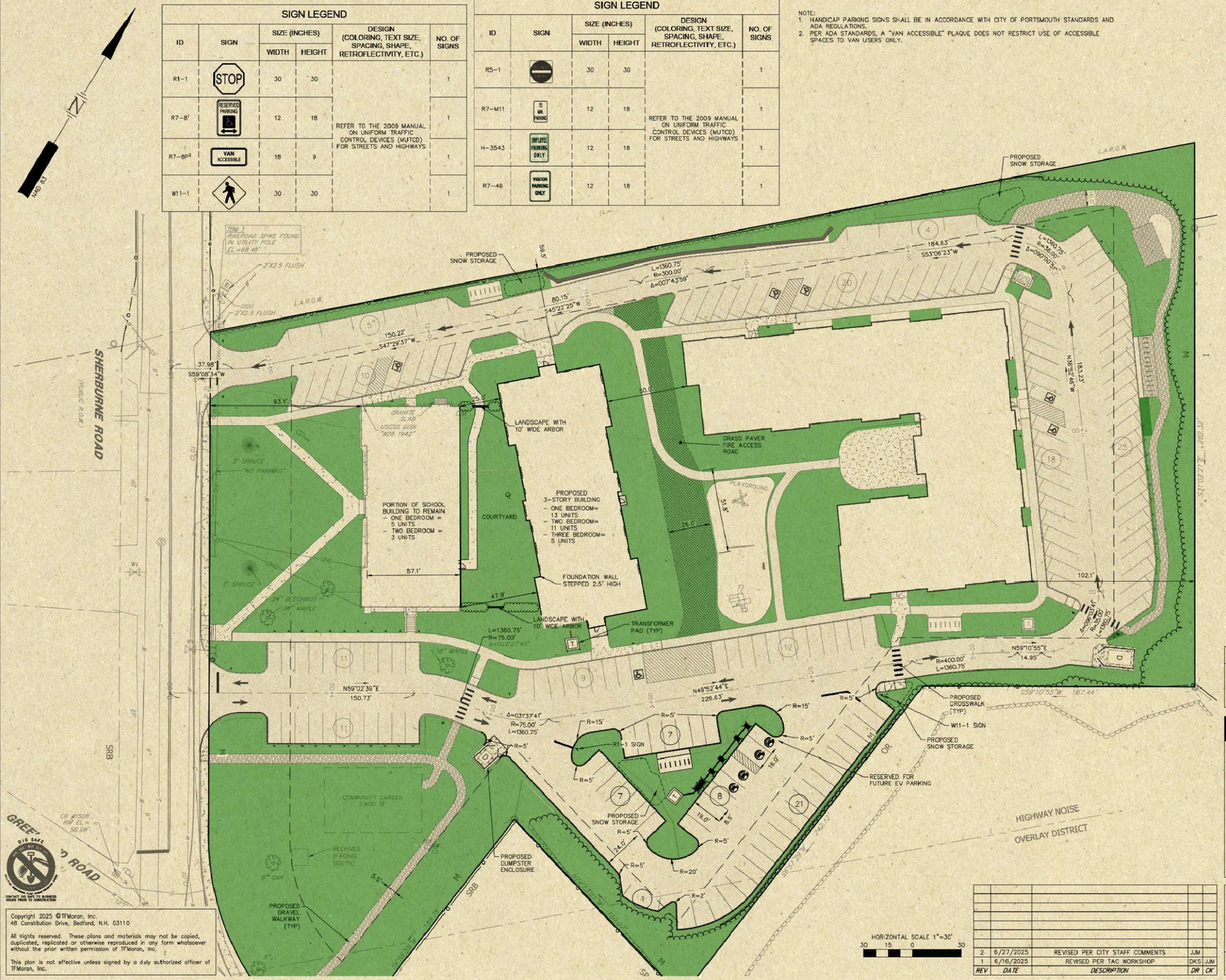
SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R1-1	STOP	30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7-8[1]	RESERVED PARKING	12	18		1
R7-8P[2]	VAN ACCESSIBLE	18	9		1
W11-1		30	30		1

SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R5-1		30	30	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1
R7-M11	15 MIN PARKING	12	18		1
H-3543	EMPLOYEE PARKING ONLY	12	18		1
R7-46	VISITOR PARKING ONLY	12	18		1

NOTE:
1. HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS AND ADA REGULATIONS.
2. PER ADA STANDARDS, A "VAN ACCESSIBLE" PLAQUE DOES NOT RESTRICT USE OF ACCESSIBLE SPACES TO VAN USERS ONLY.



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ZONED: MUNICIPAL
EXISTING USE: SCHOOL
PROPOSED USE: MIXED USE

THE PURPOSE OF THIS PLAN IS TO CONSTRUCT WORK FORCE HOUSING. ASSOCIATED IMPROVEMENTS INCLUDE AND ARE NOT LIMITED TO ACCESS, GRADING, STORMWATER MANAGEMENT SYSTEMS, UTILITIES, LIGHTING, AND LANDSCAPING.

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	NA SF	227,347± SF (5.22± AC)
LOT FRONTAGE	NA FT	471.79 FT
DEPTH	NA FT	506 FT
MAXIMUM STRUCTURE DIMENSIONS:		
STRUCTURE HEIGHT	NA	38.8 FEET
STRUCTURE STORIES	NA	4 STORIES
ROOF APPURTENANCE HEIGHT	NA	44.1 FT
LOT COVERAGE	NA	58.6%
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	NA FT	93.1 FT
BUILDING SIDE	NA FT	48.8 FT
BUILDING REAR	NA FT	89.5 FT
MINIMUM OPEN SPACE	NA	40.7%

PARKING REQUIREMENTS

RESIDENTIAL		
PARKING SPACES (SEE CALCULATION)	165 SPACES	165 RESIDENTIAL SPACES
OFFICE		
OFFICE	1 SPACE	1 SPACE
	166 SPACES	166 SPACES
TOTAL		
ACCESSIBLE SPACES (REQ'D BY ADA)	6 SPACES	6 SPACES
PARKING SPACE SIZE	8.5 FT X 19 FT	8.5 FT X 19 FT
AISLE WIDTH	18-24 FT	18-24 FT

PARKING CALCULATIONS

REQUIRED PARKING RATIO:
RESIDENTIAL: 1.3 SPACES PER UNIT > 750 SF
1 SPACE PER UNIT 600-750 SF
1 VISITOR SPACE PER 5 UNITS OR PORTION THEREOF
OFFICE:
1 SPACE REQUIRED

TOTAL REQUIRED =	53 UNITS * 1.3 SPACES/UNIT	= 74.0 SPACES
	74 UNITS * 1 SPACE	= 65.9 SPACES
	127 UNITS * 1 SPACE/5 UNITS	= 25.4 SPACES
	1 OFFICE * 1 SPACE/OFFICE	= 1.0 SPACES
TOTAL		= 166.3 SPACES

NOTES

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CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON *DATE*

SITE DEVELOPMENT PLANS

TAX MAP 259 LOT 10

SITE LAYOUT PLAN PROJECT 2

PROPOSED HOUSING DEVELOPMENT

35 SHERBURNE ROAD

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FILE 47528.00 | DR JKC FB | CK JJM | CADFILE \47528-00_SITE LAYOUT_PHASE 2

C-05

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Jul 09, 2025 - 11:41am
\\tfm-bedford4\projects\civil-survey\misc projects\47528 sherburne road, portsmouth, nh\47528-00 sherburne road, portsmouth, nh\Design\production drawings\47528-00_Site Layout_Phase 2.dwg

SITE LAYOUT PLAN

LAND USE COMPLIANCE AGREEMENT
PROPERTY LOCATED AT 35 SHERBURNE ROAD
PORTSMOUTH NEW HAMPSHIRE

This Land Use Compliance Agreement for property located at 35 Sherburne Road, Portsmouth New Hampshire ("**Agreement**") is made this 1st day of April, 2025, by and between the City of Portsmouth, New Hampshire, a municipal corporation having its principal place of business at One Junkins Avenue, Portsmouth, NH 03801 (the "**City**") and Portsmouth Housing Authority, a New Hampshire public housing authority, with a principal place of business at 245 Middle Street, Portsmouth, NH 03833 ("**PHA**"), and its affiliated New Hampshire non-profit corporation, PHA Housing Development LTD, with a principal place of business at 245 Middle Street, Portsmouth, NH 03833 ("**PHAD**" and together with PHA, "**Portsmouth Housing**" and collectively with the **City**, the "**Parties**").

WHEREAS, the City owns certain real property located at 35 Sherburne Road in Portsmouth, a site comprised of an approximately 5.3-acre parcel known as City of Portsmouth Tax Assessor Map 259 Lot 10 that is serviced by public water and sewer, and includes, among other attributes, an existing structure, the vacant Sherburne School (the "Property");

WHEREAS, the City initiated a process beginning with seeking Letters of Interest and Statements of Qualifications on May 15, 2024, and subsequently, a Request for Proposal (RFP) from pre-qualified housing development teams for the development of the Property on October 9, 2024;

WHEREAS, Portsmouth Housing submitted a response to the RFP, and subsequently submitted responses to additional questions posed by the City (PHA's response and answers to questions collectively the "PHA Response");

WHEREAS, on December 16, 2024, the City Council voted to authorize the City Manager to contract with Portsmouth Housing for the development of below market rate housing at 35 Sherburne Road (the PHA Project");

WHEREAS, the Property is zoned "Municipal" pursuant to the City's Zoning Ordinance;

WHEREAS, the following provision of the Zoning Ordinance is applicable to Municipal property, including but not limited to the Property: "Buildings, structures and land owned or leased by the City of Portsmouth shall be exempt from all provisions of this Ordinance except Article 10, Environmental Protection Standards. Nevertheless, the City is urged to comply with all relevant land use controls whenever possible and feasible";

WHEREAS, the provisions of Article 10 are inapplicable to the Property because no wetlands exist on or within 100 feet of the Property; and,

WHEREAS, the Portsmouth City Council voted on February 18, 2025 to establish a land use review process, as further defined below.

NOW THEREFORE, the Parties agree that the PHA Project shall be subject to the following land use approval process.

- **Review Criteria**: Pursuant to the City Council vote of February 18, 2025, Portsmouth Housing's development of the Property shall be subject to the following criteria:

    i. Consistency with Portsmouth's Site Plan Review Regulations
    ii. Consistency with the City's Highway Noise Overlay District, Portsmouth Zoning Ordinance Section 10.670.
    iii. Consistency with the RFP and all addenda thereto.
    iv. Consistency with the PHA Response.
    v. Consistency with the best interests of the City. (i – v collectively the "Review Criteria")

- **Review Process**:

    A. Portsmouth Housing Authority shall submit a Site Plan application to the City in accordance with the City's published Site Plan Review Regulations. Within thirty (30) days of receipt of the Site Plan Documentation, the City's Technical Advisory Committee shall review the Site Plan Review Documentation at a public meeting. PHA representative(s) shall be present at the TAC meeting and shall present the proposed Site Plan Review documentation, specifications, construction schedule, and provide any explanation. TAC shall then provide nonbinding comments based on the Review Criteria to the Planning Board for the Planning Board's consideration. Within thirty (30) days of receipt of a recommendation by TAC, the Planning Board shall hold a public hearing to consider the Site Plan Review Documentation submitted by PHA. PHA representative(s) shall be present at the Planning Board meeting and shall present the proposed Site Plan Review documentation, specifications, construction schedule, and provide any explanation. The Planning Board shall then provide nonbinding comments based upon the Review Criteria to the City Manager for final approval.

- **City Manager Approval Process**: The City Manager shall accept or reject PHA's proposal, or request modification to PHA's proposal, within five (5) days receipt of comments from the Planning Board. The City Manager's review shall be in accordance with the Review Criteria.

- The above process shall be collectively referred to as the "Project Approval Process". Acknowledging the short time period the City Manager has to render a final decision regarding the applications for the PHA Project, starting on April 15, 2025 PHA shall provide written updates to the City Manager at least every thirty (30) days, including but not limited to submission of any and all project site plans, design plans, and architectural plans which are available at the time of submission.

- If the City Manager approves the project, any material changes to those items subject to review pursuant to the City's Site Plan Review Regulations to the form or substance of the approved project shall only be made following a written request from Portsmouth Housing. The City Manager, at her discretion, may request additional information from Portsmouth Housing in order to process the request. The City Manager may, in her discretion, request additional feedback regarding any proposed amendments from TAC, the Planning Board, or the Public Art Review Committee as the City Manager deems appropriate. If the City Manager reasonably determines that any requested amendment is inconsistent with the Review Criteria, Portsmouth Housing may within thirty (30) days withdraw the request or amend the request to be consistent with the Review Criteria. If, following the thirty-day period, Portsmouth Housing has not withdrawn the request or amended the request in an effort to be consistent with the Review Criteria, the City may terminate this Option Agreement without any further recourse on the part of Portsmouth Housing or PHA, unless the City grants an extension in its reasonable discretion.

- Acknowledging that the TAC and Planning Board meeting schedules are publicly posted for the 2025 calendar year, it shall be the responsibility of PHA to ensure that the Project Approval Process results in Planning Board consideration no later than August 21, 2025, unless extended by the City in its reasonable discretion. The City shall work in good faith to provide flexible deadlines for submission of documents and scheduling of special meetings to accommodate the Project Approval Process while respecting statutory deadlines for public hearing notices.

[Signature Pages follow]

The Parties have executed this Agreement on the Effective Date set forth above.

CITY OF PORTSMOUTH

By: _____
Name: Karen Conard
Title: City Manager

PHA HOUSING DEVELOPMENT LTD.

By: _____
Name: Craig Welch
Title: Executive Director

PORTSMOUTH HOUSING AUTHORITY

By: _____
Name: Craig Welch
Title: Executive Director

Findings of Fact | Coliving Conditional Use Permit
City of Portsmouth Planning Board

Date: August 21, 2025
Property Address: 1-15 Congress Street
Application #: LU-22-12
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:
Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

Coliving Conditional Use Permit
10.242.10 The Planning Board may grant a conditional use permit if the application is found to be in compliance with the general criteria in Section 10.243 or, if applicable, the specific standards or criteria set forth in this Ordinance for the particular use or activity.

	Coliving Conditional Use Permit 10.243 Requirements	**Finding** **(Meets Criteria/Requirement)**	**Supporting Information**
1	10.243.21 The design of proposed structures, their height and scale in relation to the site's surroundings, the nature and intensity of the proposed use or activity, and the layout and design of the site will be compatible with adjacent and nearby properties, buildings and uses, will complement or enhance the character of surrounding development, and will encourage the appropriate and orderly development and use of land and buildings in the surrounding area.	**Meets** **Does Not Meet**	•
2	10.243.22 All necessary public and private utility infrastructure and services will be available and adequate to serve the	**Meets** **Does Not Meet**	•

DRAFT

	Coliving Conditional Use Permit 10.243 Requirements	Finding (Meets Criteria/Requirement)	Supporting Information
	proposed use.		
3	10.243.23 The site and surrounding streets will have adequate vehicular and pedestrian infrastructure to serve the proposed use consistent with the City's Master Plan.	**Meets** **Does Not Meet**	•
4	10.243.24 The proposed structures, uses, or activities will not have significant adverse impacts on abutting and surrounding properties on account of traffic, noise, odors, vibrations, dust, fumes, hours of operation, and exterior lighting and glare.	**Meets** **Does Not Meet**	
5	10.243.25 The proposed structures and uses will not have significant adverse impacts on natural or scenic resources surrounding the site, including wetlands, floodplains, and significant wildlife habitat.	**Meets** **Does Not Meet**	
6	10.243.26 The proposed use will not cause or contribute to a significant decline in property values of adjacent properties.	**Meets** **Does Not Meet**	
6	**Other Board Findings:**		
7	**Additional Conditions of Approval:**		

DRAFT

HALEY WARD

12 August 2025

Rick Chellman, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for Co-Living Development at 1 Congress Street and 15 Congress Street, Conditional Use Permit Application

Dear Mr. Chellman and Planning Board Members:

On behalf of One Market Square LLC, we are pleased to submit the attached for **Conditional Use Permit (CUP) Approval** for **Coliving** at the above-mentioned project and request that we be placed on the agenda for your **August 21, 2025,** Planning Board Meeting. The property is shown on the City of Portsmouth Assessors Map 117 as Lots 12 and 14. The lots will be merged into one parcel, under a separate request to the Planning Board. The project will be located at 1 Newberry Way, 10 High Street and 25 Congress Street (formerly known as 1-15 Congress Street). The property has frontage on Congress Street, High Street and Fleet Street, and is within the City of Portsmouth Character District 4 (CD4) and Character District 5 (CD5) Zoning Districts. The site is currently mostly developed with existing buildings and a surface parking lot. Project Development was approved by the Planning Board on January 16, 2025, as follows:

> *The Planning Board, at its regularly scheduled meeting of Thursday, January 16, 2025, considered your application for Site Plan Approval to construct an addition onto the previously approved project at 1 Congress Street and re-development of 15 Congress into a mixed-use building with associated site improvements; a Parking Conditional Use Permit from Section 10.1112.14 of the Zoning Ordinance to allow 21 parking spaces where 53 parking spaces are required. Said property is shown on Assessor Map 117 Lots 12-15 and lies within the Character District 5 (CD-5), Historic and Downtown Overlay Districts. As a result of said consideration, the Board voted to find that the Site Plan Application meets the requirements set forth in the Site Plan Regulations Section 2.9 Evaluation Criteria and adopt the findings of fact as presented.*

Project Overview

The proposal presented herein involves revisions to the plan to invoke the recently adopted **Section 10.815 Coliving** revision to the Portsmouth Ordinance, and to incorporate **Coliving** as a part of the project.

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Existing Site Approvals

The One Market Square project includes the renovation of existing commercial buildings located at 1 and 3 Congress Street, demolition to portions of existing buildings, and new construction of a 3-story building with Attic Hip Top Mansard Roof to the rear of the existing buildings and site improvements. The area behind the existing building is currently a surface parking lot. One level of vehicular parking will be provided underground and accessed by a car elevator. The JJ Newberry project includes rehabilitation and adaptive reuse of the existing structure with minor accessory additions. New projecting storefronts with recessed entrance stoops are proposed along the north elevation of the property to create a retail experience in a re-imaged, pedestrian friendly corridor connecting High Street and Fleet Street. This area, previously known as Haven Court, is proposed to be re-named Newberry Way. The surface elevation of the corridor will be lowered to create an ADA compliant pedestrian space open to the public, extending the pedestrian experience from the McIntyre Building along Commercial Alley, Ladd Street, and Newberry Way to Fleet Street, with an enhanced pedestrian experience on High Street. One Market Square, LLC is committed to the previously stated commitment to include renovating Ladd Street and High Street as a part of the project.

The upper floor uses in the JJ Newberry Building will remain residential, but will be revised to create **Coliving**. The first-floor space along Congress Street will remain retail and restaurant use. The first-floor space along Fleet Street will be changed from office to retail uses. An egress stair tower, accessible elevator, and main entrance for the upper floors of residential use will be accessed from Newberry Way, in the vicinity of the One Market Square building connection with the JJ Newberry building. A rooftop penthouse and secondary egress stairs are proposed on the existing roof. The existing flat roof will accommodate a roof deck with extensive green landscape plantings for residential use, solar PV array, and mechanical equipment.

Plan Submission

The submission herein reflects the requested interior revisions to create **Coliving** for the project.

Site Zoning

The revision to Coliving reduces the parking required under the Portsmouth Zoning Ordinance (PZO), as the Coliving component, under Section 10.815.31.1, does not require parking, since the facility is within 600 feet of a public parking garage. Please see the attached Parking Calculation. The calculation shows that the remaining apartments (not Coliving) will require 32 parking spaces where 20 are proposed. The site has a Parking CUP to provide 21 parking spaces where 53 were required.

No changes to the existing and proposed impervious surface areas on the combined lot are proposed. In our opinion, no variances are required for the project revision.

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This revision to the proposed building use meets the criteria as follows:

In order to provide additional affordable and innovative living options within the City, and to allow the adaptive reuse of some existing buildings, Coliving is defined and created as a special use, subject to the provisions and requirements of the Portsmouth Ordinance Sections 10.815.20 through 70.

10.815.20 Standards and Requirements 10.815.21 through 10.815.29

21. Coliving Units shall not be rented for less than 30 days continuous occupancy.
22. Coliving Units shall be for not more than two-person (double) occupancy.
23. Coliving Units may include private sanitation facilities but shall not include permanent cooking facilities.
24. Coliving Units shall be at least 100 square feet of Gross Living Area (GLA) for single occupancy and 120 square feet of GLA for double occupancy. GLA for Coliving Units shall be measured in the same manner as for Accessory Dwelling Units.
25. Coliving Facilities shall include at least one full-time manager on site at all times for every 40 residents.
26. Coliving Facilities shall not exceed: 80 residents per building; or 40 residents/floor (*can be waived by the Planning Board*).
27. Ownership of a Coliving Facility shall include all of the Coliving Units within that Coliving Facility.
28. Coliving Units may be rented or leased by the owner of a Coliving Facility, but the ownership of Coliving Units shall not be severed from the Coliving Facility of which they are a part.
29. Coliving Common Areas shall comprise at least 1,200 square feet of gross floor area plus 20 square feet per Coliving Unit.

Parking Requirements 10.815.30: Under Section 10.815.31, if any part of the Coliving Facility is located within 600 feet (approximately a 2.5-minute walk) of a public parking garage, No parking required. **That is the case with this project.**

Review and Approval Process 10.815.40: Under Section 10.815.41, in granting a conditional use permit for a Coliving Facility, the Planning Board may modify a specific standard set forth in Sections 10.815.20 and 10.815.30, provided that the Board finds such modification will promote design flexibility and overall project quality. **Please see the attached request to modify the required standards under 10.815.26** (noted above)**.**

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Permitting System for Coliving Facilities - Permit Requirement 10.815.50

No Coliving Facility shall operate in the City without a valid permit issued by the City Clerk's office. Permits will only be issued for lawfully existing Coliving Facilities that comply with the standards and requirements outlined in this Section 10.815, as well as all other applicable laws, ordinances, and regulations. Receipt of a permit under this section shall be a condition precedent to issuance of a Certificate of Occupancy for any Coliving Facility. This shall be a requirement whether or not it is made an express condition of approval by the Planning Board in granting a CUP for a Coliving Facility. The permitting system for a Coliving Facility shall be administered by the City Clerk's office. The City Clerk shall maintain records of all issued permits and ensure compliance with all necessary conditions outlined in this Section. An application for a Coliving Facility permit shall be submitted to the City Clerk's office shall include the following:

> *A copy of the validly issued CUP for the Coliving Facility, accompanied by an affidavit certifying compliance with any conditions contained within the CUP. Contact information for the full-time manager or managers who are located on site at all times, including verification that the minimum number of on-site managers is met. Proof that exterior signage in compliance with Section 10.815.55. Affidavit certifying compliance with all applicable health, safety, zoning, and building codes. Any necessary inspection reports confirming compliance with City regulations. An annual inspection report by the property manager(s) indicating continuing compliance with the Conditional Use Permit (CUP) and the requirements of this Section.*

The City Clerk shall not issue a permit or renew any permit for a Coliving Facility unless the City Clerk has received certification from the Director of Planning and Sustainability, or their designee, certifying that application in question complies with the provisions of Article 10.815 and the conditions, if any, of the CUP. The Code Official may make such investigation as necessary to confirm the property is in compliance with this section. The City Clerk may issue the permit only upon confirmation that the Coliving Facility complies with all applicable City regulations, and after any necessary inspections or investigations by the City.

A permanent sign must be posted on the Coliving Facility that includes the name and contact information of the property management responsible for the facility. This contact must be available on a 24-hour, 7-day a week basis for the duration of the facility's operation. This contact information must be on file with the City Clerk and updated within 7 days of any change. Signage required by this section shall be in a form acceptable to the Director of Planning and Sustainability and shall be exempt from the requirements of Article 12.

Coliving Facilities shall be inspected in accordance with local Fire and Housing Codes and subject to fees as outlined in Chapter 1 of the City Code. These inspections shall occur regularly to ensure that the facility is compliant with all applicable safety standards.

The developer understands and intends to comply with all the requirements herein.

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Approval Criteria 10.243

A conditional use permit shall be granted only if the Planning Board or other such Board or person as may have jurisdiction determines that the proposal conforms to all applicable conditional use permit criteria, as set forth below or in other sections of this Ordinance. This proposed design will be compatible with, will complement or enhance the character of, and will encourage appropriate and orderly development of surrounding properties, under Section 10.243.21 through 26 as follows:

21. The proposed design has been fully vetted and approved by **Historic District Commission** as appropriate and compatible with surrounding properties. The height and scale of existing historic buildings along Congress and Fleet Streets and Newberry Way will not change. The proposed addition at the current parking lot at corner of High Street and Newberry Way is the same or slightly lower than adjacent properties. Retail and restaurant at street levels are existing uses to remain, and are common first floor uses throughout the area. The office use at Fleet Street first floor will be replaced with Retail, to be consistent with surrounding properties. Residential use at upper floors is a long-established use pattern throughout this area. Specifically, Coliving residential will comply with zoning requirements for density and management. Newberry Way will be improved as an accessible pedestrian way, parking will be provided below grade, with utilities and site amenities improved as proposed and previously approved.

22. Public infrastructure is available to serve the proposed uses.

23. The surrounding streets have the capacity to service the proposed use. The proposed Newberry Way pedestrian connection is supported by the Master Plan as part of an overall connection running from McIntyre, potentially to Vaughan Mall.

24. Traffic impacts have been studied and are non-existent. The previous application package included a Technical Memorandum prepared by Greenman-Pedersen, Inc. (GPI), the project Traffic Consultant, calculating site Trip Generation and Institute of Traffic Engineers (ITE) Parking Calculations. The changes in traffic generation due to the project revision are expected to be a reduction, as the Coliving is intended for residents who do not need, or want, their own vehicles.

    Proposed uses and their associated sounds are consistent with surrounding uses. On site residential managers, as required by zoning, will ensure compliance with property usage and noise regulations. Retail and restaurant uses existing to remain are consistent with surrounding uses. Residential use is not anticipated to produce any adverse conditions. Waste management procedures will follow plans as previously approved for all uses. Odors, vibrations, dust & fumes are not expected with the conversion to co-living from the approved housing use. Retail and restaurant hours of operation exist and will remain as is and be consistent with surrounding uses. Dark sky compliant and pedestrian friendly lighting is proposed as previously approved.

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25. There are no wetlands or natural resource areas in the project vicinity.

26. Property values will not decrease as a result of the shift to interior Coliving, as the exterior quality of construction is consistent with the previous approval.

The intent is that One Congress, LLC will still be responsible to pay the entire cost of design and construction of the High Street and Ladd Street improvements, as previously agreed to in the signed Memorandum of Understanding.

Screening and Landscaping

The site landscaping will remain as detailed on the approved Landscape Plans.

Water and Sewage Systems

The site municipal water and sewer will not be impacted by the change in the proposed residential use to Coliving.

Stormwater Management

The site drainage patterns, and infrastructure improvements will remain as approved by the Planning Board in January of 2025.

Site Lighting

The lighting introduced on the street and pedestrian corridors to provide a welcoming and safe pedestrian and vehicular experience will also remain as previously approved.

