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

Date: 4-9-26 **REV by Applicant**
Property Address: 134 Pleasant Street
Application #: LU – 25-138
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.	**Meets** **Does Not Meet**	Applicable standards: In our opinion the Project complies with the intent and language of the Ordinance requirements; see the Zoning Development Standard Table for details. The project has received HDC Approval.
2	Provision for the safe development, change or expansion of use of the site.	**Meets** **Does Not Meet**	The site changes have been vetted as safe. Construction safety will be developed in the construction 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 site development plan introduces stormwater management that will include an advanced drainage treatment structure as well as stormwater separation form the combined stormwater / sewer flow.

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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 proposed as the 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. 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. Sewer Separation project included.
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 proposed office and residential uses are similar to other adjacent uses and will not contribute in a significant manner to the types of impacts associated with the items listed. Proposal has been reviewed and approved by TAC.
8	Adequate provision for fire safety, prevention and control.	**Meets** **Does Not Meet**	Building locations and access reviewed by Portsmouth Fire Department at TAC and plans meet expectations.
9	Adequate protection of natural features such as, but not limited to, wetlands.	**Meets** **Does Not Meet**	The project is on a previously developed Urban site, so there are no wetland impacts. The off-site drainage connection will require a NHDES Shoreland Permit for the impact, which has been approved. A NHDES Wetland Permit, which is in submission, and a Portsmouth Wetland CUP, also in process.
10	Adequate protection of historical features on the site.	**Meets** **Does Not Meet**	The existing building footprint will be preserved, and the new building façades are HDC Approved.
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 development team has worked with TAC to address any potential issues. Traffic will use the Pleasant Street entrances exclusively.
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 City's Traffic Engineer has been involved in the review of the submission material.

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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**	Construction will match the required building code requirements.
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 will be collected in the basement trash collection area. 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 proposal has conforming open space – calculations provided. Development includes landscape improvements to the site to create a potential public space along the westerly pedestrian corridor.
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 Pleasant Street. Bicycle storage provided on site.
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 a banking facility with offices. Development is adding residential use. The site is an urban building site, and 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 HDC and TAC approvals.
	Other Board Findings:		

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HALEY WARD

9 April 2026

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

RE: Request for Site Plan Review at 134 Pleasant Street, Proposed Revision to Banking, Professional Office, and Apartments

Dear Mr. Chellman and Planning Board Members:

On behalf of Double MC, LLC, we are pleased to submit the attached **Site Plan Review Application Update** for the above-mentioned project and request that we be placed on the agenda for your **April 16, 2026,** Planning Board Meeting. The property is shown on the City of Portsmouth Assessors Map 116 as Lot 30. 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 project is located at 134 Pleasant Street, adjacent to a Right-of-Way which is a part of the city Parrott Avenue parking lot, which we believe the applicant has rights to use. The current use is a banking facility with drive-up, and offices. The Site Plan was reviewed at the March 26, 2026 Planning Board meeting. The application was tabled for a City Council review of the proposed off-site access across city property.

The Planning Board's Comment for the above-mentioned project, from the Planning Board meeting on March 26, 2026 is repeated below:

> *The Board voted to request that the City Council consider whether and how, by license or otherwise, the adjacent City property might be used for access and/or drainage purposes, in order to provide the Planning Board with guidance on those topics and to continue the application to the April 16th meeting. At the request of the applicant, and for the information of the City Council, the Board preferred the proposed site plan option for egress over the Parrott Avenue lot over the other option presented for consideration.*

The item was on the City Council agenda for the April 6, 2026 Council meeting. The City Council did not engage with a decision, but tabled the issue to a date in the future. Given the complexities of this issue, the applicant has engaged the design team to re-work the project to provide vehicular access from Pleasant Street, and abandon vehicular access over city property. The revised plans reflect a re-design to provide turn-around space at the west end of the parking area, maintain the garage access location, and move a loading zone, with the associated landscaping and drainage revisions. This re-alignment did result in the loss of site parking spaces, but the available site parking still meets the ordinance parking requirements.

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The Planning Board also received feedback from the public in regard to the application. This feedback is presented below, with our response in **bold** text:

Potential Noise Issues from the Rooftop Utilities: *Estimates of noise generation. The submission contains no noise estimates. The project includes rooftop HVAC equipment.* **The updated design plans show that the mechanical equipment is set-back approximately 12 feet from the lot line on the West Building; and the East Building is so far from the lot line there is no potential impact. Attached is a Specification Cut Sheet for the equipment being used. This equipment noise generation is at the *daytime permitted noise level* at the equipment. Being set-back twelve (12) feet from the lot line, the DBA will be under the 45 DBA *nighttime requirement*. Furthermore, measuring the noise at 4 feet above the ground level, as required by the noise ordinance, suggests that this equipment will not register anything above 45 DBA.**

Geotechnical Evaluation: *The submission contains no geotechnical report.* **The attached Geotechnical report shows that the applicant has engaged with this issue and understands the need for a study of the ground conditions prior to construction.**

City Council Licenses: *The submission will require a license for the off-site drainage connection.* **Every project has drain lines, electrical conduits lines, water lines, and sewer lines in public land and streets, some requiring a license. Getting a license prior to Planning Board approval is not a good procedure as a utility license request that went to the City Council prior to Planning Board approval would be pre-mature and something not yet approved and subject to change. The 134 Pleasant property has a combined sewer and drain line connection exiting the site and connecting through the Parrot Avenue parking lot. This development is providing much needed separation. If the City Council does not grant the license, then we won't separate sewer and drainage. The drainage connection portion of the project requires a review by the Portsmouth Conservation Commission. The Commission reviewed the plans on Wednesday April 8, 2026, and voted to recommend Planning Board approval. We request that the Planning Board approve the application with a condition that the drain line obtain the necessary City Council approval.**

Traffic Study Update: *Trip Generation calculations didn't seem to reflect the proposed site building expansion.* **The project team is re-working the trip assignment based on all traffic entering and existing from Peasant Street and will provide information to the Board after city scoping and review prior to the Planning Board meeting.**

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Project Overview

The project consists of the adaptive reuse of the existing structure, with horizontal and vertical building expansions, and below grade (*basement*) parking, shown as "*Building A*". A new building will be constructed in the area between the existing Citizens Bank building and Pleasant street, shown as "*Building B*". The construction of the new building will bring the site into conformance with the desire to enliven the street frontage. 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 in the same location, expanding the professional offices, and adding apartments. In addition to the banking facility and drive-up, the banking services will be expanded to include Financial Services and the Kennebunk Savings Bank headquarters.

Site Zoning and Parking

The project is within the City of Portsmouth Character District 4 (CD4) Zone. The proposed Bank, Professional Office and apartment uses are allowed in the zone. Proposed residential use at the site is proposed to be apartments, with a one space per unit parking requirement. The proposed redevelopment meets the required parking under the Portsmouth Zoning Ordinance (PZO), for the proposed uses, as detailed in the attached parking calculations, accounting for the shared use factors. The site will provide 58 parking spaces in the basement level and 28 exterior surface parking spaces for a total of 86 spaces provided. This is an increase of 48 spaces from the current site configuration. Based on the parking calculations the total parking required for the redevelopment including off-site parking commitments is 84 spaces, so there is a 2-space excess.

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.

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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.

Pedestrian and Vehicular Circulation

The proposed site pedestrian connections are the Building B east banking storefront from the Pleasant Street sidewalk, the Building B main banking entrance on the south side in the parking area, the Building A west entrance (adjacent to the vehicular ramp to the garage basement parking level), and the Building B residential entrance on the north side. Building A emergency pedestrian egress is also provided on the east side of Building A. The plan shows a revision to the west end of the site where the proposal to access city property has been eliminated in favor of access only from Pleasant Street with a turn-around at the westerly end of the parking area, adjacent to the lower-level parking access. A newly located loading zone is in the vicinity. The plan does not alter the Parrott Avenue parking lot connection, but provides a gate and would allow for emergency access for the Portsmouth Fire Department in that location.

Screening and Landscaping

The site landscaping consists of the preservation of significant trees on the south, west, east and sides, and the addition of landscaping along Pleasant Street, and on the west side along a pedestrian access corridor to Court Street, to include a seating area with benches. 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 residential, and the building expansion. The existing water services will be re-used for the expansion. The sewer system will be served by the removal of surface water flow, decreasing sewer flows during storm events.

Stormwater Management

The site drainage patterns will remain, with the addition of an off-site connection to the city separated drainage system, thereby removing storm water flow from sewer treatment. The re-design is in keeping with the city's stormwater management and treatment requirements. The storm water runoff Water Quality Volume (WQV) will be treated in a state-of-the-art Jellyfish stormwater treatment system, designed to meet Low Impact Development (LID) standards. Added treatment prior to the Jellyfish is provided in the Cascade pre-treatment device. This off-site work will require New Hampshire Department of Environmental Services (NHDES) permits for working within the Shoreland Protection Zone and the Tidal Buffer Zone, as well as a Portsmouth Wetland Conditional Use Permit. These permits are not anticipated to be an issue, given the benefits of the proposed removal of stormwater from sewer flow and the enhanced stormwater treatment. The Portsmouth Conservation Commission has already reviewed the impacts and recommends approval.

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Site Lighting

Building mounted site lighting will be introduced on pedestrian corridors and at building entrances to provide a welcoming and safe pedestrian experience. The plan set includes visual illumination of the building lighting levels. Parking lot lighting will be provided for the at-grade exterior parking spaces, and the lighting levels are shown on the Lighting Plans. Fixture cut sheets are provided.

Site Utilities and Solid Waste

Site utilities include natural gas, underground electric and communications services. Existing services will be updated and revised as needed to service the facility. Natural gas service(s) from Pleasant Street will serve each building. Electrical service will be an upgrade to the existing service, which does not meet code. Currently the service is a primary feed that goes to a transformer located *within* the existing building. The proposed service consists of the placement of a new pole with a drop to a proposed transformer, then secondary service to a newly located electrical room. Solid waste will be collected within the building basement and disposed privately. The trash room is shown on the basement plans.

Bicycle Parking

The submission includes bicycle parking locations, 38 spaces internally and 7 spaces externally. The parking calculations include the allowable 3 space parking deduction based on providing an excess of bicycle parking above the requirement.

The submission includes the following:

- ✓ Site Plan Application Checklist
- ✓ NHDES Shoreland PBN Permit 2026-00409
- ✓ Portsmouth HDC Approval (and Amendment) LU 25-138
- ✓ Zoning Development Standards Table
- ✓ Portsmouth Parking Demand Analysis
- ✓ Green Building Statement
- ✓ Utility Will Serve Letters
- ✓ HVAC Equipment Technical Specifications
- ✓ Parking Lot Lighting Specifications
- ✓ Geotechnical Report
- ✓ Typical Foundation Detail
- ✓ Property Deed
- ✓ Site Photographs
- ✓ Site History Timeline
- ✓ Existing Drive-up Location
- ✓ Average Grade Plane; Building A and Building B

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The following full-size plans are included in our submission:

- Cover Sheet: This shows the Development Team, Legend, Site Location, and Site Zoning.
- Proposed License Plan: This plan shows the location of the proposed Drainage License.
- Existing Conditions Plan V101: This plan shows the site boundary and the existing development area conditions in detail.
- Existing Utility Plan V102: This plan shows the location and elevations of the existing utilities.
- Site Orthophoto Plan V103: This plan shows the existing site, and the site relationship to the NHDES Shoreland Zone.
- Parrott Avenue Parking Lot Survey V105: This plan shows the result of a boundary survey of the Parrott Avenue parking lot, based on the city subdivision plan of record.
- Demolition Plan C101: This plan shows site demolition.
- Site Plan C102: This plan shows the proposed building expansion and site improvements.
- Landscape Plans L1-L2: These plan show the proposed site landscaping.
- PB 0.1 to 2.1 Architectural Plans - Floor Plans, Roof Plans, Elevations, and Vignettes showing the proposed building construction.
- Utility Plan C103: This plan shows the proposed utility connections.
- Basement Plan C103A: This plan shows the proposed basement drainage and utility connection locations, and the basement parking.
- On Site Grading and Drainage Plan C104: This plan shows the proposed grading and drainage on site.
- Off Site Grading and Drainage Plan / Profile C104A: This plan shows the proposed grading and drainage off site.
- Off Site Grading and Drainage Plan Orthophoto C104B: This plan shows the drainage off site.
- Drainage Area Plan C104C: This plan shows the site drainage contributing areas.
- Lighting Plan C105: This plan shows the proposed parking lot lighting.
- Nighttime Lighting Plan C105A: This plan shows the proposed building lighting.
- Truck Turning Plan C106: This plan shows the proposed delivery truck turning movements.
- Fire Truck Turning Plan C107: This plan shows the proposed fire truck turning movements.
- NHDES Permit Plan – City Property: This plan shows the location of the proposed buffer zone impact areas.
- Details D 501 to D 507: These plans shows the proposed construction details.

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

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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: Double MC, LLC Date Submitted: 12/22/2025

_____ Application # (in City's online permitting): LU 25 - 138

Site Address: 134 Pleasant Street _____ Map: 116 Lot: 30

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)**	V101 Existing Conditions	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 Page	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)**	V101 Existing Conditions	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)**	Existing Conditions Plan	N/A
☐	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	Cover Sheet	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)**	Complies	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 Sheet	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)**	V101 Existing Conditions Plan	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.	V101 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).	C102 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).	C102 Site 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).	C103 Utility Plan	
☐	**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.	C103 Utility Plan	

☐	**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.	C103 Utility Plan	
☐	**8. Solid Waste Facilities: (2.5.4.3H)**	Architectural Plan	
	• 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.	C 104 Grading 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.	C105 Lighting Plan	
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	All Fixtures	
☐	**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.	L1 & L2 Landscape Plans	
☐	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.		
☐	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	C102 Site Plan	
☐	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	C 104 Grading 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).	Cover Letter & Architectural Plans	
☐	**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)**	Supplemental Materials	
☐	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)**	Supplemental Materials	
☐	Inspection and Maintenance Plan **(7.6.5)**	Supplemental Materials	

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)**	Online & On Plans	
☐	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)**	Supplemental Materials	

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	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)**	C102 Site Plan	N/A

Applicant's Signature: **Date:** 12/19/2025

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

SHORELAND PERMIT-BY-NOTIFICATION 2026-00409

NOTE CONDITIONS

PERMITTEE:	**DOUBLE MC LLC** **MARK A MCNABB** **10 PLEASANT ST STE 300** **PORTSMOUTH NH 03801**
PROJECT LOCATION:	**134 PLEASANT ST, PORTSMOUTH** **TAX MAP #116, LOT #30**
WATERBODY:	**SOUTH MILL POND**
APPROVAL DATE:	**MARCH 02, 2026**

EXPIRATION DATE: MARCH 02, 2031

Shoreland Permit by Notification 2026-00409 has been accepted as complete in accordance with RSA 483-B:5-b, I, (a). The New Hampshire Department of Environmental Services (NHDES) hereby issues this Shoreland Permit by Notification, with conditions pursuant to RSA 483-B:6, II that work may proceed pursuant to RSA 483-B:5-b, I, (a). The conduct of regulated activities other than those shown in the accepted Permit by Notification will invalidate this notice.

DESCRIPTION OF APROVED IMPACT:
Impact 824 SF of protected shoreland in order to redevelop a portion of parking lot, resulting in a net decrease in impervious area from 592 SF to 501 SF.

THE FOLLOWING STANDARD PROJECT CONDITIONS SHALL BE MET PURSUANT TO ENV-WQ 1406.20:

1. Erosion and siltation control measures shall be installed prior to the start of work, be maintained throughout the project, and remain in place until all disturbed surfaces are stabilized.
2. Erosion and siltation controls shall be appropriate to the size and nature of the project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters.
3. No person undertaking any activity in the protected shoreland shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the surface water quality standards established in Env-Wq 1700, and the requirements in Env-Wq 1404.01(a) and(b).
4. Any fill used shall be clean sand, gravel, rock, or other suitable material.
5. For any project where mechanized equipment will be used, orange construction fence shall be installed prior to the start of work at the limits of the temporary impact area as shown on the accepted plans; be maintained throughout the project; and remain in place until all mechanized equipment has been removed from the site.

ANY INDIVIDUAL CONDUCTING WORK UNDER THIS PERMIT IS ADVISED OF THE FOLLOWING:

1. During construction, a copy of this permit should be posted on site in a prominent location visible to inspecting personnel.
2. This permit does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others.
3. Pursuant to Env-Wq 1406.21, transfer of this permit to a new owner requires notification to, and approval of, NHDES.
4. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding exemplary natural communities or protected species. This permit does not authorize in any way the take of

threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.

APPROVED:

Clara Cooper

Clara G. Cooper
Permitting Specialist, Shoreland Program
Wetlands Bureau, Land Resources Management
Water Division

THIS PERMIT IS NOT VALID UNTIL SIGNED BY THE PARTIES BELOW (Env-Wq 1406.21(c))

PERMITTEE SIGNATURE (required)

PRINCIPAL CONTRACTOR SIGNATURE (required, if any)

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

HISTORIC DISTRICT COMMISSION

March 3, 2026

Double Mc LLC
10 Pleasant Street, Suite 300
Portsmouth, New Hampshire 03801

RE: **Certificate of Approval for property located at 134 Pleasant Street, Portsmouth NH 03801 (LU-25-138)**

Dear Property Owner:

The Historic District Commission, at its regularly scheduled meeting of **Wednesday, January 07, 2026**, considered your application for new construction to an existing structure (construct additions and other exterior modifications) and the new construction of a multi-use building on the site as per plans on file in the Planning & Sustainability Department. Said property is shown on Assessor Map 116 Lot 30 and lies within the Character District 4 (CD4) and Historic District. As a result of said consideration, the Commission voted to **grant** the Certificate of Approval with the following stipulations:

1. The masonry exterior cladding materials shall require further conversation.

2. In-place on site samples shall show jointing and technique along with some alterations in the choice of materials.

Findings of Fact

A. Purpose and Intent

The proposed application meets the following objective(s) of the Historic District (as provided in Section 10.631.20 of the Zoning Ordinance):

-Maintain the integrity of the District.

B. Review Criteria

The proposed application also meets the following review criteria of the Historic District (as provided in Section 10.635.70 of the Zoning Ordinance):

-Consistent with special and defining character of surrounding properties.

The Commission's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Commission'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 Committees 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 one (1) year from the date granted by the Historic District Commission unless an extension is granted by the Commission in accordance with Section 10.636.70 of the Zoning Ordinance.

Please note that any changes or modifications to this application require review and approval from the Commission prior to implementation and additional fees may apply.

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

Very truly yours,

Izak Gilbo, Planner 1
for Reagan Ruedig, Chair of the Historic District Commission

cc: Shanti Wolph, Chief Building Inspector
Rosann Maurice-Lentz, City Assessor

Francis X. Bruton, Esq., Attorney, Bruton & Berube, PLLC
Tracy Kozak, ARCove Architects
John Chagnon, Haley Ward
James J. Steinkrauss, Esq., Attorney, Rath, Young & Pignatelli, PC
Michael K. O'Neil, Esq., Attorney, Rath, Young & Pignatelli, PC

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801

(603) 610-7216

HISTORIC DISTRICT COMMISSION

April 8, 2026

Double MC LLC
10 Pleasant Street, Suite 300
Portsmouth, NH 03801

RE: **Administrative Approval for property located at 134 Pleasant Street (LUHD-1017)**

Dear Owner:

The Historic District Commission, at its regularly scheduled meeting of **Wednesday, April 01, 2026**, considered your request for administrative approval for revisions to a previously approved design (widen the approved penthouse, add dormers to the hipped roof and add a cupola for stair/elevator overrun). As a result of said consideration, the Commission voted to **grant** the Administrative Approval with the following stipulation:

1. Option #2 shall be used with no stair/elevator overrun.

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

Very truly yours,

Izak Gilbo

Izak Gilbo, Planner 1
for Reagan Ruedig, Chair of the Historic District Commission

cc:

134 Pleasant Street, Portsmouth NH

ZONING DEVELOPMENT STANDARD 01/21/2026

CD4 (CD-4, HDC): CHARACTER DISTRICT 4

	REQUIRED	EXISTING	PROPOSED - Renovation	PROPOSED - New Building
Height	2 stories with short 3rd = **35' max**	2 stories, 19'-6"	2 STORIES, 19'-3"	2 STORIES, 28'-7"
Penthouses	may exceed bldg height by 2' (35+2=37'); max area 50% of roof	n/a	30'-3", 43%	n/a
Roof appurtenance	may exceed bldg height by 10' (35+10=45'), max area 30% roof	n/a	di	n/a
Façade Types	stoop, step, shopfront, officefront, recessed-entry, dooryard, gallery & arcade	n/a	SHOPFRONT	SHOPFRONT
Building Types	Rowhouse, Apartments, live/work, small or large commercial, mixed use, flex space & community.	commercial	large commercial & residential	large commercial & residential
Setback Front (principle) max	10	n/a	n/a	8'-6", principal façade
Setback Front (secondary) max	15	n/a	n/a	n/a
Side	NR	n/a	11" (north) and 62'-5" (south)	19'-3" (north) and 67'-2" (south)
Rear, min	>of: 5' from rear line or 10' from cl alley	n/a	19'-4"	150'
Front lotline buildout	50% min	n/a	n/a	52%
Lot area (sf)	NR	53,084		
LOT area per dwelling	NR	n/a		
Coverage, maximum	90%	21.2%	43.6%	
Footprint, max* 10.5a43.40	15,000	11,241	13,629	9,638
Ground floor area per use, max	15,000	11,241 (bank)	13,532	9,638
Open space, minimum	10%	> 10%	12.4%	
Permitted uses (cd4 & cd5)	multifamily, live/work, office, retail, restaurant (<500occ)	office (bank)	apartments & health club; physical therapy	apartments, bank, financial services
Block length, max (ft)	200	n/a	121'	104'-8"
Façade modulation length, max (ft)	80	n/a	n/a	27'-0"
Entrance spacing, max (ft)	50	n/a	50'	50'
Floor height above sidewalk, max	36"	4"	n/a	varies, max 4".
Ground floor height, min	12'	n/a	9'-11"	13'-8"
Second floor height, min	10'	n/a	8'-9"	11'-9"
Glazing, shopfront, min	70%	n/a	n/a	70%
Glazing, other	20%-50%	n/a	n/a	30%
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	flat	flat and hipped	flat and hipped
Parking, off-street	when >20 spaces, max spaces = 120% of min required is the max allowed. 10.1112.60 mixed used - some shared spaces allowed.	38	92	
Parking, Residential	1 per unit		21	
Parking, Bank & Financial Services	1 per 350 GFA		36	
Parking, Health Club / PT	1 per 250 GFA		29	

134 Pleasant Street

4/07/2026 revised

Parking Demand Analysis

Residential - dwelling units				parking
Level	**UNIT No.**	**QTY bedrooms**	**Area (sf)**	**spaces/unit**
2A	201	2	714	1
2A	202	2	817	1
2A	203	2	790	1
2A	204	2	789	1
2A	205	2	801	1
2A	206	1	665	1
2A	207	1	665	1
2A	208	2	765	1
2A	212	2	770	1
2A	213	1	665	1
2A	214	1	665	1
3A	301	1	605	1
3A	302	1	665	1
3A	303	2	943	1
3A	304	2	879	1
2A + 3A	209	2	1,056	1
2A + 3A	210	2	1,139	1
2A + 3A	211	2	1,058	1
2B + 3B	215	3	1,815	1
2B + 3B	216	4	1,778	1
2B + 3B	217	2	1,075	1
2B + 3B	218	2	1,345	1
subtotal, gross	**22**	**35**	**20,465**	**22**
Visitor Parking - 1 space per every 5 dwelling units (apartments) rounded up				5
total, gross				**27**
Bicycle Parking , Residential				
use	spaces required per use			TOTAL
multifamily dwellings	1 bicycle per 5 units where > 4 units			5
bicycle parking provided	outside			5
bicycle parking provided	inside			20
total bike parking provided - Residential				25
Car parking deduction = 1 car space for 6 excess bikes provided, max 5%:				
max deduction 5% allowed =	1.35	Rounded dn		**(1)**
Net Total Residential parking required				**26**

Commercial					
Building / Level	**Suite No.**	**Name**	**Gross Floor Area** (sf - measured to 6" out from inside face of exterior walls)	**sf/parking space**	**TOTAL spaces** (rounded up)
East 2B	221	OFFICE, FINANCIAL Services	3,423	350	10
East 1B	101	RETAIL BANKNG	6,339	350	19
East 1C	103	OFFICE, Professional/Business	1,687	350	5
West 1A	102	OFFICE, Professional/Business	12,311	350	36
subtotal, gross					**70**
Bicycle Parking , Commercial					
use	spaces required per use			TOTAL	
Commercial Use	1 bicycle per 10 spaces required			7	
bicycle parking provided	outside			5	
bicycle parking provided	inside			38	
total bike parking provided - Commercial				43	
Car parking deduction = 1 car space for 6 excess bikes provided, max 5%:					
max deduction 5% allowed =	3.5	parking spaces deduction		Rounded dn	**(3)**
Net Total Commercial parking required (round up)					**67**

Shared Parking 10.1112.60											
Total Parking Required	**Weekday**				**Weekend**				**Nighttime**		
Land Use	**daytime (8am-5pm)**	**spaces required (round up)**	**evening (6-12pm)**	**spaces required**	**daytime (8am-5pm)**	**spaces required (round up)**	**evening (6-midnight)**	**spaces required (round up)**	**(midnight-6am)**	**spaces required (round up)**	**Maximum TOTAL Required**
Apartments (Residential)	60%	16.0	100%	26.0	80%	21.0	100%	26.0	100%	26.0	
Retail Banking (Service)	60%	12.0	90%	33.0	100%	36.0	70%	26.0	5%	2.0	
Office (Professional, Business, Financial)	100%	51.0	20%	4.0	10%	2.0	5%	1.0	5%	1.0	
Shared Parking TOTAL Required		**79.0**		63.00		59.0		53.0		29.0	**79**
PARKING EASEMENT - 93 PLEASANT ST (HOTEL)											**5**
NET TOTAL PARKING REQUIRED (residential + commercial)											**84**

SUMMARY						
parking proposed - outside						28
parking proposed - inside		**26 tandems (*2) + 6 singles = 55**				**58**
Total parking proposed						**86**
EXCESS beyond Required *(Deficit)*						**2**
Existing total available onsite today						38
Proposed Net **Increase** (reduction) in parking						**48**

134 Pleasant Street

2025.12.22

Green Building Statement

WATER

- By reducing surface parking lot, water quality will be better protected.
- The project targets the use of low-flow fixtures to reduce indoor water consumption by at least 30% over current building code requirements, in alignment with EPAct 2005.