Site Utilities and Solid Waste

Site utilities include natural gas, underground electric and communications services will not be altered by the revisions herein.

Plans

The following plans are included in our submission:

- Cover Sheet: This shows the Development Team, Legend, Site Location, and Site Zoning.
- 1 Congress Boundary Plan: This plan shows the existing 1 Congress Street property boundaries.
- 15 Congress Street Standard Boundary Survey and Existing Conditions Plan - Development Parcel V101: This plan shows the 15 Congress Street Boundary and the existing development area conditions in detail.
- Architectural Plans - Floor Plans showing the proposed revision to Coliving.

Also please find a Table of uses and square footage associated with the development.

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We respectfully request that the Planning Board waive strict compliance with the following. The proposed design does not meet the Coliving zoning Standards 10.815.26 for the following items, for which **we seek relief from Planning Board:**

A. 3rd floor: 3 Coliving suites, with a total of **34** sleeping units (double occupancy = 68 Coliving residents) plus 4 one-bedroom apartments, one of which may be a manager's apartment. ***Relief is needed for 68 Coliving residents per floor where 40 are allowed.***

B. 2nd floor: 4 Coliving suites, with a total of **49** sleeping units (double occupancy = 98 Coliving residents) plus 4 one-bedroom apartments, one of which may be a manager's apartment. ***Relief is needed for 98 Coliving residents per floor where 40 are allowed.***

We look forward to the Planning Board review of this submission and look forward to an in-person presentation at your meeting.

Sincerely,



John R. Chagnon, PE

P:\NH\5010156-McNabb_Properties\3406-Congress St., Portsmouth-JRC\2025 Site Plan\03-WIP_Files\Application\Portsmouth CUP Co-Living\Planning Board Site Plan Submission Letter 2025.08.12.doc

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ARCOVE
ARCHITECTS

12 August 2025

Rick Chellman, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for Conditional Use Permit for Change of Use from Office to Co-Living at 1 & 15 Congress Street, Assessors Map 117, Lot 14, and Assessors Map 0107, Lot 0029.

Dear Mr. Chellman and Planning Board Members:

On behalf of One Market Square LLC, we are pleased to submit this Coliving Area Analysis for **Conditional Use Permit**.

The connected buildings at 1 and 15 Congress Street are proposed to have 7 Coliving suites with a combined total of 83 sleeping units and a maximum of 166 residents; plus 26 one and two bedroom apartments.

The proposed design complies with following zoning requirements:

1. Common Area minimum size of 1,200 sf + 20SF per sleeping unit.
   - Required: (7 suites * 1,200 sf) + (20*83) = 10,060 sf minimum
   - Proposed: 15,686 sf (complies)

2. Sleeping unit minimum size
   - Required: 120 sf for double occupancy.
   - Proposed: All sleeping units exceed 200 sf, plus private bathrooms at many units. (complies)

The proposed design does not meet the coliving zoning Standards 10.815.26 for the following items, for which **we seek relief from Planning Board:**

1.

3rd floor: 3 Coliving suites, with a total of **34** sleeping units (double occupancy = 68 coliving residents) plus 4 one bedroom apartments, one of which may be a manager's apartment. ***Relief is needed for 68 coliving residents per floor where 40 are allowed.***

2.

2nd floor: 4 Coliving suites, with a total of **49** sleeping units (double occupancy = 98 coliving residents) plus 4 one bedroom apartments, one of which may be a manager's apartment. ***Relief is needed for 98 coliving residents per floor where 40 are allowed.***

The connected buildings which make up this project are historic structures built over time, with varying floor heights at each area varying between 4 inches and 6 feet. The area calculations herein reflect combining the varying floor height areas throughout each level. Each coliving suite is contained within its own floor height area (ie 1 suite per floor height area). In effect, this helps to visually and functionally subdivide the coliving spaces.

We look forward to your review and consideration at the Planning Board meeting.

Sincerely,

Tracy Kozak, AIA
Principal
ARCove Architects

ARCOVE
ARCHITECTS

BUILDING SUMMARY	Area (sf)
TOTAL PARKING	8,796
TOTAL SOLAR & MECHANICAL	16,418
TOTAL BUILDING COMMON	36,666
TOTAL BUILDING TENANT AREA	117,410
TOTAL BUILDING AREA	179,290

LOWER LEVEL SUMMARY	Area (sf)
COMMON	6,904
RETAIL STORAGE	2,502
PARKING	8,414
LAUNDRY	619
TENANT RESTAURANT	8,405
SUBTOTAL	**26,844**

FIRST FLOOR SUMMARY	Area (sf)
COMMON	5,529
PARKING	382
KITCHEN	2,067
RESTAURANT	6,318
RETAIL 1	3,086
RETAIL 2	1,856
RETAIL 3	1,572
RETAIL 4	1,301
RETAIL 5	1,255
RETAIL 6	2,010
RETAIL 7	3,483
RETAIL 8	2,679
RETAIL 9	2,757
RETAIL 10	1,822
SUBTOTAL	**35,735**

SECOND FLOOR SUMMARY	Area (sf)
COMMON	4,402
201 Coliving (15 units)	8,967
202 Apartment	1,458
203 Apartment	1,289
204 Coliving (12 units)	5,929
205 Apartment	920
206 Apartment	603
207 Apartment	602
208 Apartment	594
209 Coliving (12 units)	6,451
210 Coliving (10 units)	5,517
SUBTOTAL	**36,731**

THIRD FLOOR SUMMARY	Area (sf)
COMMON	4,536
301 Apartment	1,700
302 Apartment	1,368
303 Apartment	1,019
304 Apartment	1,047
305 Apartment	700
306 Apartment	1,394
307 Apartment	1,291
308 Coliving (12 units)	5,903
309 Apartment	920
310 Apartment	601
311 Apartment	602
312 Apartment	597
313 Coliving (12 units)	6,449
314 Coliving (10 units)	5,470
SUBTOTAL	**33,597**

FOURTH FLOOR SUMMARY	Area (sf)
COMMON	1,658
401 Apartment	1,666
402 Apartment	1,316
403 Apartment	1,009
404 Apartment	1,040
405 Apartment	674
406 Apartment	1,379
407 Apartment	1,270
408 Apartment	3,061
409 Apartment	2,873
SUBTOTAL	**15,945**

ROOF SUMMARY	Area (sf)
COMMON	13,637.162
SOLAR & MECHANICAL	16,418.431
SUBTOTAL	**30,055.593**

1 & 15 Congress Street

Unit/Parking Analysis

August 12, 2025

Level	Unit No.	# bedrooms	Area (sf)	parking spaces/unit	
2	201	Coliving (15 units)	8,967	0.0	
2	202	Apartment	1,458	1.3	
2	203	Apartment	1,289	1.3	
2	204	Coliving (12 units)	5,929	0.0	
2	205	Apartment	920	1.3	
2	206	Apartment	603	1.0	
2	207	Apartment	602	1.0	
2	208	Apartment	594	1.0	
2	209	Coliving (12 units)	6,451	0.0	
2	210	Coliving (10 units)	5,517	0.0	
3	301	Apartment	1,700	1.3	
3	302	Apartment	1,368	1.3	
3	303	Apartment	1,019	1.3	
3	304	Apartment	1,047	1.3	
3	305	Apartment	700	1.0	
3	306	Apartment	1,394	1.3	
3	307	Apartment	1,291	1.3	
3	308	Coliving (12 units)	5,903	0.0	
3	309	Apartment	920	1.3	
3	310	Apartment	601	1.0	
3	311	Apartment	602	1.0	
3	312	Apartment	597	1.0	
3	313	Coliving (12 units)	6,449	0.0	
3	314	Coliving (10 units)	5,470	0.0	
4	401	Apartment	1,666	1.3	
4	402	Apartment	1,316	1.3	
4	403	Apartment	1,009	1.3	
4	404	Apartment	1,040	1.3	
4	405	Apartment	674	1.0	
4	406	Apartment	1,379	1.3	
4	407	Apartment	1,270	1.3	
4	408	Apartment	3,061	1.3	
4	409	Apartment	2,873	1.3	
Subtotal					31.40

Total Units		Parking Req.
Total	**33**	31.40
Visitor Parking - 1 space per every 5 dwellings		6.60
Downtown Overlay District deduct		(4.00)
Subtotal - Residential automobile parking required, round up		**34.00**

		# excess bike spaces		# car spaces deducted		
Bicycle parking deduction 1 space for 6 bikes, max 5%:		29.0				
max 5% allowed =	1.7	parking spaces			Rounded dn	(2.00)
Total Residential Auto Parking Required (adjusted)					Rounded Up	**32**

Car Parking Spaces Required per Unit Size				
0-500	0.5			
500-750	1.0			
751+	1.3			

Coliving .25/sleeping unit

None required when next to municipal parking garage

Bicycle Parking Required		
use	**spaces required per use**	**total required**
multifamily	1 bicycle for every 5 dwelling units	7
TOTAL Required		**7**
Total Provided (in building, basement)		36
Total Provided (outside)		0
Total Provided, inside & outside		**36**
Excess Provided (beyond required)		29
Scooter parking provided (none required)		
Motorcycle parking provided (none required)		

CAR SPACES DEDUCTED @ 1:6

Restaurant/Retail/Office - No Parking Required in Downtown Overlay District

Building	level	Room No.	use	sf	TOTAL
1 Congress	2		Office	8,426	
total office use					**8,426**
1 Congress	1		Restaurant	474	
15 Congress	1		Restaurant	8,663	
total restaurant use					**9,137**
1 Congress	0		Retail	2,502	
1 Congress	1	1	Retail	1,268	
1 Congress	1	2	Retail	1,251	
1 Congress	1	3	Retail	1,572	
1 Congress	1	4	Retail	1,856	
1 Congress	1	5	Retail	3,083	
15 Congress	1	6	Retail	1,946	
15 Congress	1	7	Retail	2,749	
15 Congress	1	8	Retail	2,714	
15 Congress	1	9	Retail	3,551	
15 Congress	1	10	Retail	1,824	
total retail use					**24,318**

Total parking proposed	**20**
EXCESS (Defecit)	(12)

MIXED USE DEVELOPMENT

1 CONGRESS STREET/15 CONGRESS STREET
PORTSMOUTH, NEW HAMPSHIRE
CONDITIONAL USE PERMIT COLIVING PLANS

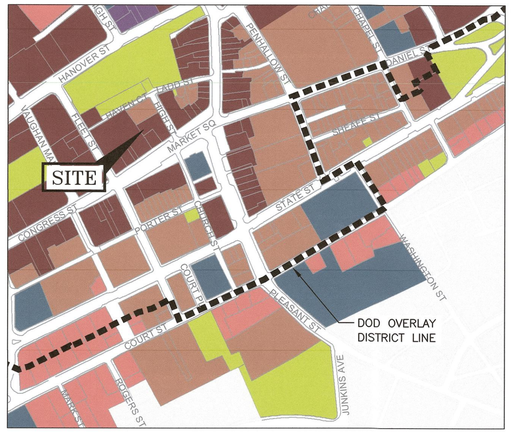
OWNER 1–15 CONGRESS:
ONE MARKET SQUARE LLC
10 PLEASANT STREET
SUITE #300
PORTSMOUTH, NH 03801
TEL. (603) 427–0725

LAND SURVEYOR & CIVIL ENGINEER:
HALEY WARD
200 GRIFFIN ROAD, UNIT 14
PORTSMOUTH, N.H. 03801
Tel. (603) 430–9282
Fax (603) 436–2315

ARCHITECT:
ARCOVE LLC
767 ISLINGTON STREET
PORTSMOUTH, NH 03801
TEL. (603) 731–5187

LANDSCAPE ARCHITECT:
TERRA FIRMA LANDSCAPE ARCHITECTURE
163A COURT STREET
PORTSMOUTH, NH 03801
TEL. (603) 531–9109

GEOTECHNICAL:
GEOTECHNICAL SERVICES INC.
18 COTE AVENUE, UNIT 11
GOFFSTOWN, N.H. 03045
Tel. (603) 624–2722



Map 10.5A21A
Character Districts and Civic Districts

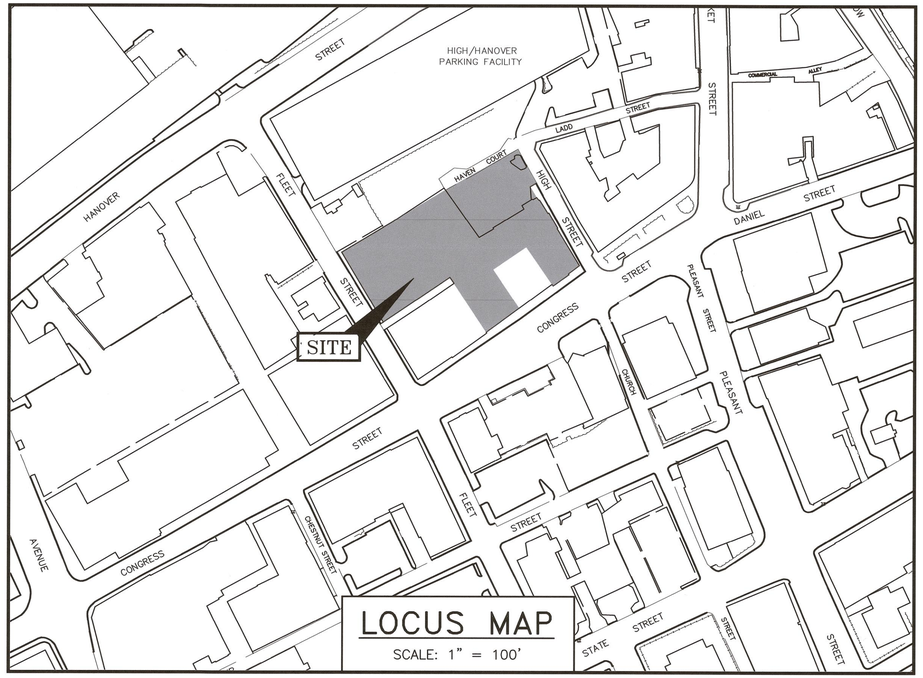
Legend
- Downtown Overlay District
- Historic District

Character Districts
- CD5 Character District 5
- CD4 Character District 4
- CD4-W Character District 4-W
- CD4-L1 Character District 4-L1
- CD4-L2 Character District 4-L2

Civic District
- Civic District

Municipal District
- Municipal District



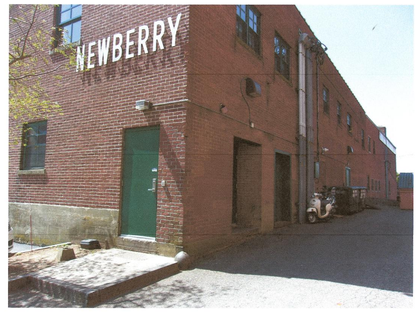


LOCUS MAP
SCALE: 1" = 100'

LEGEND:

EXISTING	PROPOSED		EXISTING	PROPOSED	
		PROPERTY LINE SETBACK	(CB)	(CB)	CATCH BASIN
S	S	SEWER PIPE	(S)	(SMH)	SEWER MANHOLE
SL	SL	SEWER LATERAL	(D)	(DMH)	DRAIN MANHOLE
G	G	GAS LINE	(T)	(TMH)	TELEPHONE MANHOLE
D	D	STORM DRAIN	14	14	PARKING SPACE COUNT
W	W	WATER LINE	PM	PM	PARKING METER
WS	WS	WATER SERVICE	LSA		LANDSCAPED AREA
UGE	UGE	UNDERGROUND ELECTRIC	TBD	TBD	TO BE DETERMINED
OHW	OHW	OVERHEAD ELECTRIC/WIRES	CI	CI	CAST IRON PIPE
	UD	FOUNDATION DRAIN	COP	COP	COPPER PIPE
		EDGE OF PAVEMENT (EP)	DI	DI	DUCTILE IRON PIPE
100	100	CONTOUR	PVC	PVC	POLYVINYL CHLORIDE PIPE
97x3	98x0	SPOT ELEVATION	RCP	RCP	REINFORCED CONCRETE PIPE
		UTILITY POLE	AC	–	ASBESTOS CEMENT PIPE
		WALL MOUNTED EXTERIOR LIGHTS	VC	VC	VITRIFIED CLAY PIPE
		TRANSFORMER ON CONCRETE PAD	EP	EP	EDGE OF PAVEMENT
		ELECTRIC HANDHOLD	EL.	EL.	ELEVATION
		SHUT OFFS (WATER/GAS)	FF	FF	FINISHED FLOOR
	GV	GATE VALVE	INV	INV	INVERT
	HYD	HYDRANT	S =	S =	SLOPE FT/FT
			TBM	TBM	TEMPORARY BENCH MARK
			TYP	TYP	TYPICAL

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INDEX OF SHEETS

V101 1 CONGRESS BOUNDARY PLAN
15 CONGRESS STANDARD BOUNDARY SURVEY (EXISTING CONDITIONS PLAN) DEVELOPMENT PARCEL
ARCHITECTURAL PLANS

UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436–7708
ATTN: NICHOLAS KOSKO X3327565

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 294–5144
ATTN: DAVE BEAULIEU

CABLE:
COMCAST
155 COMMERCE WAY
PORTSMOUTH, N.H. 03801
Tel. (603) 679–5695 (X1037)
ATTN: MIKE COLLINS

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 427–1530
ATTN: DOUG SPARKS

COMMUNICATIONS:
FAIRPOINT COMMUNICATIONS
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427–5525
ATTN: BENJAMIN WILLS

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

PERMIT LIST:

NHDES SEWER DISCHARGE PERMIT: TO BE SUBMITTED
PORTSMOUTH HDC: PENDING
PORTSMOUTH SITE PLAN: PENDING

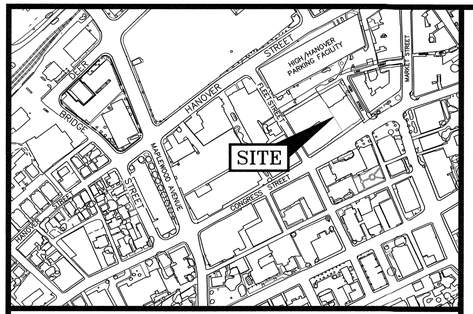
CONDITIONAL USE PERMIT COLIVING PLANS
MIXED USE DEVELOPMENT
1 CONGRESS STREET/15 CONGRESS STREET
PORTSMOUTH, N.H.

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

PLAN SET SUBMITTAL DATE: 30 JULY 2025

5010156 3406

P:\5010156 McNeils_Properties\3406 Congress St, Portsmouth -IRC\2024 File Plan\Plans & Specs\Dwt\Current\3406 Cover 2024 Co-Living.dwg, 8/1/2025 2:25:47 PM



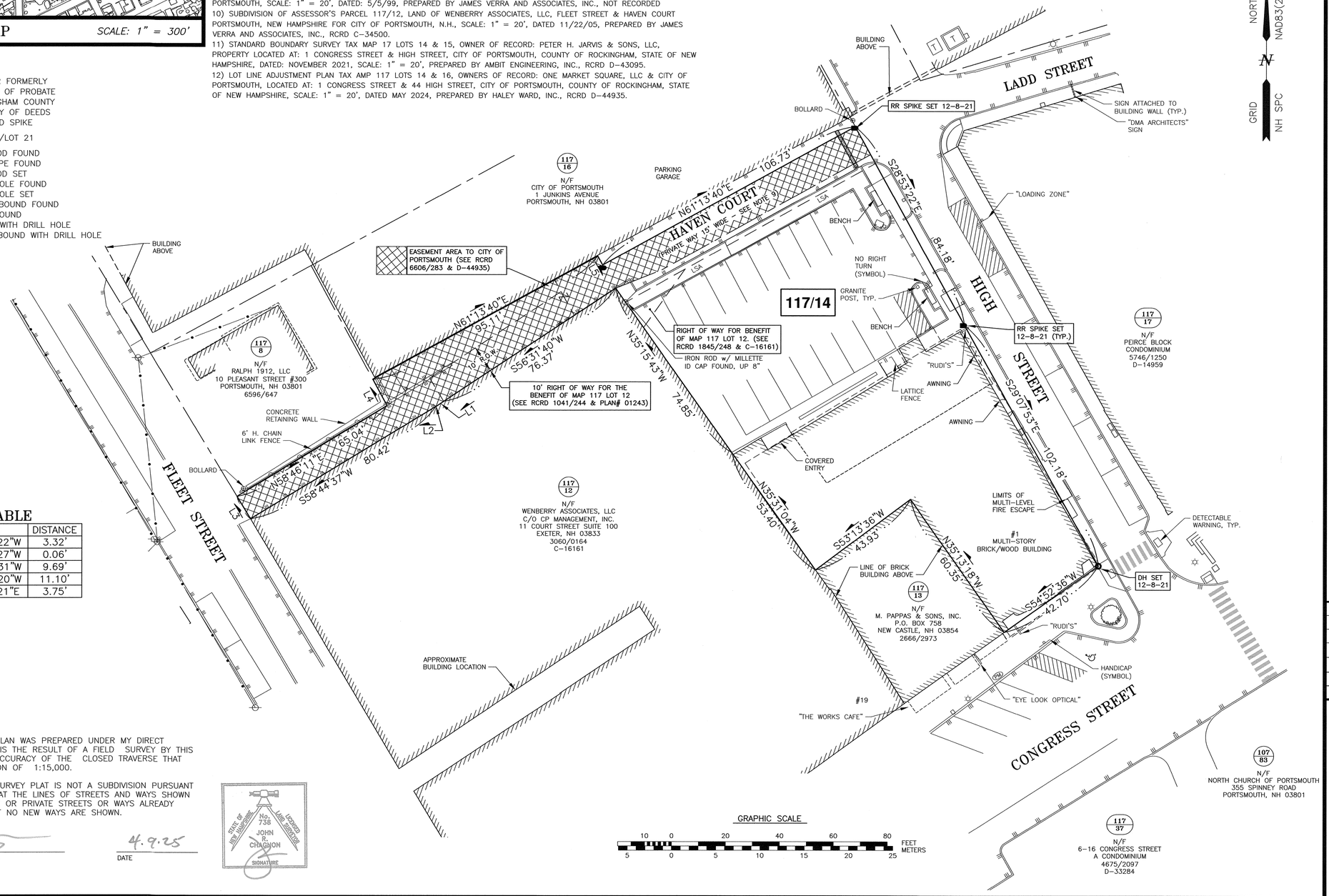
LOCATION MAP *SCALE: 1" = 300'*

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
RR SPK	RAILROAD SPIKE
11/21	MAP 11/LOT 21
○ IR FND	IRON ROD FOUND
○ IP FND	IRON PIPE FOUND
● IR SET	IRON ROD SET
◉ DH FND	DRILL HOLE FOUND
○ DH SET	DRILL HOLE SET
⊙ NHHB	NHDOT BOUND FOUND
⊙ TB	TOWN BOUND
⊙ BND w/DH	BOUND WITH DRILL HOLE
⊙ ST BND w/DH	STONE BOUND WITH DRILL HOLE

PLAN REFERENCES:

1) PLAN OF A LOT OF LAND IN PORTSMOUTH N.H. BELONGING TO THE ESTATE OF CHAS. H. MENDUM, SCALE: 1 IN = 20 FT, DATED JULY 1, 1908, PREPARED BY WM. A. GROVER CIVIL ENGINEER, RCRD 00469.
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3) LOT PLAN NOS. 7–13 CONGRESS ST. PORTSMOUTH, N.H., SCALE: 1/4 INCH = 1 FOOT, DATED MAR. 1937, PREPARED BY JOHN W. DURGIN CIVIL ENGINEER, NOT RECORDED.
4) PLAN OF LOT NOS. 173 – 181 FLEET ST. PORTSMOUTH, N.H., SCALE: 1IN. = 20FT., DATED NOV. 1945, PREPARED BY JOHN W. DURGIN CIVIL ENGINEER, NOT RECORDED
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6) PLAN OF LOT PORTSMOUTH, N.H., NEWICK & WOOD INC. TO CITY OF PORTSMOUTH, SCALE 1IN. = 40FT., DATED MAR. 1956, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, RCRD 02537
7) PLAN OF LOT 26 – 30 HIGH ST. PORTSMOUTH, N.H., SCALE: 1IN. = 10FT., DATED OCT. 1961, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, NOT RECORDED
8) PLAN OF LAND FOR RICHARD A. CABRAL & BRUCE E. NADEAU CONGRESS/FLEET ST. COUNTY OF ROCKINGHAM PORTSMOUTH, N.H., SCALE: 1" = 20', DATED JANUARY 1987, PREPARED BY RICHARD P. MILLETTE AND ASSOCIATED, RCRD C–16161
9) EXISTING CONDITIONS PLAN HIGH/HANOVER PARKING FACILITY, HANOVER STREET, PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, SCALE: 1" = 20', DATED: 5/5/99, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., NOT RECORDED
10) SUBDIVISION OF ASSESSOR'S PARCEL 117/12, LAND OF WENBERRY ASSOCIATES, LLC, FLEET STREET & HAVEN COURT PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, N.H., SCALE: 1" = 20', DATED 11/22/05, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., RCRD C–34500.
11) STANDARD BOUNDARY SURVEY TAX MAP 17 LOTS 14 & 15, OWNER OF RECORD: PETER H. JARVIS & SONS, LLC, PROPERTY LOCATED AT: 1 CONGRESS STREET & HIGH STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, DATED: NOVEMBER 2021, SCALE: 1" = 20', PREPARED BY AMBIT ENGINEERING, INC., RCRD D–43095.
12) LOT LINE ADJUSTMENT PLAN TAX AMP 117 LOTS 14 & 16, OWNERS OF RECORD: ONE MARKET SQUARE, LLC & CITY OF PORTSMOUTH, LOCATED AT: 1 CONGRESS STREET & 44 HIGH STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, SCALE: 1" = 20', DATED MAY 2024, PREPARED BY HALEY WARD, INC., RCRD D–44935.



LENGTH TABLE

LINE	BEARING	DISTANCE
L1	S56°30'22"W	3.32'
L2	S88°45'27"W	0.06'
L3	N31°12'31"W	9.69'
L4	N28°32'20"W	11.10'
L5	S28°46'21"E	3.75'

GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

JOHN R. CHAGNON, LLS 738 — DATE 4.9.25

STATE OF NEW HAMPSHIRE — No. 738 — JOHN R. CHAGNON — LICENSED LAND SURVEYOR — SIGNATURE

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOT 14 & AND AN UNNUMBERED PARCEL OF LAND DEPICTED AS A PORTION OF HAVEN COURT.

2) OWNER OF RECORD:
ONE MARKET SQUARE, LLC
3 PLEASANT STREET, SUITE 400
PORTSMOUTH, NH 03801
6363/31 PARCEL 1 & PARCEL 2
6381/1527 NOTICE OF MERGER
6523/28, 6523/32, 6523/2286, 6605/2986

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 AND CHARACTER DISTRICT 5.

4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

5) LOT AREA:
18,225 S.F.
0.4184 ACRES

6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF AN UPDATED STANDARD BOUNDARY SURVEY OF ASSESSORS MAP 117 LOT 14 AND AN UNNUMBERED PARCEL OF LAND SITUATED ADJACENT AND WESTERLY OF A PRIVATE WAY OVER LOT 14 KNOWN AS HAVEN COURT.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBS.