ENERGY

- By conducting early-phase energy study analysis, the basis of design for both the existing building with a deep energy retrofit and the new addition will target an Energy Use Intensity lower than code-compliant performance (IECC 2018), with a projected reduction of 30% (estimated EUI = 32). This will be validated by energy modeling in the next phase of design. The project will utilize a high-performance envelope (walls, roofs, floors, and fenestration). The project is also targeting an envelope design that reduces air infiltration and thermal bridging, paired with high-efficiency mechanical (HVAC) systems that include a heat-recovery ventilator (ERV) to recapture conditioned air and reduce overall energy consumption.
- The project will use LED lighting throughout with daylight sensors and other energy-management devices.
- Reduce Low level ozone (smog) -- Provide safe and secure bicycle storage. Use only low-VOC products for construction and operation.

MATERIALS & RESOURCES

- Minimize waste (during construction and operation)
- Use regional, renewable, low carbon footprint materials

INDOOR ENVIRONMENTAL QUALITY

- Thermal comfort -- Meet ASHRAE 55 Thermal Comfort Code. Address thermal envelope per above. Provide multiple zones of heating and cooling in each space.

- Indoor air quality (before and during occupancy) -- MEET ASHRAE 62 Ventilation Code in all occupied spaces.
- Views / connection to outdoors -- Provide views to outdoors for every regularly occupied space.
- Daylighting -- Achieve Daylight Factor of 2% minimum for every regularly occupied space.
- Individual controls (light, heat etc...) -- Provide individual controls for temperature and lighting.

EVERSOURCE ENERGY

January 12, 2026

1700 Lafayette Road
Portsmouth, NH 03801

Trevor S Emmons
603-332-7515
Trevor.emmons@eversource.com

134 Pleasant Street Site Redevelopment
Double Mc, LLC
10 Pleasant Street Suite 300
Portsmouth, NH 03801

Dear Mr. McNabb:

I am responding to your request to confirm the availability of electric service for the proposed 134 Pleasant Street Development project being constructed on your property. The Eversource Work Order Number is 22009732.

The proposed project consists of constructing a new 2-story building with an attic, and renovating and expanding an existing building with an additional floor and penthouse levels. Commercial Space and a total of 18 residential units are proposed. The proposed development will be constructed along Pleasant Street.

The developer will be responsible for the installation of all underground/overhead facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan C103 that shows the transformer location to service your proposed project. The proposed building service will be fed from locations to be determined by Eversource Engineering. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground/overhead facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2). If you require additional information or I can be of further assistance please do not hesitate to contact me at our Portsmouth Office, 603-332-7515

Respectfully.

Trevor Emmons
NH Eastern Regional Engineer, Eversource

cc: (via e-mail)
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

Unitil
Northern Utilities, Inc.

January 29th, 2026

John Chagnon
Vice President/ Senior Project Manager
Haley Ward
200 Griffin Rd Unit 14
Portsmouth, NH 03801

Natural Gas to Mixed-Use Development at 134 Pleasant St. in Portsmouth, NH

Hello John.

Unitil/Northern Utilities Natural Gas Division has reviewed the requested site for two Natural Gas services.

Unitil hereby confirms that natural gas is available for both requested services for the proposed development at 134 Pleasant St in Portsmouth, NH.

If you have any questions, please contact me at 603-264-2033.

Sincerely,

Josh Wilk
Senior Business Development Rep
Unitil
T 603.227.4628
M 603.264.2033
F 603.294.5264
Email wilkj@unitil.com

MXZ-3D24NLHZ
23,600 BTU/H HYPER HEAT PUMP OUTDOOR UNIT

Job Name:

System Reference: Date:

GENERAL FEATURES

- INVERTER-driven compressor: An inverter-driven compressor generates the precise capacity needed to maintain a temperature set point.
- Thermal Differential 1°F
- Seacoast protection: Seacoast protection on heat exchanger and base panel (rated for 2,000 hrs. in accordance with ASTM B117 testing)
- Quiet operation: Outdoor units are as quiet as a typical conversation, and most indoor units are whisper quiet.
- Hyper-Heating INVERTER®: Hyper-heating performance offers 100% heating capacity at 5°F and 75% heating capacity at -13°F
- Fan motor overheating/voltage protection
- Compressor thermal protection
- Compressor overcurrent detection
- Built-in base pan heater
- High pressure protection

Specifications			System
Unit Type			MXZ-3D24NLHZ
Cooling at 95F[1] (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	23,600 // 23,600 // 23,600
	Rated Capacity	Btu/h	22,000 // 22,800 // 23,600
	Minimum Capacity	Btu/h	11,600 // 11,600 // 11,600
	Maximum Power Input	W	2,760 // 3,080 // 3,400
	Rated Power Input	W	1,693 // 2,027 // 2,360
	Power Factor (208V)	%	0.99 // 0.99 // 0.99
	Power Factor (230V)	%	0.99 // 0.99 // 0.99
Heating at 47F[2] (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	30,600 // 30,600 // 30,600
	Rated Capacity	Btu/h	25,000 // 24,800 // 24,600
	Minimum Capacity	Btu/h	12,800 // 12,800 // 12,800
	Maximum Power Input	W	2,890 // 3,715 // 4,540
	Rated Power Input	W	2,094 // 2,139 // 2,185
	Power Factor (208V)	%	0.99 // 0.99 // 0.99
	Power Factor (230V)	%	0.99 // 0.99 // 0.99
Heating at 17F[3] (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	25,000 // 24,800 // 24,600
	Rated Capacity	Btu/h	15,400 // 15,400 // 15,400
	Maximum Power Input	W	3,627 // 3,711 // 3,795
	Rated Power Input	W	1,590 // 1,776 // 2,015
Heating at 5F[4] (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	25,000 // 24,800 // 24,600
	Maximum Power Input	W	3,627 // 3,950 // 4,350
Heating at -13F[8] (Non-Ducted // Mixed // Ducted)	Maximum Capacity	Btu/h	20,400 // 20,200 // 20,000
	Maximum Power Input	W	2,955 // 3,317 // 3,678
Efficiency (Non-Ducted // Mixed // Ducted)	SEER2[1]		20 // 17.20 // 14.40
	EER2[1]		13 // 11.50 // 10
	HSPF2 (IV)[2]		10 // 9 // 8
	COP at 47°F[2]		3.50 // 3.40 // 3.30
	COP at 17°F at Maximum Capacity[3]		2.02 // 1.94 // 1.88
	COP at 5°F at Maximum Capacity[4]		2.02 // 1.84 // 1.66
	ENERGY STAR® Certified		Yes // Yes // No
Electrical	Electrical Power Requirements	V AC / V AC, ø, Hz	208 / 230, 1, 60
	Guaranteed Voltage Range	V AC	198 - 253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Recommended Wire Size (Indoor - Outdoor)	AWG	14
	Short-circuit Current Rating (SCCR)	kA	5
	Recommended Fuse/Breaker Size	A	25
	MCA	A	29
	MOCP	A	49

NOTES
[1]Cooling at 95°F (Indoor: 80°F DB, 67°F WB // Outdoor: 95°F DB, 75°F WB)
[2]Heating at 47°F (Indoor: 70°F DB, 60°F WB // Outdoor: 47°F DB, 43°F WB)
[3]Heating at 17°F (Indoor: 70°F DB, 60°F WB // Outdoor: 17°F DB, 15°F WB)
[5]Heating at 5°F (Indoor: 70°F DB, 60°F WB // Outdoor: 5°F DB, 4°F WB)
[9]Heating at -13°F (Indoor: 70°F DB, 60°F WB // Outdoor: -13°F DB, -14°F WB)
Capacity varies based on the number of indoor units operating and the model of the Multi-zone Outdoor Unit. For reference to connected capacity charts, please refer to Multi-zone Outdoor Unit Operational Performance.
For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity.
Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.
* Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
• Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
** Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
• System cuts out in heating mode and automatically restarts at these temperatures.

Specifications are subject to change without notice.

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SPECIFICATIONS: MXZ-3D24NLHZ

Specifications			System
Unit Type			MXZ-3D24NLHZ
Outdoor Unit	Fan Motor Full Load Amperage	A	1.74
	Fan Motor Output	W	88
	Defrost Method		Reverse Cycle
	Blue Fin Heat Exchanger Coating		Yes
	Airflow Rate Cooling/Heating	CFM	2,239 / 2,378
	Sound Pressure Level, Cooling[1]	dB (A)	56
	Sound Pressure Level, Heating[2]	dB (A)	58
	Compressor Type		Twin Rotary
	Compressor Model		SRB280FDRMC
	Compressor Oil Type // Charge	Type // oz	RM68EH // 23.7
	External Finish Color		Munsell 3.0Y 7.8/1.1
	Base Pan Heater		Built-in
	Unit Dimensions (W x D x H)	inch x inch x inch [mm x mm x mm]	37-13/32 x 13 x 31-11/32 [950 x 330 x 796]
	Package Dimensions (W x D x H)	inch x inch x inch [mm x mm x mm]	41-11/32 x 17-5/16 x 38-31/32 [1,050 x 440 x 990]
	Unit Weight	lbs [kg]	152 [69]
	Package Weight	lbs [kg]	178 [81]
ODU Operating Temp. Range	Cooling Intake Air Temp (Maximum / Minimum[C])	°FDB	115 / 14
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB	10 / 14
	Heating Intake Air Temp [Maximum / Minimum]	°FDB, °FWB / °FDB, °FWB	75, 65 / -13, -14
	Heating Thermal Lock-out / Re-start Temperatures**	°FDB	-22.5 / -14
Refrigerant	Type		R454B
	Pre-Charged Refrigerant Amount	lbs, oz	6, 3
	Maximum Pre-Charged Piping Length	ft	230
IDU Connection	Minimum Number of Connected IDU		2
	Maximum Number of Connected IDU		3
	Minimum Connected Capacity	Btu/h	12,000
	Maximum connected capacity	Btu/h	28,000
Piping	Liquid Pipe Size O.D. (Flared)	inch	A: 1/4 B: 1/4 C: 1/4
	Gas Pipe Size O.D. (Flared)	inch	A: 1/2 B: 3/8 C: 3/8
	Total Piping Length	ft [m]	230 [70]
	Farthest Piping Length	ft [m]	82 [25]
	Maximum Height Difference*[B], ODU above IDU	ft [m]	49 [15]
	Maximum Height Difference*[B], ODU below IDU	ft [m]	49 [15]
	Maximum Number of Bends for IDU		70

NOTES
[1]Cooling at 95°F (Indoor: 80°F DB, 67°F WB // Outdoor: 95°F DB, 75°F WB)
[2]Heating at 47°F (Indoor: 70°F DB, 60°F WB // Outdoor: 47°F DB, 43°F WB)
[3]Heating at 17°F (Indoor: 70°F DB, 60°F WB // Outdoor: 17°F DB, 15°F WB)
[5]Heating at 5°F (Indoor: 70°F DB, 60°F WB // Outdoor: 5°F DB, 4°F WB)
[9]Heating at -13°F (Indoor: 70°F DB, 60°F WB // Outdoor: -13°F DB, -14°F WB)
Capacity varies based on the number of indoor units operating and the model of the Multi-zone Outdoor Unit. For reference to connected capacity charts, please refer to Multi-zone Outdoor Unit Operational Performance.
For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity.
Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.
* Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):
• Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
** Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
• System cuts out in heating mode and automatically restarts at these temperatures.

Specifications are subject to change without notice.

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OUTDOOR UNIT ACCESSORIES: MXZ-3D24NLHZ

Ball Valve	Refrigeration Ball Valve - 1/2	BV12FFSI2
	Refrigeration Ball Valve - 1/4	BV14FFSI2
	Refrigeration Ball Valve - 3/8	BV38FFSI2
	Refrigeration Ball Valve - 5/8	BV58FFSI2
Port Adaptor	Adaptor 1/2 x 3/8	PAC-SK88RJ-E
	Adaptor 1/2 x 5/8	PAC-SK89RJ-E
	Adaptor 1/4 x 3/8	PAC-493PI
	Adaptor 3/8 x 1/2	ADP3812
	Adaptor 3/8 x 5/8	PAC-SK90RJ-E
Control/Service Tool	Maintenance Tool Interface	PAC-USCMS-MN-1
Mini-Split Wire	14 Gauge 4 wire Armored MiniSplit Cable250 ft roll	SW144-250
	14 Gauge 4 wire Armored MiniSplit Cable50 ft roll	SW144-50
	14 Gauge 4 wire MiniSplit Cable250 ft roll	S144-250
	14 Gauge 4 wire MiniSplit Cable50 ft roll	S144-50
	16 Gauge 4 wire Armored MiniSplit Cable250 ft roll	SW164-250
	16 Gauge 4 wire Armored MiniSplit Cable50 ft roll	SW164-50
	16 Gauge 4 wire MiniSplit Cable250 ft roll	S164-250
	16 Gauge 4 wire MiniSplit Cable50 ft roll	S164-50
Stand	18 Single Fan Stand	QSMS1801M
	24 Single Fan Stand	QSMS2401M
	Condenser Wall Bracket	QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	QSWBSS
	Outdoor Unit 3-14 inch Mounting Base Pair - Plastic	DSD-400P
	Outdoor Unit Stand 12 High	QSMS1201M
Mounting Pad	Condensing Unit Mounting Pad 16 x 36 x 3	ULTRILITE1
Air Outlet Guide	Air Outlet Guide 1 Piece	PAC-SH96SG-E
Snow/Rain Diverter	SnowRain Diverter	SRD-4
Control Interface	M-NET Interface for MXZ	PAC-IF01MNT-E
Hail Guards	Hail Guard	HG-A9
Drain Socket	Drain Socket	PAC-SG60DS-E
NOTES		

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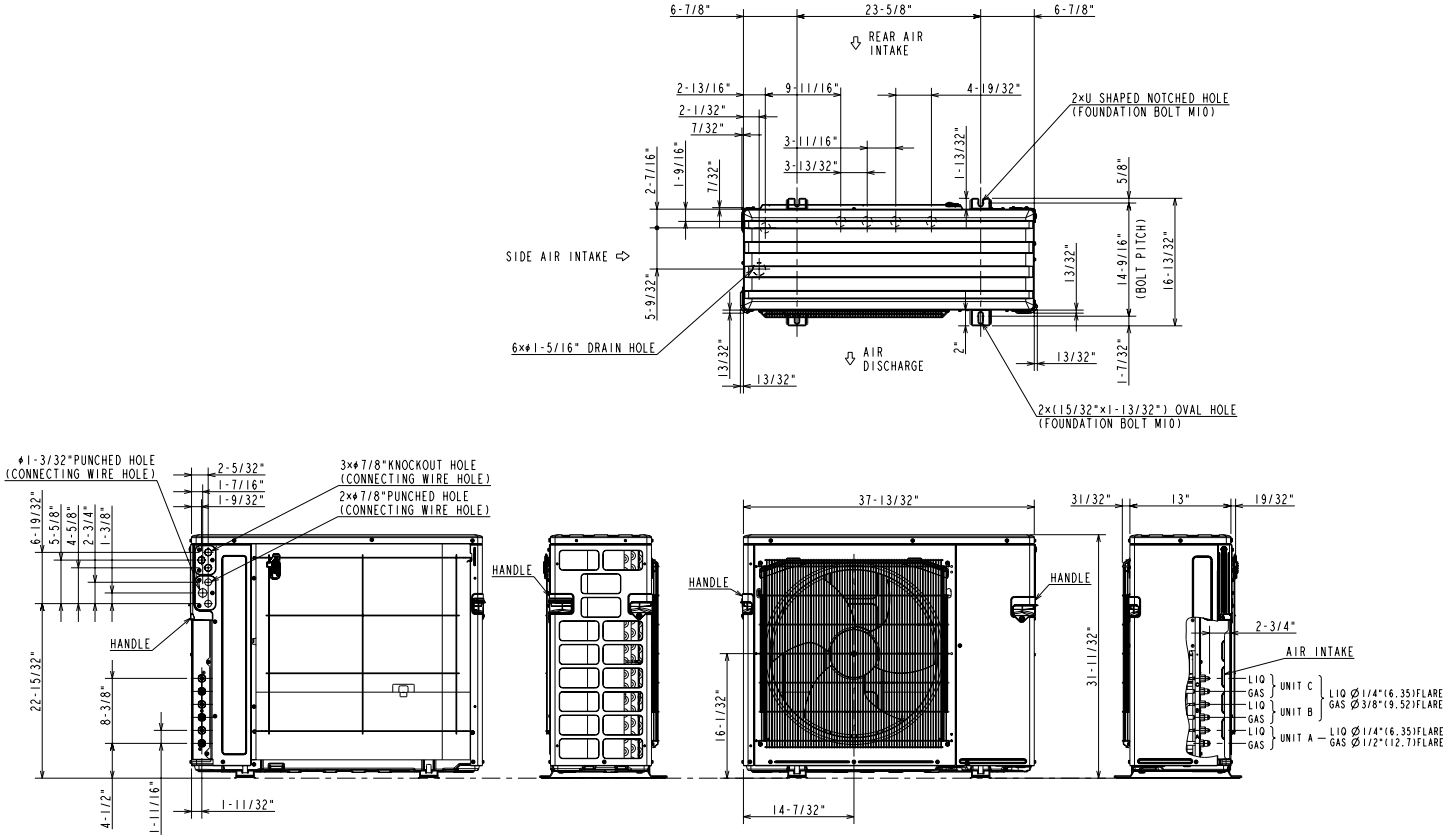
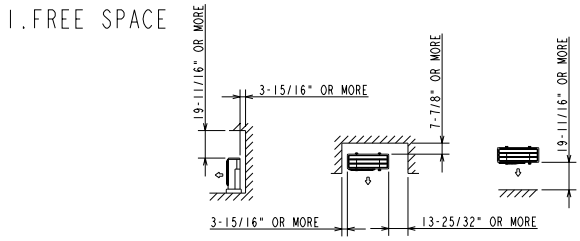
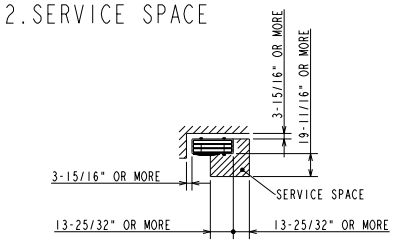
OUTDOOR UNIT DIMENSIONS: MXZ-3D24NLHZ

MXZ-3D24NLHZ-U1
MXZ-3D30NLHZ-U1







1340 Satellite Boulevard Suwanee, GA 30024
Toll Free: 800-433-4822 https://mitsubishicomfort.com

METUS_2025-07_PROPIN

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Catalog # : _____ Project : _____ Type : _____

Prepared By : _____ Date : _____

V-Locity Small (VALS)

Outdoor LED Area Light

OVERVIEW	
Lumen Package	6,000 - 27,000
Wattage Range	36 - 178
Efficacy Range (LPW)	142 - 171
Weight lbs(kg)	20 (9.1)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical units. Cast aluminum wiring access door located underneath.
- Self-contained optic, board and heat sink assembly can be rotated or replaced in the field.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: TBD lbs in carton.

Optical System

- State-of-the-Art acrylic optics delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary refractor optics provide exceptional coverage and uniformity in distribution types 2, 3M, 3W, 4M, 4W, 4F, FTM, 5QN, 5QM, 5Q, 5QW, AM, WF and LC/RC.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377 as well as phosphor converted amber.
- Minimum CRI of 80 (optional 70 CRI for 5000K and 4000K).
- Factory or field installable integral shielding available for enhanced spill light control.
- Zero Uplight (excludes adjustable arms).

Electrical

- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard, must specify EXT option for dimming leads to be extended to fixture exterior.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F).
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation

- REDiMount pole mount arm allows for a true one person installation.
- Side arm pole mount designed to mount to square or round poles.
- Pole mount arms can accommodate pole drill patterns from 2.4 to 5" on center and utilize LSI's reduced B3 or traditional B5 drill patterns.
- Additional mounting options are available including a mast arm or adjustable slip fitter that allow for luminaire attachment to a 2 3/8" tenon or mast arm.
- Adjustable arms allow for 65° of tilt (-5°below horizontal to +60° above horizontal) in 5° increments.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- DarkSky approved with 3000K or warmer color temperature selection (side arm pole and mast arm mounting only).
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications are qualified.

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V-Locity Small (VALS) Outdoor LED Area Light

Type : _____

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: VALS 18L 4W UNV 40K8 BLK SA ALBMR2LR IS

Prefix	Lumen Package	Distribution	Orientation[2]	Voltage	Color Temp /Rendering	Finish
VALS - V-Locity Area Light Small	**6L** - 6,000 lms, 36W **9L** - 9,000 lms, 54W **12L** - 12,000 lms, 74W **15L** - 15,000 lms, 91W **18L** - 18,000 lms, 111W **21L** - 21,000 lms, 130W **24L** - 24,000 lms, 155W **27L** - 27,000 lms, 178W Custom Lumen Packages[1]	**2** - Type 2 **3M** - Type 3 Medium **3W** - Type 3 Wide **4M**- Type 4 Medium **4F** - Type 4 Forward **4W** - Type 4 Wide **FTM** - Forward Throw Medium **5QN** - Type 5 Square Narrow **5QM** - Type 5 Square Medium **5Q** - Type 5 Square **5QW** - Type 5 Square Wide **AM**- Automotive Merchandise **WF** - 6x6 Wide Flood **LC** - Left Corner **RC** - Right Corner	**(Blank)** - Standard **L**- Optics rotated left 90° **R** - Optics rotated right 90°	**UNV** - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**50K7**- 5000 CCT - 70 CRI **50K8**- 5000 CCT - 80 CRI **40K7** - 4000 CCT - 70 CRI **40K8**- 4000 CCT - 80 CRI **35K8**- 3500 CCT - 80 CRI **30K8** - 3000 CCT - 80 CRI **27K8** - 2700 CCT - 80 CRI **AMB** - Phosphor Converted Amber	**BLK -** Black **BRZ -** Dark Bronze **GMG -** Gun Metal Gray **GPT -** Graphite **MSV -** Metallic Silver **PLP -** Platinum Plus **SVG -** Satin Verde Green **WHT -** White

Mounting	Controls (Choose One)		Options
SA - Universal Side Arm Pole Mount **SF** - Adjustable Slip Fitter **UA**- Universal Adjustable Pole Mount Arm **MA** - Mast Arm	**(Blank)** - None **Wireless Controls System** **ALSC** - AirLink Synapse Control System **ALSCS2** - AirLink Synapse Control System with 12-20' MH Motion Sensor **ALSCS4 -** AirLink Synapse Control System with 20-40' MH Motion Sensor **ALBMR1LR** - AirLink Blue Long Range Wireless Multi-Range Sensor Controller (8-15' MH)[4] **ALBMR2LR** - AirLink Blue Long Range Wireless Multi-Range Sensor Controller (16-40' MH)[4]	**Stand-Alone Controls** **EXT** - 0-10v Dimming leads extended to housing exterior **CR7P** - 7 Pin Control Receptacle ANSI C136.41[3] **IMSBTL1** - Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)[4] **IMSBTL2** - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)[4] **PCIU** - 120-277 Button Photocell **PCI347** - 347V Button Photocell	**IS -** Integral Shield[2] **TE** - Tooless Entry (Mast Arm Only)

Need more information?
Click here for our glossary

Have additional questions?
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Accessory Ordering Information[5]

CONTROLS ACCESSORIES	
Description	**Order Number**
Twist Lock Photocell (120V) for use with CR7P	**122514**
Twist Lock Photocell (208-277) for use with CR7P	**122515**
Twist Lock Photocell (347V) for use with CR7P	**122516**
Twist Lock Photocell (480V) for use with CR7P	**1225180**
AirLink 5 Pin Twist Lock Controller	**661409**
AirLink 7 Pin Twist Lock Controller	**661410**
Shorting Cap for use with CR7P	**149328**

FUSING OPTIONS[7]	
Description	**Order Number**
Single Fusing (120V)	See Fusing Accessory Guide
Single Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

EXTERNAL SHIELDING OPTIONS	
Description	**Order Number**
1.5" External Shield	See Shielding Guide
3" External Shield	

1. Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.
2. Not available on Type 5 or wide flood distributions.
3. Control device or shorting cap must be ordered separately. See Accessory Ordering Information.
4. Motion sensors are field configurable via the LSI app that can be downloaded from your smartphone's native app store.
5. Accessories are shipped separately and field installed.
6. "CLR" denotes finish. See Finish options.
7. Fusing must be located in hand hole of pole. See Fusing Accessory Guide for compatability.