9) HAVEN COURT IS A PRIVATE WAY 15 FEET WIDE. ALL RIGHTS, TITLE AND INTEREST UNTO SAID HAVEN COURT WERE CONVEYED WITH ASSESSOR'S MAP 117 LOT 14, AS DESCRIBED IN RCRD 983/179, SUBJECT TO RIGHTS OF OTHERS (OTHERS NOT DEFINED ON THIS SURVEY).

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	4/9/25

REVISIONS

STANDARD BOUNDARY SURVEY
TAX MAP 117 LOT 14

OWNER OF RECORD:
ONE MARKET SQUARE, LLC

PROPERTY LOCATED AT:
1 CONGRESS STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1" = 20' *APRIL 2025*

FB 309 PG 15 — 5010156.3406

P:\2021\05156.00\Admin_Projects\2021\Congress St, Portsmouth_NH\CAD\1 Site Plan\Plan & Sheets\Drawings (not current)\5485 Survey 2025.dwg 4/7/2025 1:02:24 PM

PLAN REFERENCES:

1) PLAN OF A LOT OF LAND IN PORTSMOUTH N.H. BELONGING TO THE ESTATE OF CHAS. H. MENDUM, SCALE: 1 IN = 20 FT, DATED JULY 1, 1908, PREPARED BY WM. A. GROVER CIVIL ENGINEER, RCRD 00469.
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7) PLAN OF LOT 26 – 30 HIGH ST. PORTSMOUTH, N.H., SCALE: 1IN. = 10FT., DATED OCT. 1961, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, NOT RECORDED.
8) PLAN OF LAND FOR RICHARD A. CABRAL & BRUCE E. NADEAU CONGRESS/FLEET ST. COUNTY OF ROCKINGHAM PORTSMOUTH, N.H., SCALE: 1" = 20', DATED JANUARY 1987, PREPARED BY RICHARD P. MILLETTE AND ASSOCIATED, RCRD C–16161.
9) EXISTING CONDITIONS PLAN HIGH/HANOVER PARKING FACILITY, HANOVER STREET, PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, SCALE: 1" = 20', DATED: 5/5/99, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., NOT RECORDED.
10) SUBDIVISION OF ASSESSOR'S PARCEL 117/12, LAND OF WENBERRY ASSOCIATES, LLC, FLEET STREET & HAVEN COURT PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, N.H., SCALE: 1" = 20', DATED 11/22/05, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., RCRD C–34500.
11) STANDARD BOUNDARY SURVEY TAX MAP 17 LOTS 14 & 15, OWNER OF RECORD: PETER H. JARVIS & SONS, LLC, PROPERTY LOCATED AT: 1 CONGRESS STREET & HIGH STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, DATED: NOVEMBER 2021, SCALE: 1" = 20', PREPARED BY AMBIT ENGINEERING, INC., RCRD D–43095.
12) SITE PLAN FOR HOUSE–GOODMAN LIMITED PARTNERSHIP 43–49 CONGRESS STREET PORTSMOUTH, N.H. PREPARED BY: RICHARD P. MILLETTE AND ASSOCIATES, SCALE: 1"=10', DATED: NOVEMBER 15, 1983, NOT RECORDED.

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
RR SPK	RAILROAD SPIKE
11/21	MAP 11/LOT 21
IR FND	IRON ROD FOUND
IP FND	IRON PIPE FOUND
IR SET	IRON ROD SET
DH FND	DRILL HOLE FOUND
DH SET	DRILL HOLE SET
BOUND FOUND	BOUND FOUND
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
UE	UNDERGROUND ELECTRIC
OHW	OVERHEAD ELECTRIC/WIRES
100	CONTOUR
97x3	SPOT ELEVATION
EP	EDGE OF PAVEMENT (EP)
UTILITY POLE	UTILITY POLE
WSO	WATER SHUT OFF/CURB STOP
GSO	GAS SHUT OFF
GV	GATE VALVE
HYD	HYDRANT
GWE	METER (GAS, WATER, ELECTRIC)
CB	CATCH BASIN
T	TELEPHONE MANHOLE
S	SEWER MANHOLE
D	DRAIN MANHOLE
EL.	ELEVATION
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
INV	INVERT
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
VGC/SGC	VERTICAL/SLOPED GRANITE CURB



LINE TABLE:

L10	S36°03'41"E	9.09'
L11	N53°56'19"E	0.43'
L12	N88°45'29"E	0.06'
L13	N56°30'27"E	3.32'
L14	N30°49'12"W	9.98'

GRAPHIC SCALE

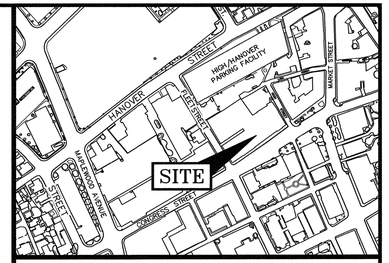
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

JOHN R. CHAGNON, LLS 738

7.30.25
DATE

STATE OF NEW HAMPSHIRE No. 738 JOHN R. CHAGNON SIGNATURE LICENSED LAND SURVEYOR



LOCATION MAP 1" = 300'

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOT 12.
2) OWNER OF RECORD: ONE MARKET SQUARE, LLC 3 PLEASANT STREET, SUITE 400 PORTSMOUTH, NH 03801 6637/2224
3) PARCEL IS LOCATED IN CHARACTER DISTRICT 5.
4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.
5) EXISTING LOT AREA:
   LOT 12 AREA: 23,704 S.F. 0.5442 ACRES
   LOT 14 AREA (AFTER LLR): 18,225 S.F. 0.4184 ACRES
   PROPOSED COMBINED LOT AREA: 41,929 S.F. 0.9626 ACRES
6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021
7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A STANDARD BOUNDARY SURVEY AND EXISTING CONDITIONS ON ASSESSORS MAP 117 LOT 12.
8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBS.
9) PARCEL IS SUBJECT TO A LEASE AGREEMENT FOR A PORTION OF LESSEE'S WALL IS ENCROACHING ON SUBJECT PARCEL. SEE RCRD 1512/410 & 1690/130.
10) PARCEL IS SUBJECT TO A RIGHT OF WAY IN COMMON FOR PASSAGE AND UTILITIES AND GENERAL PURPOSES PER DEEDS. SEE RCRD 322/318, 322/380, 322/381, 348/80, 348/81, 348/82, 1484/44, 2713/797, AND RCRD C–16161.
11) PARCEL IS SUBJECT TO A UTILITY EASEMENT TO P.S.N.H. FROM UTILITY POLE 20/4 ON FLEET STREET EASTERLY TO GRANTORS EASTERLY BOUNDARY. SEE RCRD 3124/695.
12) HAVEN COURT IS A PRIVATE WAY 15 FEET WIDE. ALL RIGHTS, TITLE AND INTEREST UNTO SAID HAVEN COURT WERE CONVEYED WITH ASSESSOR'S MAP 117 LOT 15, AS DESCRIBED IN RCRD 983/179, SUBJECT TO RIGHTS OF OTHERS (OTHERS NOT DEFINED ON THIS SURVEY).

No.	DATE	DESCRIPTION	BY	CHK
0	7/30/25	ISSUED FOR COMMENT	RJB	JRC

DRAWING ISSUE STATUS
SITE SURVEY

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
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603.430.9282
WWW.HALEYWARD.COM

PROJECT
ONE MARKET SQUARE, LLC
1-15 CONGRESS STREET PORTSMOUTH, N.H.

TITLE
15 CONGRESS
STANDARD BOUNDARY SURVEY & EXISTING CONDITIONS PLAN OF THE MERGED PARCEL

DATE: JULY 2024	SCALE: 1" = 20'
DRAWN BY: RJB	DESIGNED BY: —
CHECKED BY: JRC	
PROJECT No.: 5010156.01	FIELD BOOK & PAGE: FB 309 PG 54
SHEET No.: V101	REV.: 0



1 LOWER LEVEL PB
3/32" = 1'-0"

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603.988.0042
www.ARCove.com

ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
ONE MARKET SQUARE, LLC
10 PLEASANT STREET, SUITE 3
PORTSMOUTH, NH 03801
603.427.0725

CIVIL ENGINEERING
AMBIT ENGINEERING; A DIVISION OF HALEY WARD
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LANDSCAPE ARCHITECTURE
TERRAFIRMA
163.A Court Street
Portsmouth, NH 03801
603.531.9109
www.terrafirmalandarch.com

SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

BASEMENT PLAN

4' 16' N
0' 8' 32'

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A0

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1 LEVEL 1 PB
3/32" = 1'-0"

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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

FIRST FLOOR PLAN

0' 4' 8' 16' 32'
N
SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: HA
CHECKED: TK

PBN.A1

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1 **LEVEL 2 PB**
3/32" = 1'-0"

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
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PORTSMOUTH, NH 03801
603.427.0725

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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

SECOND FLOOR PLAN

4' 16' N
0' 8' 32'

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A2

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1 **LEVEL 3 PB**
3/32" = 1'-0"

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

THIRD FLOOR PLAN

0' 4' 8' 16' 32'
N

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A3

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1 **LEVEL 4 PB**
3/32" = 1'-0"

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
ONE MARKET SQUARE, LLC
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PORTSMOUTH, NH 03801
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CIVIL ENGINEERING
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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

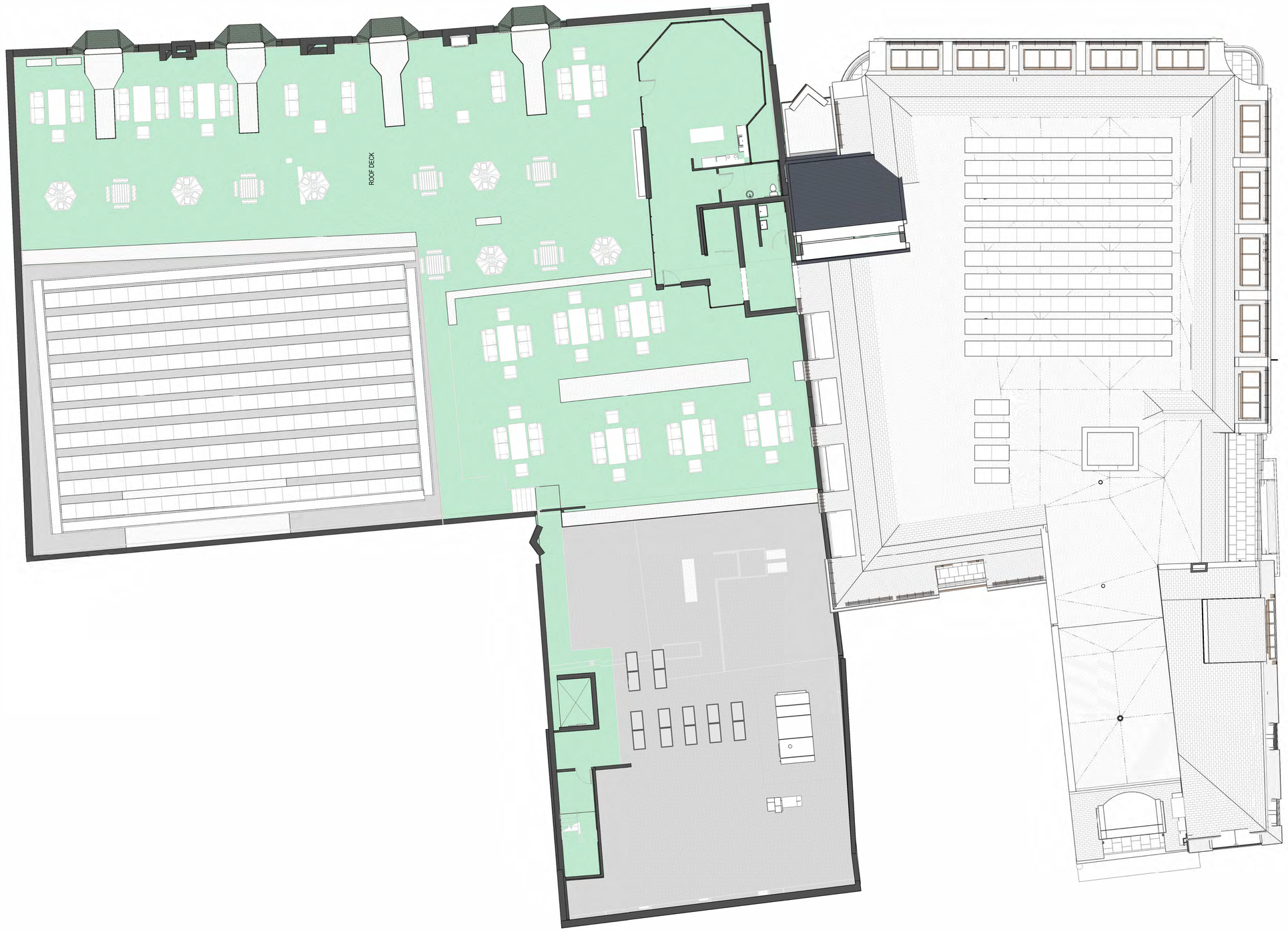
PENTHOUSE-ATTIC PLAN

0' 4' 8' 16' 32'
N

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

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1 ROOF PLAN PB
3/32" = 1'-0"

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
ONE MARKET SQUARE, LLC
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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

ROOF PLAN

GRAPHIC SCALE: 1/16" = 1'-0"
0' 8' 16' 32'

N

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A5

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1 **SOUTH ELEVATIONS - ALLEY & CONGRESS ST**
3/32" = 1'-0"



2 **WEST ELEVATION, FLEET STREET (15 CONGRESS)**
3/32" = 1'-0"

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
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PORTSMOUTH, NH 03801
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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

ELEVATIONS

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A6

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2 **NORTH ELEVATION - HAVEN COURT**
3/32" = 1'-0"



1 **EAST ELEVATION - HIGH STREET (1 CONGRESS)**
3/32" = 1'-0"

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

OWNER
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Portsmouth, NH 03801
603.531.9109
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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

ELEVATIONS

SCALE: 3/32" = 1'-0"
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

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1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

3D VIEW - BIRDSEYE

SCALE:

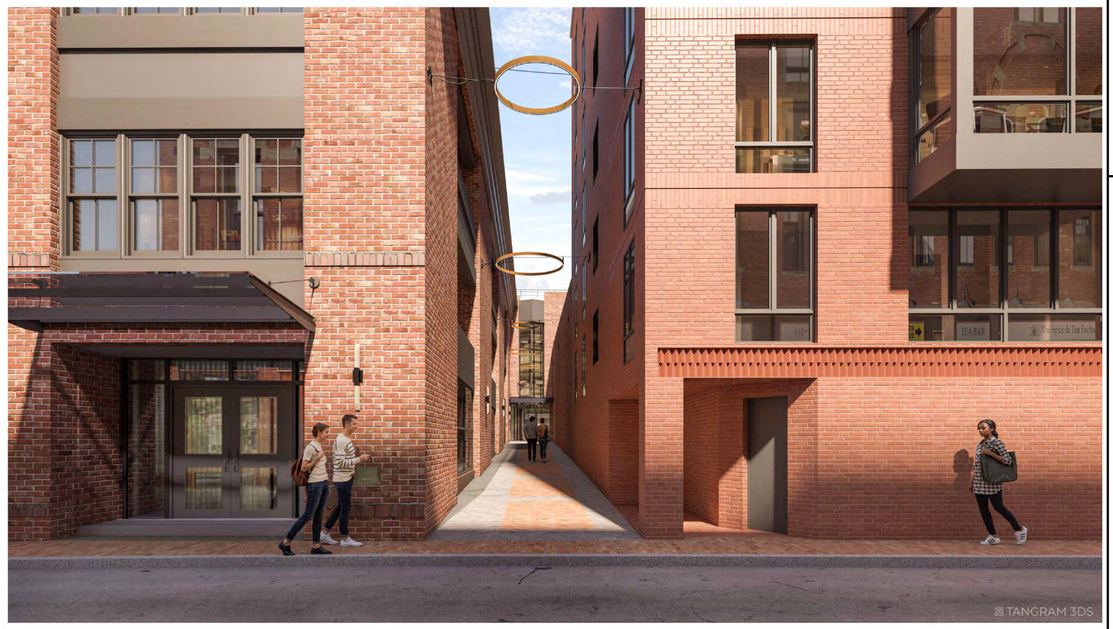
DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A8

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1 & 15 CONGRESS FROM HAVEN COURT, LOOKING WEST



15 CONGRESS, FROM FLEET STREET LOOKING EAST



15 CONGRESS FROM FLEET STREET, LOOKING SOUTHEAST



15 CONGRESS, FROM CONGRESS STREET LOOKING NORTH

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ARCHITECTS

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ONE MARKET SQUARE, LLC

1 & 15 CONGRESS STREET
PORTSMOUTH, NH, 03801

PROJECT NO: 1002.1

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LANDSCAPE ARCHITECTURE
TERRAFIRMA
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SITE PLAN REVIEW

REVISIONS

NO.	DATE	DESCRIPTION

3D VIEWS - STREET LEVEL

SCALE:

DATE: 8/12/2025
DRAWN: Author
CHECKED: Checker

PBN.A9

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JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

July 30, 2025

Portsmouth Planning Board
Attn: Board Members
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

RE: Preliminary Conceptual Consultation Application
Ledgewood Drive, Portsmouth, NH
Tax Map 229, Lot 6A
JBE Project No. 25071

Dear Board Members,

Jones & Beach Engineers, Inc., respectfully submits a Preliminary Conceptual Consultation Application on behalf of the applicant, Green & Company. The intent of this application is to construct one building in a U-shaped configuration with 16 Townhouse units. The only access to this parcel is from Ledgewood Drive and we are providing only one curb cut for the development.

The recently approved project at the Tour Restaurant included a public realm improvement for providing a hard-scape sidewalk and pathway to the High School from this area. We are showing the approximate location of that walkway for your reference, and we would connect our sidewalk to that walkway within the Ledgewood Drive right of way. We have attached an Easement Deed that specifies that we are allowed to have a driveway up to 60' wide on Ledgewood Drive.

The proposed units will all have garages, most will be 2 car garages with the exception of the corner units, which will have a one car garage. The corner units will be assigned one of the parking spaces near the entrance as well so there will be a minimum of 2 spaces for each unit.

The following items are provided in support of this Application:

1. Completed Preliminary Conceptual Consultation (submitted online).
2. Letters of Authorization.
3. Current Deed.
4. Easement Deed.
5. Plan of Record D-10640
6. One (1) Full Size Plan Set Folded.

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Joseph Coronati

Joseph Coronati
Vice President

cc: Jenna Green, Green & Company (via email)
Michael Green, Green & Company (via email)
John Bosen, Attorney (via email)

Letter of Authorization

I, Jenna Green, Green & Company, 11 Lafayette Road, North Hampton, NH 03862, developer of property located in Portsmouth, NH, known as Tax Map 229, Lot 6A, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously mentioned property. The parcel is located on Ledgewood Drive in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent, to act on my behalf in the review process, to include any required signatures.

Witness

Jenna Green
Green & Company

7/19/2025
Date

Docusign Envelope ID: 6944E348-6974-4E33-BE61-D8D454D8547E

Letter Of Authorization

I/We, St. Nicholas Greek Orthodox Church of Portsmouth, Inc. of 40 Andrew Jarvis Drive, Portsmouth, NH, owner of property described as 1.01 +/- acres of land with 240 +/- feet of frontage on the City of Portsmouth Right Of Way, also known as Ledgewood Drive in Portsmouth, New Hampshire, as shown on Tax Assessors Map 229, Lot 6A, and further defined by legal description found at the Rockingham County Registry of Deeds Book 2410, Page 0505, recorded on April 15, 1982, (hereinafter, "Property") do hereby authorize Green & Company Building and Development Corp. and its Affiliates, Agents, Assigns and Engineers, to act on my/our behalf and to appear before the city/town and/or any of its boards or commissions, in my behalf for the purpose of seeking any regulatory relief and/or approvals that may be requested by the person I/we have above authorized, hereby ratifying any actions taken by them in all matters concerning the development and approval process, without limitation, for the above stated property

I/We hereby appoint Green & Company Building and Development Corp. and its Affiliates, Agents, Assigns and Engineers, to act as my/our agent to act on my/our behalf in all matters concerning the review, development and approval process, without limitation, for the above stated property, to include any required signatures.

Signed by:
Gregory Kanteres
7A6C0A8C6A8C450...

Witness	Owner: Greg Kanteres, President St Nicholas Greek Orthodox Church of Portsmouth, Inc	7/1/2025 Date

Signed by:
Richard Rizza
FA246D0754ED44B...

Witness	Owner: Richard Rizza, CFO St. Nicholas Greek Orthodox Church of Portsmouth, Inc	7/1/2025 Date

KNOW ALL MEN BY THESE PRESENTS, That I, Thomas B. Kremp, being single, of 545 Lafayette Road, Portsmouth, County of Rockingham and State of New Hampshire

BK2410 P0505

for consideration paid, grant to St. Nicholas Greek Orthodox Church of Portsmouth, Inc., a corporation located in Portsmouth, County of Rockingham and State of New Hampshire,

with **warranty covenants**

APR 15 11 09 AM '82 06113

A certain tract or parcel of land situated on the northerly side of Ledgewood Drive in the City of Portsmouth, County of Rockingham and State of New Hampshire, more particularly bounded and described as follows:

Beginning at an iron pin on the northerly side of a 100' right-of-way owned by the City of Portsmouth and being the division line between the premises herein conveyed and other land of Thomas B. Kremp known as Lot #1, thence:

1. North 00° 00' one hundred eighty-one (181) feet, more or less, to an iron pin at land now or formerly of Roger and Mildred Chapdelaine.

2. South 82° 00' East two hundred thirty-eight and fifty hundredths (238.50) feet, more or less, by land now or formerly of Chapdelaine to an iron pin at land of the St. Nicholas Greek Orthodox Church and land of the City of Portsmouth.

3. South 00° 05' 25" West one hundred eighty-seven and ninety hundredths (187.90) feet, more or less, by land of the City of Portsmouth to an iron pin at the City of Portsmouth's 100' right-of-way.

4. North 79° 58' 56" West two hundred forty (240) feet, more or less, by the City of Portsmouth 100' right-of-way to an iron pin at the point of beginning.

Being Lot #2 containing 1.01 acres as more particularly described on "Plan of Land in Portsmouth, N.H., County of Rockingham, as Surveyed for Thomas B. Kremp, Lafayette Road, Portsmouth, N.H." by Town Planning and Engineering Associates, Inc. dated January, 1982, to be recorded herewith.

Being a portion of the premises conveyed to Thomas B. Kremp by deed of Jennie A. D'Errico dated March 17, 1978, and recorded in Rockingham County Registry of Deeds at Book 2306, Page 1055.

STATE OF NEW HAMPSHIRE TAX ON TRANSFER OF REAL PROPERTY STATE TAX COMMISSION R.S.A. 78 100.00 AMT. PAID

850660

husband *wife of said grantor, release to said grantee* *all rights of homestead and other interests therein.*

Witness, my *hand* **xxxxxx** *this* *day of* , 19 82

Witness

Thomas B. Kremp L.S.

L.S.

L.S.

State of New Hampshire

Rockingham *ss.:* *A. D.* 19 82

Personally appeared Thomas B. Kremp

known to me, or satisfactorily proven, to be the person *whose name subscribed to the foregoing instrument and acknowledged that* *he* *executed the same for the purposes therein contained.*

Before me, *Justice of the Peace - ~~Notary Public~~*

BK2410 P1306

EASEMENT

KNOW ALL MEN BY THESE PRESENTS that the City of Portsmouth, a municipal corporation with a place of business at 126 Daniel Street, Portsmouth, County of Rockingham, State of New Hampshire, for consideration paid, grants to St. Nicholas Greek Orthodox Church, a religious organization with an address at Alumni Drive, Portsmouth, New Hampshire, without covenants, an easement to use in common with others a roadway existing upon a certain parcel of land described in a deed of MGR Realty, Inc. to the City of Portsmouth, dated July 18, 1969, recorded in the Rockingham County Registry of Deeds, Book 1985, Page 378; together with the right to construct and maintain a driveway, not to exceed sixty (60) feet in width, across the above-referenced parcel of the City from the existing roadway to certain premises shown as Lot No. 2 on "Plan of Land in Portsmouth, County of Rockingham, as surveyed for Thomas B. Kremp, Lafayette Road, Portsmouth, New Hampshire" dated January 1982, prepared by Town Planning and Engineering Associates, Inc., Plan #D-10640 filed in the Rockingham County Registry of Deeds.

APR 21 11 08 AM '82 06517

IN WITNESS WHEREOF, the City of Portsmouth has caused this instrument to be executed in its name by its City Manager this 15th day of April, 1982.

THE CITY OF PORTSMOUTH

Betty G. Wallick
WITNESS

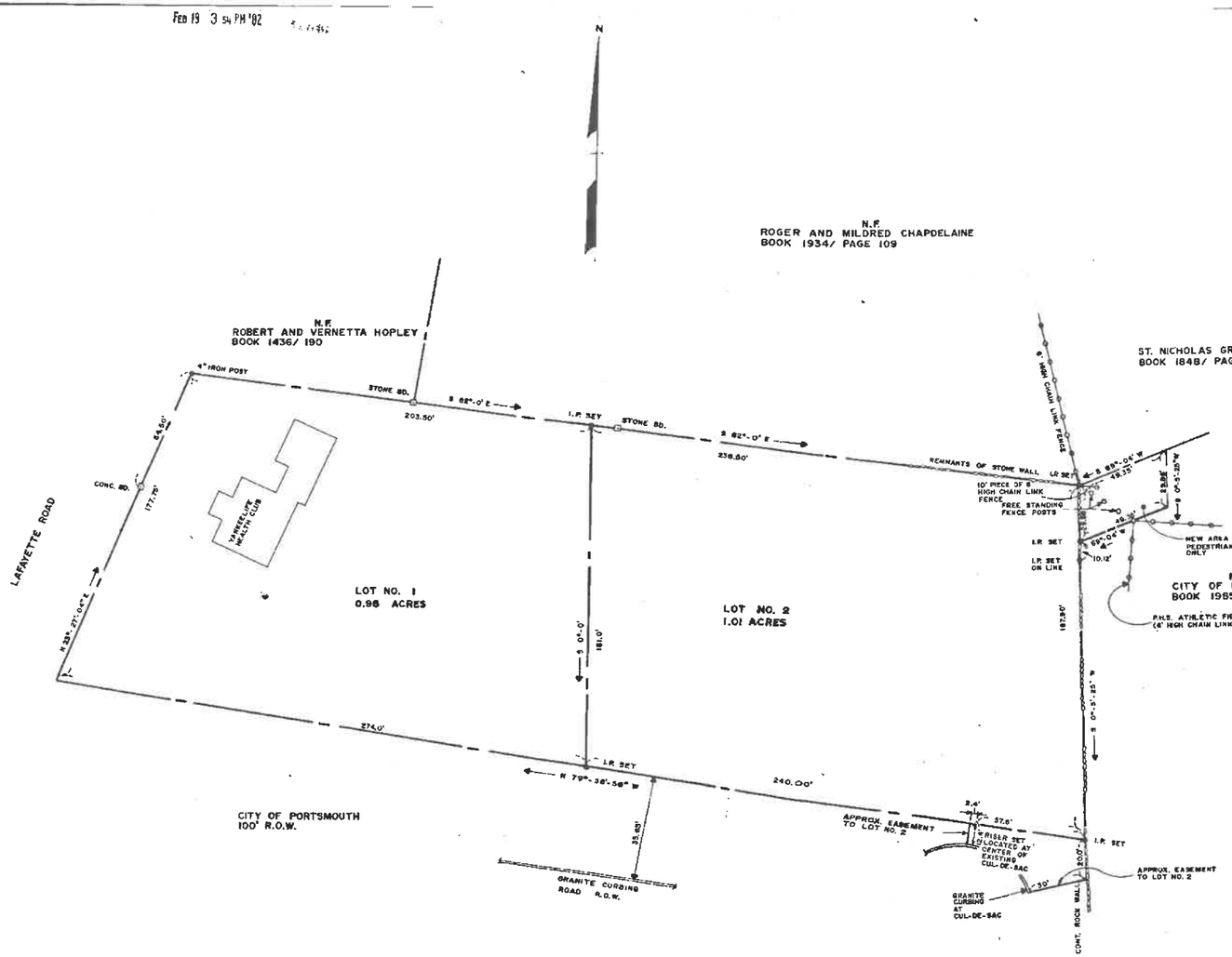
BY Calvin A. Canney
Calvin A. Canney
City Manager

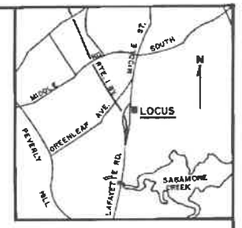
STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS

The foregoing instrument was acknowledged before me this 15th day of April, 1982 by Calvin A. Canney, City Manager of the City of Portsmouth, a New Hampshire municipal corporation on behalf of the corporation.

Betty G. Wallick
Justice of the Peace

Feb 19 3 54 PM '82





LOCUS PLAN

0 5000

SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

I HEREBY CERTIFY THAT THE PROPERTY LINES SHOWN HEREON, OR LOT NO.S, WERE LAID OUT ON THE GROUND AS SHOWN IN ACCORDANCE WITH FIELD DATA OBTAINED AND RECORD INFORMATION AVAILABLE, IN ACCORDANCE WITH A.C.S.M. PROPERTY SURVEY STANDARDS.

CITY OF PORTSMOUTH PLANNING BOARD

E.J. Sarre Clarke 2-19-82

CHAIRMAN DATE

PLAN OF LAND
IN
PORTSMOUTH, N.H.
COUNTY OF ROCKINGHAM
AS SURVEYED FOR
THOMAS B. KREMP
LAFAYETTE ROAD
PORTSMOUTH, N.H.

GRAPHIC SCALE IN FEET — JAN. 1982

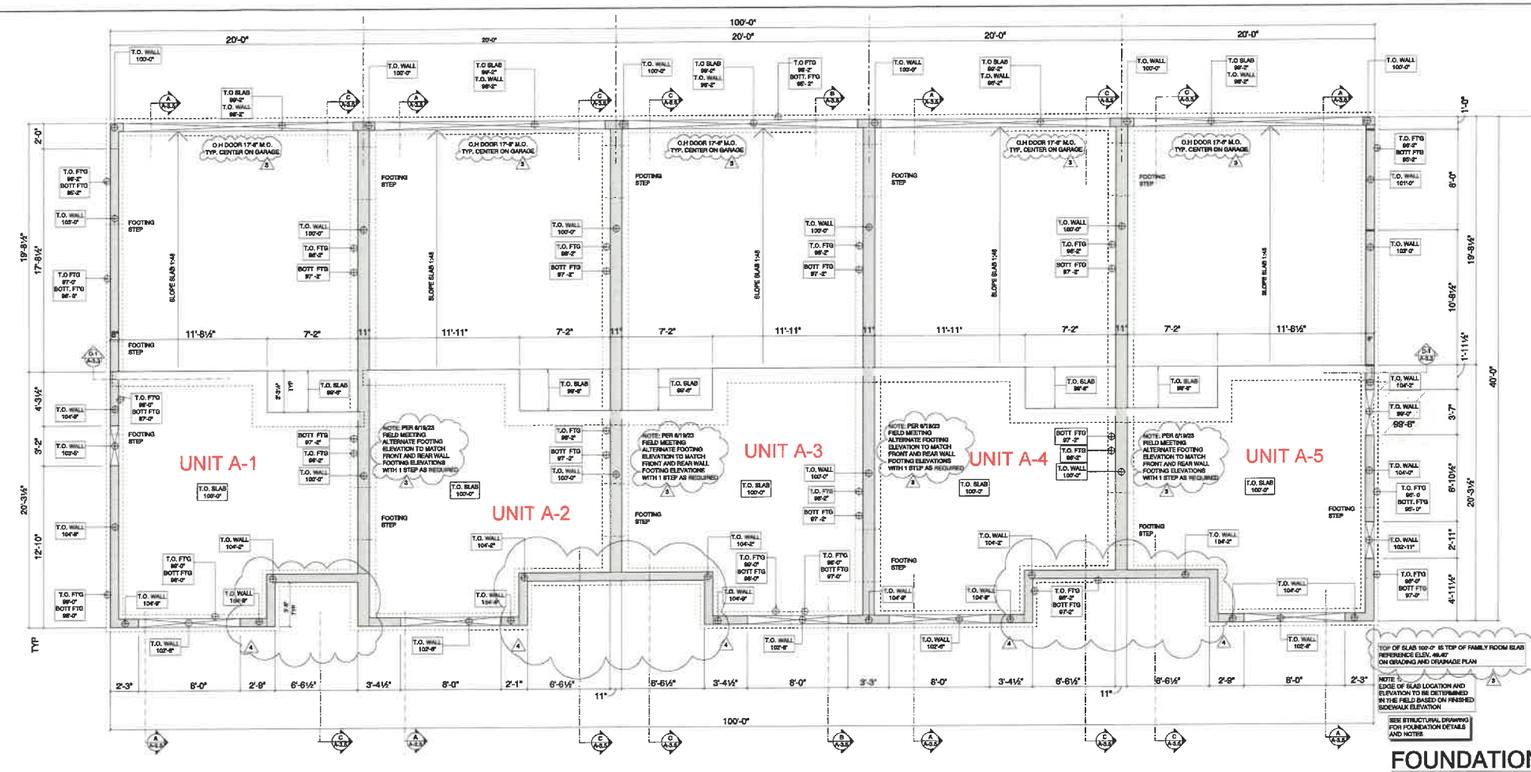
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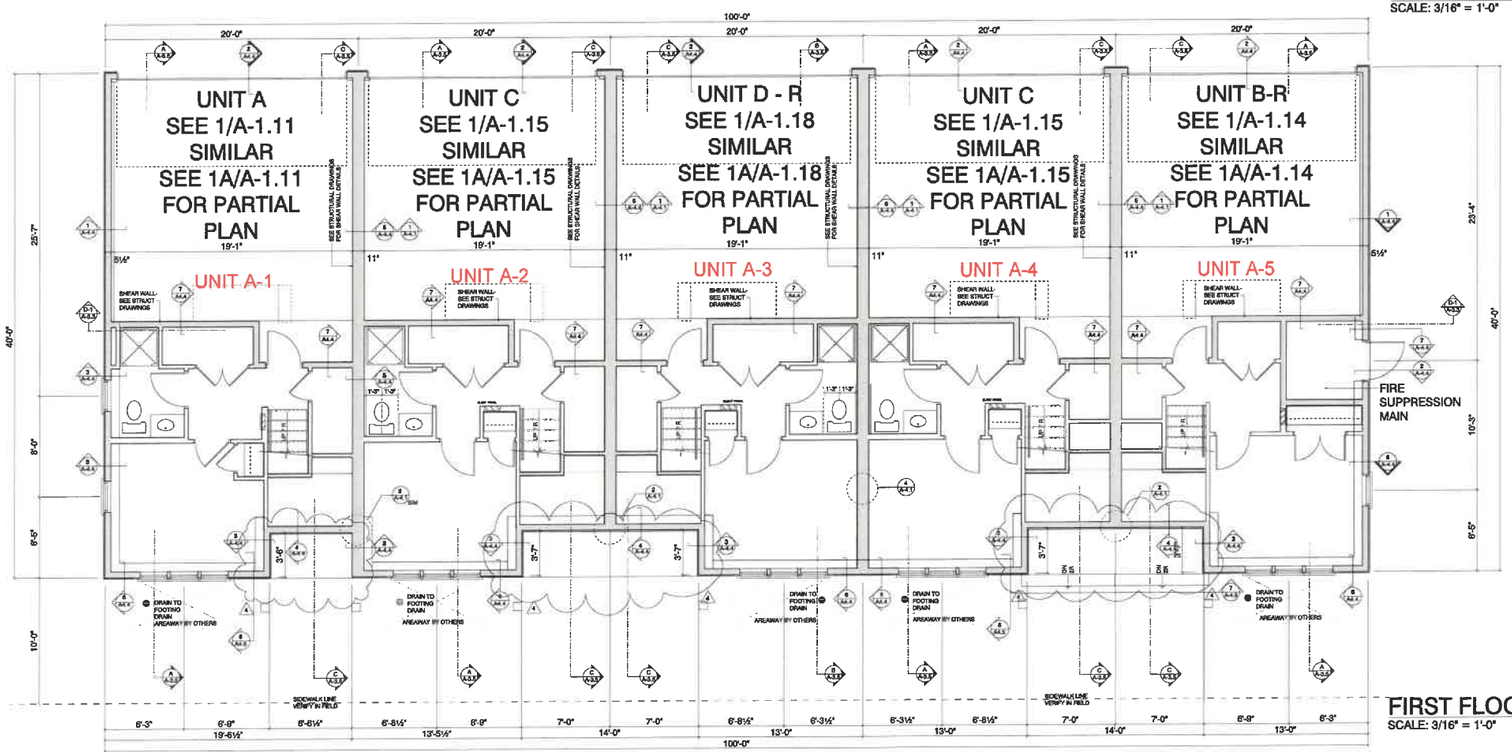
tpe associates
TOWN PLANNING AND ENGINEERING ASSOCIATES, INC.
ARCHITECTS PLANNERS ENGINEERS SURVEYORS
MARKET STREET P.O. BOX 47 AMESBURY, MASS. 01913 TEL. (617)388-2282
950 STATE STREET PORTSMOUTH, N.H. 03801 TEL. (603)436-0000

2394



FOUNDATION PLAN COMPLEX A

SCALE: 3/16" = 1'-0"



FIRST FLOOR PLAN COMPLEX A

SCALE: 3/16" = 1'-0"

mjk
Michael J. Keane Architects, PLLC
ARCHITECTURE
PLANNING
DESIGN
101 Kent Place
Newmarket, NH
03857
603-292-1400
mjkarchitects.com

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CONSULTANTS

REVISIONS

1 01/04/24	FRONT PORCH
1 09/19/23	REVISIONS FROM 6/19/23 SITE MEETING ON FOUNDATIONS

APPROVALS

LICENSED ARCHITECT MICHAEL J. KEANE No. 2185 STATE OF NEW HAMPSHIRE
01/15/2024

Accept only original stamp and signature copies may contain unauthorized modifications

PROJECT

MAP 252- LOTS 4,5 &9
951 PEVERLY HILL ROAD AND
1400 LAFAYETTE ROAD
PORTSMOUTH NH

TITLE

COMPLEX A FOUNDATION-1ST FLOOR

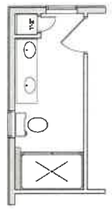
COMPLEX A
01/24/24

DRAWN BY: AJK
CHECKED BY: AJK
DATE: FEBRUARY 15, 2023
SCALE: AS NOTED

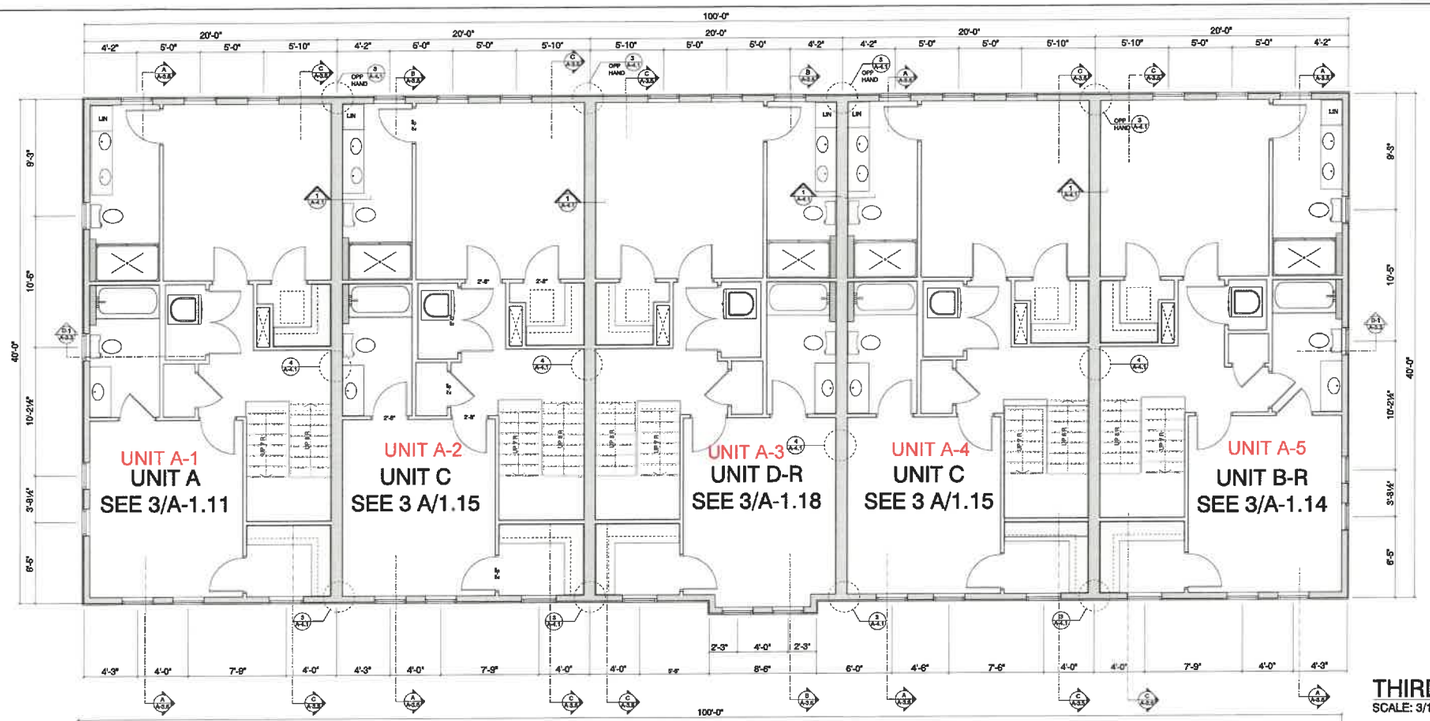
DRAWING NO.

A-1.1

DO NOT SCALE PRINTS

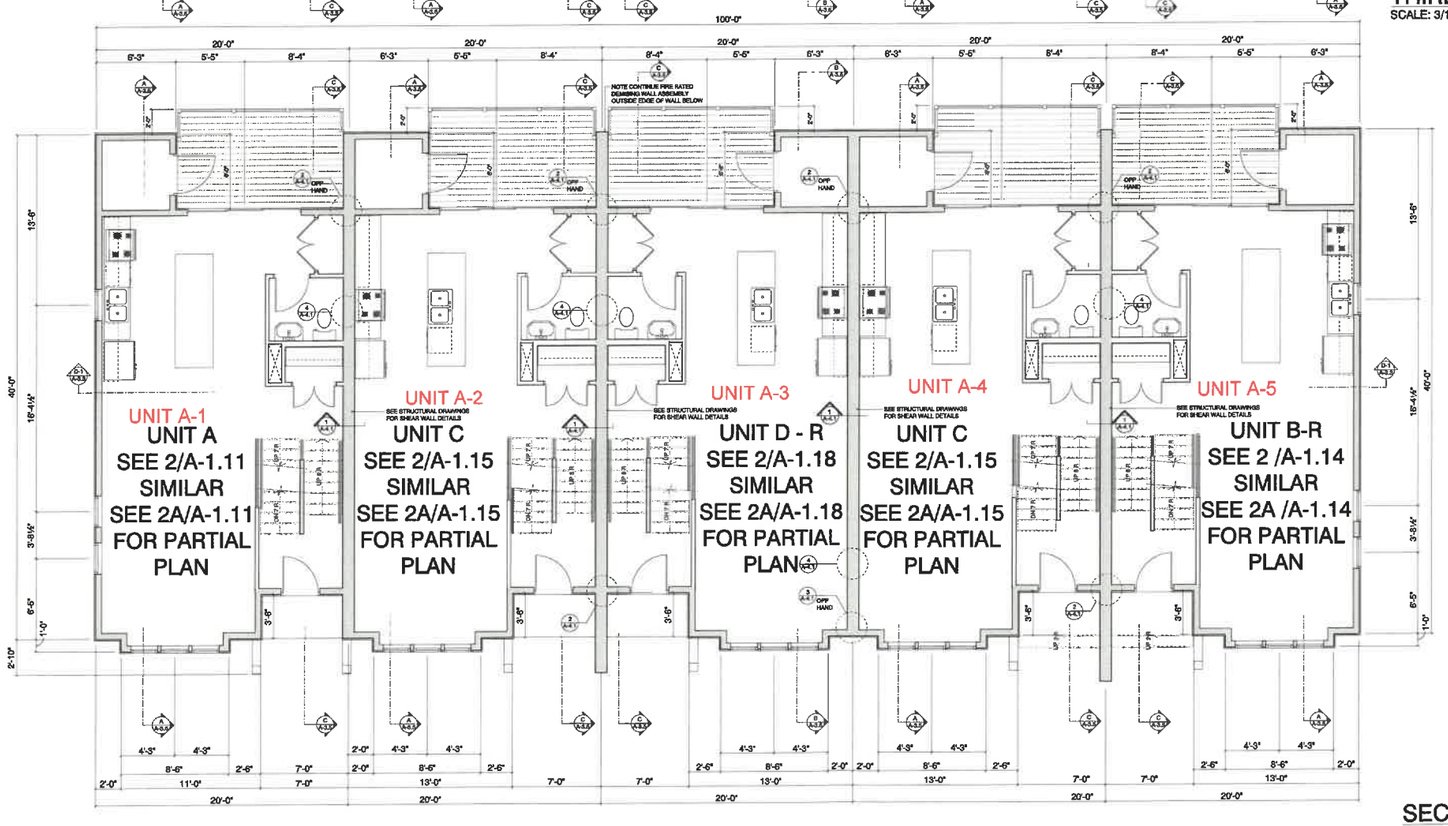


ALTERNATE
LIN CLOSET
PLAN



THIRD FLOOR PLAN COMPLEX A

SCALE: 3/16" = 1'-0"



SECOND FLOOR PLAN A

SCALE: 3/16" = 1'-0"

mjk
Michael J. Keane
Architects, PLLC
ARCHITECTURE
PLANNING
DESIGN
101 Kent Place
Newmarket, NH
03857
603-292-1400
mjkarchitects.com

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CONSULTANTS

REVISIONS

1	01/24/24	FRONT PORCH

APPROVALS

LICENSED ARCHITECT MICHAEL J. KEANE No. 2185 STATE OF NEW HAMPSHIRE 02/16/2023

Accept only original stamp and signature
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PROJECT

MAP 252- LOTS 4,5 &9
951 PEVERLY HILL ROAD AND
1400 LAFAYETTE ROAD
PORTSMOUTH NH

TITLE

COMPLEX A 2ND & 3RD FLOOR

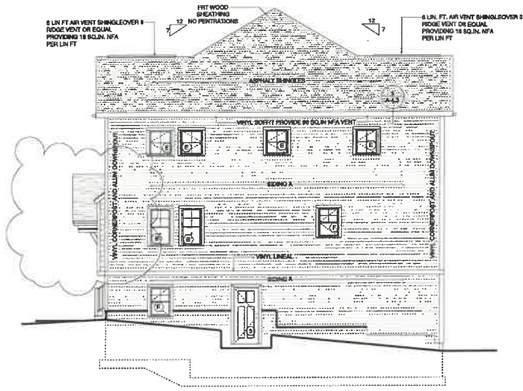
COMPLEX A
01/24/24

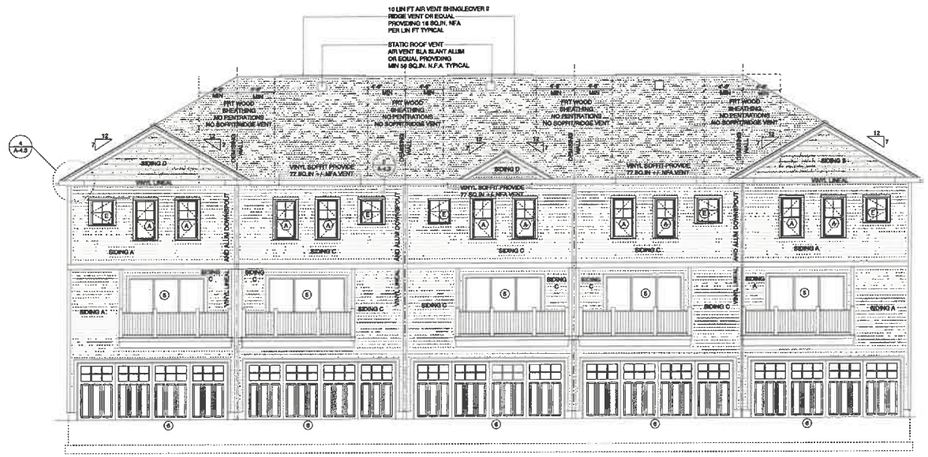
DRAWN BY: MJK
CHECKED BY: MJK
DATE: FEBRUARY 15, 2023
SCALE: AS NOTED

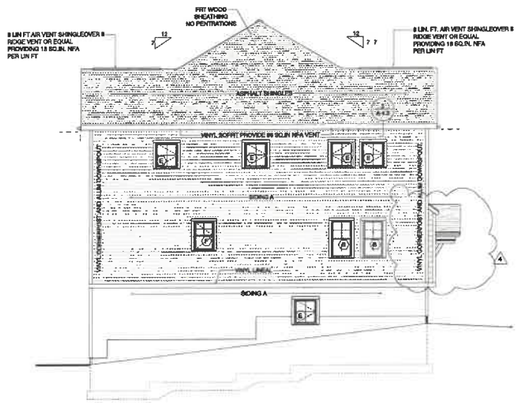
DRAWING NO.

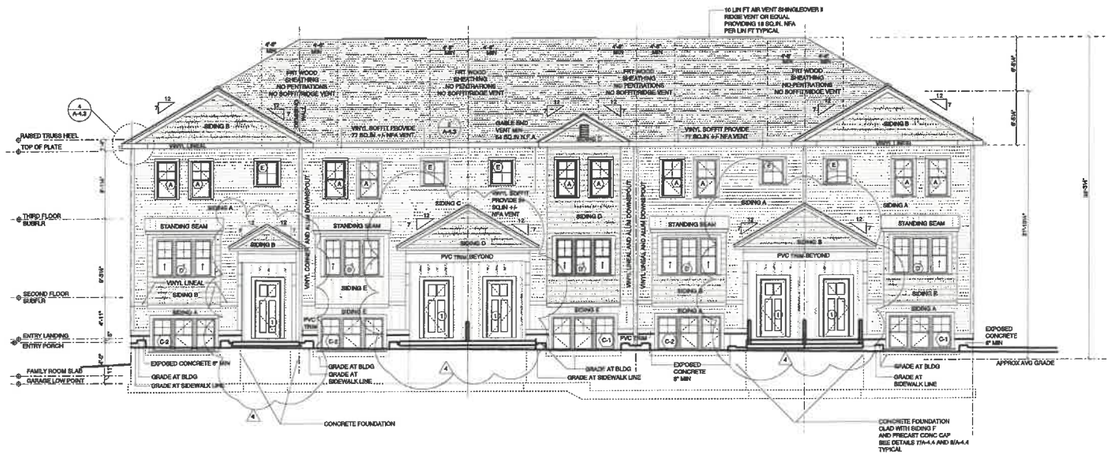
A-1.2

DO NOT SCALE PRINTS









COMPLEX A ELEVATIONS

SCALE: 1/8" = 1'-0"

SIDING SCHEDULE

A	ALSIDE CLASSIC DOUBLE 4.5" CLAPBOARD ROUGH STERLING GRAY
B	ALSIDE CLASSIC SHAKES 7" STRAIGHT EDGE PERFECTION STERLING GRAY
C	ALSIDE CLASSIC DOUBLE 4.5" CLAPBOARD ROUGH NATURAL LINEN
D	ALSIDE CLASSIC SHAKES 7" STRAIGHT EDGE PERFECTION NATURAL LINEN
E	ALSIDE BOARD AND BATTEN 7" SINGLE NATURAL LINEN
F	AZEK CLOSED JOINT 3 1/2" DARK HICKORY CLADDING ON CONCRETE FOUNDATION SEE DETAIL XXXXX

SIDING ACCESSORIES
ALSIDE CORNER POST 6" ONE-PIECE BEADED GLACIER WHITE
ALSIDE BAY WINDOW CORNER- 3" OUTSIDE CORNER POST GLACIER WHITE
ALSIDE VERTICAL LINEAL 3 1/2" H TRIM GLACIER WHITE
ALSIDE HORIZONAL LINEAL 6" LINEAL GLACIER WHITE
ALSIDE END CAPS TO MATCH SIDING COLOR

ALSIDE SOFFIT ALSIDE CHARTER OAK 10" AERATED AND SOLID AS NOTED GLACIER WHITE

NOTES:
1. SEE DRAWING A-4.3 FOR WINDOW SCHEDULE
2. VINYL RAIL SYSTEM RDI TITAN PRO RAIL OR EQUAL - WHITE

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PLANNING
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CONSULTANTS

REVISIONS

1 01/04/24 FRONT PORCH

APPROVALS

LICENSED ARCHITECT Michael J. KEANE No. 2185 STATE OF NEW HAMPSHIRE 01/16/2023

Accept only original stamp and signature copies may contain unauthorized modifications

PROJECT

MAP 252- LOTS 4,5 &9
951 PEVERLY HILL ROAD AND
1400 LAFAYETTE ROAD
PORTSMOUTH NH

TITLE

COMPLEX A EXTERIOR ELEVATIONS

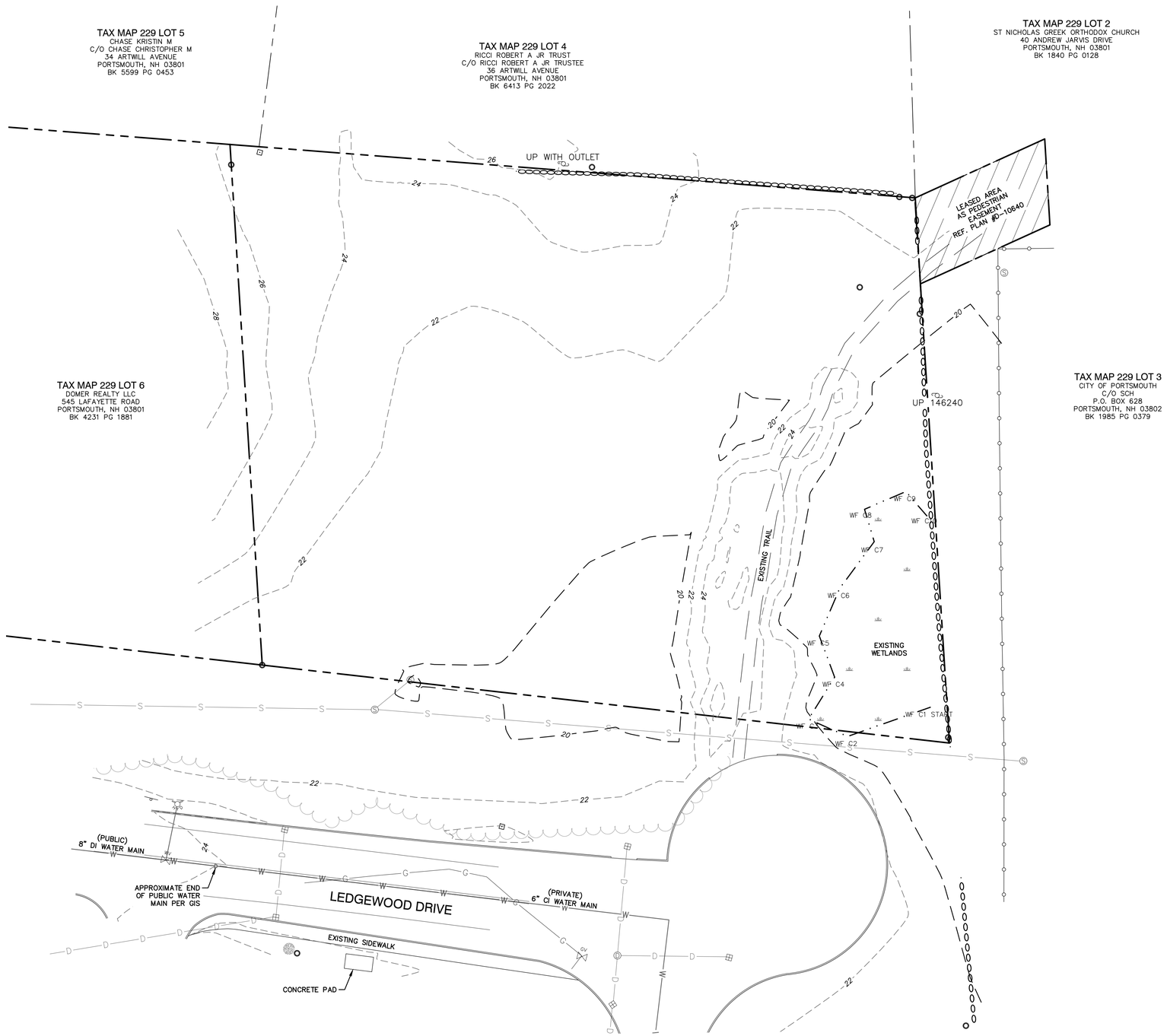
COMPLEX A
01/04/24

DRAWN BY: AJK
CHECKED BY: AJK
DATE: FEBRUARY 15, 2023
SCALE: AS NOTED

DRAWING NO.