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V-Locity Small (VALS) Outdoor LED Area Light

Type : _____

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ACCESSORIES

MOUNTING ACCESSORIES

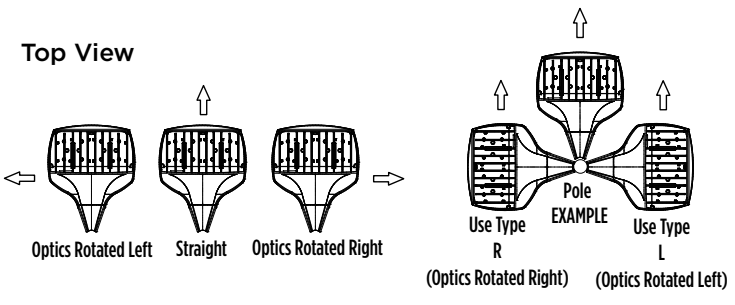
Side Arm	**Bullhorn Bracket** Mounts onto a 2" (51mm) IP, 2.375" (60mm) O.D. tenon and allows for mounting up to 4 adjustable slip fitter mount luminaires **Part Number: BKS PTB 2 CLR / BKS PTB 12 CLR (2 Luminaires)** **Part Number: BKS PTB 3-30 CLR / BKS PTB 13-30 CLR (3 Luminaires)** **Part Number: BKS PTB 4 CLR / BKS PTB 14 CLR (4 Luminaires)**	
	Flood Wall Mount Bracket Mounts onto vertical wall surface (hardware/anchors not included) **Part Number: BKS FMW 5 CLR (5" Straight Version)** **Part Number: BKS FMW 18 CLR (18" Curved Version)**	
	Bolt on Side Tenon Mount Bolt on Side Tenon Mount **Part Number: BKSFB0 5 CLR (5" Straight Version)** **Part Number: BKSFB0 18 CLR (18" Curved Version)** **Part Number: BKSFB0 30 CLR (30" Dual Tenon Version)**	
Tenon / Slipfitter	**Square Tenon Top** Allows to seamlessly integrate LSI luminaires to open top 4", 5" or 6" square poles with 11 ga. Or 7 ga. wall thickness **Part Number: BKA ISF10 _SQ CLR**	
	Square Tenon Top Mounts onto a 2" (51mm) IP, 2.375" (60mm) O.D. tenon and allows for mounting up to 4 luminaires **Part Number: BKA XNM ***	
	Square Internal Slipfitter Mounts inside 4" or 5" square pole and allows for mounting up to 4 lumianires **Part Number: BKA X_ISF * CLR**	
Wall Mount/ Wood Pole	**Wall Mount Bracket** Mounts onto vertical wall surface (hardware/anchors not included) **Part Number: BKS XB0 WM CLR**	
	Wood Pole Bracket Mounts onto wooden poles (6" minimum OD, hardware/anchors not inlcuded) **Part Number: BKS XB0 WP CLR**	

SHIELDING, POLES & MISC. ACCESSORIES

Shielding	**Integral Shield for Asymmetric Distributions** Field Install Integral shield provides maximum backlight control by shiedling each individual row of LEDS with minimal impact on Streett/front side distribution **Part Number: TBD**	
	Integral Shield for Left and Right Corner Distributions Field install integral shield provides cutoff from two sides for maximum spill light control when utilizing LC or RC corner distributions **Part Number: TBD**	
	External Shield External shield blocks view of light source from anyside of luminaire, additional shielding configurations available **Part Number: TBD (1.5") / TBD (3")**	
Poles	**Square Poles** 14 - 39' steel and aluminum poles in 4", 5" and 6" sizes for retrofit and new construction **Part Number: 4SQ/5SQ/6SQ**	
	Round Poles 10 - 30' steel and aluminum poles in 4" and 5" sizes for retrofit and new construction **Part Number: 4RP/5RP**	
	Tapered Poles 20' - 39' steel and aluminum poles for retrofit and new construction **Part Number: RTP**	
Misc.	**Bird Spikes** 10' linear bird spike (3' recommended per luminaire) silcone adhesive (covers approximately 25' linear fee of bird spike) and application tool **Spike Part Number: 751631** **Adhesive Part Number: 751632** **Caulk Gun Part Number: 751636**	

1 Replace CLR with paint finish description
2 Repleace XX with SQ for square pole or RD for round pole (≥3" OD)
3 Replace * with S (Single), D180 (Double @180°), D90 (Double @90°), T90 (Triple), Q90 (Quad)
4 Replace _ with 4 (4" square pole) or 5 (5" square pole)

OPTICS ROTATION

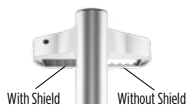


ACCESSORIES/OPTIONS

Integral Shield (IS)

Integral Shield (IS) available for improved backlight control without sacrificing Streett side performance. LSI's Integral Shield (IS) option delivers backlight control that significantly reduces spill light behind the pole for applications with pole locations close to adjacent properties. The design maximizes forward reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Shields rotate with the optical distribution.

Integral Shield (IS)



Luminaire Shown with AirLink Blue Sensor Option

7 Pin Photoelectric Control

7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with CR7P

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V-Locity Small (VALS) Outdoor LED Area Light

Type : _____

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PHOTOMETRICS

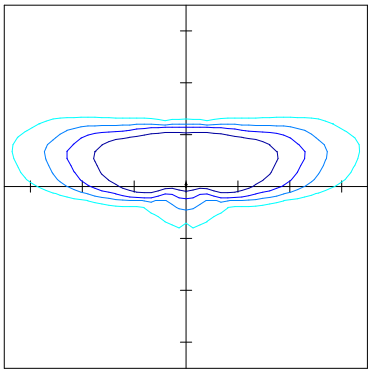
Back to Quick Links

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

VALS 18L 2 40K8

V-LOCITY Area Small, 18,000lm, Type 2 Distribution



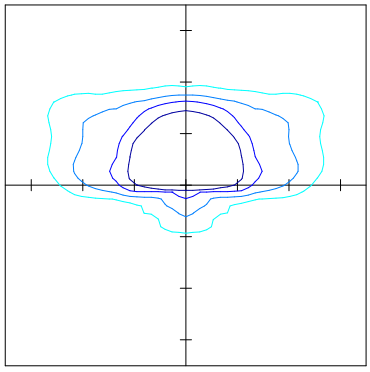
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	II Medium
BUG Rating	B2-U0-G4
Street Side Lumen %	88.9%
House Side Lumen %	11.1%
Uplight %	0.0%

VALS 18L 3M 40K8

V-LOCITY Area Small, 18,000lm, Type 3 Medium Distribution



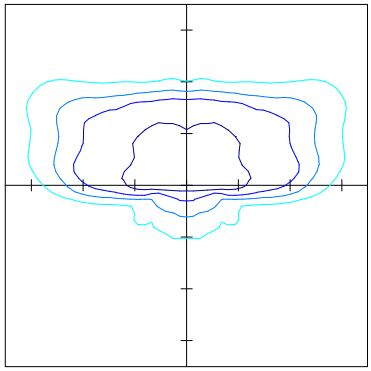
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	III Very Short
BUG Rating	B2-U0-G3
Street Side Lumen %	90.1%
House Side Lumen %	9.9%
Uplight %	0.0%

VALS 18L 3W 40K8

V-LOCITY Area Small, 18,000lm, Type 3 Wide Distribution



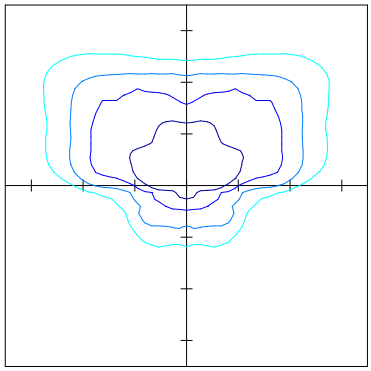
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Medium
BUG Rating	B2-U0-G4
Street Side Lumen %	86.1%
House Side Lumen %	13.9%
Uplight %	0.0%

VALS 18L 4W 40K8

V-LOCITY Area Small, 18,000lm, Type 4 Wide Distribution



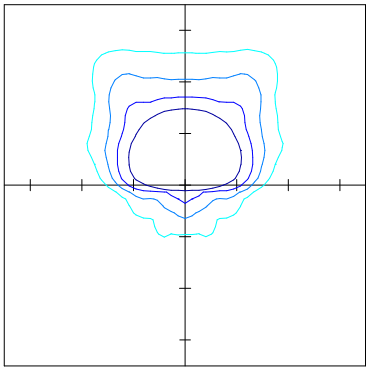
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Medium
BUG Rating	B2-U0-G5
Street Side Lumen %	86.3%
House Side Lumen %	13.7%
Uplight %	0.0%

VALS 18L 4M 40K8

V-LOCITY Area Small, 18,000lm, Type 4 Medium Distribution



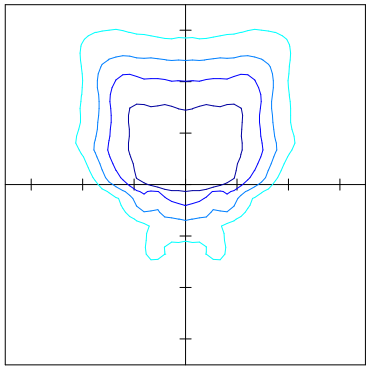
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Very Short
BUG Rating	B1-U0-G3
Street Side Lumen %	91.0%
House Side Lumen %	9.0%
Uplight %	0.0%

VALS 18L 4F 40K8

V-LOCITY Area Small, 18,000lm, Type 4 Forward Distribution



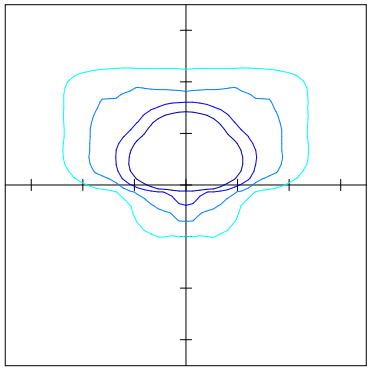
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Short
BUG Rating	B2-U0-G4
Street Side Lumen %	87.9%
House Side Lumen %	12.1%
Uplight %	0.0%

VALS 18L FTM 40K8

V-LOCITY Area Small, 18,000lm, Forward Throw Medium Distribution



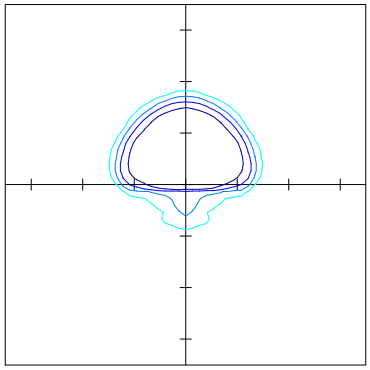
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	III Very Short
BUG Rating	B1-U0-G2
Street Side Lumen %	90.2%
House Side Lumen %	9.8%
Uplight %	0.0%

VALS 18L AM 40K8

V-LOCITY Area Small, 18,000lm, Automotive Merchandise Distribution



20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	III Very Short
BUG Rating	B1-U0-G2
Street Side Lumen %	94.1%
House Side Lumen %	5.9%
Uplight %	0.0%

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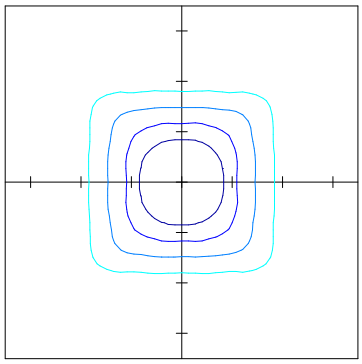
PHOTOMETRICS (CONTINUED)

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

VALS 18L 5QN 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Narrow Distribution



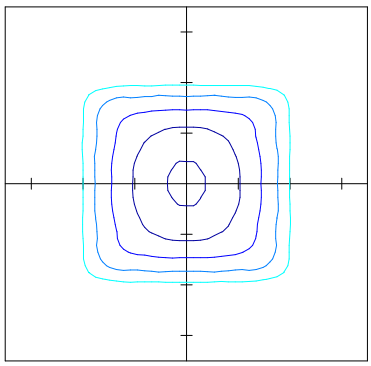
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Very Short
BUG Rating	B3-U0-G2
0 - 60° Zonal Lumens	73.8%
60 - 90° Zonal Lumens	26.2%
Uplight %	0.0%

VALS 18L 5QM 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Medium Distribution



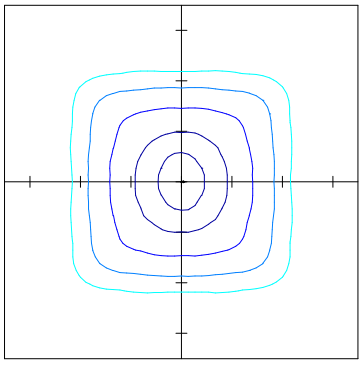
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Short
BUG Rating	B4-U0-G2
0 - 60° Zonal Lumens	51.0%
60 - 90° Zonal Lumens	49.0%
Uplight %	0.0%

VALS 18L 5Q 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Distribution



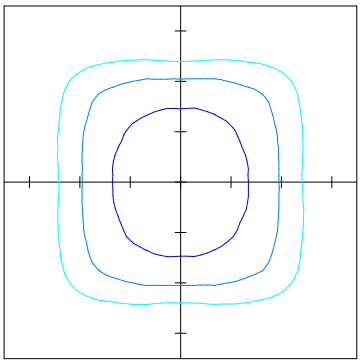
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Medium
BUG Rating	B5-U0-G3
0 - 60° Zonal Lumens	41.8%
60 - 90° Zonal Lumens	58.2%
Uplight %	0.0%

VALS 18L 5QW 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Wide Distribution



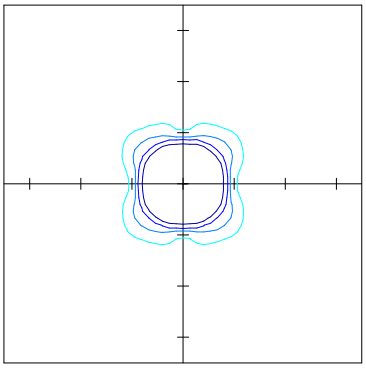
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Medium
BUG Rating	B5-U0-G3
0 - 60° Zonal Lumens	33.7%
60 - 90° Zonal Lumens	66.3%
Uplight %	0.0%

VALS 18L WF 40K8

V-LOCITY Area Small, 18,000lm, Wide Flood Distribution



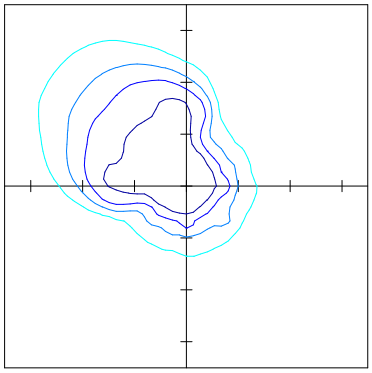
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

NEMA Type	6x6
Max Candela	9,352
Max Candela Angle	-19.5H x -29V
Beam Angle	80.7 x 90.0°
Field Angle	109.9 x 117.7°

VALS 18L LC 40K8

V-LOCITY Area Small, 18,000lm, Left Corner Distribution



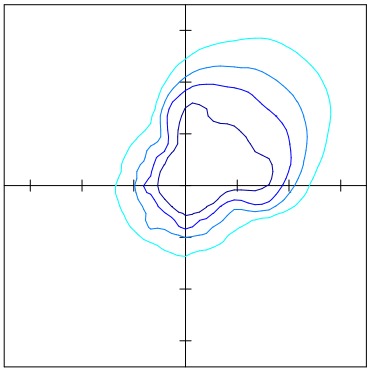
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	N/A
BUG Rating	B3-U0-G4
Street Side Lumen %	74.3%
House Side Lumen %	25.7%
Uplight %	0.0%

VALS 18L RC 40K8

V-LOCITY Area Small, 18,000lm, Right Corner Distribution



20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	N/A
BUG Rating	B3-U0-G4
Street Side Lumen %	74.3%
House Side Lumen %	25.7%
Uplight %	0.0%

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PRODUCT DIMENSIONS

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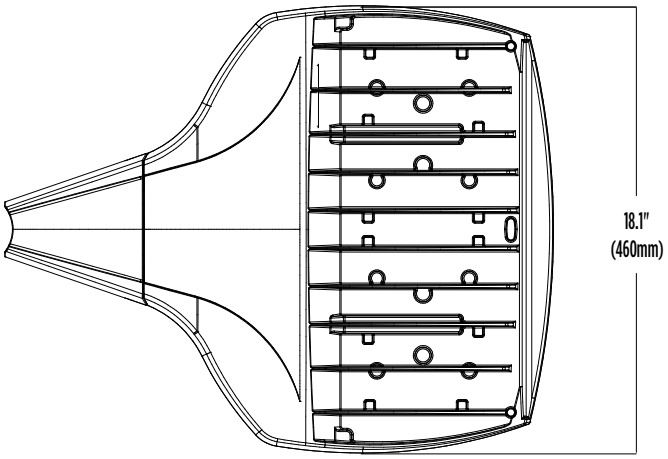


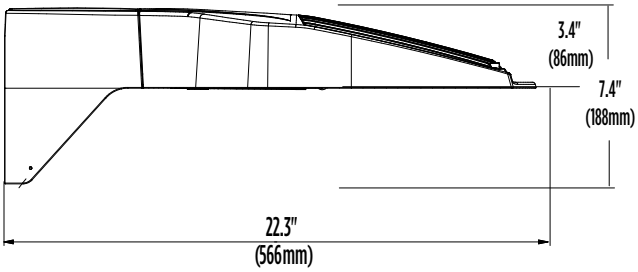
Luminaire EPA Chart - SA Side Arm		
Tilt Degree		0°
	Single	0.7
	D180°	1.3
	D90°	1.0
	T90°	1.4
	TN120°	1.5
	Q90°	1.4

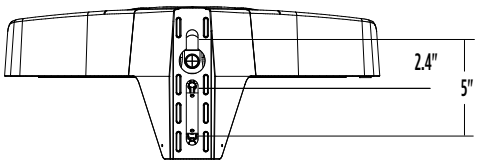
Luminaire EPA Chart - UA Universal Adjustable Arm						
Tilt Degree		0°	15°	30°	45°	60°
	Single	0.8	0.8	1.3	1.8	2.1
	D180°	1.5	1.9	2.5	3.2	3.8
	D90°	1.5	1.9	2.5	3.2	3.8
	T90°	1.8	2.1	2.7	3.2	3.8
	TN120°	1.8	2.3	3.4	4.3	5.0
	Q90°	1.8	2.1	2.7	3.2	3.8

Luminaire EPA Chart - MA Mast Arm		
Tilt Degree		0°
	Single	0.5

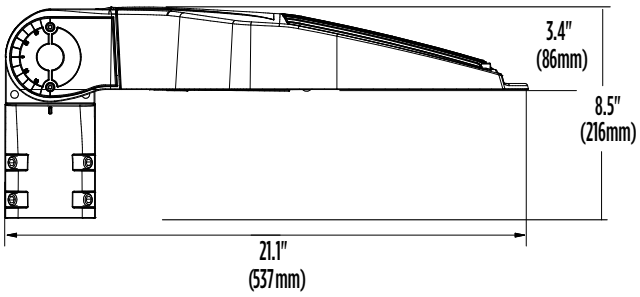
Luminaire EPA Chart - SF Adjustable Slip Fitter						
Tilt Degree		0°	15°	30°	45°	60°
	Single	0.7	1.3	1.4	1.8	2.2

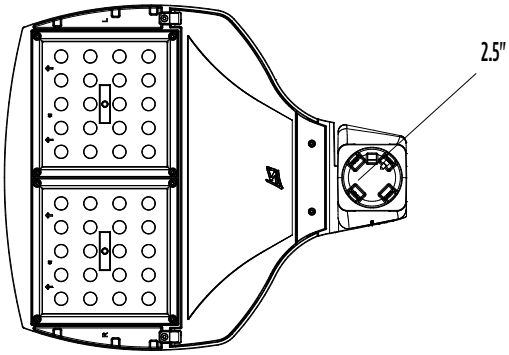
SA Universal Side Arm Mount



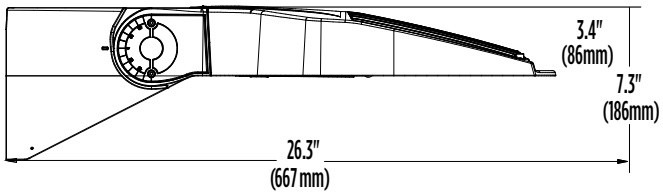


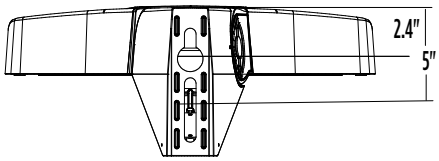
SF Adjustable Slipfitter



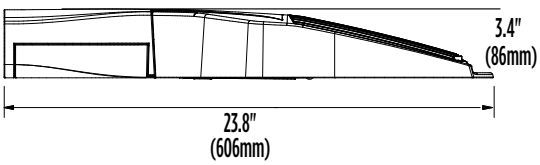


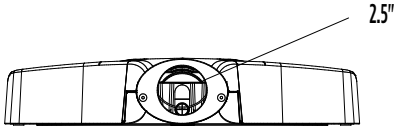
UA Universal Adjustable Arm





MA Mast Arm





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CONTROLS

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Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App | Apple | Android

AirLink Blue (ALBMRxLR, ALBCSx)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App | Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
OMSBTxL/IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High
OMS	Motion	No Motion	N/A	N/A	N/A	30 seconds	Auto

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

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Catalog # : _____ Project : _____ Type : _____

Prepared By : _____ Date : _____

Steel Poles

Square Straight

QUICK LINKS

Ordering Guide | Configurations | Dimensions | EPA

FEATURES & SPECIFICATIONS

Pole Shaft

- Straight poles are 4”, 5”, or 6” square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8” O.D. high-strength pipe. Tenon is 4-3/4” in length.

Hand-Hole

- Standard hand-hole location is 12” above pole base.
- Poles 22’ and above have a 3x6 reinforced hand hole.

Base

- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts

- Anchor bolts are not provided as standard on pole orders. Anchor bolts must be ordered as an accessory, anchor bolts feature zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug

- Ground lug is standard.

Duplex Receptacle

- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter

- Self-testing Ground fault circuit interrupter is optional.

Finishes

- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty. NOTE: Warranty only applies to the finish.
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years. NOTE: Warranty only applies to the finish.