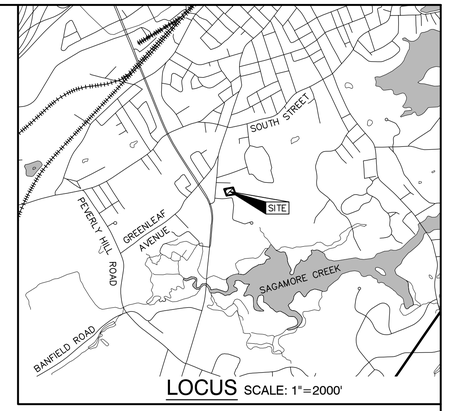
A-2.1

DO NOT SCALE PRINTS



GENERAL LEGEND

EXISTING	DESCRIPTION
	PROPERTY LINES
	FRESHWATER WETLANDS LINE
	TREE LINE
	STONEWALL
	FENCE
	EASEMENT
100	MAJOR CONTOUR
98	MINOR CONTOUR
	EDGE OF PAVEMENT
D	DRAINAGE LINE
S	SEWER LINE
G	GAS LINE
W	WATER LINE
	THRUST BLOCK
	IRON PIPE/IRON ROD
	DRILL HOLE
	IRON ROD/DRILL HOLE
	STONE/GRANITE BOUND
	SINGLE POST SIGN
	UTILITY POLE
	LIGHT POLES
D	DRAIN MANHOLE
S	SEWER MANHOLE
	HYDRANT
	WATER GATE
	WATER SHUT OFF
	REDUCER
	SINGLE GRATE CATCH BASIN
	FRESHWATER WETLANDS



LOCUS SCALE: 1"=2000'

EXISTING CONDITIONS NOTES:

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN SKETCHED IN PER UTILITY LAYOUT PROVIDED BY PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., ANY OF THEIR EMPLOYEES, NOR PORTSMOUTH DEPARTMENT OF PUBLIC WORKS TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233).
2. BASE ELEVATION WAS ESTABLISHED THROUGH MULTIPLE GPS POST PROCESS OBSERVATIONS.
3. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
4. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY BRENDEN WALDEN DURING SUMMER, 2025 IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
   a. THE CORPS OF ENGINEERS FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.
   b. THE NORTH CENTRAL & NORTHEAST REGIONAL SUPPLEMENT TO THE FEDERAL MANUAL.
   c. THE CURRENT VERSION OF THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, AS PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION AND/OR THE CURRENT VERSION OF THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, AS PUBLISHED BY THE USDA, NRCS, AS APPROPRIATE.
   d. THE CURRENT NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS, AS PUBLISHED BY THE US FISH AND WILDLIFE SERVICE.
5. WETLAND BOUNDARIES AND CONSTRUCTION LIMITS ARE TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

TOTAL LOT AREA
43,771 S.F.
1.01 ACRES

Design: KDR	Draft: KDR	Date: 7/23/25
Checked: PSL	Scale: 1" = 10'	Project No.: 25071
Drawing Name: 25071-CONCEPT 3.dwg		

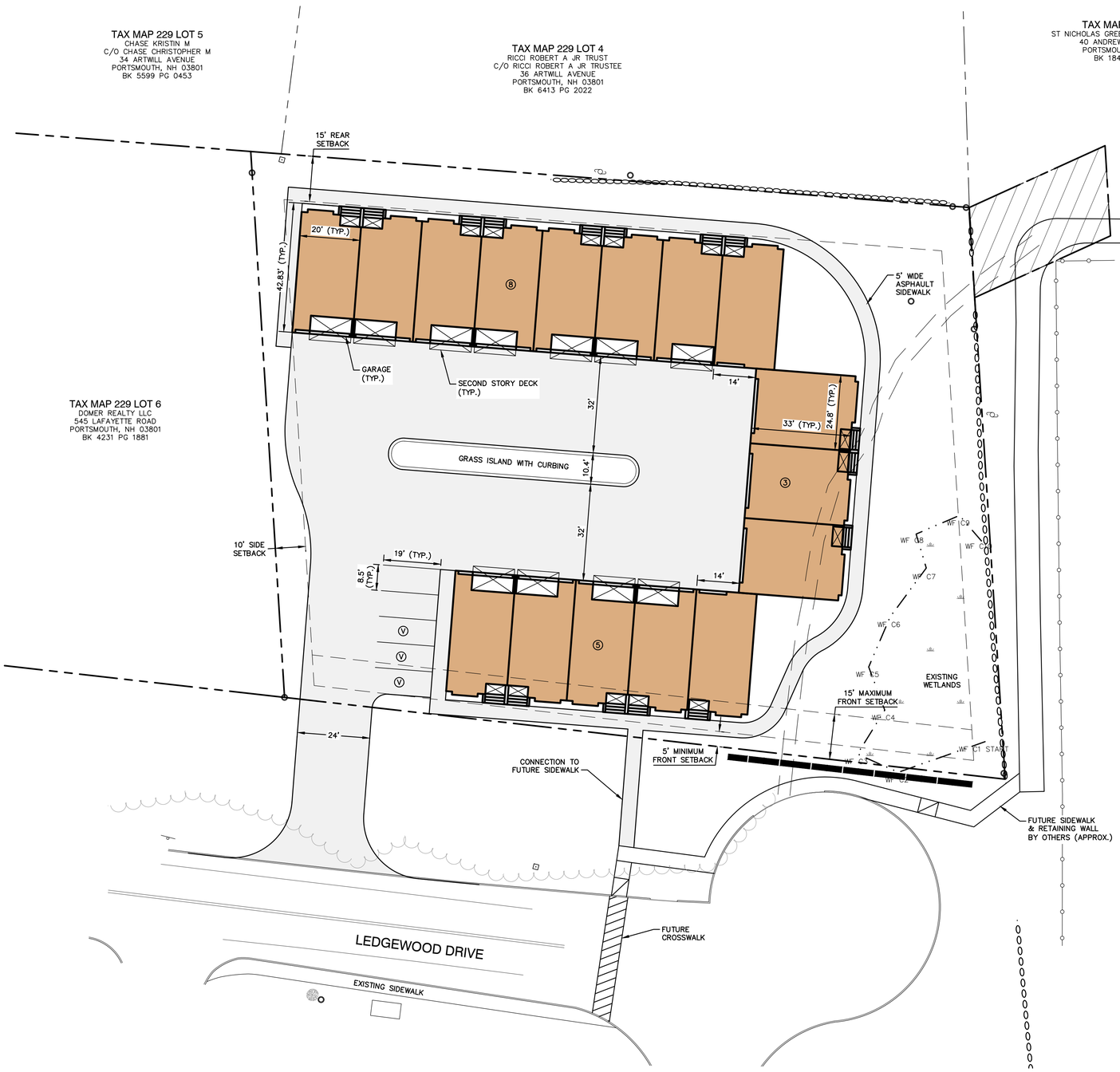
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REV.	DATE	REVISION	BY
2	7/23/25	CONCEPT 3	KDR
1	7/21/25	CONCEPT 2	KDR
0	6/30/25	ISSUED FOR REVIEW	KDR

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

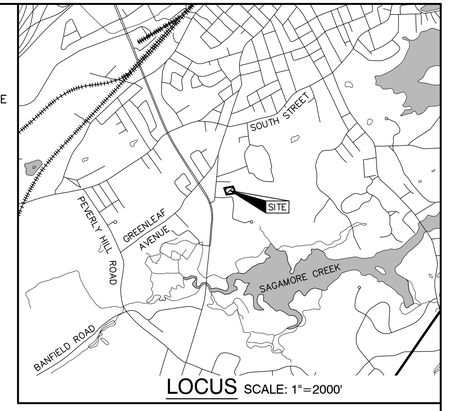
Plan Name:	EXISTING CONDITIONS PLAN
Project:	LEDGEWOOD DRIVE PORTSMOUTH, NH
Owner of Record:	ST NICHOLAS GREEK ORTHODOX CHURCH 40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
C1
SHEET 1 OF 4
JBE PROJECT NO. 25071



GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		CENTERLINE
		FRESHWATER WETLANDS LINE
		TREE LINE
		STONEWALL
		FENCE
		EASEMENT
		EDGE OF PAVEMENT
		CURBING
		IRON PIPE/IRON ROD
		DRILL HOLE
		IRON ROD/DRILL HOLE
		STONE/GRANITE BOUND
		SINGLE POST SIGN
		FRESHWATER WETLANDS
		RETAINING WALL



LOCUS SCALE: 1"=2000'

SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW A PROPOSED 16 UNIT MULTI-FAMILY DEVELOPMENT. ON PORTSMOUTH, NH TAX MAP 229 LOT 6A.
2. PARKING CALCULATIONS:
   1.3 SPACES PER UNIT FOR UNITS > 750 S.F.
   16 UNITS > 750 S.F.
   16 UNITS * 1.3 SPACES PER UNIT = 21 SPACES
   21 PARKING SPACES REQUIRED
   32 PARKING SPACES PROPOSED
3. DENSITY CALCULATIONS:
   16 DWELLING UNITS PER ACRE
   1.01 AC. * 16 UNITS = 16 UNITS
   16 UNITS PERMITTED
   16 UNITS PROPOSED
4. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
5. LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
6. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
7. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
8. PRE EASEMENT DEED BK 2410, PG 1306 THE CITY OF PORTSMOUTH ALLOWS THIS PARCEL TO CONSTRUCT & MAINTAIN A DRIVEWAY, NOT TO EXCEED 60' FROM LEDGEWOOD DRIVE TO THIS PARCEL.

ZONING SUMMARY	
ZONE	MIXED RESIDENTIAL (G1)
FRONT SETBACK	5' MIN; 15' MAX
MINIMUM SIDE SETBACK	10'
MINIMUM REAR SETBACK	15'
MINIMUM WETLAND BUFFER	100'
MINIMUM OPEN SPACE	20% OF LOT
MAXIMUM BUILDING COVERAGE	50%
MINIMUM RECREATION AREA	10% OF LOT

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

APPROVED - PORTSMOUTH, NH
PLANNING BOARD

DATE:

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

TOTAL LOT AREA
43,771 S.F.
1.01 ACRES

Design: KDR	Draft: KDR	Date: 7/23/25
Checked: PSL	Scale: 1" = 10'	Project No.: 25071
Drawing Name: 25071-CONCEPT 3.dwg		

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REV.	DATE	REVISION	BY
2	7/23/25	CONCEPT 3	KDR
1	7/21/25	CONCEPT 2	KDR
0	6/30/25	ISSUED FOR REVIEW	KDR

Designed and Produced in NH
Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	CONCEPTUAL SITE PLAN MAP 229, LOT 6A
Project:	LEDGEWOOD DRIVE PORTSMOUTH, NH
Owner of Record:	ST NICHOLAS GREEK ORTHODOX CHURCH 40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
C2
SHEET 2 OF 4
JBE PROJECT NO. 25071

TAX MAP 229 LOT 5
CHASE KRISTIN M
C/O CHASE CHRISTOPHER M
34 ARTWILL AVENUE
PORTSMOUTH, NH 03801
BK 5599 PG 0453

TAX MAP 229 LOT 4
RICCI ROBERT A JR TRUST
C/O RICCI ROBERT A JR TRUSTEE
36 ARTWILL AVENUE
PORTSMOUTH, NH 03801
BK 6413 PG 2022

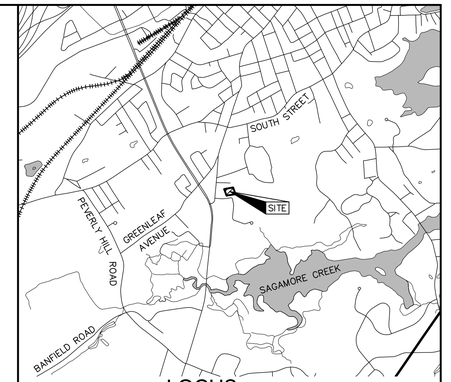
TAX MAP 229 LOT 2
ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE
PORTSMOUTH, NH 03801
BK 1840 PG 0128

TAX MAP 229 LOT 6
DOMER REALTY LLC
545 LAFAYETTE ROAD
PORTSMOUTH, NH 03801
BK 4231 PG 1881

TAX MAP 229 LOT 3
CITY OF PORTSMOUTH
C/O SCH
P.O. BOX 628
PORTSMOUTH, NH 03802
BK 1985 PG 0379







LOCUS SCALE: 1"=2000'

ZONING SUMMARY	
ZONE	MIXED RESIDENTIAL (G1)
FRONT SETBACK	5' MIN; 15' MAX
MINIMUM SIDE SETBACK	10'
MINIMUM REAR SETBACK	15'
MINIMUM WETLAND BUFFER	100'
MINIMUM OPEN SPACE	20% OF LOT
MAXIMUM BUILDING COVERAGE	50%
MINIMUM RECREATION AREA	10% OF LOT

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

TOTAL LOT AREA
43,771 S.F.
1.01 ACRES

Design: KDR	Draft: KDR	Date: 7/23/25
Checked: PSL	Scale: 1" = 10'	Project No.: 25071
Drawing Name: 25071-CONCEPT 3.dwg		

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2	7/23/25	CONCEPT 3	KDR
1	7/21/25	CONCEPT 2	KDR
0	6/30/25	ISSUED FOR REVIEW	KDR

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: CONCEPTUAL SITE PLAN WITH TOPOGRAPHY
MAP 229, LOT 6A

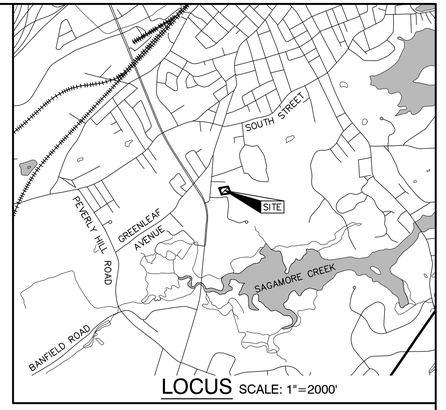
Project: LEDGEWOOD DRIVE
PORTSMOUTH, NH

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

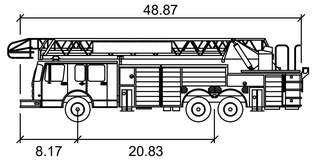
DRAWING No.
C2
SHEET 3 OF 4
JBE PROJECT NO. 25071







LOCUS SCALE: 1"=2000'



PORTSMOUTH FIRE TRUCK

	feet
Width	: 8.50
Track	: 6.91
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

TOTAL LOT AREA
43,771 S.F.
1.01 ACRES

Design: KDR	Draft: KDR	Date: 7/23/25
Checked: PSL	Scale: 1" = 10'	Project No.: 25071
Drawing Name: 25071-CONCEPT 3.dwg		

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REV.	DATE	REVISION	BY
2	7/23/25	CONCEPT 3	KDR
1	7/21/25	CONCEPT 2	KDR
0	6/30/25	ISSUED FOR REVIEW	KDR

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	TRUCK TURNING PLAN
Project:	LEDGEWOOD DRIVE PORTSMOUTH, NH
Owner of Record:	ST NICHOLAS GREEK ORTHODOX CHURCH 40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
T1
SHEET 4 OF 4
JBE PROJECT NO. 25071

HALEY WARD

7 August 2025

Rick Chellman, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for Conceptual Site Plan Review at 134 Pleasant Street, Proposed Revision to Banking, Retail, and Co-Living Development

Dear Mr. Chellman and Planning Board Members:

On behalf of Double MC, LLC, we are pleased to submit the attached for **Concept Site Plan Review** for the above-mentioned project and request that we be placed on the agenda for your **August 21, 2025,** Planning Board Meeting. The property is shown on the City of Portsmouth Assessors Map 116 Lots 30.

The project is located at 134 Pleasant Street, adjacent to a Right-of-Way which is a part of the city Parrott Avenue Parking lot. The project is within the City of Portsmouth Character District 4 (CD4) and Historic District Commission (HDC) Zoning Districts. The site is currently developed with an existing building and a surface parking lot. The current use is a banking facility with drive-up, and offices.

Project Overview

The project consists of the adaptive reuse of the existing structure, with horizontal and vertical building expansions, and below grade (basement) parking. New exterior treatments and entrance locations are proposed, along with re-imaged pedestrian friendly sidewalks and landscaping improvements. The proposal is to increase the banking footprint (keeping the drive through – although in a revised location), adding retail space, and adding Coliving. The Coliving will be designed in accordance with the recently adopted 10.815 Coliving Section of the Portsmouth Ordinance, subject to potential modifications as the design evolves.

Site Zoning

The project is within the City of Portsmouth Character District 4 (CD4) Zone. Proposed residential use at the site is designed to be Coliving, per the recently adopted Portsmouth Zoning Ordinance (PZO). The revision to Coliving reduces the parking required under the PZO, as the Coliving component under Section 10.815.31.1 does not require parking, as the project is within 600 feet of municipal parking. The Planning Board may consider and grant deviations from the Coliving standards, if any are found to exist. It is the Planning Department's opinion that variances are required for the relocated drive-up.

200 Griffin Rd., Unit 14, Portsmouth, NH 03801
T: 603.430.9282 | HALEYWARD.COM

Site History

First National Stores, Inc. purchased and merged the Universalist Church's two lots in 1952: the empty lot of the burned church, and the parsonage house lot. They also purchased a vacant lot behind these two lots from the City of Portsmouth and merged it with the other two lots, creating one lot, large enough to support a modern grocery store with parking lot. First National Stores, Incorporated was formed in April 1925 as a merger of three New England grocers; the John. T. Connor Company, Ginter Company and O'Keefe's, Incorporated. The Economy Grocery Company (Connecticut) was acquired in 1929. The Nicholson-Thackray Company (Rhode Island), Davey Brothers Company (Connecticut) and Modern Grocery Company (also of Connecticut), were bought during 1929, as well. With these mergers, First National Stores operated 2,002 units. They developed a prototype architectural design in the 1950's, with large storefront windows, and a decorative trellis banding along the wide flat roof. This style was replicated across the nation and became the basis of design for the mid-century supermarket chain. First National's "private label" merchandise underwent a massive re-labeling program during 1968, with the new "Finast" branding used. In 1978, Pic-N-Pay acquired First National Stores. In 1982, they sold the Pleasant Avenue property to Portsmouth Trust Bank, preferring to focus on their existing Pic-N-Pay store on Islington Street. At this time the building underwent a major remodel, recladding the stone with brick and granite, and adding large canopies to the east and south. Portsmouth Trust sold to First NH Bank, who later sold to Citizens Bank. In 1998 it was purchased by a private landowner, and then was sold in 2023 to the current owner, Double MC, LLC.

Vehicular and Pedestrian Circulation

The proposed site pedestrian connections are to the 4 main entrances: the north alley from the Pleasant Street sidewalk, the east retail storefront from the Pleasant Street sidewalk, the main banking entrance on the south side in the parking area, and the west entrance, adjacent to the vehicular ramp to the garage basement parking level, where parking spaces are provided.

The plan shows a revision to the west end of the current city / site parking arrangement. An existing awkward turning movement is being replaced with an easier design and landscape area, which creates three additional parking spaces in the Parrott Avenue parking lot, and also contributes to a situation where cars looking to get to the Parrott Avenue parking lot from Court Street will be less likely to cut through the PHA Housing / City Fire Station properties.

Screening and Landscaping

The site landscaping consists of the preservation of significant trees on the south and east side, and the addition of landscaping on the east side, along Pleasant Street, and the west side, along a pedestrian access corridor to Court Street. The design is detailed on the Landscape Plans.

Water and Sewage Systems

The municipal water and sewer systems should not be impacted by the change in the proposed use to Coliving residential, and the building expansion.

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Stormwater Management

The site drainage patterns will remain, with some opportunities to increase stormwater treatment.

Site Lighting

Site lighting will be introduced on pedestrian corridors to provide a welcoming and safe pedestrian experience. Parking lot lighting will remain at the same levels.

Site Utilities and Solid Waste

Site utilities include natural gas, underground electric and communications services will be revised as needed to service the facility. Solid waste can be collected within the building and disposed privately.

Submission

The submission includes parking calculations, site photographs, a site history timeline, and a copy of the plan showing the adjacent right-of-way.

The following full-size plans are included in our submission:

- Cover Sheet: This shows the Development Team, Legend, Site Location, and Site Zoning.
- Site Orthophoto Plan V103: This plan shows the existing site, and the site relationship to the NHDES Shoreland Zone.
- Existing Conditions Plan V101: This plan shows the site boundary and the existing development area conditions in detail.
- Demolition Plan C101: This plan shows site demolition.
- Site Plan C102: This plan shows the proposed building expansion improvements.
- Architectural Plans - Floor Plans showing the proposed revision to Coliving.

We look forward to Planning Board review of this submission and look forward to an in-person presentation at your meeting.