Determining The Luminaire/Pole Combination For Your Application:

- Select luminaire from luminaire ordering information.
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select Pole Height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper

- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Warranty

- LSI poles come standard with a 1 year materials and workmanship warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings

- UL Listed
- BAA/TAA Compliant
- BABAA Compliant *If Specified

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Steel Poles Square Straight

Type : _____

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

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TYPICAL ORDER EXAMPLE: 4SQ B3 S11G 24 S PLP DGP

Pole Series	Mounting Method	Material	Height [2]	Mounting Configuration	Pole Finish	Options
4SQ - 4" x 4" Square Straight Pole (New Build) **5SQ** - 5" x 5" Square Straight Pole (New Build) **6SQ** - 6" x 6" Square Straight Pole (New Build) **5SQU** - 5" x 5" Square Straight Pole (Retrofit) **6SQU** - 6" x 6" Square Straight Pole (Retrofit)	**Bolt-On Mount**[1] - See pole selection guide for patterns and fixture matches **B5** - 5" Traditional Drilling Pattern **B3** - 3" Reduced Pattern **B2** - 2" Low Profile Drilling Pattern **B2R** - Raised 2" Low Profile Drilling Pattern **(LAL4 ONLY)** **T** - Tenon Mount - See pole selection guide for tenon and fixture/bracket matches **I** - No Mounting Holes[1]	**S11G** – 11 Ga. Steel (4SQ/4SQU and 5SQ/5SQU Only) **S07G** – 07 Ga. Steel	**8'** **10'** **12'** **13'** **14'** **15'** **16'** **17'** **17'6"** **18'** **20'** **22'** **22'6"** **23'** **24'** **25'** **26'** **27'** **28'** **30'** **32'** **35'** **39'**	**S** – Single/Parallel **D180** – Double **D90** – Double **DN90** – Double **T90** – Triple **TN120** – Triple **Q90** – Quad **QN90** – Quad **N** – Tenon Mount (Standard Tenon size is 2-3/8" O.D.)[8] **(Blank)** - Use with I for Mounting Method	**BRZ** – Bronze **BLK** – Black **PLP** – Platinum Plus **WHT** – White **SVG** – Satin Verde Green **GPT** – Graphite **MSV** – Metallic Silver **BZA** – Alternate Bronze **GMG** - Gun Metal Gray	**GA** – Galvanized Anchor Bolts **SF** – Single Flood[3] **DF** – Double Flood [3] **DGP** – DuraGrip® Plus **LAB** – Less Anchor Bolts **CRXX** - Conduit Raceway[4] **USA** - BABAA Compliant[5]

Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION

Part Number	Description
122559CLR	4BC – 4" Square Base Cover
122561CLR	5BC – 5" Square Base Cover
122563CLR	6BC – 6" Square Base Cover
132488CLR	5BC - 5' Square Universal Base Cover
131252CLR	6BC - 6' Square Universal Base Cover
122566CLR	ER2 – Weatherproof Duplex Receptacle
122567CLR	GFI – Ground Fault Circuit Interrupter
132336	MH5 - mounting Hole Plugs for use with 5" traditional drill pattern (3 set of 3 plugs)
681126	MH3 - mounting Hole Plugs for use with 3" reduced drill pattern (3 set of 3 plugs)
725841	MH2 - Mounting Hole Plugs for use with 2" reduced drill pattern (3 sets of 3 plugs)
172539	Vibration Damper - 4" Square Pole (bolt-on mount only)
172538	Vibration Damper - 5" Square Pole (bolt-on mount only)
178361	Vibration Damper - 6" Square Pole (bolt-on mount only)

ANCHOR BOLT KIT ORDERING INFORMATION

Part Number	Description
AB KIT 122584	4SQ S11G/S07G Anchor Bolts (Steel Plated)
AB KIT 122609	4SQ S11G/S07G Anchor Bolts (Galvanized)
AB KIT 1225850	5SQ S11G Anchor Bolts (Steel Plated)
AB KIT 122610	5SQ S11G Anchor Bolts (Galvanized)
AB KIT 122586	5SQ S07G Anchor Bolts (Steel Plated)
AB KIT 122611	5SQ S07G Anchor Bolts (Galvanized)
AB KIT 122612	6SQ S07G Anchor Bolts (Galvanized)

1 - See Area Light Brackets - 3" Reduced Drill Pattern and Area Light Brackets - 5" Traditional Drill Pattern Spec Sheets.
2 - Pole heights will have +/- 1/2" tolerance.
3 - See Flood Lighting Brackets section for choice of FBO brackets.
4 - CR selection must indicate required height and side of pole mounting location. Mounting template required at time of order.
5 - USA only applies to 4SQ poles up to 26' and 5SQ/5SQU poles up to 30'.

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Steel Poles Square Straight

Type : _____

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DRILLING LOCATIONS

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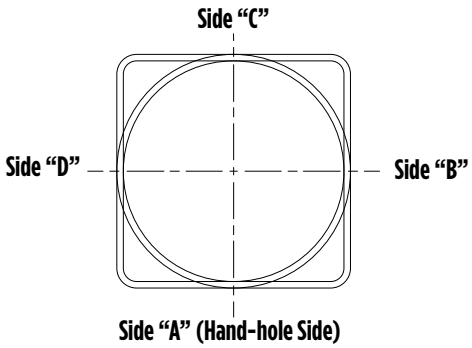
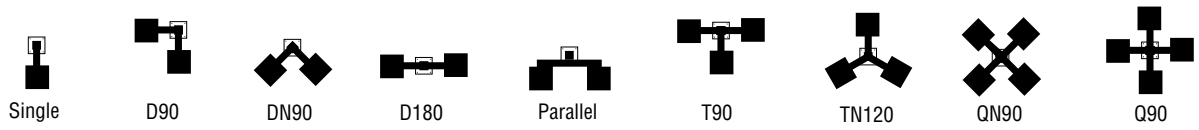
Sides	A	B	C	D
Hand-hole	X			
Single	X			
D180		X		X
D90	X			X
DN90[1]				
T90	X	X		X
TN120[2]				
Q90	X	X	X	X
QN90[3]				
Single FBO	X			
Double FBO		X		X



1 - Two locations will be 45° to the left and right of Side A.
2 - Other two locations will be 120° to the left and right of Side A.
3 - Two locations will be 45° to the left and right of Side A and two locations will be 135° to the left and right of Side A.

Consult factory for custom variations. Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, except on 20' poles. Maximum height for SF and DF pole preparations on 20' poles is 13' from the base.

FIXTURE CONFIGURATIONS



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BOLT CIRCLE

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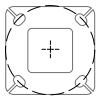
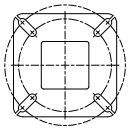
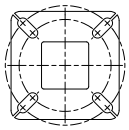
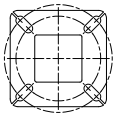
STANDARD BASEPLATE

	4" (102mm) square 10-1/8" (257mm) sq.	5" (127mm) square 10-1/8" (257mm) sq.	5" (127mm) square 10-1/8" (257mm) sq.	6" (152mm) square 12" (305mm) sq.
				
	11" (279mm) Dia. Bolt Circle	11" (279mm) Dia. Bolt Circle	11" (279mm) Dia. Bolt Circle	12" (305mm) Dia. Bolt Circle
Bolt Circle Designator	**B**	**C**	**D**	**J**
Bolt Circle	Slotted 8"-11" (203mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 12" (305mm)
Anchor Bolt Size	3/4" x 24" (19mm x 609mm)	3/4" x 24" (19mm x 609mm)	1"x30" (25mm x 762mm)	1"x30" (25mm x 762mm)
Anchor Bolt Projection	3-1/4" (83mm)	3-1/4" (83mm)	4" (102mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	4-5/8" (117mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 1" thk. (257mm x 25mm)	12" sq. x 1-1/8" thk. (305mm x 29mm)
Pole Gauge	11	11	7	7

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.

UNIVERSAL BASEPLATE

	5" (127mm) square 11.125" (283mm) sq.	5" (127mm) square 11.75" (298mm) sq.	6" (152mm) square 12-1/2" (318mm) sq.
			
	5SQ	5SQ	14" (356mm) Dia. Bolt Circle
Bolt Circle Designator	**F**	**G**	**H**
Bolt Circle	Slotted 10-13"	Slotted 10-13"	Slotted 11"-14" (279mm-356mm)
Anchor Bolt Size	3/4x 24" (19mm x 609 mm)	1"x30" (25mm x 762mm)	1"x30" (25mm x 762mm)
Anchor Bolt Projection	3-1/4" (83 mm)	4" (102 mm)	4" (102mm)
Base Plate Opening for Wireway Entry	4-3/4" (121mm)	5-1/8" (130 mm)	5-5/8" (143mm)
Base Plate Dimensions	11-1/8 sq. x 3/4" thk. (283 mm x 19 mm)	11-3/4" sq. x 1" thk. (298 mm x 25 mm)	12 1/2" sq. x 1 1/8" thk. (318mm x 29mm)
Pole Gauge	11	7	7

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.

1 - Full Galvanized option is 1" x 30" straight headed anchor bolt. Contact factory for questions

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Steel Poles Square Straight

Type : _____

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PRODUCT DIMENSIONS

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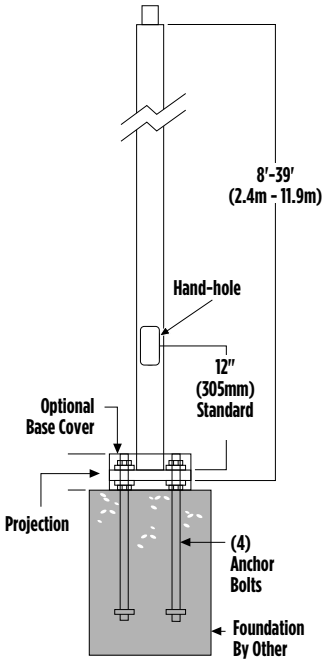
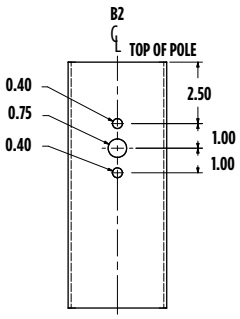
SQT –
N= 2-3/8" (60mm) O.D. x 4-3/4" (121mm) Tenon

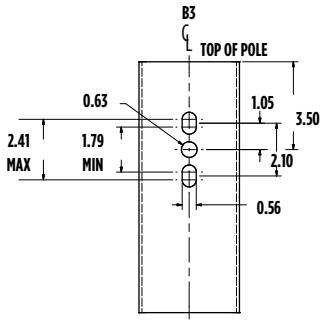


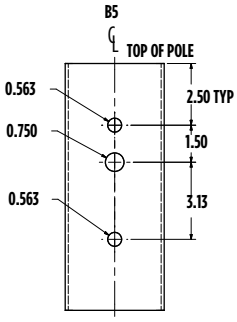
SF –
Single Flood
Pole Preparation

SHIPPING WEIGHTS	
4"(102mm) sq. 11 Ga. is approximately	7.50 lbs./ft.
4"(102mm) sq. 07 Ga. is approximately	10.00 lbs./ft.
5"(127mm) sq. 11 Ga. is approximately	9.00 lbs./ft.
5"(127mm) sq. 07 Ga. is approximately	12.50 lbs./ft.
6"(152mm) sq. 07 Ga. is approximately	15.40 lbs./ft.
Anchor Bolts (3/4" x 24")(19mm x 609mm)	15 lbs. (7kg)/set
Anchor Bolts (1" x 30") (25mm x 762mm)	30 lbs. (14kg)/set

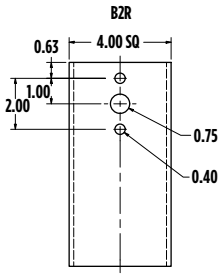
Bolt-On Mount 2-Bolt Pattern

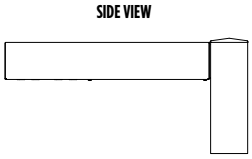






ONLY FOR USE WITH LAL4 PRODUCT
B2R- Raised 2" low profile drilling pattern





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Steel Poles Square Straight

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WIND SPEED

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EPA Information

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.

CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

NOTE: Pole calculations include a 1.3 gust factor over steady wind velocity. Example: poles designed to withstand 80 MPH steady wind will withstand gusts to 104 MPH. EPAs are for locations 100 miles away from hurricane ocean lines. Consult LSI for other areas. Note: Hurricane ocean lines are the Atlantic and Gulf of Mexico coastal areas. For applications in Florida or Canada, consult factory.

POLE[1]	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
4" x 11-ga x 12'	12	11	B	8" - 11"	0.75	13.9	12.5	11.3	9.2	7.6	6.3	5.2	4.3	3.6
4" x 11-ga x 14'	14	11	B	8" - 11"	0.75	10.7	9.5	8.5	6.8	5.4	4.4	3.5	2.7	2.1
4" x 11-ga x 16'	16	11	B	8" - 11"	0.75	8.2	7.2	6.4	4.9	3.8	2.9	2.1	1.5	1.0
4" x 11-ga x 18'	18	11	B	8" - 11"	0.75	6.3	5.4	4.7	3.4	2.4	1.6	1.0	0.4	n/a
4" x 11-ga x 20'	20	11	B	8" - 11"	0.75	4.6	3.9	3.2	2.1	1.2	0.6	n/a	n/a	n/a
4" x 11-ga x 22'	22	11	B	8" - 11"	0.75	7.6	6.6	5.7	4.2	3.0	2.0	1.2	0.5	n/a
4" x 11-ga x 24'	24	11	B	8" - 11"	0.75	6.0	5.1	4.3	2.9	1.8	0.9	n/a	n/a	n/a
4" x 11-ga x 26'	26	11	B	8" - 11"	0.75	4.6	3.7	3.0	1.7	0.7	n/a	n/a	n/a	n/a
4" x 7-ga x 14'	14	7	B	8" - 11"	0.75	18.3	16.4	14.9	12.2	10.2	8.5	7.1	5.9	5.0
4" x 7-ga x 16'	16	7	B	8" - 11"	0.75	14.7	13.2	11.8	9.6	7.8	6.3	5.2	4.2	3.4
4" x 7-ga x 18'	18	7	B	8" - 11"	0.75	11.9	10.5	9.3	7.4	5.9	4.6	3.6	2.8	2.1
4" x 7-ga x 20'	20	7	B	8" - 11"	0.75	9.6	8.4	7.4	5.7	4.3	3.2	2.3	1.6	0.9
4" x 7-ga x 22'	22	7	B	8" - 11"	0.75	7.7	6.6	5.7	4.2	3.0	2.0	1.2	0.5	n/a
4" x 7-ga x 24'	24	7	B	8" - 11"	0.75	6.0	5.1	4.3	2.9	1.8	0.9	n/a	n/a	n/a
4" x 7-ga x 26'	26	7	B	8" - 11"	0.75	4.6	3.7	3.0	1.7	0.7	n/a	n/a	n/a	n/a
4" x 7-ga x 28"[2]	28	7	B	8" - 11"	0.75	3.3	2.5	1.8	0.7	n/a	n/a	n/a	n/a	n/a
4" x 7-ga x 30"[2]	30	7	B	8" - 11"	0.75	2.2	1.4	0.8	n/a	n/a	n/a	n/a	n/a	n/a
5" x 11-ga x 14'	14	11	C	9" - 11"	0.75	17.4	15.7	14.1	11.5	9.3	7.7	6.3	5.2	4.2
5" x 11-ga x 16'	16	11	C	9" - 11"	0.75	13.8	12.3	10.9	8.7	6.9	5.5	4.3	3.3	2.5
5" x 11-ga x 18'	18	11	C	9" - 11"	0.75	10.8	9.6	8.4	6.5	4.9	3.7	2.6	1.8	1.1
5" x 11-ga x 20'	20	11	C	9" - 11"	0.75	8.5	7.3	6.3	4.6	3.2	2.1	1.2	0.5	n/a
5" x 11-ga x 22'	22	11	C	9" - 11"	0.75	10.9	9.5	8.3	6.2	4.5	3.2	2.1	1.2	0.5
5" x 11-ga x 24'	24	11	C	9" - 11"	0.75	8.8	7.5	6.4	4.5	3.0	1.8	0.8	n/a	n/a
5" x 11-ga x 26'	26	11	C	9" - 11"	0.75	6.8	5.7	4.6	3.0	1.6	0.6	n/a	n/a	n/a
5" x 11-ga x 28'	28	11	C	9" - 11"	0.75	5.2	4.1	3.2	1.6	0.4	n/a	n/a	n/a	n/a
5" x 11-ga x 30'	30	11	C	9" - 11"	0.75	3.6	2.7	1.8	0.4	n/a	n/a	n/a	n/a	n/a
5" x 7-ga x 20'	20	7	D	9" - 11"	1.00	21.6	19.3	17.3	14.0	11.3	9.2	7.4	6.0	4.8
5" x 7-ga x 22'	22	7	D	9" - 11"	1.00	20.7	18.6	16.6	13.3	10.7	8.5	6.8	5.4	4.2
5" x 7-ga x 24'	24	7	D	9" - 11"	1.00	17.7	15.6	13.8	10.8	8.5	6.6	5.0	3.7	2.6
5" x 7-ga x 26'	26	7	D	9" - 11"	1.00	14.9	13.1	11.4	8.8	6.6	4.9	3.5	2.3	1.3
5" x 7-ga x 28'	28	7	D	9" - 11"	1.00	12.5	10.9	9.4	6.9	4.9	3.4	2.1	1.0	n/a
5" x 7-ga x 30'	30	7	D	9" - 11"	1.00	10.3	8.9	7.5	5.2	3.4	2.0	0.8	n/a	n/a
5" x 7-ga x 35'	35	7	D	9" - 11"	1.00	6.0	4.8	3.6	1.8	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 24'	24	7	J	12"	1.00	18.6	16.4	14.3	11.2	8.6	6.5	4.8	3.4	2.2
6" x 7-ga x 26'	26	7	J	12"	1.00	15.6	13.4	11.7	8.8	6.5	4.6	3.0	1.8	0.7
6" x 7-ga x 28'	28	7	J	12"	1.00	12.9	10.9	9.3	6.7	4.6	2.8	1.5	n/a	n/a
6" x 7-ga x 30'	30	7	J	12"	1.00	10.4	8.8	7.3	4.8	2.9	1.3	n/a	n/a	n/a
6" x 7-ga x 32'	32	7	J	12"	1.00	8.3	6.8	5.5	3.1	1.3	n/a	n/a	n/a	n/a
6" x 7-ga x 34'	34	7	J	12"	1.00	6.5	5.0	3.7	1.6	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 35'	35	7	J	12"	1.00	5.5	4.2	2.9	0.9	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 39'	39	7	J	12"	1.00	2.3	1.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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Steel Poles Square Straight

Type : _____

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WIND SPEED

POLE[1]	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor Bolt Dia (in)	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
5" x 11-ga x 14'	14	11	F	11"	0.75	17.6	15.8	14.2	11.5	9.4	7.7	6.3	5.2	4.3
5" x 11-ga x 14'	14	11	F	13"	0.75	17.6	15.8	14.2	11.5	9.4	7.7	6.3	5.2	4.3
5" x 11-ga x 16'	16	11	F	11"	0.75	13.9	12.2	11.0	8.8	7.0	5.5	4.3	3.4	2.5
5" x 11-ga x 16'	16	11	F	13"	0.75	13.9	12.2	11.0	8.8	7.0	5.5	4.3	3.4	2.5
5" x 11-ga x 18'	18	11	F	11"	0.75	11.0	9.6	8.4	6.5	5.0	3.7	2.7	1.8	1.1
5" x 11-ga x 18'	18	11	F	13"	0.75	11.0	9.6	8.4	6.5	5.0	3.7	2.7	1.8	1.1
5" x 11-ga x 20'	20	11	F	11"	0.75	8.6	7.4	6.4	4.6	3.3	2.2	1.3	0.5	-
5" x 11-ga x 20'	20	11	F	13"	0.75	8.6	7.4	6.4	4.6	3.3	2.2	1.3	0.5	-
5" x 11-ga x 22'	22	11	F	11"	0.75	12.7	11.1	9.6	7.4	5.6	4.1	3.0	2.0	1.1
5" x 11-ga x 22'	22	11	F	12"	0.75	10.3	8.9	7.7	5.7	4.1	2.8	1.8	0.9	-
5" x 11-ga x 22'	22	11	F	13"	0.75	8.6	7.4	6.4	4.6	3.1	2.0	1.1	-	-
5" x 11-ga x 24'	24	11	F	11"	0.75	10.2	8.9	7.6	5.6	4.0	2.6	1.6	0.7	-
5" x 11-ga x 24'	24	11	F	12"	0.75	8.0	6.9	5.8	4.0	2.6	1.5	0.5	-	-
5" x 11-ga x 24'	24	11	F	13"	0.75	6.7	5.5	4.6	3.0	1.7	0.7	-	-	-
5" x 11-ga x 26'	26	11	F	11"	0.75	8.1	6.9	5.8	4.0	2.5	1.3	-	-	-
5" x 11-ga x 26'	26	11	F	12"	0.75	6.2	5.1	4.1	2.6	1.3	-	-	-	-
5" x 11-ga x 26'	26	11	F	13"	0.75	5.0	4.0	3.1	1.6	0.5	-	-	-	-
5" x 11-ga x 28'	28	11	F	11"	0.75	6.3	5.2	4.3	2.5	1.1	-	-	-	-
5" x 11-ga x 28'	28	11	F	12"	0.75	4.6	3.6	2.7	1.2	-	-	-	-	-
5" x 11-ga x 28'	28	11	F	13"	0.75	3.4	2.5	1.7	-	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	11"	0.75	4.7	3.7	2.8	1.2	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	12"	0.75	3.1	2.2	1.4	-	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	13"	0.75	2.0	1.2	0.5	-	-	-	-	-	-
5" x 7-ga x 20'	20	7	G	11"	0.75	19.0	17.0	15.0	12.2	9.7	7.8	6.2	5.0	3.8
5" x 7-ga x 20'	20	7	G	12"	0.75	21.4	19.1	17.1	13.8	11.2	9.1	7.3	5.9	4.7
5" x 7-ga x 20'	20	7	G	13"	0.75	21.4	19.2	17.2	13.9	11.3	9.2	7.4	6.0	4.8
5" x 7-ga x 20'	20	7	G	11"	1	21.7	19.4	17.4	14.0	11.4	9.3	7.5	6.0	4.8
5" x 7-ga x 20'	20	7	G	13"	1	21.7	19.4	17.4	14.0	11.4	9.3	7.5	6.0	4.8
5" x 7-ga x 22'	22	7	G	11"	0.75	16.0	14.1	12.5	9.8	7.6	5.9	4.4	3.3	2.3
5" x 7-ga x 22'	22	7	G	12"	0.75	17.7	15.9	14.2	11.2	8.7	7.0	5.4	4.1	3.0
5" x 7-ga x 22'	22	7	G	13"	0.75	19.9	17.3	15.6	12.6	10.0	8.0	6.3	5.0	3.8
5" x 7-ga x 22'	22	7	G	11"	1	21.0	18.7	16.7	13.4	10.6	8.5	6.8	5.4	4.2
5" x 7-ga x 22'	22	7	G	12"	1	23.4	20.6	18.4	15.0	12.2	9.9	8.0	6.4	5.1
5" x 7-ga x 22'	22	7	G	13"	1	21.3	18.8	17.0	13.7	11.0	8.8	7.0	5.6	4.3
5" x 7-ga x 24'	24	7	G	11"	0.75	13.3	11.6	10.0	7.7	5.7	4.2	2.9	1.9	1.0
5" x 7-ga x 24'	24	7	G	12"	0.75	15.0	13.0	11.6	8.9	6.8	5.1	3.8	2.6	1.7
5" x 7-ga x 24'	24	7	G	13"	0.75	16.6	14.6	12.9	10.2	8.0	6.1	4.6	3.3	2.3
5" x 7-ga x 24'	24	7	G	11"	1	17.5	15.7	13.9	10.9	8.6	6.7	5.0	3.7	2.7
5" x 7-ga x 24'	24	7	G	12"	1	20.0	17.4	15.4	12.3	9.9	7.8	6.0	4.7	3.5
5" x 7-ga x 24'	24	7	G	13"	1	18.1	16.0	14.2	11.0	8.7	6.7	5.3	3.9	2.8
5" x 7-ga x 26'	26	7	G	11"	0.75	10.9	9.3	8.0	5.9	4.1	2.7	1.6	0.6	-
5" x 7-ga x 26'	26	7	G	12"	0.75	12.4	10.9	9.5	7.0	5.1	3.6	2.3	1.3	-
5" x 7-ga x 26'	26	7	G	13"	0.75	14.0	12.3	10.7	8.1	6.0	4.4	3.1	2.0	1.0
5" x 7-ga x 26'	26	7	G	11"	1	15.0	13.2	11.5	8.8	6.7	4.9	3.5	2.3	1.3

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Steel Poles Square Straight

Type : _____

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WIND SPEED

POLE[1]	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor Bolt Dia (in)	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
5" x 7-ga x 26'	26	7	G	12"	1	17.0	14.8	13.0	10.2	7.9	6.0	4.4	3.1	2.1
5" x 7-ga x 26'	26	7	G	13"	1	15.3	13.5	11.8	9.0	6.8	5.0	3.6	2.5	1.4
5" x 7-ga x 28'	28	7	G	11"	0.75	8.9	7.4	6.3	4.3	2.7	1.4	-	-	-
5" x 7-ga x 28'	28	7	G	12"	0.75	10.2	8.8	7.5	5.3	3.5	2.1	1.0	-	-
5" x 7-ga x 28'	28	7	G	13"	0.75	11.8	10.2	8.8	6.4	4.5	3.0	1.7	0.7	-
5" x 7-ga x 28'	28	7	G	11"	1	12.5	10.9	9.5	7.0	5.0	3.3	2.1	1.0	-
5" x 7-ga x 28'	28	7	G	12"	1	14.2	12.4	11.0	8.2	6.0	4.3	3.0	1.7	0.8
5" x 7-ga x 28'	28	7	G	13"	1	12.9	11.0	9.7	7.2	5.2	3.6	2.2	1.1	-
5" x 7-ga x 30'	30	7	G	11"	0.75	7.0	5.8	4.7	2.8	1.3	-	-	-	-
5" x 7-ga x 30'	30	7	G	12"	0.75	8.4	7.0	5.8	3.8	2.2	0.9	-	-	-
5" x 7-ga x 30'	30	7	G	13"	0.75	9.7	8.2	7.0	4.8	3.0	1.6	0.5	-	-
5" x 7-ga x 30'	30	7	G	11"	1	10.4	8.8	7.6	5.3	3.4	2.0	0.8	-	-
5" x 7-ga x 30'	30	7	G	12"	1	12.0	10.3	9.0	6.4	4.4	2.9	1.6	0.5	-
5" x 7-ga x 30'	30	7	G	13"	1	10.6	9.1	7.7	5.5	3.6	2.1	1.0	-	-
5" x 7-ga x 35'	35	7	G	11"	0.75	3.2	2.2	1.2	-	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	12"	0.75	4.4	3.2	2.2	0.5	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	13"	0.75	5.5	4.2	3.1	1.3	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	11"	1	6.0	4.8	3.6	1.8	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	12"	1	7.3	6.0	4.8	2.7	1.1	-	-	-	-
5" x 7-ga x 35'	35	7	G	13"	1	6.3	5.0	3.8	1.9	-	-	-	-	-
6" x 7-ga x 24'	24	7	H	11"	1	16.5	14.4	12.6	9.6	7.2	5.3	3.8	2.5	1.4
6" x 7-ga x 24'	24	7	H	12-1/2"	1	19.8	17.5	15.4	12.0	9.2	7.0	5.3	3.8	2.7
6" x 7-ga x 24'	24	7	H	14"	1	23.0	20.5	18.0	14.3	11.2	8.9	6.9	5.3	3.8
6" x 7-ga x 26'	26	7	H	11"	1	13.7	11.8	10.2	7.5	5.3	3.6	2.1	1.0	-
6" x 7-ga x 26'	26	7	H	12-1/2"	1	16.5	14.6	12.6	9.6	7.0	5.2	3.6	2.2	1.1
6" x 7-ga x 26'	26	7	H	14"	1	19.6	17.3	15.2	11.7	8.9	6.7	5.0	3.5	2.2
6" x 7-ga x 28'	28	7	H	11"	1	11.0	9.3	7.8	5.5	3.5	1.9	0.6	-	-
6" x 7-ga x 28'	28	7	H	12-1/2"	1	13.8	12.0	10.2	7.5	5.2	3.4	1.9	0.7	-
6" x 7-ga x 28'	28	7	H	14"	1	16.4	14.5	12.5	9.4	6.9	4.7	3.2	1.8	0.7
6" x 7-ga x 30'	30	7	H	11"	1	9.0	7.3	6.0	3.6	1.9	0.5	-	-	-
6" x 7-ga x 30'	30	7	H	12-1/2"	1	11.4	9.6	8.0	5.5	3.4	1.7	-	-	-
6" x 7-ga x 30'	30	7	H	14"	1	14.0	12.0	10.0	7.2	5.0	3.2	1.6	-	-
6" x 7-ga x 32'	32	7	H	11"	1	7.0	5.5	4.2	2.0	-	-	-	-	-
6" x 7-ga x 32'	32	7	H	12-1/2"	1	9.2	7.6	6.0	3.8	1.8	-	-	-	-
6" x 7-ga x 32'	32	7	H	14"	1	11.4	9.7	8.0	5.4	3.2	1.6	-	-	-
6" x 7-ga x 34'	34	7	H	11"	1	5.1	3.7	2.5	0.6	-	-	-	-	-
6" x 7-ga x 34'	34	7	H	12-1/2"	1	7.2	5.6	4.4	2.2	-	-	-	-	-
6" x 7-ga x 34'	34	7	H	14"	1	9.3	7.6	6.2	3.6	1.7	-	-	-	-
6" x 7-ga x 35'	35	7	H	11"	1	4.2	3.0	1.8	-	-	-	-	-	-
6" x 7-ga x 35'	35	7	H	12-1/2"	1	6.2	4.8	3.6	1.4	-	-	-	-	-
6" x 7-ga x 35'	35	7	H	14"	1	8.2	6.6	5.2	2.9	1.0	-	-	-	-
6" x 7-ga x 39'	39	7	H	11"	1	1.0	-	-	-	-	-	-	-	-
6" x 7-ga x 39'	39	7	H	12-1/2"	1	3.0	1.6	0.5	-	-	-	-	-	-
6" x 7-ga x 39'	39	7	H	14"	1	4.6	3.3	2.0	-	-	-	-	-	-

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GEOTECHNICAL REPORT

CITIZENS BANK PORTSMOUTH
134 PLEASANT STREET
PORTSMOUTH, NEW HAMPSHIRE

April 1, 2025

GSI Project No. 225147

Prepared for:

Mark A. McNabb
McNabb Properties, LTD
3 Pleasant Street, Suite 400
Portsmouth, NH 03801

Prepared by:

Geotechnical Services, Inc.
55 North Stark Highway
Weare, NH 03281

Geotechnical Services Inc.
Geotechnical Engineering ◣ Environmental Studies ◣ Materials Testing ◣ Construction Monitoring

April 1, 2025

Mark A. McNabb
McNabb Properties, LTD
3 Pleasant Street, Suite 400
Portsmouth, NH 03801
Email: house@mcnabbgroup.com

RE: Engineering Services Proposal
Citizens Bank – Portsmouth
134 Pleasant Street
Portsmouth, New Hampshire

GSI Project No. 225147

Dear Mr. McNabb:

This report presents the results of a geotechnical investigation completed by Geotechnical Services, Inc. (GSI) for the construction of the proposed third floor addition at the Citizens Bank in Portsmouth, New Hampshire. The objective of the geotechnical investigation was to explore subsurface conditions within the proposed development area and formulate geotechnical engineering recommendations for the design and construction of foundations, and floor slabs. Included are the findings of our subsurface exploration program and an engineering evaluation of the subsurface conditions encountered. The contents of this report are subject to the Limitations included in Appendix A.

PURPOSE AND SCOPE

The scope of services performed by GSI to meet the above-stated objectives for geotechnical engineering services included the following:

1. Coordination and observation of two (2) test borings at the locations illustrated on the attached Figure 2;

2. Evaluation of appropriate foundation systems based on subsurface conditions encountered. Formulation of design parameters for spread footing foundation and slab on-grade construction, including allowable bearing pressure and prediction of long-term settlement values;

3. Formulation of earthwork and foundation construction procedures to be followed during the construction phase of this project;

4. Establishment of seismic design parameters and liquefaction potential based on the subsurface profile and the proposed structure;

5. Preparation of this geotechnical engineering report which summarizes our findings and recommendations.

SITE AND PROJECT INFORMATION

The project involves the construction of a third floor at the existing Citizen's Bank building at 134 Pleasant Street in Portsmouth, New Hampshire. Limited project information was provided, and it is assumed that the existing foundation will be retrofit with larger footings to accommodate the additional loading from the third floor. Site information was referenced from the Citizen's Bank ALTA Survey, dated June 9, 1996.

SUBSURFACE INVESTIGATION

GSI observed a series of two (2) test borings located outside the existing building area designated GSI-1 through GSI-2. Due to the building's mixed-use nature, which includes an active bank as well as other tenants, borings could not be performed on the front or sides of the building. As a result, the borings were limited to the rear of the building. The borings were advanced to depths of 14.5 and 27.5 feet below ground surface. The subsurface explorations classified the on-site soils according to their color, grain size, and other material properties. The test boring program was conducted by Miller Engineering and Testing, Inc. of Manchester, New Hampshire.

Soil explorations were performed in accordance with methods prescribed by ASTM D1586. Soil samples were obtained at the surface and at five-foot intervals with a 1⅜ inch diameter split-spoon sampler. Standard Penetration Tests (SPTs) were performed at the sampling intervals in accordance with ASTM D1586. Field descriptions of the soils encountered, observed depth to groundwater while drilling when observed, and other pertinent observations are contained in the attached test boring logs. The test boring locations are illustrated on Figure 2 of this report. GSI test boring logs are presented in Appendix B.

SUBSURFACE CONDITIONS

Bituminous Concrete

The test borings were advanced within paved areas. At ground surface, approximately 7 inches of bituminous asphalt concrete was observed.

Fill

Below the bituminous asphalt concrete, the test borings encountered a fill consisting of tan/brown, fine to coarse Sand, little Silt, little Gravel, with various amounts of concrete and brick as well. The fill was observed below the pavement and extended to depths of approximately 6 feet. It is assumed the fill was used to bring up the parking lot to its current elevation.

Silt

Silt was the predominate soil observed during the drilling operations. The silt was observed below the fill layer at depths around 4 to 6 feet below ground surface. The silt was visually classified as tan/ olive, Silt, little fine to medium sand, trace gravel.

Glacial Till

The silt transitioned into a Glacial Till at depths of approximately 14 feet, which extended to refusal. Glacial till is a non-sorted, non-stratified natural deposit consisting of sand, silt, gravel,

and boulders in varying proportions, deposited directly by glaciers in a non-aqueous depositional environment. The material predominantly contained gravel and fine to medium sand, along with significant amounts of silt. The gravel fraction was typically composed of durable, granitic aggregates

Refusal

Test boring refusal was encountered at depths of 14.5 and 27.5 feet. It is assumed the refusal is due to the presence of bedrock, but may also be caused by nested cobbles, very dense soils, boulders, or other obstructions. Refusal is defined as the inability of the augers to advance despite increasing torque and downward pressure applied by the drill rig. Split spoon refusal is defined as either 100 blows or more required to drive the split spoon sampler 12 inches with a 140-lb. hammer falling 30 inches; 50 blows for less than 6 inches of advancement; or 10 blows with no discernable vertical movement of the split spoon sampler

Groundwater

Groundwater was observed following the completion of the test borings at depths of 10 and 20 feet. Groundwater observations should not be considered long-term, equilibrated groundwater levels, but rather an approximate indication of the likely groundwater elevation during construction. Groundwater levels should be anticipated to fluctuate from those measured during drilling operations in response to differences in equilibrated time, rainfall, snowmelt, and seasonal changes.

FOUNDATION DESIGN RECOMMENDATIONS

GSI recommends that building walls, columns and other structural elements be supported by reinforced concrete spread or strip footings bearing directly upon the native Silt described above. An allowable bearing pressure of 1.5 tons per square foot (3,000psf) may then be assumed for design. With regards to footing geometry, the minimum footing width of column and strip footings should be 4 feet and 2 feet, respectively. The spread footings should be founded at least 4 feet below exterior grade to obviate frost action in the bearing strata. If the construction occurs during the winter months, it will be necessary to provide temporary insulation and/or heat application to the foundations.

At the recommended bearing pressures, we anticipate that the total settlement of individual footings under static loading conditions and constructed as recommended herein, will not exceed 1 in., with differential settlements between adjacent footings not exceeding ¾ in. Most of the settlement will likely occur elastically during construction as structure dead loads are placed on the foundations. The live load contribution to foundation settlement is expected to be less than 50% of the dead load thus post construction settlements are not expected to be problematic

ENGINEERING PARAMETER OF ON-SITE SOILS

Based on results of our subsurface exploration program, the following engineering properties of soils that will be supporting foundation elements are estimated as follows:

On-Site Soil Engineering Design Parameters (TABLE 1)

Soil Type	Friction Angle φ (Degrees)	Cohesion c (psf)	Unit Weight γ (pcf)	Coeff. Of Sliding Friction Soil to Concrete (tan δ)
Silt	32	0	110	0.40

SEISMIC DESIGN PARAMETERS

Seismic design parameters have been reviewed with respect to the 2021 Edition of the International Building Code. Upon review of the subsurface soils data, the site is to be associated with Site Class “D” and the design of structural elements should reflect this distinction. The subsurface conditions are also not deemed susceptible to earthquake induced “liquefaction.” A Summary of USGS Design Maps is included as Appendix D.

CONCRETE FLOOR SLAB

We recommend that ground floor slabs be designed as slabs-on-grade designed in accordance with ACI 360R-10. The slab should bear directly upon an 8-inch (minimum) layer of compacted Base Course Soil. The subgrade will consist of compacted structural fill or proof-compacted undisturbed soil. The floor slab may thus be designed following the ACI “elastic support” approach, using a modulus of subgrade reaction value, k = 200 pci.

Slabs should be designed to act independent of foundation walls and column footings with isolation joints. Shrinkage cracking may be controlled with welded wire fabric, reinforcing steel, or contraction joints. Contraction joints in plain concrete should not be spaced a distance greater than 30 times the slab thickness. Saw cuts should be made within 12 hours of slab finishing and penetrate at least ¼ the slab thickness or a minimum of 1 inch. Welded wire fabric or reinforcing steel may also be used to widen the control joint spacing.

For moisture sensitive environments, ACI indicates that a sub-slab vapor retarder may be used beneath the concrete slab. The vapor retarder should be at a minimum; 10-mil polyethylene with joints lapped a minimum of 12 inches. It is emphasized that these are recommendations and that the final decision on the use and location of the sub-slab vapor retarder whether in direct contact with the slab or beneath the layer of compacted Structural Fill should be made considering specific conditions for the project. Factors which may affect this decision include moisture sensitivity of the planned floor finishes, anticipated moisture conditions, including precipitation and exposure before the slab is constructed, and the potential effects of slab curling and cracking. Design guidance is provided in ACI 360R-10, Design of Slabs on Grade, Figure 3-7.

FOUNDATION DRAINAGE, ROOF DRAINAGE, AND SLAB-ON-GRADE DAMP PROOFING RECOMMENDATIONS

Foundation drains are not required as below grade space is not expected to be incorporated into the existing structure. The ground surface immediately adjacent to the foundation should be sloped away from the building to allow for positive drainage. It is recommended that the surficial materials adjacent to the building be relatively impermeable to reduce the volume of precipitation infiltrating into the subsurface. Such impermeable materials may include Portland cement concrete, bituminous concrete, or vegetated silty topsoil. Roof drainage is recommended for the collection of run off because of stormwater. It is recommended that roof drainage and stormwater feature not discharge into foundation drains as applicable.

CONCRETE SIDEWALKS

Where concrete exterior sidewalks are provided, they shall be formed upon a minimum of 12 inches of slab base course or structural fill, which shall be increased to a minimum of 18 inches in the vicinity of exterior doorways, ramps, or other openings for frost protection at building entry points.

EARTHWORK RECOMMENDATIONS

Foundation Subgrade Preparation

Prior to foundation construction, any topsoil, subsoil, or loose fill soils encountered within the building footprint and foundation zone of influence should be removed. Foundation and floor slab subgrades should be proof compacted using a heavy vibratory plate or drum roller prior to foundation construction or placing additional fill in order to densify disturbed soils resulting from excavation and preload the subgrade.

Recommended proof compaction should include 4 passes with a minimum of a 10-ton vibratory roller. During the proof rolling process, the subgrade should be observed by a qualified Geotechnical Engineer to identify areas exhibiting weaving or excessive reaction. Any soils exhibiting excessive reaction should be locally excavated and replaced with free draining structural fill or crushed stone. The foundation subgrade should be observed by a qualified Geotechnical Engineer to verify competency.

Protection of Foundation Subgrades

The contractor must maintain stable, dewatered subgrades for foundations, pavement areas, and utility trenches. Subgrades may be disturbed by improper excavation methods, moisture, precipitation, groundwater control, and construction activities. The contractor should take precautions to protect the bearing subgrade against disturbance from construction traffic and weathering. If necessary, dewatering can be accomplished via open pumping utilizing submersible pumps and temporary stone lined sump pits.

A lift of compacted crushed stone is recommended to protect the subgrade surface from wear and disturbance should water be present within the excavation. The subgrade must still be verified for competency prior to the placement of concrete or backfill materials within the building footprint. If construction activities are to take place during winter months, the contractor should protect the work area from freezing, which may necessitate the use of soil blankets or tents and heaters to protect the subgrade surface.

Construction Dewatering

The site contractor should be prepared to remove any standing water from foundation excavations. If the sumps are unable to control the development of groundwater within the excavation, supplemental dewatering in the form of deep wells or wellpoints may be required. Stormwater runoff developed from storm events should be diverted away from excavation areas to minimize any impoundment in the excavation or disturbance to the foundation subgrades. It is anticipated that groundwater and stormwater may be controlled by localized dewatering efforts employing sumps and pumps.

The groundwater elevation should be maintained at least 12 inches below the foundation grade until backfilling is complete. A lift of crushed stone or free draining structural fill at foundation grade may be utilized if required to facilitate dewatering and provide a dry and stable subgrade during construction.

Backfilling

Backfill in the building area should be placed and compacted in lifts immediately after final excavation to limit disturbance to the subgrade surface. Except for zones requiring special backfill such as directly beneath pavements or exterior slabs, the exterior of foundation walls and other site areas may be backfilled with Common Fill. Placement of compacted fills should not be conducted when air temperatures are low enough (approximately 30^{o}F, or below) to cause freezing of the moisture in the fill during or before placement. Fill materials should not be placed on snow, ice, or uncompacted frozen soil. Compacted fill should not be placed on frozen soil.

No fill should be allowed to freeze prior to compaction. At the end of each day's operations, the last lift of fill, after compaction, should be rolled by a smooth-wheeled roller to eliminate ridges of uncompacted soil.

Minimum compaction requirements for all fill materials are as follows:

Minimum Compaction Requirements (TABLE 2)			
Location or Area	**Standard Proctor Density (ASTM D698)**	**Modified Proctor Density (ASTM D1557)**	**Testing Frequency One Test Per Lift Per**
Building and Slab Subgrades	100%	95%	1,000 ft^2 or 100 lineal feet
Retaining Walls	95%	92%	1,000 ft^2
Pavements (up to 3-ft below finished grade)	95%	92%	2,000 ft^2 or 50 lineal feet
Pavements (in the upper 3-ft)	100%	95%	2,000 ft^2 or 50 lineal feet
Trenches	95%	92%	150 lineal feet
Structures and Walkways	95%	92%	2,000 ft^2
Lawns and Unimproved Areas	92%	90%	20,000 ft^2

Structural Fill

Structural Fill, if required, should consist of clean sand and gravel free of organic material, snow, ice, or other objectionable materials and should be well-graded within the following limits:

Sieve Size	Percent Finer by Weight
4 in.	100
No. 4	30-70
No. 40	10-50
No. 200	0-12.

Other materials could be acceptable for Structural Fill and should be evaluated by the Geotechnical Engineer on a case-by-case basis if proposed by the Contractor.

Structural Fill should be placed in lift thickness not exceeding 12 in. loose measure. Cobbles and boulders having a size exceeding 2/3 of the loose lift thickness should be removed prior to compaction. Compaction in open areas should consist of self-propelled vibratory rollers such as a BoMag BW-60S or equivalent.

In confined areas, hand guided equipment such as a large vibratory plate compactor, should be used and the loose lift thickness should not exceed 6 in. A minimum of four systematic passes of the compaction equipment should be used to compact each lift. Compaction effort should be verified by field density testing.

Common Fill

Common fill may be used to raise grades in paved and landscaped areas, subject to pavement design criteria and landscape planting or drainage requirements. Common fill should be granular mineral soil free from organic materials, loam, wood, trash, snow, ice, frozen soil, and other compressible materials. Common fill should not contain stones larger than 2/3 of the placement lift thickness, and have a maximum 80 percent passing the No. 40 sieve, and a maximum of 30 percent passing the No. 200 sieve. These soils typically would require moisture control during placement and compaction.

Slab Base Course

Slab Base Course beneath building slabs should consist of bank-run sand and gravel, free of organic material, snow, ice, or other unsuitable materials and should be well-graded within the following limits:

Sieve Size	Percent Finer by Weight
2 in.	100
No. 4	40-70
No. 40	25-45
No. 200	0-10

Other materials could be acceptable for compacted Slab Base Course and should be evaluated by the Geotechnical Engineer on a case-by-case basis if proposed by the Contractor. Slab Base Course should be placed in lift thicknesses not exceeding 8-inches loose measure. In confined areas, hand-guided equipment such as a vibratory plate compactor should be used, and the loose lift thickness should not exceed 6 inches. A minimum of four systematic passes of the compaction equipment should be used to compact each lift.

CONSTRUCTION MONITORING

It is strongly recommended that GSI be retained to provide construction monitoring and testing services in conformance with the requirements of the International Building Code. GSI has the Geotechnical Engineers and Technicians trained and experienced in all facets of monitoring earthwork excavation and construction materials testing, as well as a full-service soils and materials laboratory. As a guide, we have enclosed a Recommended Program for Structural Tests and Inspections for Soils and Foundations, attached as Appendix E of this report.

These services may include:

- Construction Materials Testing of Soils, Aggregates, Concrete, Steel, and Asphalt.
- Design Phase engineering services including preparation of final earthwork specifications, review of contractor submittals, and plan review.
- Construction Phase engineering services on Geotechnical issues and/or differing conditions encountered during construction.

CLOSURE

We trust that you find this report consistent with your needs. Should you have any questions with regard to this report, please do not hesitate to contact our office.

Very truly yours,

GEOTECHNICAL SERVICES, INC.