Sincerely,



John R. Chagnon, PE

P:\NH\5010156-McNabb_Properties\1532-134 Pleasant St., Portsmouth-JRC\03-WIP_Files\Applications\City of Portsmouth PB Concept\Planning Board Site Plan Submission Letter 2025.08.06.doc

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134 Pleasant Street

Parking Analysis

August 6, 2025

Residential: Coliving						
Level	**SUITE No.**	**QTY Sleeping Units**	**Area (sf)**	**spaces/unit**	**TOTAL**	
Level 1	103	8	5,605	0.25	2.00	
Level 2A	201	9	4,318	0.25	2.25	
Level 2A	202	14	7,994	0.25	3.50	
Level 2B	203	12	5,888	0.25	3.00	
subtotal	**4**	**43**			10.75	
Visitor Parking - 1 space per every 5 dwelling unit (Coliving Suite)					0.00	n/a, not > 4
subtotal - Residential Coliving, automobile parking required, round up					11	
Deduction for Coliving within 600' of municipal parking					(11)	
Total, Residential Coliving, automobile parking required, round up					**0**	

Commercial: Bank & Retail						
level	**Suite No.**	**Use**	**Area (sf)**	**sf/parking space**	**TOTAL spaces**	
Level 1	101A	Office Use, Retail Bank	6,223.79	350.00	17.78	
Level 1	101B	Office Use, Financial Services	4,788.57	350.00	13.68	
Level 1	102	Retail	4,316.90	350.00	12.33	
Total, Commercial Bank & Retail ROUND UP)					**44**	

Bicycle Parking						
use	**spaces required per use**			**TOTAL**		
multifamily dwellings	1 bicycle per 5 dwelling units where > 4 dwelling units			0	n/a, not > 4 dwelling units	
bicycle parking provided	outside			10		
bicycle parking provided	inside			32		
total bike parking provided				42		
Car parking deduction = 1 car space for 6 excess bikes provided, max 5%:						
max deduction 5% allowed	2.2	parking spaces deduction			Rounded dn	**(2)**
Total Auto Parking Required (adjusted)					Rounded Up	**42**

parking proposed - outside						27
parking proposed - inside						33
Total parking proposed						**60**
EXCESS beyond Required *(Defecit)*						**18**
Existing total available onsite today						38
Proposed Net **Increase** (reduction) in						**22**









H0.2

EXISTING PHOTOS
134 PLEASANT STREET
PORTSMOUTH, NH 03801

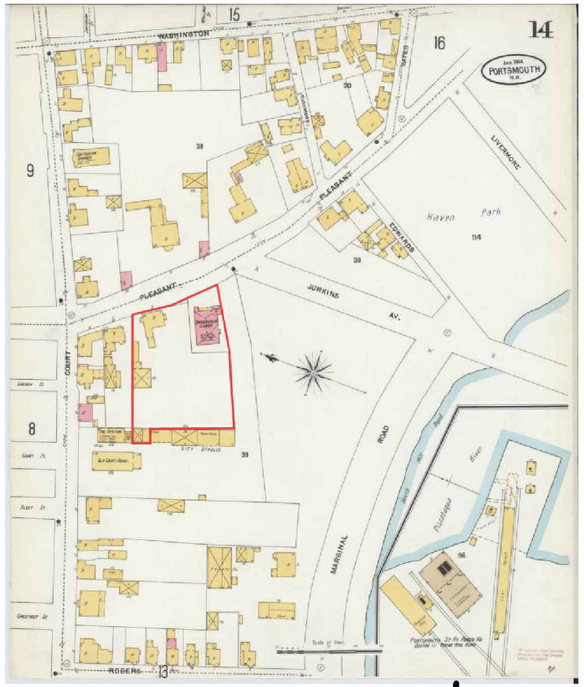
07/25/2025

ARCOVE ARCHITECTS

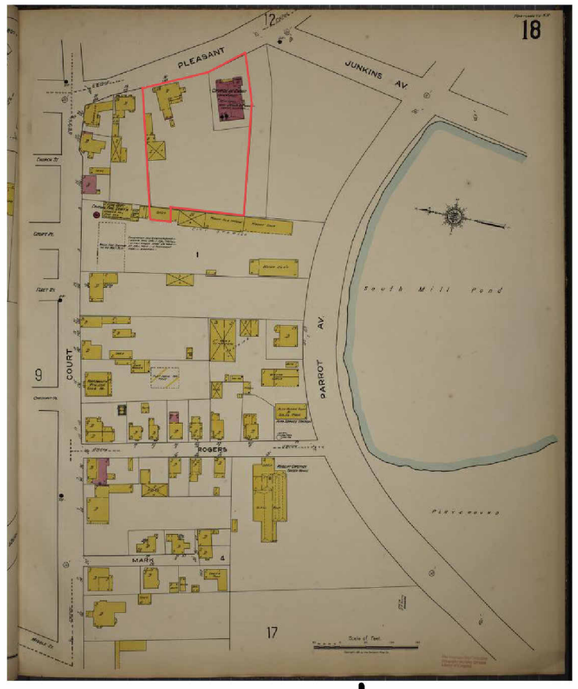
COPYRIGHT © 2025



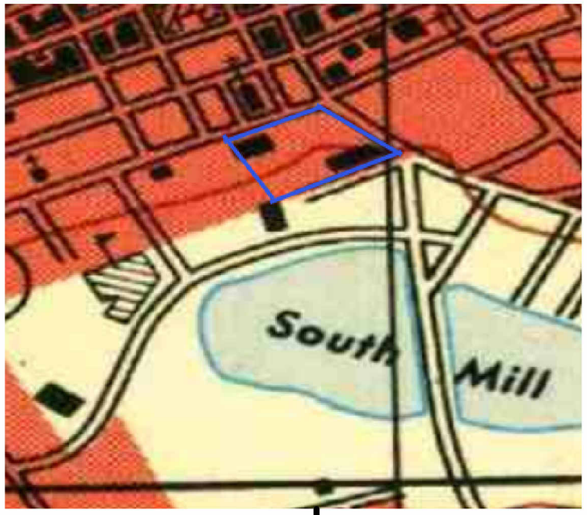
1813
UNIVERSALIST CHURCH & HOUSING



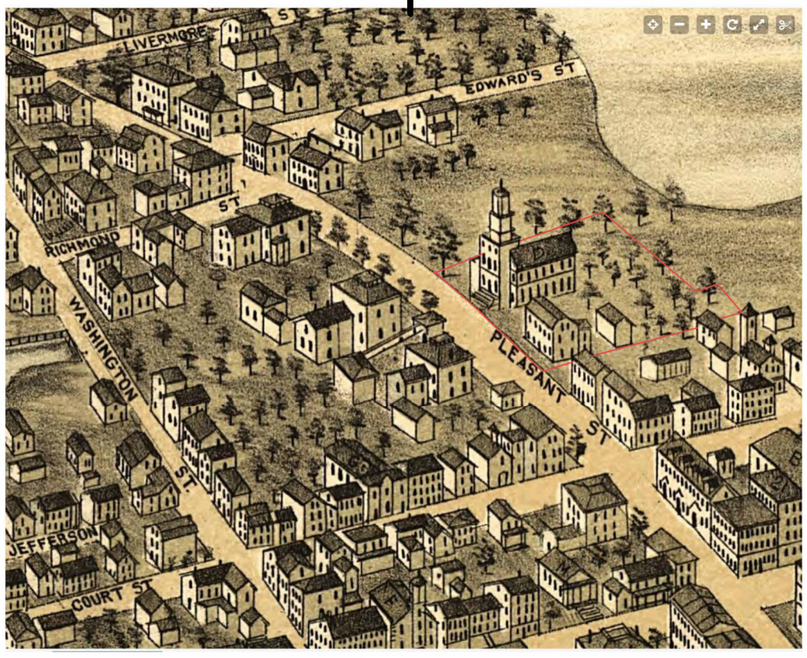
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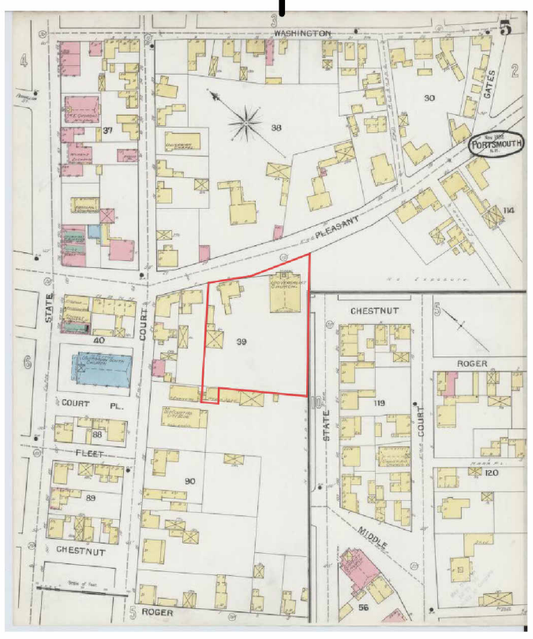
1920
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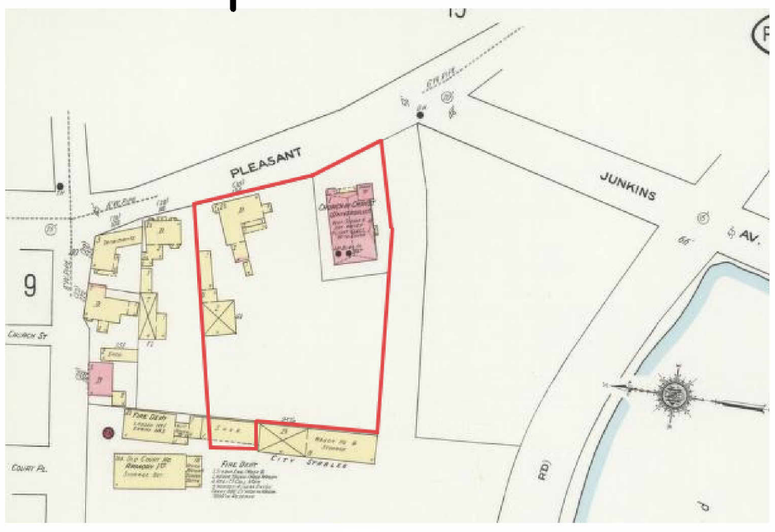
1952
GROCERY IN CONSTRUCTION TILL 1953
CHURCH DEMOLISHED AFTER



1877
UNIVERSALIST CHURCH & HOUSING



1892
UNIVERSALIST CHURCH & HOUSING



1910
UNIVERSALIST CHURCH & HOUSING

H0.4 **HISTORIC TIMELINE**
134 PLEASANT STREET
PORTSMOUTH, NH 03801

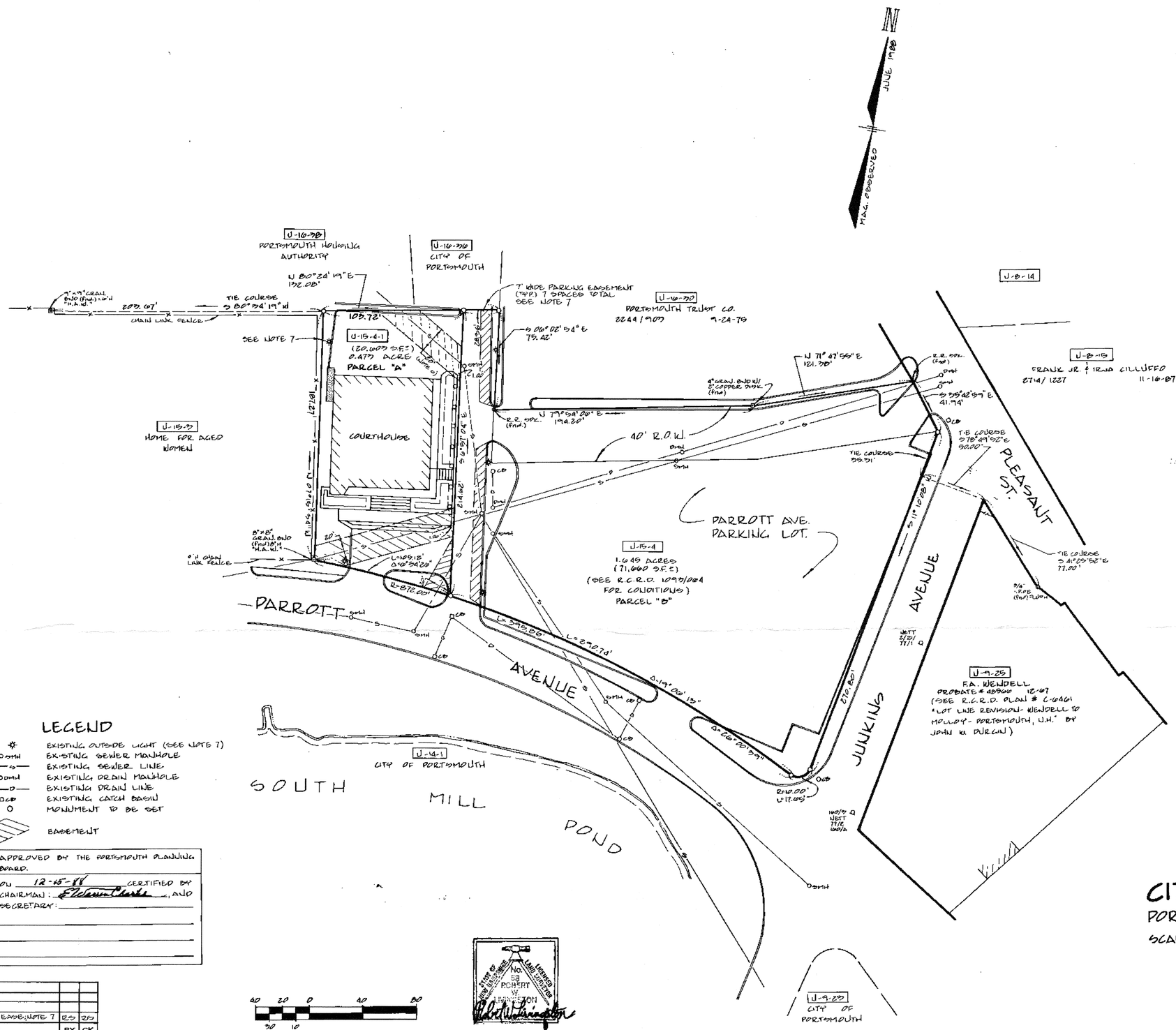
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ARCOVE ARCHITECTS

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Dec 16 3:48 PM '88

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N
JUNE 1988
MAG. OBSERVED
U-16-78
PORTSMOUTH HOUSING AUTHORITY
U-16-77A
CITY OF PORTSMOUTH
U-16-80
PORTSMOUTH TRUST CO.
2244/1909
9-28-79
U-15-4-1
(20,607 S.F.±)
0.473 ACRE
PARCEL "A"
U-15-77
HOME FOR AGED WOMEN
COURTHOUSE
PARROTT AVE. PARKING LOT.
U-15-4
1.648 ACRES
(71,660 S.F.±)
(SEE R.C.R.D. 1093/064 FOR CONDITIONS)
PARCEL "B"
PARROTT AVENUE
U-14-1
CITY OF PORTSMOUTH
SOUTH MILL POND
U-8-14
U-8-15
FRANK JR. & IRMA GILLUFFO
2714/1237
11-16-87
PLEASANT ST.
JUNKINS AVENUE
U-9-25
F.A. WENDELL
PROBATE # 48966 12-07
(SEE R.C.R.D. PLAN # C-6461 "LOT LINE REVISION- WENDELL TO MOLLOY- PORTSMOUTH, N.H." BY JOHN W. DURGIN)
U-9-23
CITY OF PORTSMOUTH
7' WIDE PARKING EASEMENT (TYP.) 7 SPACES TOTAL SEE NOTE 7
TIE COURSE S 80°24'19"W 203.67'
CHAIN LINK FENCE
N 80°24'19"E 192.08'
109.72'
S 00°02'54"E 79.42'
SEE NOTE 7
N 71°54'20"E 194.20'
R.R. SPK. (Found)
40' R.O.W.
N 71°47'56"E 121.30'
4"CONC. B.O.W. W/ B. COPPER DISK (Found)
S 35°42'59"E 41.94'
TIE COURSE S 78°49'52"E 90.00'
TIE COURSE 55.51'
TIE COURSE S 41°25'52"E 77.20'
S 19°10'28"W 210.80'
N 77°10'00"W 210.80'
R=210.00' L=117.05'
L=109.13' Δ=10°54'20"
R=576.00'
L=392.56'
L=270.74'
Δ=19°00'13"
Δ=26°01'54"
L=274.02'
S 19°45'24"E
PLUS 6.5'±
20'
6"x6" GRAN. B.O.W. (Found) 0.4' "N.A.D."
7"x7" GRAN. B.O.W. (Found) 1.0' "N.A.D."
6'± CHAIN LINK FENCE
5/8" I.P.F.S. (Found)
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PROPOSED MIXED USE DEVELOPMENT

134 PLEASANT STREET, PORTSMOUTH, NEW HAMPSHIRE

PERMIT PLANS

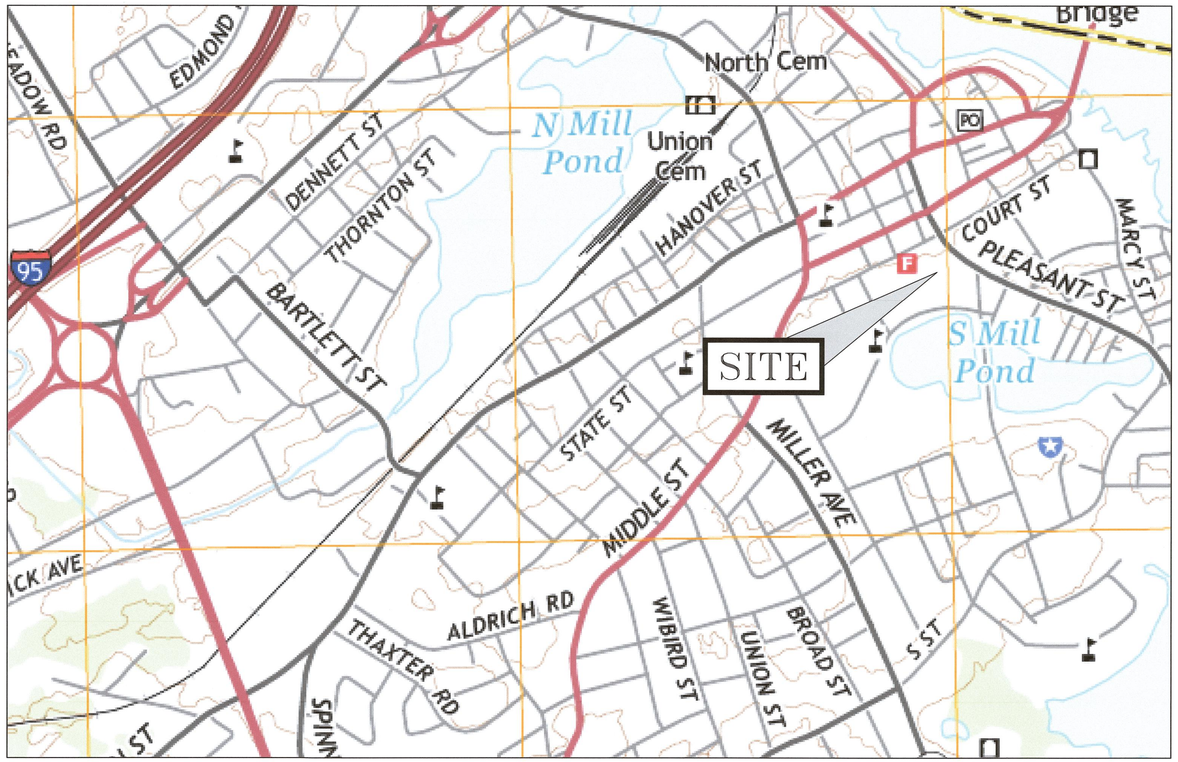
OWNER/APPLICANT
DOUBLE MC, LLC
10 PLEASANT STREET SUITE 300
PORTSMOUTH, N.H. 03801
TEL. (603) 427–0725

CIVIL ENGINEER & LAND SURVEYOR:
HALEY WARD, INC.
200 GRIFFIN ROAD, UNIT 14
PORTSMOUTH, N.H. 03801
TEL. (603) 430–9282

ARCHITECT:
ARCOVE LLC
767 ISLINGTON STREET
PORTSMOUTH, NH 03801
TEL. (603) 731–5187

LANDSCAPE ARCHITECT:
TERRA FIRMA LANDSCAPE ARCHITECTURE
163A COURT STREET
PORTSMOUTH, NH 03801
TEL. (603) 430–8388

DIG SAFE – ME – NH – RI – VT – 1-888-344-7233 – CALL TOLL FREE



SCALE: NTS

INDEX OF SHEETS

V101	EXISTING CONDITIONS PLAN
C101	DEMOLITION PLAN
C201	SITE PLAN

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436–7708
ATTN: NICHOLAS KOSKO X3327565

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
TEL. (603) 294–5144
ATTN: DAVE BEAULIEU

CABLE:
XFINITY BY COMCAST
180 GREENLEAF AVE.
PORTSMOUTH, N.H. 03801
Tel. (603) 266–2278
ATTN: MIKE COLLINS

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
TEL. (603) 427–1530
ATTN: DOUG SPARKS

COMMUNICATIONS:
CONSOLIDATED COMMUNICATIONS
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427–5525
ATTN: BENJAMIN WILLS

PERMIT LIST:
SITE PLAN: TBD
CONDITIONAL USE PERMIT CO–LIVING: TBD
HISTORIC DISTRICT: TBD
NHDES SEWER DISCHARGE: TBD

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/21	MAP 11/LOT 21
IR FND	IRON ROD FOUND
IP FND	IRON PIPE FOUND
IR SET	IRON ROD SET
DH FND	DRILL HOLE FOUND
DH SET	DRILL HOLE SET
	GRANITE BOUND w/IRON ROD FOUND

EXISTING	PROPOSED	
FM	FM	FORCE MAIN
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	PG	GAS LINE
D	D	STORM DRAIN
FD	FD	FOUNDATION DRAIN
W	W	WATER LINE
FS	FS	FIRE SERVICE LINE
UE	UGE	UNDERGROUND ELECTRIC SUPPLY
		UNDERGROUND ELECTRIC SERVICE
OHW	OHW	OVERHEAD ELECTRIC/WIRES
		RETAINING WALL
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
E	E	ELECTRIC METER
		TRANSFORMER ON CONCRETE PAD
WS C.O.	WS	WATER SHUT OFF/CURB STOP
C.O.	C.O.	PIPE CLEANOUT
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
S	SMH	SEWER MANHOLE
D	DMH	DRAIN MANHOLE
M	WMH	WATER METER MANHOLE
#5		TEST BORING
TP 1		TEST PIT
LA		LANDSCAPED AREA
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
CMP	CMP	CORRUGATED METAL PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
HYD	HYD	HYDRANT
℄	℄	CENTERLINE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
TBR	TBR	TO BE REMOVED

PROPOSED MIXED USE DEVELOPMENT
134 PLEASANT STREET
PORTSMOUTH, N.H.
PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Rd. Unit 14
Portsmouth, New Hampshire 03801
603.430.9282
WWW.HALEYWARD.COM

PLAN SET SUBMITTAL DATE: 18 JULY 2025

5010156.1532

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NORTH
NAD83(2011)
N
GRID
NHSPC

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
0	7/25/25	ISSUED FOR COMMENT	RJB	JRC

DRAWING ISSUE STATUS

SITE SURVEY

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282
WWW.HALEYWARD.COM

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

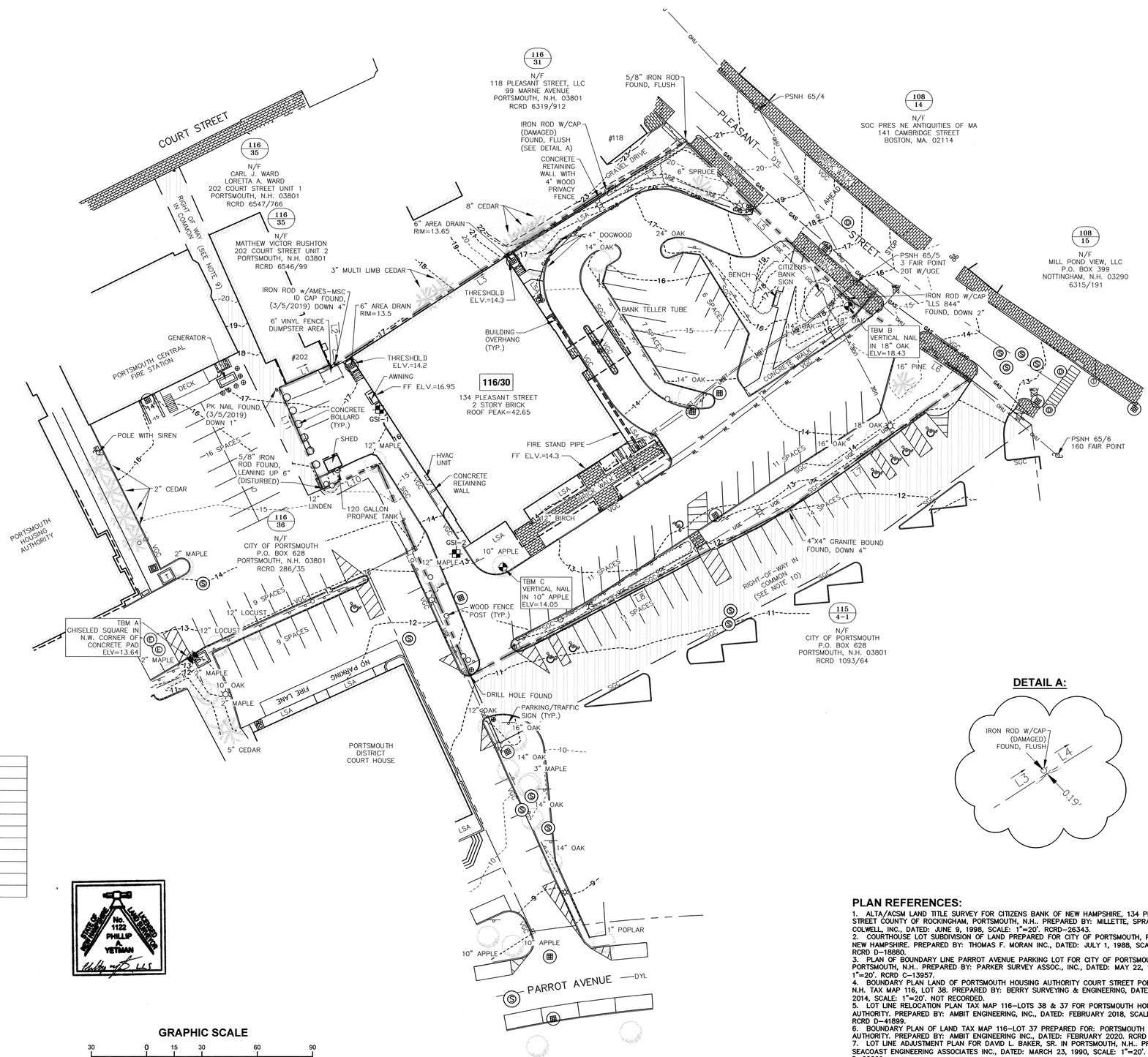
ORTHOPHOTO PLAN

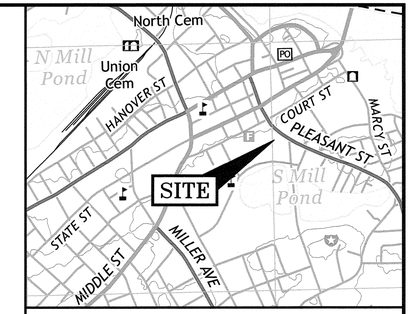
DATE: JULY 2025	SCALE: 1"=40'
DRAWN BY: RJB	DESIGNED BY: ---
CHECKED BY: PAY	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: V103	REV.: 0

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LEGEND:

DESCRIPTION	*EXISTING*
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
1234/123	DEED BOOK/PAGE
N/F	NOW OR FORMALLY
TYP.	TYPICAL
TBS	TO BE SET
LSA	LANDSCAPE AREA
INV.	INVERT
ELV.	ELEVATION
FF	FINISHED FLOOR
DYL	DOUBLE YELLOW LINE
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
MAP 21 LOT 8	(21 / 8)
BENCHMARK	
RAILROAD SPIKE	
BOUND	
IRON ROD/PIPE FOUND	
SET 5/8" REBAR WITH SURVEYOR'S CAP	
SEWER MANHOLE	(S)
DRAIN MANHOLE	(D)
COMMUNICATIONS MANHOLE	(T)
ELECTRIC MANHOLE	(E)
UTILITY POLE	
CATCH BASIN	
HYDRANT	
GATE VALVE	GGV WGV SGV
GAS/WATER SHUTOFF	
BOLLARD	
BORING	GSI-1
TREES	
GAS/ELECTRIC METER	(E) (G)
LIGHT POLE	
MAIL BOX	
AIR CONDITIONER	(A)
SIGN	
SPOT GRADE	12x1
ELECTRIC PEDESTAL	(E)
ELECTRIC HANDHOLD	
PROPERTY LINE	
APPROXIMATE EXTERIOR PROPERTY LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
STONE WALL	
FENCE	
SHRUBLINE	
MINOR FOOT CONTOUR	98
MAJOR FOOT CONTOUR	100
GAS LINE	GAS GAS
WATER LINE	WL WL
STORM DRAIN LINE	SD SD
SANITARY SEWER LINE	SS SS
OVERHEAD UTILITY LINE	OHU OHU
UNDERGROUND COMMUNICATIONS LINE	UGT UGT





LOCATION MAP SCALE: 1" = 1,000'

NORTH NAD83(2011)

GRID NHSPC

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S TAX MAP 116 AS LOT 30.

2) OWNERS OF RECORD:
DOUBLE MC, LLC
10 PLEASANT STREET SUITE 400
PORTSMOUTH, N.H. 03801
RCRD 6505/2411

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F. EFFECTIVE JANUARY 29, 2021.

4) EXISTING LOT AREA:
53,084 S.F.
1.22 ACRES

5) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 (CD4) DISTRICT.

6) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF AN EXISTING CONDITIONS SURVEY OF ASSESSOR'S MAP 116, LOT 30 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

9) PARCEL IS BENEFITED BY A RIGHT OF WAY TO COURT STREET AS DESCRIBED IN RCRD 1257/466.