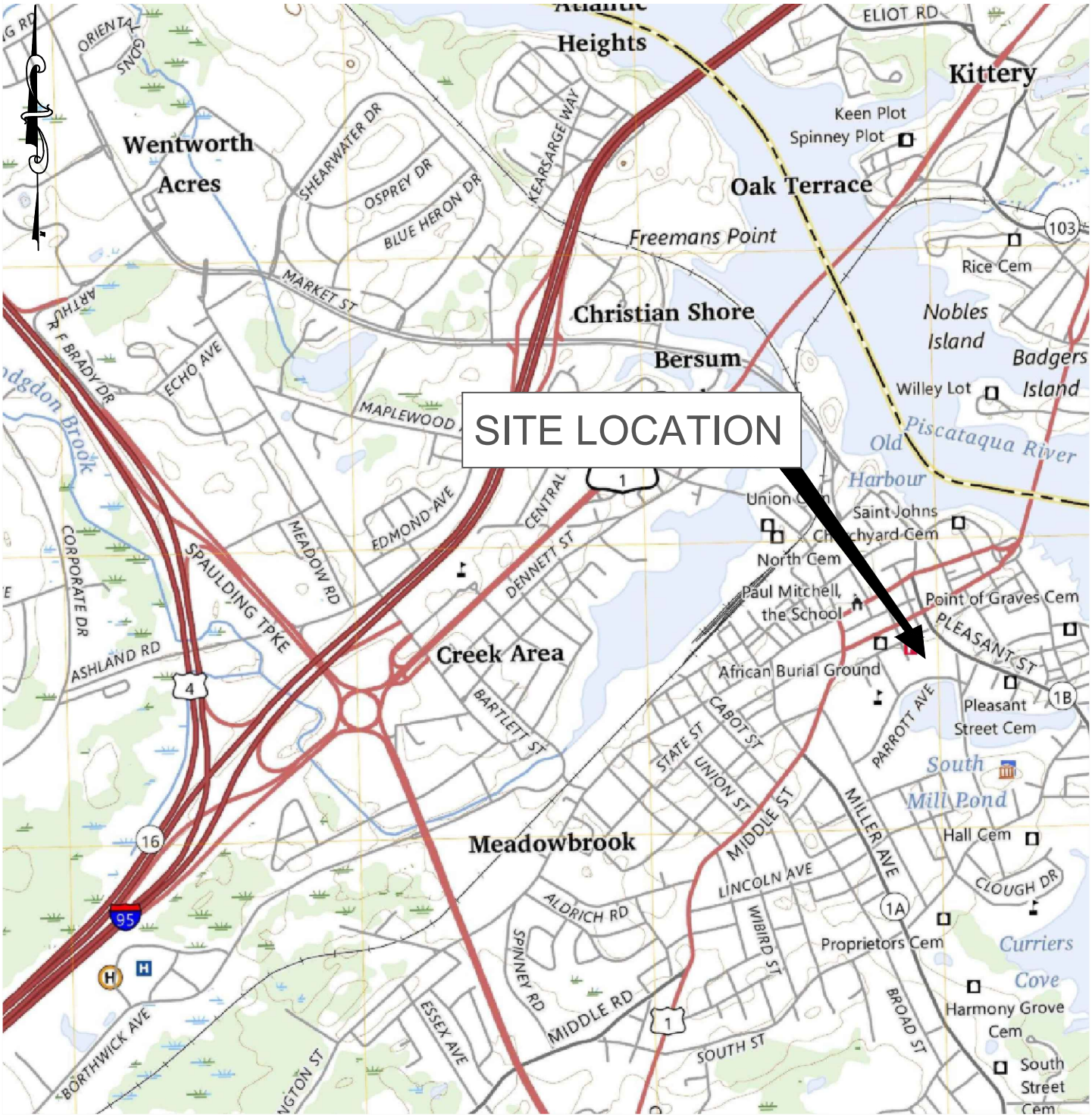
Charles A. Wetherbee, EIT
Staff Engineer

Harry K. Wetherbee, P.E.
Principal Engineer

Attachments:

Figure 1: Locus Map
Figure 2: Exploration Location Plan

Appendix A: Limitations
Appendix B: Exploration Logs
Appendix C: Subsurface Exploration Key
Appendix D: USGS Seismic Design Maps
Appendix E: Draft Earthwork Specifications



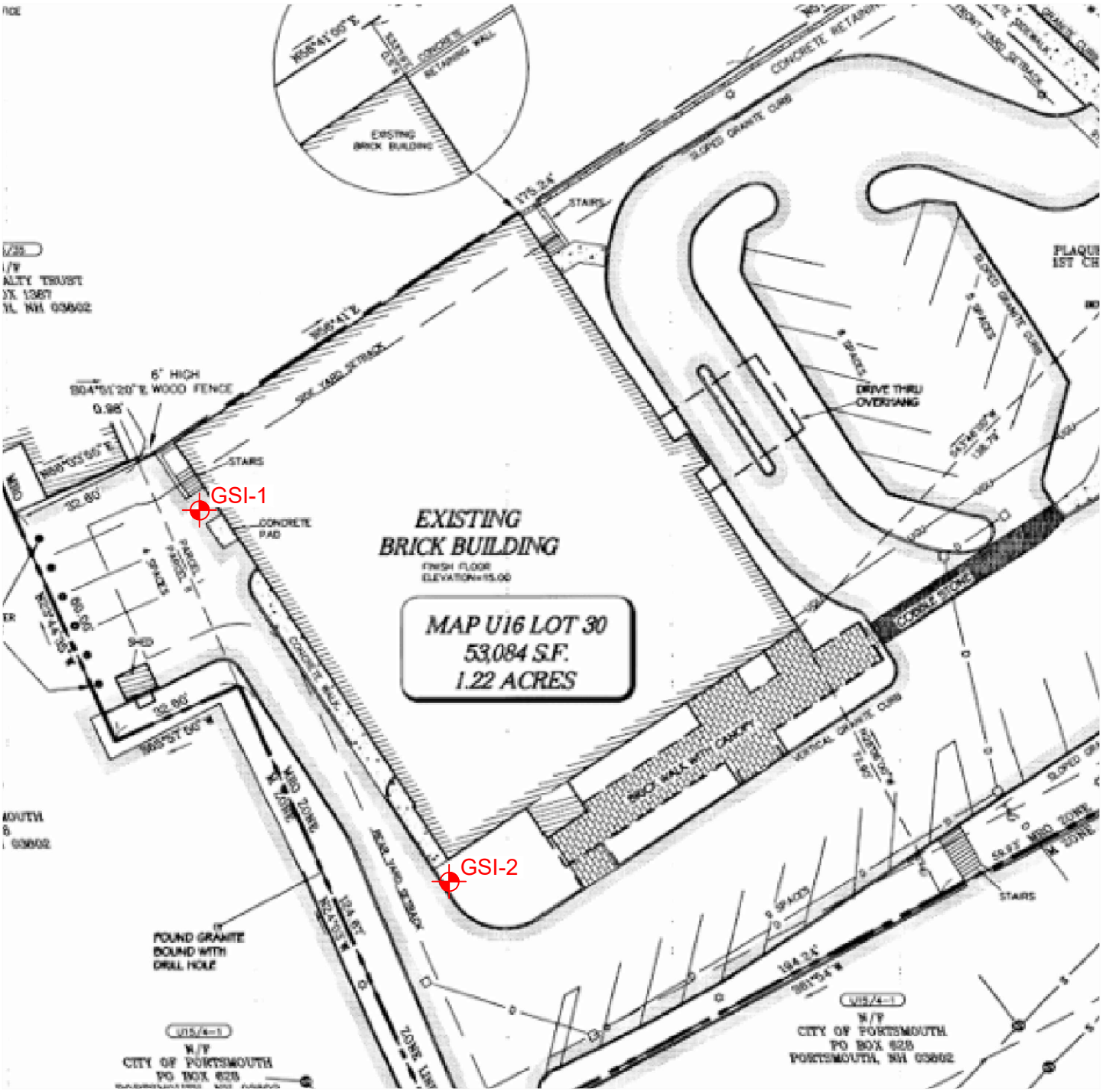
LOCUS MAP

GEOTECHNICAL SERVICES INC.
55 NORTH STARK HIGHWAY, WEARE, NH 03281
TEL. (603) 529-7766 FAX. (603) 529-7780

Citizens Bank Portsmouth
Portsmouth, New Hampshire

DRAWN BY: CAW	DATE: April 2025
CHECKED BY: HKW	SCALE: NTS
FILE NAME: Citizens Bank Portsmouth.dwg	PROJECT NO.: 225147

FIGURE NO. 1



GSI-1 Test Boring Location (Approximate)

TP-1 Test Pit Location (Approximate)

EXPLORATION LOCATION PLAN

GEOTECHNICAL SERVICES INC.
55 NORTH STARK HIGHWAY, WEARE, NH 03281
TEL. (603) 529-7766 FAX. (603) 529-7780

Citizens Bank Portsmouth
Portsmouth, New Hampshire

DRAWN BY: CAW	DATE: April 2025
CHECKED BY: HKW	SCALE: NTS
FILE NAME: Citizens Bank Portsmouth.dwg	PROJECT NO.: 225147

FIGURE NO. 2

APPENDIX A

LIMITATIONS

LIMITATIONS

Explorations

1. The analyses, recommendations, and designs submitted in this report are based in part upon the data obtained from preliminary subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretation of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the individual test pit and/or boring logs.

3. Water level readings have been made in the test pits and/or test borings under conditions stated on the logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors differing from the time the measurements were made.

Review

4. It is recommended that this firm be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the recommendations provided herein.

5. In the event that any changes in the nature, design, or location of the proposed areas are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of the report modified or verified in writing by Geotechnical Services, Inc.

Construction

6. It is recommended that this firm be retained to provide geotechnical engineering services during the earthwork phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

7. This report has been prepared for the exclusive use of the above and their assigns, in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

8. This report has been prepared for this project by Geotechnical Services, Inc. This report was completed for preliminary design purposes and may be limited in its scope to complete an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to evaluation considerations only.

APPENDIX B

EXPLORATION LOGS

Geotechnical Services, Inc. 55 North Stark Highway, Weare, NH 03281 Phone 603/529-7766 Fax 603/5297080 - 30 Newbury St. 3rd Floor, Boston, MA 02116 Phone 617/455-4248 Fax 617/745-4308

TEST BORING LOG

Boring No. GSI-1

Project	Citizens Bank Portsmouth	GSI Project No.	225147	Elevation	Existing Grade
Location	Portsmouth, NH	Project Mgr.	Charles Wetherbee	Datum	-
Client	McNabb Properties, LTD	Inspector	Charles Wetherbee	Date Started	3/21/2025
Contractor	Miller Engineering and Testing	Checked By	Harry Wetherbee	Date Finished	3/21/2025
Driller	Bob Marcoux	Rig Make & Model	Diedrich	Rig Model	D-50

Item:	Auger	Casing	Sampler	Core Barrel
Type	HS Aug		SS	
Inside Diameter (in.)	2.25"		1-3/8"	
Hammer Weight (lb)			140	
Hammer Fall (in.)			30"	

☑ Truck ☐ Skid ☐ Track ☐ ATV ☐ Bomb. ☐ Geoprobe ☐ Tripod ☐ Other

☐ Winch ☑ Cat Head ☐ Roller Bit ☑ Cutting Head

Hammer Type: ☑ Safety Hammer ☐ Doughnut ☐ Automatic

Depth (ft)	Casing (Blows/ft)	Sample No.	Sample Depth (ft)	Rec (in.)	SPT (Bl./ 6-in.)	"N" Value	PID Rdg. (ppm)	Stratum Change (ft)	Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
0		S-1	0-2	14	- 28 20 29	48			7" Asphalt Tan/ Brown, Sand and Gravel, Brick
5		S-2	4-6	20	2 5 9 17	14			Medium Dense, Tan/Olive Silt, trace Sand
10		S-3	9-11	15	7 3 5 14	8			Loose, Tan/ Olive, Silt, little Sand
15		S-4	14-16	12	40 29 31 -	60			Very Dense, Tan/ Olive/ Gray, Silt, Weathered Rock, little to trace Sand
20		S-5	19-21	15	1 7 35 36	42			Dense, Tan, fine to medium Sand, and Silt, little to trace Gravel, Weathered Rock

Water Level Data

Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
3/21	E.O.D.	27.5'	27.5'	20'

Sample Identification
O = Open Ended Rod
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
2 to 4: Soft
4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30 Very Stiff
Over 30: Hard

Granular Soils N- Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)

Notes: E.O.D. = End Of Drilling

Geotechnical Services, Inc. 55 North Stark Highway, Weare, NH 03281 Phone 603/529-7766 Fax 603/5297080 - 30 Newbury St. 3rd Floor, Boston, MA 02116 Phone 617/455-4248 Fax 617/745-4308

TEST BORING LOG

Boring No. GSI-1

Project	Citizens Bank Portsmouth	GSI Project No.	225147	Elevation	Existing Grade
Location	Portsmouth, NH	Project Mgr.	Charles Wetherbee	Datum	-
Client	McNabb Properties, LTD	Inspector	Charles Wetherbee	Date Started	3/21/2025
Contractor	Miller Engineering and Testing	Checked By	Harry Wetherbee	Date Finished	3/21/2025
Driller	Bob Marcoux	Rig Make & Model	Diedrich	Rig Model	D-50

Item:	Auger	Casing	Sampler	Core Barrel
Type	HS Aug		SS	
Inside Diameter (in.)	2.25"		1-3/8"	
Hammer Weight (lb)			140	
Hammer Fall (in.)			30"	

☑ Truck ☐ Skid
☐ Track ☐ ATV
☐ Bomb. ☐ Geoprobe
☐ Tripod ☐ Other
☐ Winch ☑ Cat Head

Hammer Type:
☑ Safety Hammer
☐ Doughnut
☐ Automatic

☐ Roller Bit ☑ Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data: No.	Depth (ft)	Rec (in.)	SPT (Bl./ 6-in.)	"N" Value	PID Rdg. (ppm)	Stratum Change (ft)	Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
25		S-6	24-26	14	20 60 50/1" -	-			Weathered Rock, little Silt and Sand Auger Refusal at 27.5 feet **Test Boring Terminated at 27.5 feet**

Water Level Data

Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
3/21	E.O.D.	27.5'	27.5'	20'

Sample Identification
O = Open Ended Rod
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
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4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30 Very Stiff
Over 30: Hard

Granular Soils N- Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)

Notes: E.O.D. = End Of Drilling

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TEST BORING LOG

Boring No. GSI-1

Project	Citizens Bank Portsmouth	GSI Project No.	225147	Elevation	Existing Grade
Location	Portsmouth, NH	Project Mgr.	Charles Wetherbee	Datum	-
Client	McNabb Properties, LTD	Inspector	Charles Wetherbee	Date Started	3/21/2025
Contractor	Miller Engineering and Testing	Checked By	Harry Wetherbee	Date Finished	3/21/2025
Driller	Bob Marcoux	Rig Make & Model	Diedrich	Rig Model	D-50

Item:	Auger	Casing	Sampler	Core Barrel
Type	HS Aug		SS	
Inside Diameter (in.)	2.25"		1-3/8"	
Hammer Weight (lb)			140	
Hammer Fall (in.)			30"	

☑ Truck ☐ Skid
☐ Track ☐ ATV
☐ Bomb. ☐ Geoprobe
☐ Tripod ☐ Other
☐ Winch ☑ Cat Head

Hammer Type:
☑ Safety Hammer
☐ Doughnut
☐ Automatic

☐ Roller Bit ☑ Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample No.	Sample Depth (ft)	Rec (in.)	SPT (Bl./ 6-in.)	"N" Value	PID Rdg. (ppm)	Stratum Change (ft)	Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
0		S-1	0-2	10	- 15 21 16	36			7" Asphalt Brown, Sand and Gravel, Brick
		S-2	2-4	12	36 17	30			Medium Dense, Brown, fine to coarse Sand, little Silt, little Gravel
5		S-3	4-6	4	13 11 5 10	20			Medium Dense, Brown, fine to coarse Sand, little Silt, little Gravel
		S-4	6-8	10	10 12 10 8	21			Medium Dense, Brown, fine to coarse Sand, little Silt, little Gravel
10		S-5	9-11	20	13 15 1 3	8			Loose, Olive, Silt, little Sand, trace Gravel
		S-6	14-16	6	5 3 80 -	-			Tan/Olive, Silt and Sand Sampler Refusal at 14.5 feet Auger Refusal at 14.5 feet **Test Boring Terminated at 14.5 feet**
15					- -				
20									

Water Level Data

Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
3/21	E.O.D.	14.5'	14.5'	10'

Sample Identification
O = Open Ended Rod
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
2 to 4: Soft
4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30 Very Stiff
Over 30: Hard

Granular Soils N- Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)

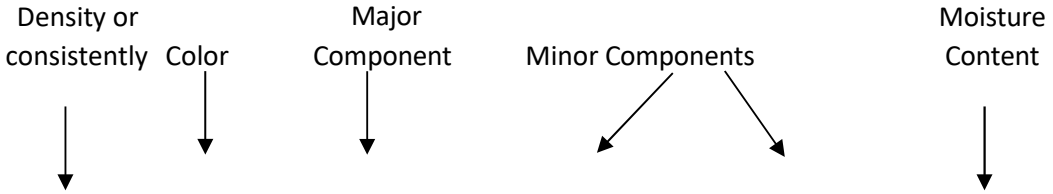
Notes: E.O.D. = End Of Drilling

APPENDIX C

SUBSURFACE EXPLORATION KEY

FIELD DESCRIPTION AND CLASSIFICATION OF SOIL - Burmister System

Soil descriptions indicated on the test boring logs are based on Standard Penetration Test (SPT) results and observation of the soil samples obtained. Soil samples generally described and classified as illustrated in the following example:



Dense, brown, f-m SAND, some Gravel, trace Silt, moist.

1.0 DENSITY OR CONSISTENCY – The density or consistency is determined from the Standard Penetration Test (ASTM 1586), which corresponds to the number of blows required to drive a standard 2-inch outside diameter split-spoon sampler from the 6 to 18-inch depth of a 24-inch sample using a 140-pound weight falling freely for 30 inches.

Density of Granular Soil	Penetration Resistance (N-blows/ft)		Consistency of Composite Clay Soil
Very Loose	0 - 4	< 2	Very soft
Loose	4 - 10	2 - 4	Soft
Medium Dense	10 - 30	4 - 8	Medium soft
Dense	30 - 50	8 - 15	Stiff
Very Dense	> 50	15 - 30	Very stiff
		> 30	Hard

2.0 COLOR – Visual

3.0 SOIL COMPONENTS – The description and classification is based on the following criteria.

3.1 DESCRIPTION – The components of a soil sample are described by visually estimating the percentage of each component by weight of the total sample.

Major Component – The major component (>50%) is written with upper case letters for granular soil (SAND, GRAVEL), and a combination of upper and lower case letters for composite soil (Silty CLAY, Clayey SILT).

Minor Component – The minor soil components (≤50%) are written with the first letter of each material in upper case, and the remaining letters in lower case (Gravel, Silt). The minor components are identified and prefaced in the description based on the following percentages:

Description	Percentage
and	35 - 50%
some	20 - 35%
little	10 - 20%
trace	0 - 10%

Other Components – The other components within the soil which may be encountered include glass, bricks, trash, etc. The other components are identified and follow the major and minor soil components.

3.2 CLASSIFICATION

Granular Soil by Sieve Size – A granular soil sample is classified by visually estimating the particle size as referenced to a Standard Sieve.

Material*		Standard Sieve Limit Upper	Lower
GRAVEL	- coarse	3-inch	3/4-inch
	- fine	3/4-inch	No. 4
SAND	- coarse	No. 4	No. 10
	- medium	No. 10	No. 40
	- fine	No. 40	No. 200
SILT		No. 200	

Granular Soil by Visual Identification

Material	Visual ID
Silts and Clays	Too small to see.
Fine Sand	Finest visible grain.
Medium Sand	1/64” to 1/16”
Coarse Sand	1/16” to 1/4”
Fine Gravel	1/4" to 3/4"
Coarse Gravel	3/4" to 3”
Cobbles	3” to 6”
Boulders	Greater than 6”

*The Gravel/Sand portions of a granular soil are further divided based on the following proportions:

Gravel/Sand	Proportion
fine to coarse	> 10% all factions
coarse	< 10% fine and medium
medium to coarse	< 10% fine
medium	< 10% fine and coarse
fine to medium	< 10% coarse
fine	< 10% medium and coarse

Composite Clay Soil – A composite clay soil sample is classified by determining the smallest diameter thread that can be rolled manually.

Material	Smallest Thread Diameter	Degree of Plasticity
SILT	None	Nonplastic
Clayey SILT	1/4-inch	Slight
SILT & CLAY	1/8-inch	Low
CLAY & SILT	1/16-inch	Medium
Silty CLAY	1/32-inch	High
CLAY	1/64-inch	Very High

Organic Soil – An organic soil sample is classified by observation of the sample structure.

Material		
Topsoil	-	surficial soils that support plant life and which contain a high percentage of organic matter.
Fibrous Peat	-	deposits of plant remains in which the original plant fibers are still visible.
Amorphous Peat	-	deposits of plant remains in which the original plant fibers have been destroyed. Usually found underlying fibrous peat.
Organic Silt	-	fine grained marine soils which have been transported due to erosion and deposited in still water below the zone of wave action. May contain shell fragments, organic odor, high sand content, nonplastic.
Clayey Organic Silt	-	similar to Organic Silt, low sand content, plastic.

4.0 ADDITIONAL DETAILS AND DISCRIPTIVE TERMS

SOIL STRUCTURE – produced by deposition of sediments.

Stratified	-	random soil deposits of varying components or color.
Varved	-	alternating soil deposits of varying thickness (i.e. clays or silts).
Stratum	-	soil deposit greater than 12 inches thick.
Layer	-	soil deposit 3 inches to 12 inches thick.
Seam	-	soil deposit 1/8 inch to 3 inches thick.
Parting/lens	-	soil deposit less than 1/8 inch thick.

MOISTURE CONTENT

Dry	-	moisture not apparent, dusty, dry to the touch.
Moist	-	damp, but no visible water.
Wet	-	visible free water.

5.0 UNIFIED SOIL CLASSIFICATION SYMBOL AND DISCRIPTION

CL	Lean Clay	GW	Well Graded Gravel
ML	Silt	GP	Poorly Graded Gravel
OL	Organic Silt/ Clay Low Plasticity	GM	Silty Gravel
CH	Fat Clay	GC	Clayey Gravel
MH	Plastic Silt	SW	Well Graded Sand
OH	Organic Silt/Clay High Plasticity	SP	Poorly Graded Sand
PT	Peat	SM	Silty Sand
		SC	Clayey Sand

GUIDELINES TO CLASSIFICATION AND IDENTIFICATION OF ROCK

A. WEATHERING

Fresh	Fresh rock, crystals bright, few joints, may show slight staining. Rock rings under hammer if crystalline.
Slightly Weathered	Rock generally fresh, joints stained and discoloration extends into rock up to 1 inch. Joints may contain clay or gouge. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
Moderately Weathered	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some look clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
Highly Weathered	All rock is discolored or stained. In granitoid rocks all feldspars are dull and discolored and majority shows kaolinization. Rock shows severe loss of strength and can be excavated with a geologists pick. A clunking sound when struck with a hammer.
Disintegrate Rock	Rock texture clear and evident, but reduced in strength to strong soil. Some fragments of strong rock usually left.

B. FRACTURING AND BEDDING

Spacing	Fracturing	Bedding and Foliation
More than 3 feet	Massive	Thick
1 foot – 3 feet	Slightly Fractured	Medium
2 inches – 1 foot	Moderately Fractured	Thin
Less than 2 inches	Highly fractured	Very Thin

C. GRAIN SIZE

Fine	Visible to naked eye to 1/16-inch diameter.
Medium	1/16-inch to 1/4-inch diameter.
Coarse	Greater than 1/4-inch diameter.

D. HARDNESS

Very Hard	Cannot be scratched with a knife or sharp pick. Breaking of hand specimens requires several hard blows with a geologists pick.
Hard	Can be scratched with a knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Moderately Hard	Can be scratched with a knife or pick. Gouges or grooves to ¼ inch deep can be excavated with hard blows of a geologists pick. Hand specimens can be detached by a moderate blow.
Medium	Can be grooved to a 1/16-inch deep by firm pressure on a knife or pick point. Can be excavated in small chips to pieces approximately 1-inch maximum size by hard blows of the point of a geologists pick.
Soft	Can be gouged or grooved easily with a knife or pick point. Can be excavated in chips to pieces several inches in size. Small thin pieces can be broken by finger pressure.
Very Soft	Can be carved with a knife. Can be excavated easily with the point of a pick. Pieces 1 inch or more in thickness can be broken with finger pressure.

E. ROCK QUALITY DESIGNATION (RQD)

RQD (Percent)	Diagnostic Description
Exceeding 90	Excellent
75 – 90	Good
50 – 75	Fair
25 – 50	Poor
0 – 25	Very Poor

Comments: RQD is applicable to NX core only. The diameter of an NX core is 2.16 inches. RQD is expressed as a percentage and is determined by dividing the length of the run by the total length of the recovered cores pieces measuring 4-inches or greater. Core recovery is reported as a percentage and is determined by dividing the length of the core recovered (all pieces) by the length of the run.

APPENDIX D

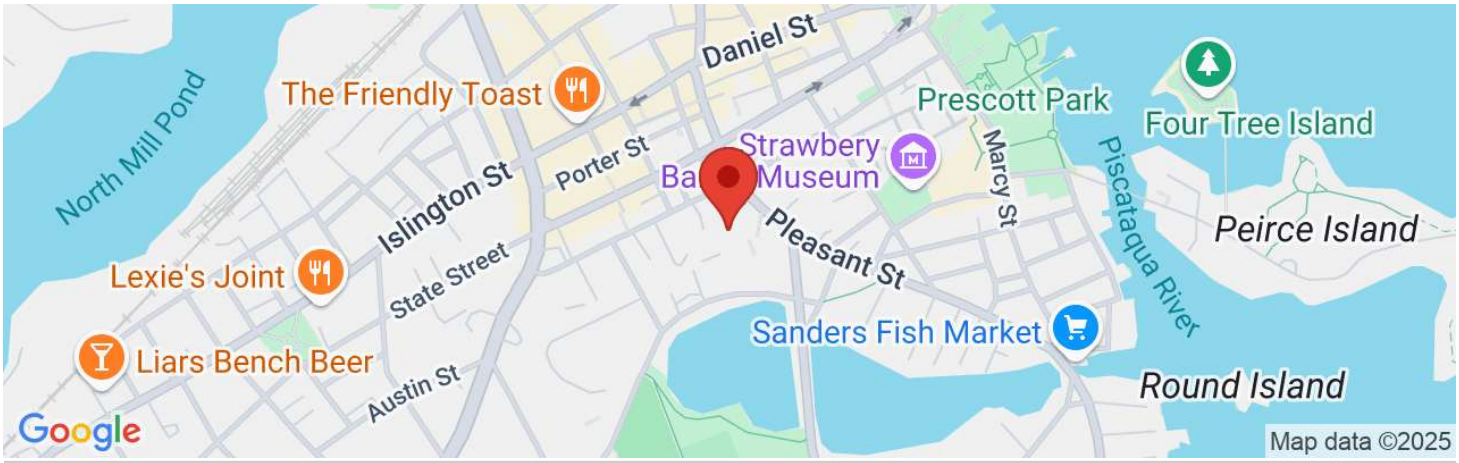
USGS SEISMIC DESIGN MAPS

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

Citizens Bank Portsmouth

134 Pleasant St, Portsmouth, NH 03801, USA

Latitude, Longitude: 43.0747514, -70.7569484



Date	4/1/2025, 1:40:55 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_S	0.327	MCE_R ground motion. (for 0.2 second period)
S_1	0.075	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.503	Site-modified spectral acceleration value
S_{M1}	0.179	Site-modified spectral acceleration value
S_{DS}	0.335	Numeric seismic design value at 0.2 second SA
S_{D1}	0.119	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	C	Seismic design category
F_a	1.539	Site amplification factor at 0.2 second
F_v	2.4	Site amplification factor at 1.0 second
PGA	0.201	MCE_G peak ground acceleration
F_{PGA}	1.399	Site amplification factor at PGA
PGA_M	0.281	Site modified peak ground acceleration
T_L	6	Long-period transition period in seconds
SsRT	0.327	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.352	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.075	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.08	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)

Type	Value	Description
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.201	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.929	Mapped value of the risk coefficient at short periods
C_{R1}	0.932	Mapped value of the risk coefficient at a period of 1 s
C_V	0.918	Vertical coefficient

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APPENDIX E

DRAFT EARTHWORK SPECIFICATIONS

SECTION 02200
EARTHWORK

DRAFT

PART I- GENERAL

1.01 GENERAL REQUIREMENTS

1. Include GENERAL CONDITIONS and SUPPLEMENTARY CONDITIONS as part of this Section.

2. Examine all other Sections of the Specifications for requirements, which affect work of this Section whether or not such work is specifically mentioned in this Section.

3. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 WORK INCLUDED

1. Perform all work required to complete the work of the Section, as indicated. Such work includes, but is not limited to, the following:

    1. Excavation, filling, grading and compaction
    2. Supplying of fill materials
    3. Construction Dewatering
    4. Sheeting, shoring and bracing
    5. Rock excavation/blasting

1.03 RELATED WORK UNDER OTHER SECTIONS

    1. Erosion And Sediment Control
    2. Site Preparation
    3. Bituminous Concrete Paving
    4. Site Water Lines
    5. Storm Drainage System
    6. Sanitary Sewer System
    7. Site Furnishings
    8. Site Irrigation
    9. Lawns
    10. Planting

1.04 SUBMITTALS

    1. Issue submittals in accordance with Division 1. Submittals under this Section shall include manufacturer's specifications and installation instructions.

1.05 SAMPLES AND TESTING

    1. A 50 lb. sample of each off-site material proposed for use, and of any on-site material when so requested by the Architect or Geotechnical Engineer, shall be submitted for

approval.

1. Samples shall be delivered to office of the Geotechnical Engineer, as directed.
2. Samples required in connection with compaction tests will be taken and transported by the Geotechnical Engineer.
3. Product Data: Submit location of pits for all borrow material.

1.06 COORDINATION

1. The work of this Section shall be coordinated with that of other trades affecting, or affected by, this work, as necessary to assure the steady progress of all work of the Contract.

2. Prior to the start of earthwork, the Contractor shall arrange an on-site meeting with the Architect and Geotechnical Engineer for the purpose of establishing Contractor's schedule of operations and scheduling inspection procedures and requirements.

3. As construction proceeds, the Contractor shall be responsible for notifying the Architect prior to start of earthwork operations requiring inspection and/or testing.

1.09 INFORMATION

1. It is hereby understood that the Contractor has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.

2. Plans, surveys, measurements and dimensions under which the work is to be performed are believed to be correct to the best of the Architect's knowledge, but the Contractor shall have examined them for himself during the bidding period, as no allowance will be made for any errors or inaccuracies that may be found herein.

3. Information on the Drawings, Reference Drawings, and in the Specifications relating to subsurface conditions, natural phenomena, and existing utilities and structures is from the best sources presently available. Such information is furnished only for the information and convenience of the Contractor, and the accuracy or completeness of this information is not guaranteed.

1.10 EXISTING CONDITIONS

1. The Contractor shall become thoroughly familiar with the site, consult records and drawings of adjacent structures and of existing utilities, and note all conditions, which may influence the work of this Section.

2. By submitting a bid, the Contractor affirms that he has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.

3. The Contractor may, at his own expense, conduct additional subsurface testing as required for his own information after approval by the Owner.

1.11 SUBSURFACE CONDITIONS AND SPECIAL SITE CONSIDERATIONS

1. Soil borings have been made by a qualified Contractor prior to this Contract. This information shall be made available to bidders as specified under other Sections. The final results of these subsurface explorations were prepared by Geotechnical Services, Inc., consulting geotechnical engineers, and are hereby attached to this specification for

information only. Procedures for dewatering, areas to receive special fill and other methods and procedures specified herein shall be supplemented by this information. For purposes of this specification, this information will be referred to as the report. Where procedures within the report vary from procedures as specified herein, this specification shall override. The results and recommendations are available in the geotechnical report prepared by Geotechnical Services. Copies of this report are available from the Architect. Soil samples may be examined at the office of the Geotechnical Engineer.

2. It is the responsibility of the Contractor under this Contract to do the excavation, filling, grading and rough grading to bring the existing grades to subgrade and parallel to finished grades as specified herein and as shown on the Drawings for this Work. The Contractor shall visit the site prior to submitting a bid to become familiar with the extent of the work to be done under this Contract. The Contractor shall be responsible for determining the quantities of earth materials necessary to complete the work under this Section. All earth materials shall be included in the Contractor's base bid.

3. Site Information - data on indicated subsurface conditions are not representations or warrants of continuity of such conditions between subsurface explorations. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn there from by the Contractor. Data are made available for the convenience of the Contractor. Neither the Owner nor the Geotechnical Engineer assumes responsibility for accuracy of the data other than at the particular locations and at the time the explorations were made.

4. The subsurface data was gathered and report prepared by Geotechnical Services, Inc. The elevations indicated on the drill holes, borings and test pits refer to existing conditions. A copy of this report may be seen at the office of the Architect during normal working hours.

1.12 QUALITY ASSURANCE

1. The Owner will retain a Geotechnical Engineer to perform on-site observations and testing during the following phases of the construction operations. The services of the Geotechnical Engineer may include, but not be limited to the following:

    1. Observation during excavation and dewatering of building areas, parking areas and controlled fill areas.
    2. Observation and testing during placement and compaction of fills within the building area, parking area, and controlled fill areas.
    3. Laboratory testing and analysis of fill and bedding materials specified, as required.
    4. Observation, construction and performance of water content, gradation, and compaction tests at a frequency and at locations to assure conformance of this Specification. The results of these tests will be submitted to the Architect; copy to the Contractor, on a timely basis so that the Contractor can take such action as is required to remedy indicated deficiencies. During the course of construction, the Geotechnical Engineer will advise the Architect, in writing, with copy to Contractor if, at any time, in his opinion, the work is not in substantial conformity with the Contract Documents.

2. The Geotechnical Engineer's presence does not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the Geotechnical Engineer, nor any observations and testing performed by him, nor any notice or failure to give notice shall excuse the Contractor from defects discovered in his work.

3. The Owner reserves the right to modify or waive Geotechnical Engineer services.

1.13 PERMITS, CODES AND SAFETY REQUIREMENTS

1. All work shall conform to the Drawings and Specifications and shall comply with applicable codes and regulations.

2. Comply with the rules, regulations, laws and ordinances of town and state agencies and all other authorities having jurisdiction. Coordinate all work done within town and State rights of way with the appropriate agencies. Provide all required traffic control and safety measures, including uniformed police officers per town and State requirements. All labor, materials, equipment and services necessary to make the work comply with such requirements shall be provided without additional cost to the Owner.

3. Comply with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc. and the requirements of the Occupational Safety and Health Administration (OSHA), United States Department of Labor.

4. The Contractor shall procure and pay for all permits and licenses required for the complete work specified herein and shown on the Drawings.

5. The Contractor shall not close or obstruct any street, sidewalk, or passageway unless authorized in writing by the Architect. The Contractor shall so conduct his operations as to interfere as little as possible with the use ordinarily made of roads, driveways, sidewalks or other facilities near enough to the work to be affected hereby. The Contractor shall comply with the time limits established by the terms for trucking onto and off of the site.

6. Any apparent conflict between the Drawings and Specifications and the applicable codes and regulations shall be referred to the Architect in writing, for resolution before the work is started.

1.14 LAYOUTS AND GRADES

1. All line and grade work not presently established at the site shall be laid out by a survey team under the supervision of a Registered Land Surveyor or Professional Engineer employed by the Contractor in accordance with Drawings and Specifications. The Contractor shall establish permanent benchmarks and replace as directed any which are destroyed or disturbed.

2. The words "finished grades" as used herein shall mean final grade elevations indicated on the Drawings. Spot elevations shall govern over proposed contours. Where not otherwise indicated, project site areas outside of the building shall be given uniform slopes between points for which finished grades are indicated or between such points and existing grades.

3. The word "subgrade" as used herein, means the required surface of excavated area, subsoil, borrow fill or compacted fill. This surface is immediately beneath the site improvements; fill materials as dimensioned on the Drawings, or other proposed surface material.

1.15 DISPOSITION OF EXISTING UTILITIES

1. Active utilities existing on the site and work areas shall be carefully protected from damage and relocated or removed as required by the work. When an active utility line is

exposed during construction, its location and elevation shall be plotted on the record drawings as described in this Section and both Architect and Utility Owner notified in writing.

2. Inactive or abandoned utilities encountered during construction shall be removed if within the building area or grouted, plugged or capped. The location of such utilities shall be noted on the record drawings and reported in writing to the Architect.

3. The Contractor shall notify "Dig Safe" and local utility companies prior to the start of construction. The "Dig Safe" number shall be submitted by the Contractor in writing to the Architect prior to construction.

1.16 SHORING, SHEETING, AND BRACING

1. Provide shoring, sheeting, and/or bracing at excavations, as required, to ensure complete safety against collapse of earth at sides of excavations.

2. If, at any place, sufficient or proper supports have not been provided, additional supports shall be placed at the expense of the Contractor. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and compacted.

3. All sheeting and bracing not ordered left in place shall be carefully removed in such a manner as not to endanger the construction of other structures, utilities or property whether public or private. All voids left after withdrawal of sheeting shall be immediately refilled with sand and rammed with tools adapted to that purpose or otherwise compacted as directed to achieve the required density.

4. Shoring or sheeting shall not constitute a condition for which an increase may be made in the contract price with the exception that if the Architect directs in writing that certain shoring or sheeting shall be left in place, the contract price will be adjusted in accordance with General Conditions.

5. Excavation support systems shall be designed to support the earth pressures, hydrostatic pressures, surcharge loads and other forces from existing site conditions, stored material and construction equipment.

6. Shoring and bracing of trenches and other excavations shall, at a minimum, be in accordance with the latest requirements of the Department of Labor and Industries Bulletin No. 12, Section 10, and all subsequent amendments.

7. Shoring and sheeting shall be designed by a Registered Professional Engineer and paid for by the Contractor. The contractor shall submit an earth shoring and bracing plan to the Architect for review by the Geotechnical Engineer at least 2 weeks prior to installation. The submittal shall include calculations and plans drawn to scale.

1.17 DRAINAGE

1. The Contractor shall control the grading in areas under construction on the site so that the surface of the ground will properly slope to prevent accumulation of water in excavated areas and adjacent properties.

2. The Contractor shall excavate interceptor swales and ditches where shown on the Drawings and as otherwise necessary prior to the start of major earthmoving operations to insure minimal erosion and to keep areas as free from surface water as possible.

3. Should surface, rain or ground water be encountered during the operations, the Contractor shall furnish and operate pumps or other equipment and provide all necessary piping to keep all excavations clear of water at all times and shall be responsible for any damage to work or adjacent properties for such water. All piping exposed above surface for this use, shall be properly covered to allow foot traffic and vehicles to pass without obstruction.

4. Presence of ground water in soil will not constitute a condition for which an increase in the contract price may be made. Under no circumstances place concrete fill, soil fill, lay piping or install appurtenances in excavation containing free water. Keep utility trenches free of water until pipe joint material has hardened and backfilled to prevent flotation.

1.18 FROST PROTECTION

1. Do not excavate to full-indicated depth when freezing temperatures may be expected, unless work can be completed to subgrade or piping can be installed and backfilled the same day. Protect the excavation from frost if placing of concrete or piping is delayed.

2. The Contractor shall keep the operations under this Contract clear and free of accumulation of snow within the limits of Contract Lines as required to carry out the work.

3. No work shall be installed on frozen ground.

4. Provide heat and/or insulation to slab, footings, foundation walls, and other elements during freezing conditions to prevent damage from frost heaving.

1.19 DISTURBANCE OF EXCAVATED AND FILLED AREAS DURING CONSTRUCTION

1. The Contractor shall take the necessary steps to avoid disturbance of subgrade and underlying natural soils/compacted fill during excavation and filling operations. Methods of excavation and filling operations shall be revised as necessary to avoid disturbance of the subgrade and underlying natural soils/compacted fill, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials. The Contractor shall coordinate with the Architect or Geotechnical Engineer to modify his operations as necessary to minimize disturbance and protect bearing soils.

2. All excavated or filled areas disturbed during construction, all loose or saturated soil, and other areas that will not meet compaction requirements as specified herein shall be removed and replaced with compacted structural fill or crushed stone. Fill that cannot be compacted within 48 hours because of excess moisture shall be removed and replaced with compacted structural fill or crushed stone. Costs of removal of disturbed material and replacement with gravel fill or crushed stone shall be borne by the Contractor.

3. If requested by the Geotechnical Engineer, the Contractor shall place a six-inch layer of crushed stone or 4-inch concrete mud mat over natural underlying soil to stabilize the disturbed areas during construction. The placement of crushed stone layer or mud mat as well as material costs shall be borne by the Contractor.

1.20 PROTECTION OF BEARING SUBGRADES

1. The Contractor shall be required to maintain stable, dewatered, and frost fee subgrades for foundations, pavement areas, utility trenches, and other areas as directed by the Architect or Geotechnical Engineer.

2. The Contractor shall take precautions to reduce subgrade disturbance. Such precautions may include diverting storm water runoff away from construction areas, reducing traffic in

sensitive areas, thermal protection during cold weather periods, and maintaining an effective dewatering operation.

3. Soils exhibiting weaving/instability or which become frozen, as determined by the Geotechnical Engineer, shall be over-excavated (removed) to competent bearing material and replaced with compacted gravel fill or lean concrete at no additional cost to the Owner.

1.21 DEWATERING

1. Based on subsurface investigations conducted prior to this Contract, it is anticipated that excavation may be carried out below existing groundwater levels. The Contractor shall be required to implement ground water control measures to maintain the ground water level a minimum of one foot below all final excavation levels or to propose alternative methods for placement of fill over existing undisturbed material with ground water at or near the surface in such a manner that the existing materials will not be disturbed. The Contractor will be required to implement ground water control measures adequate to maintain the excavation sufficiently dry to allow efficient use of normal excavation equipment and to provide a borrow material suitable for placement and compaction as specified or as directed by the Geotechnical Engineer. The moisture content shall not exceed 3% above the optimum moisture content as determined by modified Proctor test (ASTM DI557). The Contractor shall furnish all labor, equipment and materials in connection with handling ground water and surface water encountered during construction and placement of compacted granular fill or other material as specified.

2. Not less than 14 days prior to the scheduled start of work, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the Geotechnical Engineer for review. The submittal shall include calculations, plans, sketches, pump curves, method of sediment control, and disposal. The dewatering plan shall be prepared by a licensed Civil Engineer. Review by the Architect of the Contractor's proposed method of dewatering shall not relieve the Contractor of responsibility for the satisfactory performance of the dewatering system. The Contractor is responsible for correcting any disturbance of natural bearing soils or damage to structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.

3. The Contractor shall make the entire excavation for this work in the dry. The water level is to be maintained continuously one foot below bottom of excavation for the length of time to complete the work. The Contractor shall place all fill materials and proposed improvements in the dry.

4. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to remove promptly and dispose of properly, all water entering excavations and keep such excavations dry so as to obtain a satisfactory undisturbed bottom of excavation or subgrade condition. Dewatering shall be in operation until the fill, or the proposed surface condition has been completed to such extent that it will not be floated or otherwise damaged by allowing water levels to return to natural elevations.

5. In excavations below the ground water level, it is expected that dewatering trenches or deep sumps will be required for pre-drainage of the soils prior to final excavation, and for maintaining the lowered groundwater level until construction has been completed to such an extent that floating, slumping or damage to excavations or materials placed does not occur. Monitoring of adjacent ground water levels by observation wells or other satisfactory means may be required.

6. The Contractor shall discharge all pumped water away from the work area, and in

accordance with all applicable local codes and laws. Requirements specified herein for Erosion and Siltation Control shall be met during this process.

7. All fill material shall be placed and compacted in the dry. The Contractor shall dewater excavated areas as required to perform the work and in such a manner as to preserve the undisturbed Commonwealth of the natural inorganic or other subgrade soils.

8. The Contractor shall verify that the construction and/or operation of his dewatering system will not adversely affect any well, pond, stream structure, utility, etc., on or adjacent to the area being dewatered.

PART 2 - PRODUCTS

2.01 MATERIALS

1. Fill material shall be obtained from required on-site cut to the extent suitable material is available and off-site to the extent suitable material is not available from on-site cuts.

2. On-site material for use in compacted fill shall be natural inorganic granular soil taken from areas of cut after removal of pavement, topsoil, or other unsuitable materials.

3. Fill materials shall be well-graded within specified gradation limits. Gradation of backfill materials shall be determined in accordance with ASTM D-422.

4. Crushed Stone: Crushed stone processed from a stone quarry, washed, graded, free of organic materials. Gradation is as follows:

1. 1/2" Crushed Stone

U. S. SIEVE NO.	% PASSING BY WEIGHT
2"	100
1/2"	85-100
3/8"	15-45
#4	0-15
#8	0-5

2. 3/4" Crushed Stone

U.S. SIEVE NO.	% PASSING BY WEIGHT
1"	100
3/4"	90-100
1/2"	10-50
3/8"	0-20
# 4	0-5

3. 1-1/2" Crushed Stone

U.S. SIEVE NO.	% PASSING BY WEIGHT
2"	100
1-1/2"	95-100
1”	35-70
3/4"	0-25

4. Structural Fill: Well-graded, hard, durable, natural sand and gravel, free from ice and snow, roots, sod, rubbish, and other deleterious or organic matter. Material shall conform to the following gradation requirements:

U.S. SIEVE NO.	% PASSING BY WEIGHT
4"	100
#4	40-70
#40	25-45
#200	0-12

6. Ordinary/Common Fill: Well-graded, natural, inorganic soil approved by the Architect and meeting the following requirements:

    1. It shall have less than 3% organic matter, free from weak, compressible, or frozen materials, and of stones larger than eight inches in dimension. It shall not contain granite block, concrete, masonry rubble, roots, stumps or other similar materials.

    2. It shall be of such nature and character that it can be compacted to the specified densities.

    3. Topsoil and the zone directly below the topsoil indicated on the borings as "subsoil" shall not be considered Ordinary Fill nor shall topsoil, or subsoil stockpiled on the site. Where subsoil is encountered, it shall be stripped separately from the topsoil and the granular material directly beneath the subsoil. This excavated material shall only be utilized in lawn areas, playfield areas or other non-structural areas, and shall be placed in these areas at distances away from adjacent site improvements as specified herein or as directed by the Architect.

    4. Material from excavations on the site may be used as Ordinary Fill if it is deemed acceptable by the Geotechnical Engineer.

7. Unsuitable Material which is classified as "unsuitable" shall be material having at least one of the following properties:

    1. Material with a maximum unit dry weight per cubic foot less than 90 lbs., as determined by ASTM D1557.
    2. Material containing greater than 3% organic matter by weight, organic silt, peat, construction debris, roots and stumps.
    3. Material deemed unsuitable by the Geotechnical Engineer based on its inherent inability to perform satisfactorily as a bearing stratum.
    4. Soil, which is allowed to become frozen, saturated, or unstable because of the contractor’s failure to employ appropriate dewatering, excavation methods, or weather protection is not deemed unsuitable soil but rather represents a condition in which the subgrade was not adequately prepared and/or protected.

8. Blast Rock Fill: Shall be broadly graded blasted rock with a maximum size of 12 inches, 25% smaller than six inches and 10% finer than 3/4 inch. Occasional boulders up to 18 inches will be permitted near the base of the fill.

    1. General site rock fill (outside the building area) may be placed up to within 42 inches of finish grade in pavement areas and to within 18 inches of inverts of utility lines. First lift over the top of rock fill shall be a choke stone layer 18 inches thick. Compaction shall be by minimum of four coverages of a self-propelled vibratory drum roller in each direction (i.e. north-south and east-west). The minimum weight of the drum shall be 10,000 lbs. Compaction may also be by four coverages of heavy track equipment such as a CAT D8 Bulldozer or other heavy track equipment approved by the Geotechnical Engineer.
    2. Rock shall not be placed within a five-foot horizontal distance on either side of

any proposed utility line. The intent is to leave a zone of granular fill that can later be excavated for installation of utilities. Also, large rock fragments shall be kept away from utility pipes.

9. Choke Stone: Shall have a maximum rock size of nine inches and shall have 50% finer than 1-1/2 inch and 25% finer than 3/4 inch.

10. Sand Fill: Shall consist of well-graded natural sand, free from organic, other weak or compressible materials, or frozen materials, Conforming to the following gradation:

U.S. SIEVE NO.	% PASSING BY WEIGHT
#4	100
#50	15-40
#100	2-10
#200	0-5

11. Slab Base Course : Shall be hard, durable, natural sand and gravel, free from ice and snow, roots, sod, rubbish, or organic matter. Material shall conform to the following gradation requirements:

U.S. SIEVE NO.	% PASSING BY WEIGHT
2"	100
#4	40-70
#40	25-45
#200	0-10

PART 3 - EXECUTION

3.01 GENERAL EXCAVATION

1. Excavate all materials encountered to allow construction of the proposed building and structures, utilities and site work as shown on the Drawings and as hereinafter specified.

2. Excavate to levels shown for footings and structures, as required to provide working clearance and to allow adequate inspection and to subgrades outside of buildings and structures as specified herein and as shown on Drawings.

3. In planted areas, remove ledge, boulders and other obstructions to a depth of at least two feet below finished grade.

4. Remove from the site and legally dispose of all debris and other excavated material not needed for, or suitable for, fill except as otherwise specified herein. Remove all materials subject to rot or attack by termites.

5. In general, the Contractor will be permitted to use machine excavation to the bottom of fill under concrete slabs on grade. The final three inches under footings and foundations shall be excavated using a straight blade bucket. If the final three inches cannot be satisfactorily excavated using a straight blade bucket without disturbing subgrades, the Contractor shall use alternative methods, including hand excavations. Alternative methods shall be subject to approval by the Architect or Geotechnical Engineer.

6. Unsuitable Soil Conditions:

   a. If unsuitable bearing materials are encountered at the specified subgrade depths, the Contractor shall notify the Architect. The Contractor shall carry excavation

deeper and replace the excavated material with compacted fill or concrete as directed by the Architect or Geotechnical Engineer. Soil subgrades, which are unstable due to inadequate construction dewatering or excessive subgrade disturbance, are not deemed unsuitable soils.

b. Removal of such material and its replacement as directed will be paid for as extra compensation in quantity approved by the Architect. Only changes in the work authorized in advance by the Architect in writing shall constitute an adjustment in the Contract Price.

c. Material that is not within +\- 3% optimum moisture for compaction of the particular material in place as determined by the Architect or the Geotechnical Engineer and is disturbed by the Contractor during construction operations so that proper compaction cannot be reached shall not be construed as unsuitable bearing materials. This material shall be removed and replaced with lean concrete or structural fill as directed by the Architect or Geotechnical Engineer at no additional cost to the Owner.

d. The Contractor shall follow a construction procedure, which permits visual identification of firm natural ground.

e. The volume of unsuitable material shall be measured by profiling the in-place topography and calculation by the average-end-area method or other method deemed acceptable by the Geotechnical Engineer. The contractor's Licensed Surveyor or Professional Engineer shall prepare the calculations. Payment limits shall be for rock excavation.

7. Excessive Excavation: If any part of the general or trench excavation is carried, through error, beyond the depth and the dimensions indicated on the Drawings or called for in the Specifications, the Contractor at his own expense, shall furnish and install compacted gravel fill, concrete, or take other remedial measures as directed by the Architect to bring fill material up to the required level.

3.02 TRENCH EXCAVATION

1. Excavate as necessary for all footings, structures, pipes, storm and sanitary drainage, electrical, gas, water, related structures and appurtenances, and for any other trenching necessary to complete the work. Unless otherwise indicated, provide separate trench for each utility.

2. Definitions:

1. "Trench excavation" shall be defined as an excavation in which the bottom width does not exceed seven feet, and the top width does not exceed twice the depth or where footings are excavated by backhoe. Refer to Drawings for any special trenching conditions for utilities, structures, etc.