10) PARCEL IS BENEFITED BY A RIGHT OF WAY AS DESCRIBED IN RCRD 2975/349 AND SHOWN ON RCRD D-18880 AND RCRD D-26343.

11) ABUTTER INFORMATION TAKEN FROM THE CITY OF PORTSMOUTH ASSESSORS GIS WEBSITE.

LINE TABLE:

LINE	BEARING	DISTANCE
L1	N66°28'05"E	32.60'
L2	S04°27'10"E	0.98'
L3	N57°05'10"E	175.24'
L4	N58°07'10"E	50.44'
L5	S45°49'50"E	122.39'
L6	S56°42'50"E	79.29'
L7	S54°09'10"W	121.33'
L8	S62°18'10"W	194.24'
L9	N23°38'50"W	124.67'
L10	S66°22'00"W	32.60'
L11	N23°20'25"W	60.00'

DETAIL A:

PLAN REFERENCES:

1. ALTA/ACSM LAND TITLE SURVEY FOR CITIZENS BANK OF NEW HAMPSHIRE, 134 PLEASANT STREET COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H.. PREPARED BY: MILLETTE, SPRAGUE & COLWELL, INC., DATED: JUNE 9, 1998, SCALE: 1"=20'. RCRD-26343.
2. COURTHOUSE LOT SUBDIVISION OF LAND PREPARED FOR CITY OF PORTSMOUTH, PORTSMOUTH NEW HAMPSHIRE. PREPARED BY: THOMAS F. MORAN INC., DATED: JULY 1, 1988, SCALE: 1"=40'. RCRD D-18880.
3. PLAN OF BOUNDARY LINE PARROT AVENUE PARKING LOT FOR CITY OF PORTSMOUTH IN PORTSMOUTH, N.H.. PREPARED BY: PARKER SURVEY ASSOC., INC., DATED: MAY 22, 1984, SCALE: 1"=20'. RCRD C-13957.
4. BOUNDARY PLAN LAND OF PORTSMOUTH HOUSING AUTHORITY COURT STREET PORTSMOUTH, N.H. TAX MAP 116, LOT 38. PREPARED BY: BERRY SURVEYING & ENGINEERING, DATED: MAY 30, 2014, SCALE: 1"=20'. NOT RECORDED.
5. LOT LINE RELOCATION PLAN TAX MAP 116-LOTS 38 & 37 FOR PORTSMOUTH HOUSING AUTHORITY. PREPARED BY: AMBIT ENGINEERING, INC., DATED: FEBRUARY 2018, SCALE: 1"=30'. RCRD D-41899.
6. BOUNDARY PLAN OF LAND TAX MAP 116-LOT 37 PREPARED FOR: PORTSMOUTH HOUSING AUTHORITY. PREPARED BY: AMBIT ENGINEERING INC., DATED: FEBRUARY 2020. RCRD D-42016.
7. LOT LINE ADJUSTMENT PLAN FOR DAVID L. BAKER, SR. IN PORTSMOUTH, N.H.. PREPARED BY: SEACOAST ENGINEERING ASSOCIATES INC., DATED: MARCH 23, 1990, SCALE: 1"=20'. RCRD D-20209.
8. PLAN OF LOTS NOS. 202, 206 & 222 COURT STREET PORTSMOUTH, N.H.. PREPARED BY: JOHN W. DURGIN CIVIL ENGINEERS, DATED: JANUARY 1974, SCALE: 1"=10'. RCRD C-4259.
9. CONDOMINIUM SITE PLAN FIREHOUSE TOWN HOMES CONDOMINIUM. PREPARED BY: AMBIT ENGINEERING, INC..DATED: JANUARY 2020, SCALE: 1"=10'. RCRD D-43127.

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

PHILIP A. YETMAN, LLS 1122 — DATE 7/18/2025

GRAPHIC SCALE

30 0 15 30 60 90

(IN FEET)
1 inch = 30 ft.

REV.	DATE	DESCRIPTION	BY	CHK
0	07-18-2025	ISSUED FOR COMMENT	RJB	PAY

DRAWING ISSUE STATUS

SITE SURVEY

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282
WWW.HALEYWARD.COM

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

EXISTING CONDITIONS PLAN

DATE	MARCH 2025
SCALE	1"=30'
DRAWN BY	RJB
DESIGNED BY	---
CHECKED BY	PAY
PROJECT No.	5010156.1532
FIELD BOOK / PAGE	FB 276 PG 60
DRAWING No.	V101
REV.	0

P:\PROJECTS\5010156.1532\CAD\LIB_SURVEY\DWG\PROPERTIES\5010156.1532-V-EC DWG, 2025-07-17, 11:44 AM

DEMOLITION NOTES:

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT TRENCH IN AREAS WHERE PAVEMENT IS TO BE REMOVED.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

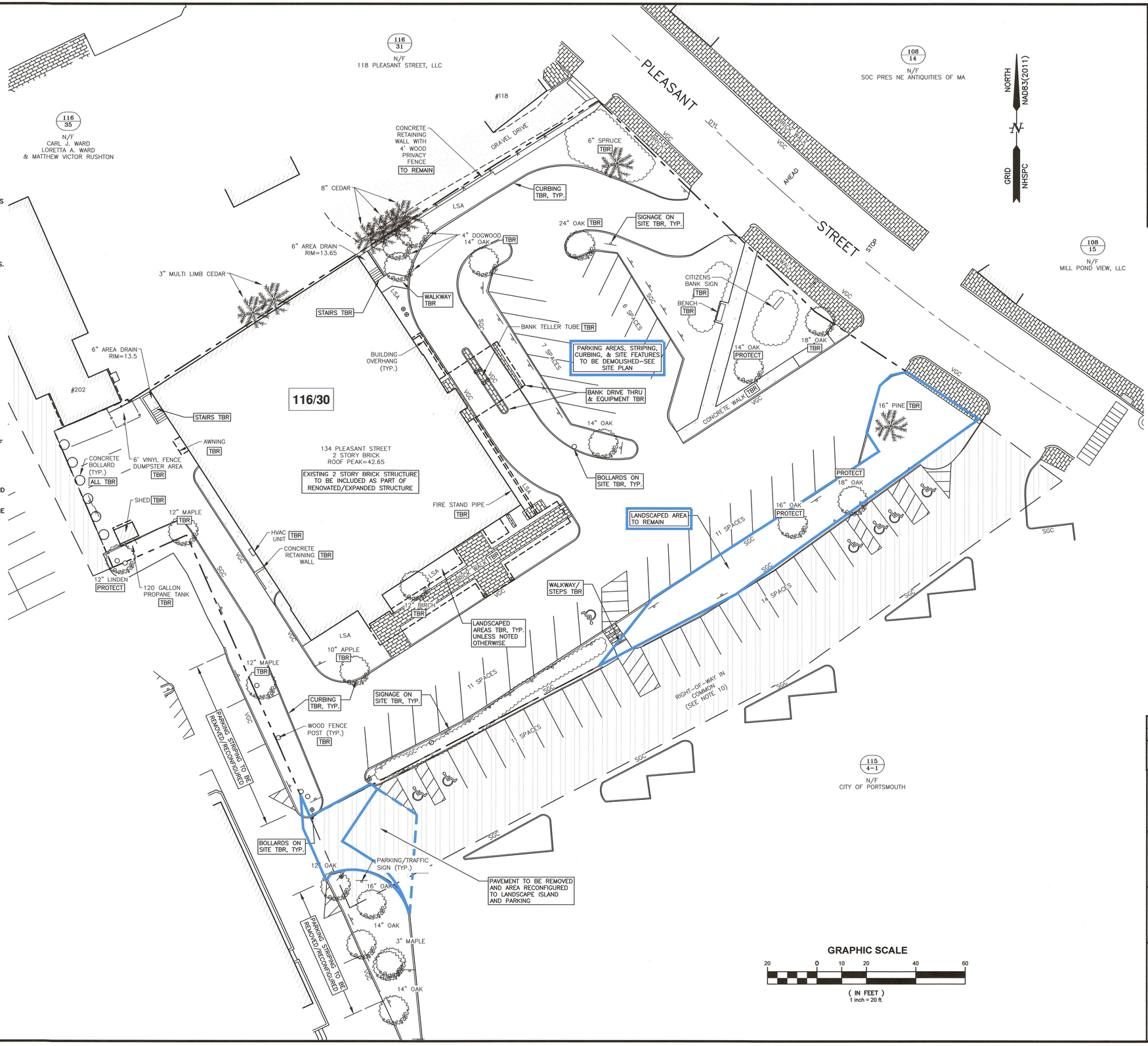
G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

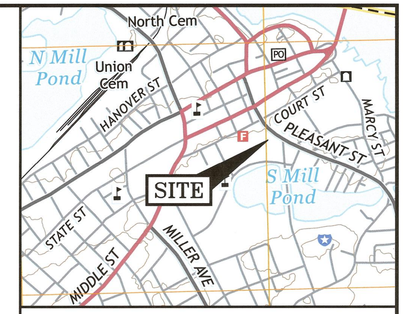
H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE-USE.

I) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

J) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

K) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS





LOCATION MAP SCALE: 1" = 1,000'

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) COORDINATE ACCESS IN STREET/ROW AREAS ADJACENT TO DEMOLITION TO INSURE SAFE PASSAGE. UTILIZE DETOURS IF NEEDED.

5) EXISTING UTILITIES TO BE ABANDONED SHALL BE REMOVED TO THE UTILITY MAIN AND CAPPED PER THE UTILITY COMPANY REQUIREMENT.

GRAPHIC SCALE
20 0 10 20 40 60
(IN FEET)
1 inch = 20 ft.

REV.	DATE	DESCRIPTION	BY	CHK
0	07-18-2025	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282
WWW.HALEYWARD.COM

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

DEMOLITION PLAN

STATE OF NEW HAMPSHIRE - JOHN R. CHAGNON No. 7651 LICENSED PROFESSIONAL ENGINEER -

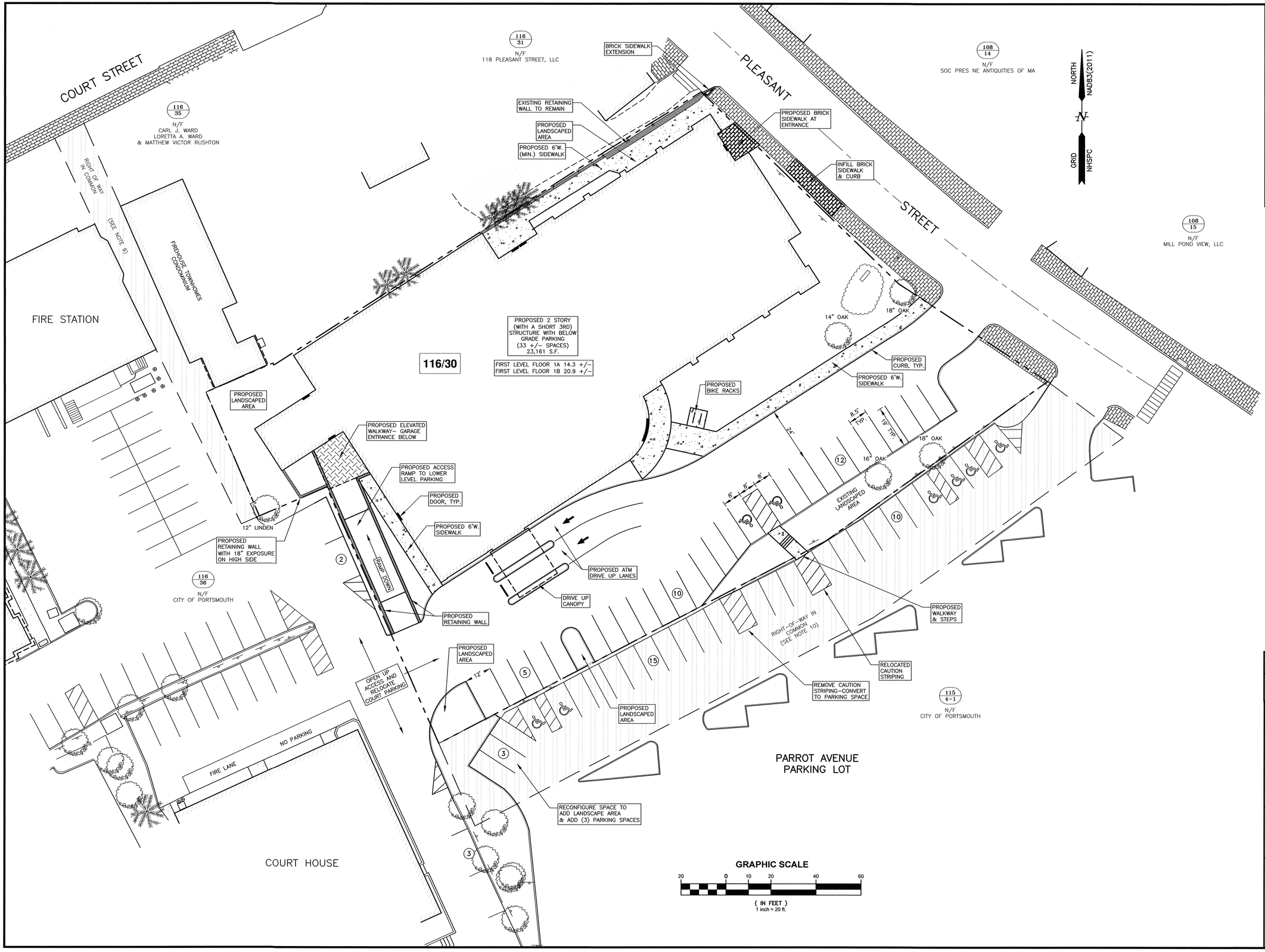
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JULY 2025	1"=20'

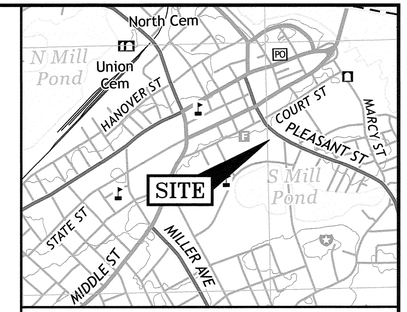
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SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C101** REV. **0**

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LOCATION MAP SCALE: 1" = 1,000'

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S TAX MAP 116 AS LOT 30.

2) OWNERS OF RECORD:
DOUBLE MC, LLC
10 PLEASANT STREET SUITE 400
PORTSMOUTH, N.H. 03801
RCRD 6505/2411

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F. EFFECTIVE JANUARY 29, 2021.

4) EXISTING LOT AREA:
53,084 S.F.
1.22 ACRES

5) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 (CD4) DISTRICT.

6) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

7) THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED MIXED USE DEVELOPMENT ON ASSESSOR'S MAP 116, LOT 30 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

9) PARCEL IS BENEFITED BY A RIGHT OF WAY TO COURT STREET AS DESCRIBED IN RCRD 1257/466.

10) PARCEL IS BENEFITED BY A RIGHT OF WAY AS DESCRIBED IN RCRD 2975/349 AND SHOWN ON RCRD D-18880 AND RCRD D-26343.

11) ABUTTER INFORMATION TAKEN FROM THE CITY OF PORTSMOUTH ASSESSORS GIS WEBSITE.

12) PROPOSED USES:
-KENNEBUNK SAVINGS BANK WITH RELOCATED DRIVE THRU.
-CO-LIVING PODS WITH SLEEPING UNITS ADJACENT TO PUBLIC PARKING FACILITY.
-RETAIL.

REV.	DATE	DESCRIPTION	BY	CHK.
0	07-18-2025	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

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Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

SITE PLAN

STATE OF NEW HAMPSHIRE - JOHN R. CHAGNON No. 9651 LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
JULY 2025	1"=20'

DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C201** REV. **0**

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Plant List - Trees and Shrubs

ID	Qty	Botanical Name	Common Name	Scheduled Size
FG	12	Fothergilla gardenii	Dwarf Fothergilla	5 Gal.
GAG	3	Ginkgo biloba 'Autumn Gold'	Autumn Gold Maidenhair Tree	2 1/2" Cal.
GTH	4	Gleditsia triacanthos inermis 'Halka'	Halka Honeylocust	2" Cal.
HAL	3	Halesia carolina 'Jersey Belle'	Jersey Belle Carolina Silverbelle	1 1/2" Cal.
IGS	22	Ilex glabra 'Shamrock'	Shamrock Inkberry Holly	5 Gal.
JBD	31	Juniperus communis depressa 'Blueberry Delight'	Blueberry Delight Juniper	2 Gal.
JPN	24	Juniperus procumbens 'Nana'	Dwarf Japanese Garden Juniper	3-4'
JVI	3	Juniperus virginiana 'Idyllwild'	Idyllwild Eastern Red Cedar	8-10'
MD	43	Microbiota decussata	Siberian Cypress	2 QT
PAN	12	Picea abies 'Nidiformis'	Bird's Nest Spruce	3-4'
RCW	24	Rhododendron catawba 'White'	White CatawbaRhododendron	3-4'
RGL	353	Rhus aromatica 'Grow Low'	Grow Low Sumac	18"+ Ht.
RYP	30	Rhododendron yaku 'Princess'	Yaku Princess Rhody	2 GAL
TCG	7	Tilia cordata 'Greenspire'	Greenspire Littleleaf Linden	2 1/2" Cal.
VPW	5	Viburnum plicatum f. tomentosum 'Watanabei'	Watanabei Viburnum	5 Gal.

Plant List - Perennials

ID	Qty	Botanical Name	Common Name	Scheduled Size
AMT	40	Amsonia tabernaemontana	Blue Star Flower	1 Gal.
CARY	18	Caryopteris x clandonensis 'First Choice'	First Choice Blue Beard	1 Gal.
GMB	61	Geranium macrorrhizum 'Bevan's Variety'	Bevan's Variety Geranium	1 Gal.
HMT	80	Hemerocallis 'Mary Todd'	Daylily	1 Gal.
MAT	12	Matteuccia struthiopteris	Ostrich Fern	1 Gal.
PX	72	Polystichum acrostichoides	Christmas Fern	1 Gal.
SH	78	Sporobolus heterolepis	Prairie Dropseed	1 Gal.
SSB	113	Schizachyrium scoparium 'The Blues'	The Blues Little Bluestem	1 Gal.

ADDITIONAL PERENNIALS + GROUNDCOVERS TBD



PLEASE NOTE: SHEET SIZE IS SCALED FOR ASME D . DO NOT REDUCE OR ENLARGE.

134 PLEASANT

134 PLEASANT STREET
PORTSMOUTH, NH

Project Title

Landscape Architect

Scale
1:120

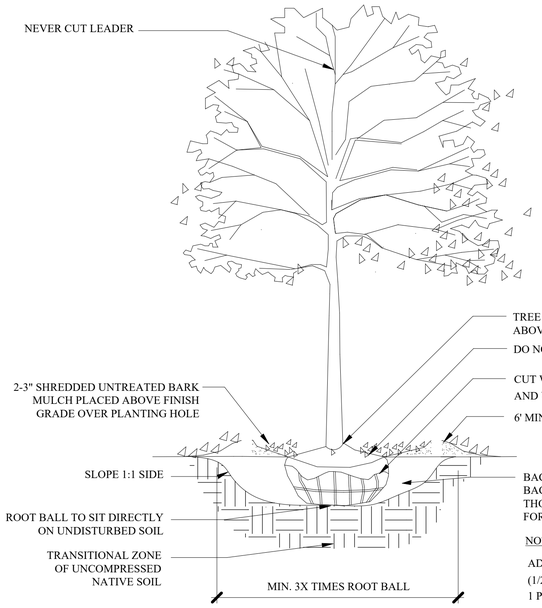
REV.	DATE	DESCRIPTION

NO.	DATE	ISSUE NOTE

Project Manager | Drawn By
Date: 7/31/2025 | Reviewed By
Project ID: 134 PLEASANT

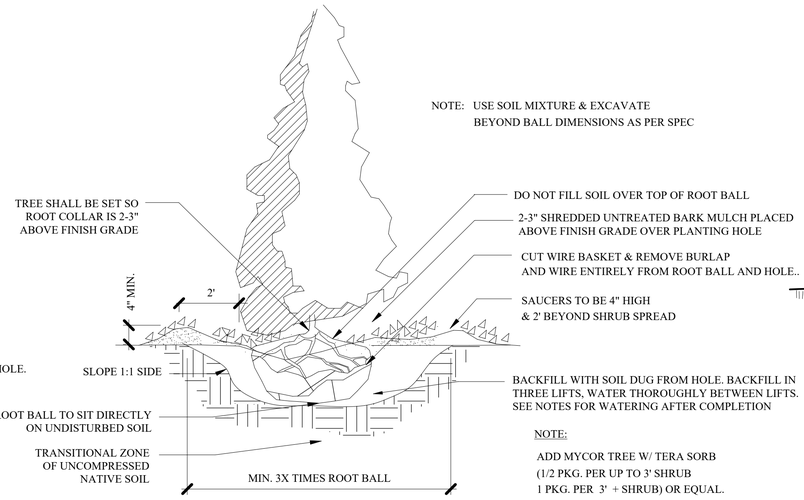
Sheet Title
LANDSCAPE PLAN

Sheet No.
L-1



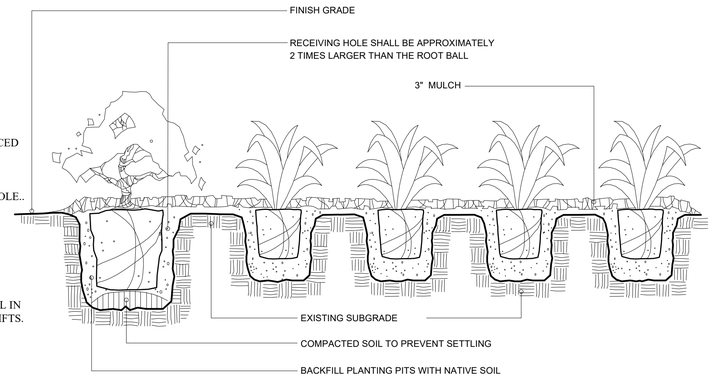
1 / L-2

TREE PLANTING - 2"+ CAL.
SCALE: NTS



2 / L-2

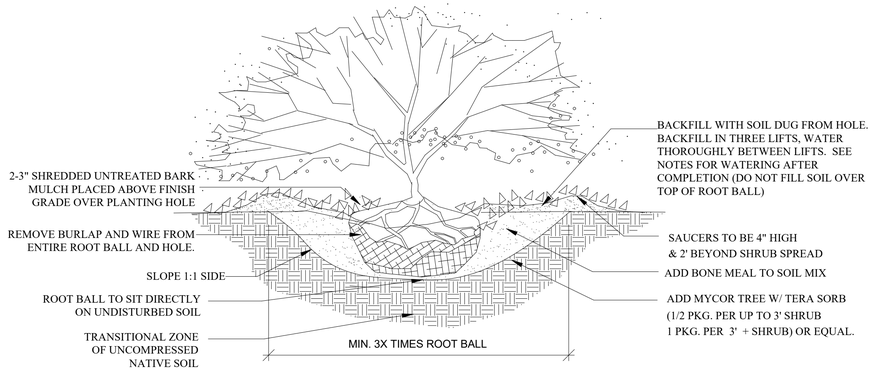
PYRAMIDAL EVERGREEN TREE PLANTING
SCALE: NTS



NOTE: SHRUBS SHALL BE PLANTED A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.

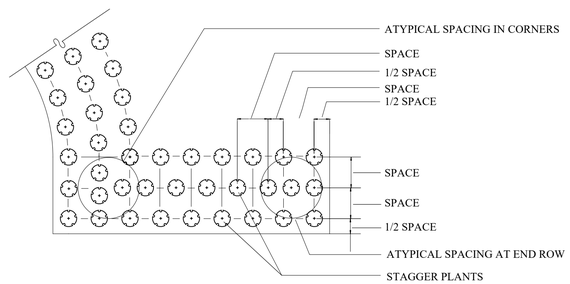
3 / L-2

SHRUB/GROUND COVER PLANTING DETAIL
SCALE: NTS



4 / L-2

B&B SHRUB PLANTING
SCALE: NTS



NOTES:

1. PLACE PLANTS IN BED AS SHOWN, SPACING AS SPECIFIED IN PLANT SCHEDULE.
2. GROUNDCOVER SHALL BE TRIANGULAR SPACED IN ROWS PARALLEL TO STRAIGHT EDGES AND SHALL BE EVENLY SPACED IN ROWS PARALLEL TO CURVE EDGES.

5 / L-2

GROUND COVER SPACING DETAIL
SCALE: NTS

CITY OF PORTSMOUTH PLANTING REQUIREMENTS

1. All planting holes shall be dug by hand- NO MACHINES. The only exceptions are new construction where new planting pits, planting beds with granite curbing, and planting sites with Silva Cells are being created. If a machine is used to dig in any of these situations and planting depth needs to be raised the material in the bottom of the planting hole MUST be firmed with machine to prevent sinking of the root ball.
2. ALL Wire and Burlap shall be removed from the root ball AND planting hole.
3. The root ball of the tree shall be worked so that the root collar of the tree is visible and no girdling roots are present.
4. The root collar of the tree shall be 2"-3" above grade of planting hole for finished depth.
5. All plantings shall be backfilled with soil from the site and amended no more than 20% with Organic Compost. The only exceptions are new construction where engineered soil is being used in conjunction with Silva Cells and where new planting beds are being created.
6. All plantings shall be backfilled in three lifts and ALL lifts shall be watered so the planting will be set and free of air pockets- NO EXCEPTIONS.
7. An earth berm shall be placed around the perimeter of the planting hole except where curbed planting beds or pits are being used.
8. 2"-3" of mulch shall be placed over the planting area.
9. At the time the planting is complete the planting shall receive additional water to ensure complete hydration of the roots, backfill material and mulch layer.
10. Stakes and guys shall be used where appropriate and/or necessary. Guy material shall be nondamaging to the tree.
11. All planting stock shall be specimen quality, free of defects, and disease or injury. The City of Portsmouth, NH reserves the right to refuse/reject any plant material or planting action that fails to meet the standards set forth in the ANSI A300 Part 6 Standard Practices for Planting and Transplanting and/or The City of Portsmouth, NH Planting Requirements.

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE ARCHITECT. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT DELIVERED TO THE SITE FOR AESTHETIC REASONS BEFORE PLANTING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE QUALITY FOR ALL THE PLANTS.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OR OTHERWISE FORFEIT HIS CLAIM. LANDSCAPE CONTRACTOR SHALL PRUNE PLANTINGS OF DEAD LIMBS OR TWIGS DURING THE FIRST YEAR OF GROWTH.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. LANDSCAPE CONTRACTOR SHOULD REPLACE DEAD PLANTINGS IMMEDIATELY UPON OWNER DIRECTION WITHIN THE WARRANTY PERIOD AND AGAIN AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAVE DIED, THAT HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT ARE, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS CALLED FOR.
15. ALL TREES AND SHRUBS TO BE PLANTED IN MULCH BEDS WITH DEFINED AND CUT EDGES TO SEPARATE TURF GRASS AREAS.
16. FOR ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR PINE BARK MULCH AS DEPICTED ON PLANS.
17. LANDSCAPE CONTRACTOR SHALL FEED AND PRUNE EX. TREES, ON OR JUST OFF SITE, THAT HAVE EXPERIENCED ROOT BASE INTRUSION OR DAMAGE DURING CONSTRUCTION IMMEDIATELY AND FOR THE DURATION OF THE WARRANTY PERIOD AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE EDGE OF THE EX. TREE CANOPY THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. ALL MULCH AREAS SHALL RECEIVE A 3" LAYER OF SHREDDED PINE BARK MULCH.
20. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.

NOTE: 6 INCHES OF TOPSOIL WITH 25% COMPOST TO BE ADDED TO ALL PLANTING AREAS

PLEASE NOTE: SHEET SIZE IS SCALED FOR ASME D . DO NOT REDUCE OR ENLARGE.

terra firma
landscape architecture
165.a Court Street Portsmouth, NH 03801
603.551.9109 | terrenco@terrafirmalandarch.com



Project Title
134 PLEASANT
134 PLEASANT STREET
PORTSMOUTH, NH

Landscape Architect

Scale
SEE DETAILS

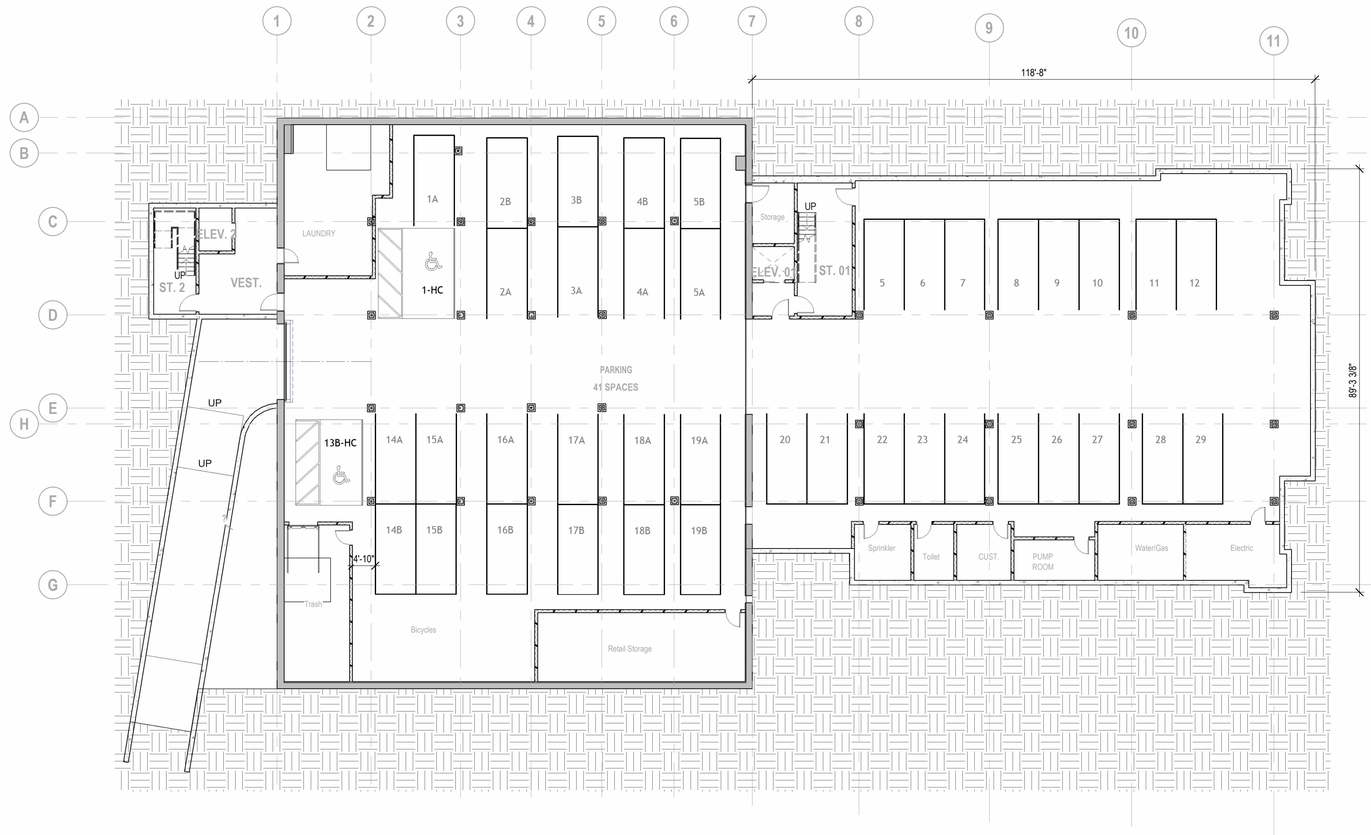
REV.	DATE	DESCRIPTION

NO.	DATE	ISSUE NOTE

Project Manager | Drawn By
Date 7/29/2025 | Reviewed By
Project ID 134 PLEASANT

Sheet Title
LANDSCAPE PLAN

Sheet No.
L-2



1 **PB BASEMENT**
1/16" = 1'-0"

ARCOVE
ARCHITECTS

3 CONGRESS ST., SUITE1
PORTSMOUTH NH 03801
603.988.0042
www.ARCove.com

134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

OWNER

Double Mc, LLC
134 Pleasant Street
Portsmouth, New Hampshire 03801

CIVIL ENGINEERING

Ambit Engineering, Inc / Haley Ward
200 Griffin Road, Unit
Portsmouth, NH 03801
(603) 430-9282

LANDSCAPE ARCHITECT

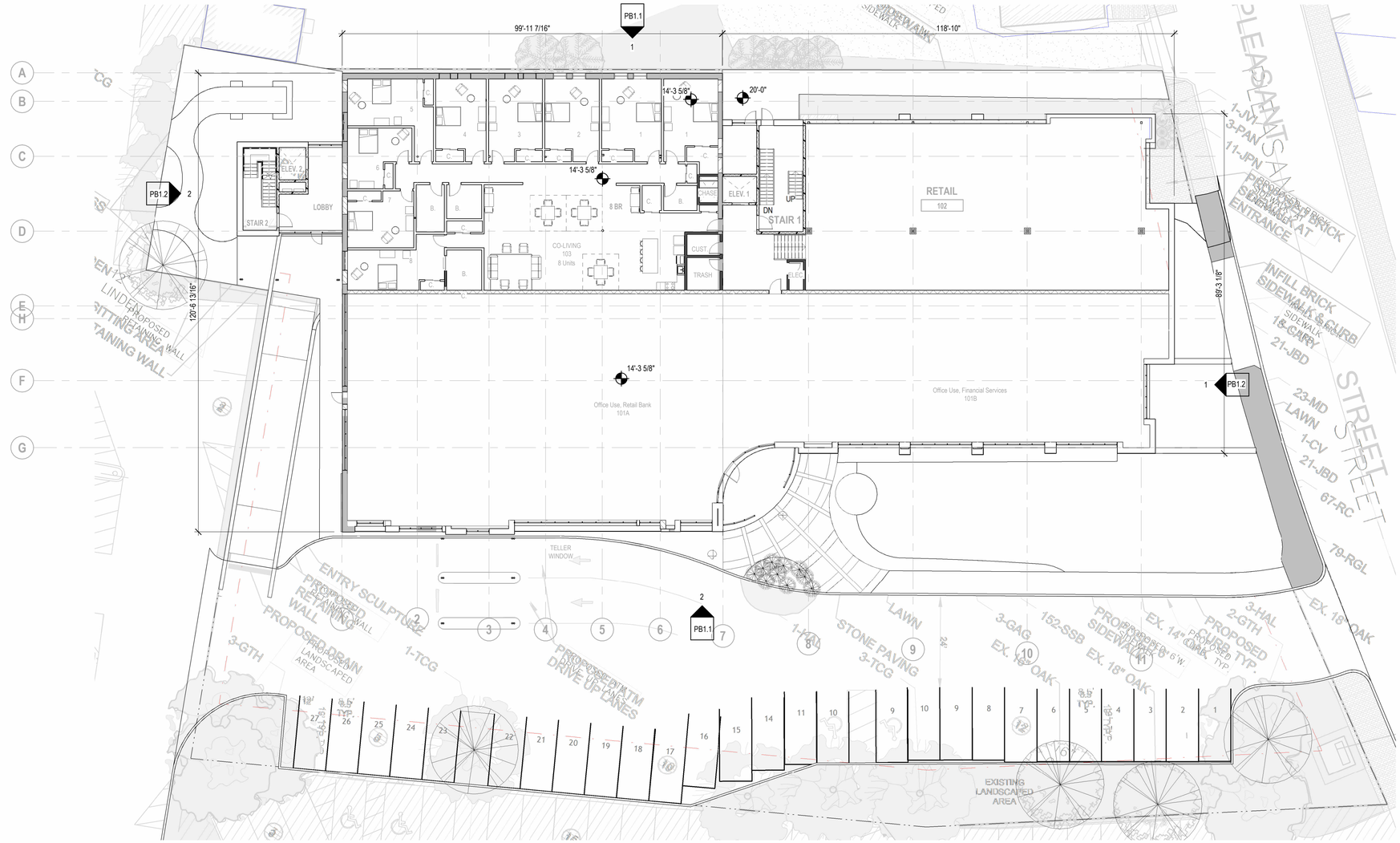
Terra Firma Landscape Architecture
163a Court St
Portsmouth, NH 03801
(603) 531-9109

BASEMENT FLOOR PLAN

SCALE: 1/16" = 1'-0"
DATE: 08/06/2025
DRAWN: Author
CHECKED: Checker

PB0.1

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1 **PB LEVEL 1**
1/16" = 1'-0"

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134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

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CIVIL ENGINEERING

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200 Griffin Road, Unit
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LANDSCAPE ARCHITECT

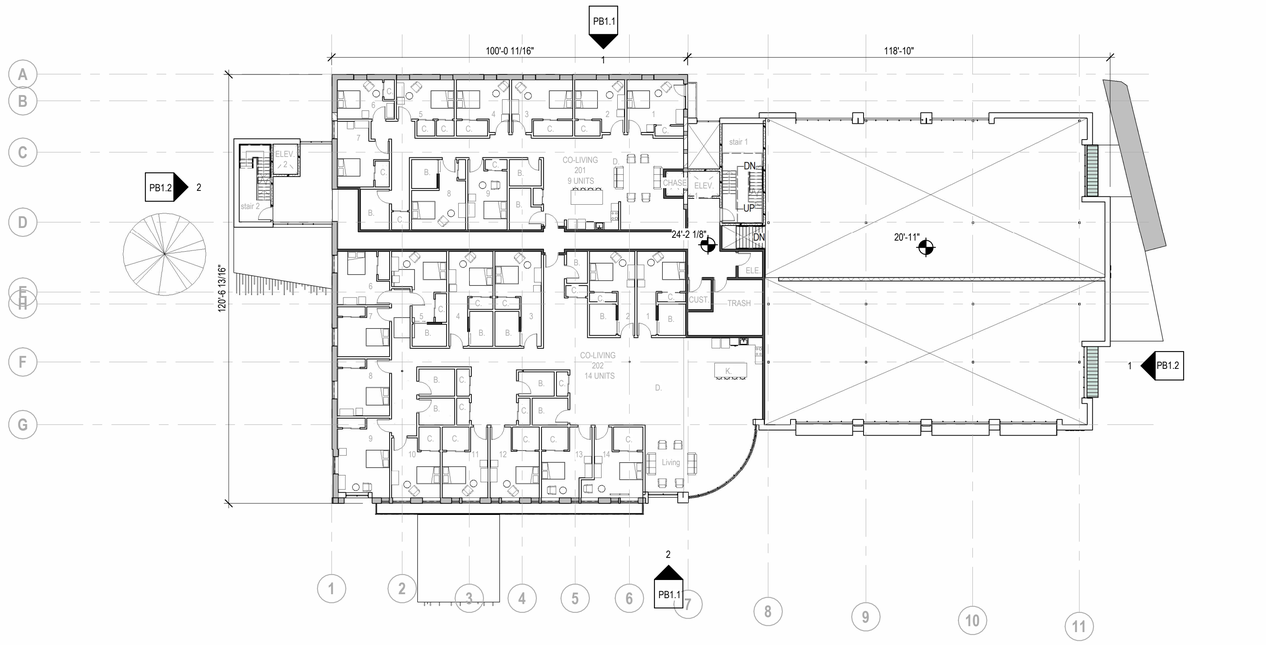
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FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"
DATE: 08/06/2025
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PB0.2

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1 **PB LEVEL 2**
3/64" = 1'-0"

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134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

OWNER

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CIVIL ENGINEERING

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LANDSCAPE ARCHITECT

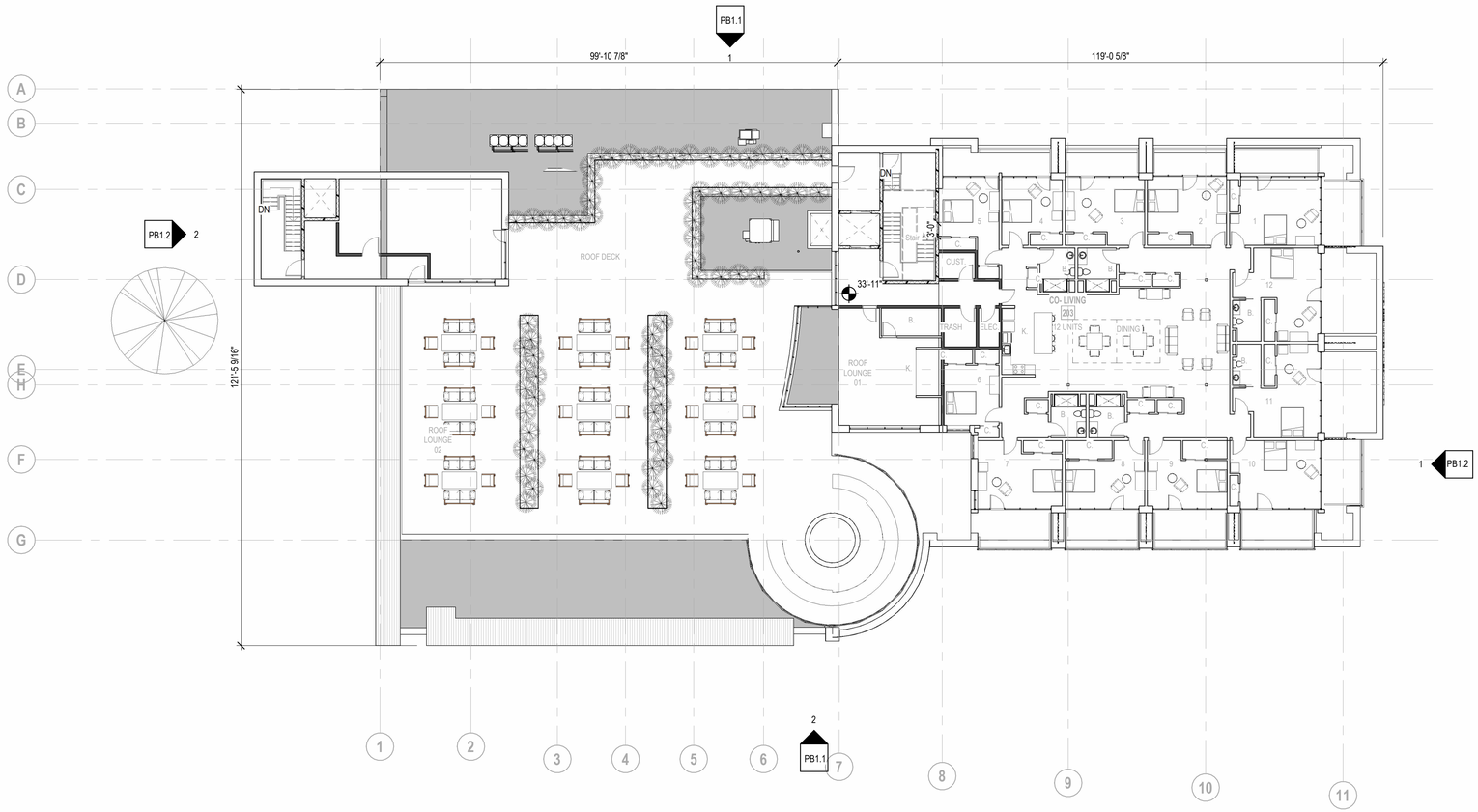
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FLOOR PLAN LEVEL 2A

SCALE: 3/64" = 1'-0"
DATE: 08/06/2025
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PB0.6

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1 **PB LEVEL 2 ADDITION**
1/16" = 1'-0"

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134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

OWNER

Double Mc, LLC
134 Pleasant Street
Portsmouth, New Hampshire 03801

CIVIL ENGINEERING

Ambit Engineering, Inc / Haley Ward
200 Griffin Road, Unit
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LANDSCAPE ARCHITECT

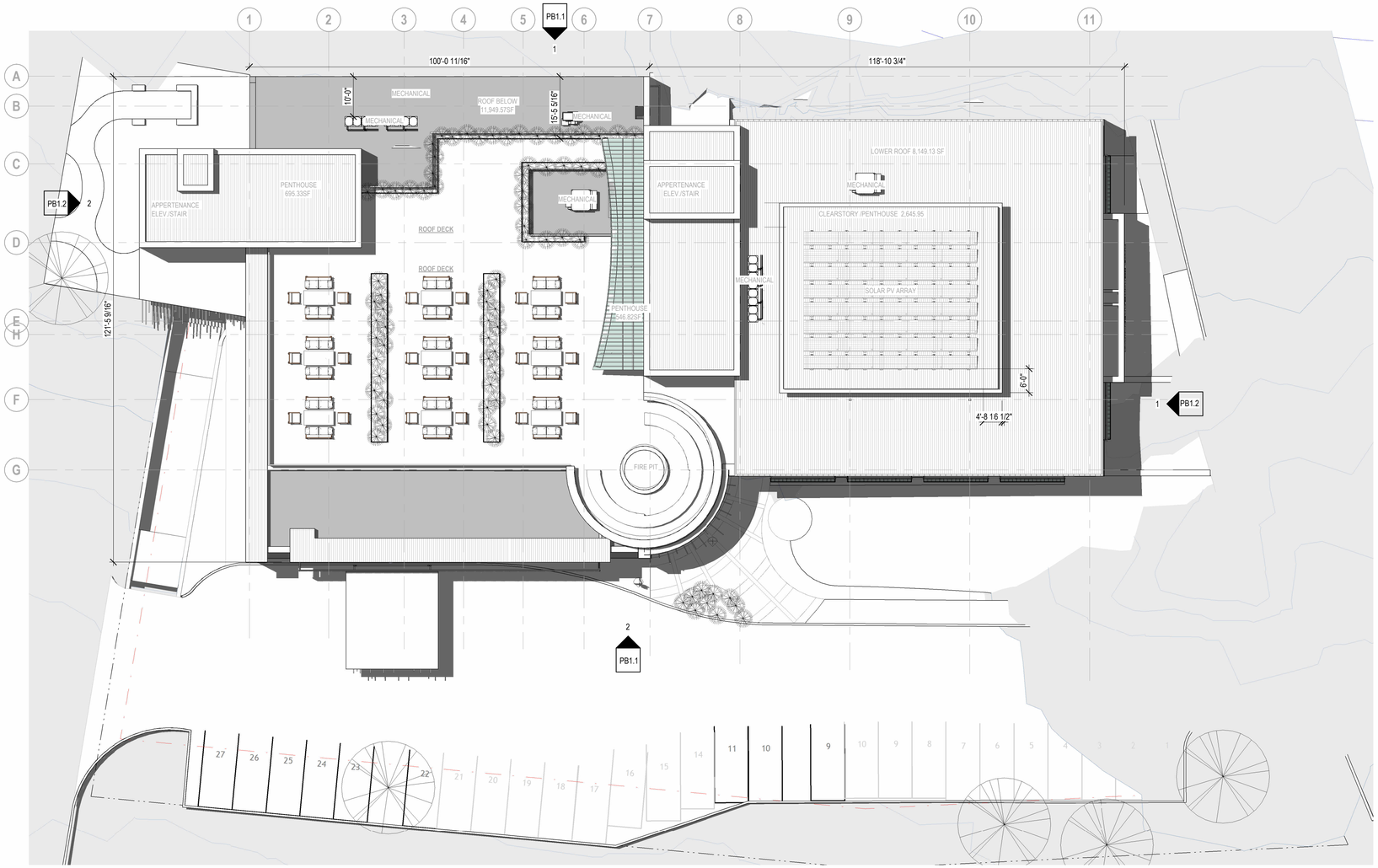
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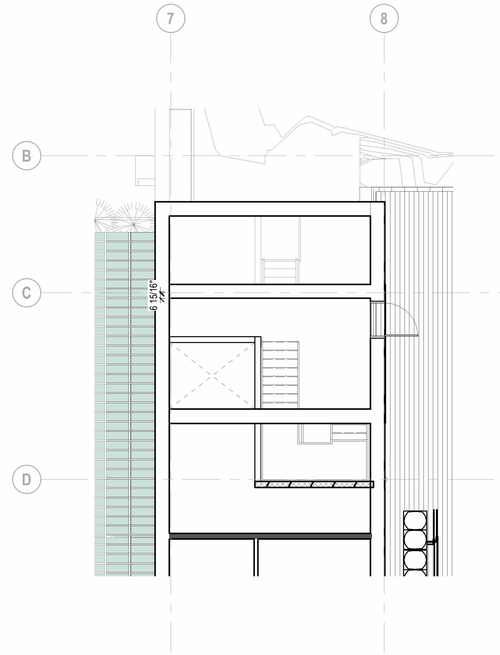
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SCALE: 1/16" = 1'-0"
DATE: 08/06/2025
DRAWN: Author
CHECKED: Checker

PB0.7

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1 **PB ROOF PLAN**
1/16" = 1'-0"

2 **PB ROOF ADDITION**
1/8" = 1'-0"

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www.ARCove.com

134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

OWNER

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134 Pleasant Street
Portsmouth, New Hampshire 03801

CIVIL ENGINEERING

Ambit Engineering, Inc / Haley Ward
200 Griffin Road, Unit
Portsmouth, NH 03801
(603) 430-9282

LANDSCAPE ARCHITECT

Terra Firma Landscape Architecture
163a Court St
Portsmouth, NH 03801
(603) 531-9109

ROOF PLAN

SCALE: As indicated
DATE: 08/06/2025
DRAWN: Author
CHECKED: Checker

PB0.8

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1 **PB NORTH ELEVATION**
3/32" = 1'-0"



2 **PB SOUTH ELEVATION**
3/32" = 1'-0"

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134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

OWNER

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Portsmouth, NH 03801
(603) 430-9282

LANDSCAPE ARCHITECT

Terra Firma Landscape Architecture
163a Court St
Portsmouth, NH 03801
(603) 531-9109

SOUTH - NORTH ELEVATIONS

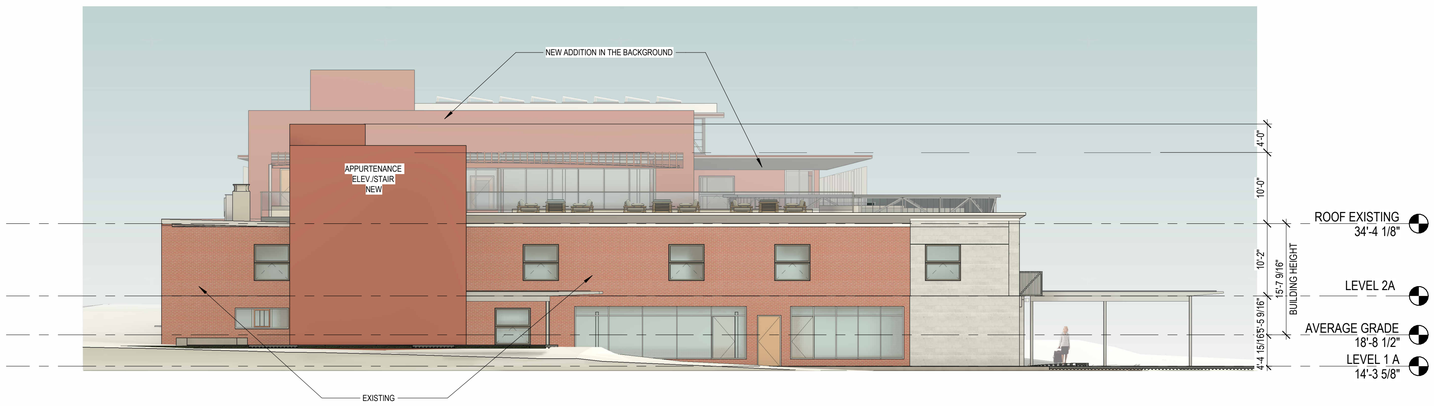
SCALE: 3/32" = 1'-0"
DATE: 08/06/2025
DRAWN: Author
CHECKED: Checker

PB1.1

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1 **PB EAST ELEVATION**
3/32" = 1'-0"



2 **PB WEST ELEVATION**
3/32" = 1'-0"

ARCOVE
ARCHITECTS
3 CONGRESS ST., SUITE1
PORTSMOUTH NH 03801
603.988.0042
www.ARCove.com

134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

OWNER

Double Mc, LLC
134 Pleasant Street
Portsmouth, New Hampshire 03801

CIVIL ENGINEERING

Ambit Engineering, Inc / Haley Ward
200 Griffin Road, Unit
Portsmouth, NH 03801
(603) 430-9282

LANDSCAPE ARCHITECT

Terra Firma Landscape Architecture
163a Court St
Portsmouth, NH 03801
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EAST - WEST ELEVATIONS

SCALE: 3/32" = 1'-0"
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PB1.2

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1. VIEW FROM SOUTH MILL POND PARKING LOT



2. VIEW FROM JUNKINS AVENUE AT CITY HALL



3. VIEW FROM PLEASANT STREET AT TREADWELL HOUSE



4. VIEW FROM JUNKINS AVENUE



5. VIEW FROM PLEASANT STREET



6. VIEW FROM PLEASANT STREET AT JUNKINS AVENUE

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3D VIEWS

SCALE:

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PB2.0

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Building coverage

The aggregate horizontal area or percentage (depending on context) of a **lot** or **development site** covered by all **building**s and **structure**s on the **lot**, excluding

(a) gutters, **cornice**s and eaves projecting not more than 30 inches from a vertical wall, and

(b) **structure**s less than 18 inches above ground level (such as decks and patios);

(c) balconies, bay windows or awnings projecting not more than 2 feet from a vertical wall, not exceeding 4 feet in width, and cumulatively not exceeding 50% of the width of the **building** face;

(d) fences; and

(e) mechanical systems (i.e. HVAC, power generator, etc.) ~~that is less than 36 inches above the ground level with a mounting pad not exceeding 10 square feet.~~

Structure (including **roof structure**)

Any production or piece of work, artificially built up or composed of parts and joined together in some definite manner. **Structure**s include, but are not limited to, **building**s, fences over 4 feet in height, **sign**s, and swimming pools. (See also: **temporary structure**.) For the purposes of this Ordinance, mechanical systems (i.e. HVAC, power generator, etc.) shall not be considered structures, but any power generator must be setback a minimum of 5 feet from any lot line.