2. The words "invert" or "invert elevation" as used herein mean the elevation at the inside bottom of pipe or channel.

3. The words "bottom of the pipe" as used herein means the elevation at the base of the pipe at its outer surface.

3. In general, machine excavation of trenches will be permitted with the exception of preparation of pipe beds, which will be handwork. Excavate by hand or machine methods at least six inches below the bottom of all utilities.

4. Trench excavation shall include the removal of all materials encountered. During excavation, materials determined to be suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials not required or unsuitable for backfill

shall be removed and legally disposed of off the site. The banks of trenches shall be cut as near vertical as practicable to the extent allowed by OSHA.

5. The Contractor shall provide, at his own expense, suitable bridges over trenches where required for accommodation and safety of the traveling public and as necessary to satisfy the required permits and codes.

6. Trenches shall be excavated to the necessary width and depth for proper laying of pipe or other utility and shall have vertical sides or slopes as required by codes. Minimum width of trenches shall provide clearance between the sides of the trench and the outside face of the utility. Maximum trench sizes are as shown on the Drawings or as specified herein. The depth of the trench shall be six inches below the bottom of the pipe barrel or respective utility. If the existing soil is not suitable, the Architect or Geotechnical Engineer may approve removal and replacement of material. Costs for removal and replacement materials will be based on Unit Prices.

7. Coordinate all utility and trench backfilling with the trades involved.

3.03 ROCK EXCAVATION

1. Definitions and Classifications: The following classifications of excavation will be made only when rock excavation is required.

    1. "Earth Excavation" consists of removal and disposal of pavement and other obstructions visible on ground surface; underground structures and utilities indicated to be demolished and removed; material of any classification indicated in data on subsurface conditions; and other materials encountered that are not classified as rock excavation.
    2. "Rock Excavation" consists of removal and disposal of materials encountered that cannot be excavated without continuous and systematic drilling and blasting or continuous use of a ripper or other special equipment, except such materials that are classed as earth excavation. Typical of materials classified as rock excavation are as follows:

        1. Consolidated Bedrock.

        2. Boulders on site, outside trench limits, exceeding two cubic yards in volume.
        3. Boulders within trench limits, exceeding one cubic yard in volume.

    3. Should highly fractured or weathered bedrock be encountered during excavation, the following shall apply:

        1. When the material is encountered in trenching operations or under footings, it shall be excavated or ripped with a hydraulic backhoe equal to or larger than a Caterpillar 235 excavator and will be classified as Earth Excavation. When it is demonstrated to the satisfaction of the Architect and the Geotechnical Engineer that this material can no longer be removed with a hydraulic backhoe and requires drilling and blasting, this material shall be classified as Rock Excavation. - For excavation procedures when this material is encountered under footings, refer to paragraph below.

    4. Intermittent drilling and ripping performed to increase production and not necessary to permit excavation of material encountered will be classified as Earth Excavation.

5. Allowance for Rock Excavation: The Contractor shall carry in the Base Bid an allowance for xxx cubic yards of rock encountered in trench excavation removed from the site. The Contractor shall also carry in the Base Bid an allowance of xxx cubic yards of open rock excavation removed from the site. The Base Bid shall cover all costs relating to such rock excavation, including blasting, removal and placement of the excavated material, overhead and profit. The Owner for excavation herein defined will pay no amount other than that herein specified.

    1. If the total quantity of Rock Excavation, open and/or trench, exceeds the amount of Rock Excavation included in the Contract as listed above, the Owner shall pay the excess excavation at the unit prices as indicated in the contract.
    2. If the total quantity of Rock Excavation, open and/or trench, is less than the amount of Rock Excavation included in the Contract as listed above, the Contract sum will be decreased by the difference in Rock Excavation multiplied by the unit prices listed in the contract.

2. Measurements:

    1. When, during the process of excavation, rock is encountered, such material shall be uncovered and exposed in such a manner that the unbroken ledge surface is clearly visible, and the Contractor shall notify the Architect, before proceeding further. The areas in question shall then be cross sectioned as hereinafter specified.
    2. Failure on the part of the Contractor to uncover such material and to notify the Architect and proceeding by the Contractor with the rock excavation before cross-sections are taken, will forfeit the Contractor's right of claim towards the stated allowance or additional payment over and above the stated allowance at the quoted unit price.
    3. The Contractor shall employ and pay for a licensed Registered Civil Engineer or Land Surveyor to take cross-sections of rock before removal and to make computations of volume of rock encountered within the Payment Lines. Cross-sections shall be taken in the presence of the Geotechnical Engineer and the computations approved by the Architect. The volume calculations shall be by the average end area method. The Owner has the option to perform independent cross-sections and computations of rock quantities.
    4. Where removal of boulder or ledge is required outside the established payment lines, the Architect shall determine the extent of this removal and basis of payment.

3. Blasting: Obtain written permission and approval of method from local authorities before proceeding with rock excavation. Explosives shall be stored, handled, and employed in accordance with state and local regulations or, in the absence of such, in accordance with the provisions of the "Manual of Accident Prevention of Construction" of the Associated General Contractors of America, Inc.

    1. Notify the Architect at least 48 hours before any intended blasting and do no blasting without his specific approval of each blasting operation.
    2. Contractor shall present evidence that his insurance includes coverage for blasting operations before doing any blasting work. A pre-blast survey shall be performed for all buildings and utilities within a radius of 150 feet from the blasting zone or conforming to the ordinance governing blasting and the Fire Department regulations.
    3. All rock blasting shall be well covered with heavy mats or timbers chained together and the Contractor shall take great care to do no damage to existing structures, utility lines and trees to remain.

4. Any damage caused by the work of this Contractor shall be repaired to the full satisfaction of the Architect at no additional cost to the Owner.
5. Any rock fragments or loose material from blasting operations shall be removed. All voids shall be filled with a leveling mat of structural fill or lean concrete as directed by the Geotechnical Engineer.
6. At least 2 weeks prior to blasting the contractor shall submit a blasting plan indicating blasting agents to be used, drill hole depths and spacing, powder factors, personnel, vibration limits and method of measurement, for review by the Geotechnical Engineer.

4. Complaints:

1. Report all blasting complaints to the Architect within 24 hours of receipt thereof. Include the name, address, date, time received, date and time of blast complained about, and a brief description of the alleged damages or other circumstances upon which the complaint is predicated. Assign each complaint a number, and number all complaints consecutively in order of receipt.
2. Submit a summary report to the Architect each month which indicates the date, time and name of person investigating the complaint, and the amount of settlement, if any.
3. When settlement of a claim is made, furnish the Architect with a copy of the release of claim by the claimant.
4. Immediately notify the Architect, throughout the statutory period of liability, of any formal claim or demands made by attorneys on behalf of claimants, or of serving of any notice, summons, subpoena, or other legal documents incidental to litigation, and of any out-of- court settlement or court verdict resulting from litigation.
5. Immediately notify the Architect of any investigations, hearings, or orders received from any governmental agency, board or body claiming to have authority to regulate blasting operations.

5. If ledge is encountered within the limits of the Proposed Building Area, the Contractor shall excavate this material 18 inches below subgrade of footings and 12 inches below subgrade of slabs unless otherwise directed by the Architect or Geotechnical Engineer. All loose or shaken rock shall be removed and replaced with compacted gravel fill or lean concrete as specified herein.

6. Rock excavation for foundations outside of the Building Area: Remove rock to foundation or footing subgrade. All rock bottoms for foundations shall be carefully examined. Loose or shaken rock shall be removed to solid bearing, and the rock surface leveled, or shelved to a slope not exceeding one inch per two feet, or as directed.

7. Excavate rock encountered in grading under paved areas, lawns and plant beds to subgrade as specified herein and shown on the Drawings. All boulders or protruding rock outcrops shall remain undisturbed at lawns and plant beds when so directed by the Architect. Rock shall be fractured six inches below subgrade of paved areas, but this six-inch layer shall remain in place.

8. If any part of the rock excavation at footings be carried beyond the depth and the dimensions indicated on the Drawings or called for in the Specifications, the Contractor shall, at his own expense, furnish and install concrete of same strength as footings to the required subgrade level of the footings as shown on the Drawings. Doweling or other corrective structural measures as directed by the Architect may also be required to properly anchor or reinforce the concrete. If rock excavation is carried beyond the depth and dimensions to subgrade in other areas, the Contractor shall, at his own expense, furnish and install compacted gravel fill to subgrade as directed by the Architect.

9. Basis of Payment: The total amount of rock excavation will be based upon the volume of rock excavated within and/or above the lines referred to in the next paragraph as "Payment Lines". The payment lines are only to be used as a basis of payment and are not to be used as limits of excavation. Limits of excavation area as shown on the Drawings and as specified herein.

10. Payment Lines for Rock Excavation:

    1. Payment lines for columns and footings within the building shall be a vertical line one foot from the toe of the footings; the depth shall be measured at 24 inches below the bottom elevations shown on the Drawings. If rock is to remain directly below the bottom of the footings within the Building Area, payment lines shall be six inches below the bottom elevation of the footing as shown on the Drawings. Payment lines for walls to be damp- proofed shall be a vertical line two feet outside the walls. Payment lines for footings outside of the building shall be six inches below the bottom of footings. Vertical payment lines shall be as specified hereinafter.
    2. Payment lines for manholes and catch basins shall be one foot outside of the outer wall and six inches below subgrade beneath the structure.
    3. Payment lines for rock excavation under slabs on grade shall be six inches below the bottom elevation of the specified gravel base course outside of the building and 12 inches below subgrade for slabs within the building.
    4. Payment lines for rock excavation at paved areas and lawns shall be six inches below respective subgrades.
    5. Payment lines for rock excavation under pipes within the building and for utility trenches outside the building lines shall in no case be calculated as greater in width than the outside diameter of the pipe plus two feet for pipes up to 18 inches. For pipes 18 inches and larger payment lines shall in no case be calculated as greater in width than the outside diameter of the pipe plus three feet. Payment lines at bottom of all pipe and utility trenches shall be six inches below subgrade.

3.04 PROOF-ROLLING

1. Contractor shall be required to proof roll foundation and pavement subgrades prior to foundation construction or the placement and compaction of fill materials.

2. Proof rolling of foundation subgrades shall include at least ten passes of a small vibratory plate compactor for trench excavations or six passes of a heavy vibratory roller for open areas.

3. Proof rolling of pavement subgrades shall include four passes of a heavy vibratory roller.

4. If groundwater is located within two feet of foundation or pavement subgrade, proof rolling may be eliminated. However, the Contractor shall demonstrate care during excavation so as to minimize subgrade disturbance.

5. The Geotechnical Engineer shall visually observe Proof rolling. Foundation construction or replacement of fill materials shall not commence until the Geotechnical Engineer has witnessed subgrade conditions and proof rolling operations.

6. Soils which exhibit weaving or instability during the proof rolling operations as determined by the Geotechnical Engineer shall be removed and replaced with compacted Structural Fill or Crushed Stone at no additional cost to the Owner.

3.05 FILLING AND GRADING

1. Samples and Testing:

    1. All fill materials, and their placement shall be subject to quality control testing. The Owner shall pay for all testing except that the Contractor will bear cost of testing materials, which fail to conform to Specifications. Test results and laboratory recommendations will be available to Contractor. All sieve analyses for conformance of on-site and off-site fill materials to be used in the work shall be done by means of a mechanical wet sieve analysis and in accordance with ASTM D-422.
    2. The Owner will retain a Geotechnical Engineer to provide personnel, qualified by training and experience, to be at the site to observe preparation for the placement of compacted fills, to observe excavation and dewatering required for the work, and to observe earthwork operations and report on the conformity of operations with these Specifications. All service and approvals given by the Geotechnical Engineer shall not relieve the Contractor of his responsibility for performing the work in accordance with these Specifications. The Contractor agrees to accept as final the results of field and laboratory tests performed by the above representatives. As stated hereinbefore, the Owner reserves the right to modify or waive Geotechnical Engineer's services.
    3. Excavated material taken directly from on-site cuts that will meet these Specifications may be used as Ordinary Fill or Structural Fill provided the Contractor obtains written approval from the Architect. No such fill material shall be put in place until approved for use by the Architect in writing.
    4. Field density tests will be made by the Geotechnical Engineer in accordance with the Method of Test for ASTM Designation D1556 or D2944, to determine the adequacy of compaction; the location and frequency of such field tests shall be at the Geotechnical Engineer's discretion.
    5. The Contractor shall notify the Architect or the Geotechnical Engineer when an area is ready for compaction testing. This notification shall be 48 hours in advance of placing or final compaction so that the Geotechnical Engineer has adequate time to take compaction tests.
    6. The Architect or his designated representative shall have the right to observe the installation of all controlled compacted fills.
    7. Testing of materials as delivered may be made from time to time. Materials in question may not be used, pending test results. Tests of compacted materials will be made regularly. Remove rejected materials and replace them with new, whether in stockpiles or in place.
    8. Cooperate with the Geotechnical Engineer in obtaining field samples of in-place materials after compaction. Furnish incidental field labor in connection with these tests. The Contractor will be informed by the Geotechnical Engineer of areas of unsatisfactory density which may require improvement by removal and replacement, or by scarifying, aerating, sprinkling (as needed), and re-compaction prior to the placement of the new lift. No additional compensation shall be paid for work required to achieve proper compaction.
    9. The Geotechnical Engineer's presence does not include supervision or direction of the actual work by the Contractor, his employees, or agents. Neither the presence of the Geotechnical Engineer nor any observations and testing performed by him shall excuse the Contractor from defects discovered in his work.
    10. In no case will frozen material be allowed for use in fill, backfill, or rough grading material.
    11. Stones or rock fragments larger than four inches in their greatest dimension shall not be permitted within the top six inches of subgrade of any fills or embankments.

2. Placing, Spreading and Compacting Fill Material:

1. Fill materials are to be placed as designated herein and as indicated on the Contract Drawings.

1. Crushed Stone shall be placed as follows and compacted as specified herein:

1.) Under and around utility structures and around foundation drains and underdrains.
2.) Behind retaining walls, and under rip rap.
3.) Where otherwise shown on Drawings or as directed by the Architect.

2. Structural Fill shall be placed as follows and compacted in lifts to a minimum of 95% maximum dry density per the Modified Proctor Test (ASTM D 1557) as specified herein: (Refer to table specified herein for compaction methods and lift requirements.)

1.) Within building pad areas.
2.) As a subgrade fill for all material to be placed controlled compacted fills under exterior concrete slabs, foundations, on grade stairs, and other soil bearing situations.
3.) Wherever a structural fill is called for or shown on the Drawings.

3. Ordinary Fill shall be placed as follows and compacted as specified herein:
1.) In general, areas such as lawn or parking islands except where Structural Fill is shown.
2.) Wherever Ordinary Fill is called for and as specified hereinbefore.
3.) Wherever Structural Fill, Crushed Stone, Sand Fill or Topsoil is not required herein or on the Drawings.

4. Blast Rock Fill may be placed up to within three feet of finish grade in pavement areas and within two feet of finish grade in lawns, and to within 30 inches of inverts of utility lines and proposed utility routes. First lift over the top of rock fill shall be choked stone layer 18 inches thick which shall be a well-graded mixture of sand, gravel, and blasted rock with maximum stone size less than nine inches. Compaction shall be by minimum of six coverages of a self-propelled vibratory drum roller in each direction (i.e. north-south and east-west). The minimum weight of the drum shall be 1 0,000 lbs. Compaction may also be by four coverages of heavy track machinery such as a Caterpillar D8 or other track machinery approved by the Geotechnical Engineer.

1.) Blast Rock Fill shall not be placed within 30 inches vertically of exterior concrete slabs (i.e. sidewalks, loading docks, etc.
2.) Rock shall not be placed within a five-foot horizontal distance on either side of any proposed utility line. The intent is to leave a zone of granular fill that can later be excavated for installation of utilities. Also keep large rock fragments away from any utility lines.
3.) Place woven filter fabric (Mirafi 500X or equivalent) over Blast Rock Fill.

5. Sand Fill shall be placed as follows and compacted as specified for the particular item:

    1.) As a bedding material for PVC electrical conduit where concrete is not required, telephone-cable, primary electric service and gas pipe.
    2.) Where otherwise specified or shown on the Drawings.

6. Slab Base Fill shall be placed in minimum 6-inch lift under concrete floor slabs.

7. Subsoil shall be used only under lawn areas and athletic fields. This material shall not be placed closer to areas being otherwise prepared than a 1:1 angle of repose x depth of fill for the particular area. For instance, if a fill is four feet deep, subsoil may not be placed closer than four feet to the area being otherwise prepared.

    1.) Unsuitable Earth Materials shall be removed from the site.
    2.) The fill material shall be placed in uniform horizontal layers and compacted as specified herein.

8. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to obtain uniformity of material in each layer. So far as practicable, each layer of material shall extend the entire length and width of the area being filled plus two additional feet horizontally along each side for every one foot of fill required.

3. All fill material shall be placed and compacted in the dry. The Contractor shall dewater excavated areas as required to perform the work, and in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of a day's operation. Prior to terminating operations for the day, the final layer of fill, after compaction, shall be rolled with a smooth-wheeled roller to eliminate ridges of soil left by tractors, trucks and compaction equipment.
4. The Contractor shall not place a layer of compacted fill on soil that was permitted to freeze prior to compaction or on snow or ice. Removal of these unsatisfactory materials will be required as directed by the Owner.
5. When the moisture content of the fill material is below optimal moisture necessary for compaction as specified herein, water shall be added until the moisture content is as specified.
6. When the moisture content of the fill material is above the optimal moisture necessary for compaction as specified herein, the fill material shall be aerated by blending, mixing, or other satisfactory methods until the moisture content is as specified.
7. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to the specified density. Compaction shall be continuous over the entire area and the equipment shall make sufficient passes to ensure that the desired density is obtained. A minimum of four coverages with acceptable compaction equipment described hereinafter is a requirement. These coverages are to be provided as systematic compactive effort; incidental coverages due to construction vehicle traffic through the area will not be included.

3. Structural Fill: All fills within the building area shall be made with Structural Fill as defined herein and shown on the Footing Zone of Influence detail included herein. No excavated

on-site material will be acceptable as Structural Fill unless specifically approved by testing as specified herein.

4. Allowance for Unsuitable Materials and replacement with Structural Fill: The Contractor shall include in his base bid xxx cubic yards for the removal of Unsuitable Materials and Structural Fill in place and graded as specified herein to be used as directed by the Architect or the Geotechnical Engineer. This quantity of Structural Fill is in addition to the requirements for Structural Fill in areas as specified herein and as shown on the Contract Documents and is to be used at the discretion of the Architect or the Geotechnical Engineer.

5. Backfilling of Trenches, Structures and Foundations:

    1. Areas to be backfilled shall be free of construction debris, refuse, compressible or decayable materials and standing water. Do not place fill when temperature is below 30 degrees F and when fill materials or layers below it are frozen unless specifically approved by the Geotechnical Engineer.
    2. Requirement of description, placement, compaction and spreading of fill materials as specified herein shall be applicable to backfilling operations.
    3. Structural Fill shall be used as Backfill around manholes and other structures. Excavated material may be used if approved by the Architect or Geotechnical Engineer.
    4. Backfilling of foundations, structures and retaining walls shall not commence until construction finish grade has been approved, forms removed, and the excavation cleaned of trash and debris. Backfill shall not be placed against walls until they are braced or cured sufficiently to develop the strength necessary to withstand, without damage, the pressure that will result from backfilling and compacting operations. If fill is required on both sides of a wall, it shall be brought up simultaneously and evenly on both sides. Avoid damage to the walls and to damp-proofing and waterproofing and other work in place. Allow seven days from the date of application of waterproofing before backfilling. Stones larger than four inches maximum dimension shall not be permitted in the upper six inches of fill or horizontally within 12 inches of walls.
    5. Do not commence backfilling operations of utility trenches until all piping, conduits, etc. have been installed, tested and approved and the locations of all pipe and appurtenances have been recorded. Backfill carefully by hand around pipe to depth of one foot above top of pipe using material specified herein and tamping firmly in layers not exceeding six-inch layers, compacting by hand rammers or mechanical tampers. When a manufacturer of utility line materials suggests backfill materials and methods other than those specified herein, such requirements shall govern providing the finished work equals or exceeds the result obtained by the materials and methods specified herein. Water mains shall be hand backfilled to a minimum cover of 18 inches before mechanical equipment can be used to backfill trench.
    6. Sand Bedding will be required below all pipe unless otherwise shown on the Drawings or specified herein. Crushed Stone is required under utility structures where shown on the Drawings. Gravel Bedding, Sand Bedding or Crushed Stone shall be placed to the full width of the trench and under utility structure foundations as indicated on the Drawings. After a pipe is bedded, the trench shall be filled to the centerline of the pipe with Gravel Fill or Sand Bedding except at the joint. After the joint is inspected, that portion shall be filled in with Sand Bedding. Material under and around the pipe shall be carefully and thoroughly tamped.
    7. From the centerline of the pipe to a point 12 inches above the top of the pipe the backfill shall be Structural Fill or Sand Fill placed by hand and hand tamped. Above this point, backfill shall be placed in layers six inches deep and each layer

shall be compacted with mechanical tampers to not less than 95% of maximum density at optimum moisture of the material. This backfill shall be carried up to the bottom of materials specified to be placed for surfacing requirements.

8. Utilities shall not be laid directly on ledge, boulders or other hard material. This material shall be removed as specified herein within trench limits, and within vertical planes one foot outside of structure walls. Backfill will be placed in eight-inch lifts and thoroughly compacted. If hand guided compaction equipment is used, fill shall be placed in six-inch lifts. All rock excavation shall be considered unsuitable for backfill around utilities. Ordinary fill may be used as backfill in areas specified herein.
9. Coordinate all utility and trench backfilling with the trades involved.

6. Compaction Equipment:

    1. Compaction shall be accomplished by vibratory rollers, multiple wheel pneumatic tired rollers or other types of approved compacting equipment. Loaded trucks, low beds, water wagons and the like shall not be considered as acceptable compaction equipment unless specifically approved by the Architect or Geotechnical Engineer for a particular location. Equipment shall be of any such design that it will be able to compact the fill to the specified density in a reasonable length of time. All compaction equipment shall be subject to the approval of the Geotechnical Engineer.

7. Compaction Requirements:

    1. The following table lists minimum compactive efforts and lift weights which are required for all fill materials. Compaction of each lift shall be completed before compaction of the next lift is started. The compaction equipment shall make an equal number of transverse and longitudinal coverages of each lift. Allow the Geotechnical Engineer sufficient time to make necessary observations and tests. The degree of compaction for fill placed in various areas shall be as follows:

        Relative Compaction

        1. Within buildings and structures:
            -Under footings 95%
            -under slab 95%

        2. Outside building areas:
            -within paved areas 95%
            -within lawn areas and playing fields 85%

    - Percent of maximum dry density of the material at optimum moisture content as determined by methods or tests for ASTM designation D 1557.

8. Methods: The compaction alternatives given below are stated to provide minimum compaction standards only and in no way relieves the Contractor of his obligation to achieve the specified degree of compaction by whatever additional effort is necessary.

    1. All fill to be placed "in-the-dry" with the exception specified hereinafter. If, in the opinion of the Architect or the Geotechnical Engineer, the Contractor has followed a logical sequence of construction procedures, has employed the proper and necessary equipment, and has otherwise conducted himself in a workmanlike manner, but still cannot effectively dewater the excavation, the Architect or the Geotechnical Engineer may permit the Contractor to place a first

lift of Gravel or Crushed Stone fill "in-the-wet". Fill placed in-the-wet must meet the gradation and placement requirements specified herein. The quantity of fill placed in-the-wet must be no greater than deemed necessary by the Architect and must be limited to the lowermost lift.

9. Moisture Control:

1. Variation of moisture content in fill and backfill materials shall be limited to Optimum Moisture (-l% to +2%). Moisture content shall be as uniformly distributed as practicable within each lift and shall be adjusted as necessary to obtain the specified compaction.
2. Material which does not contain sufficient moisture to be compacted to the specified densities shall be moisture conditioned by sprinkling, discing, windrowing, or other method approved by the Geotechnical Engineer.

1. Material conditioned by sprinkling shall have water added before compaction. Uniformly apply water to surface of subgrade or layer of soil material to obtain sufficient moisture content. The Contractor shall maintain sufficient hoses and/or water distributing equipment at the site for this purpose.

3. Material containing excess moisture shall be dried to required Optimum Moisture before it is placed and compacted. Excessively moist soils shall be removed and replaced and shall be scarified by use of plows, discs, or other approved methods, and air-dried to meet the above requirements.
4. Materials, which are within the moisture requirements specified above, but which display pronounced elasticity or deformation under the action of earthmoving and compaction equipment, shall be reduced to Optimum Moisture Content, or below, to secure stability.
5. In the event of sudden downpours or other inclement weather, exposed subgrades and fills which, in the opinion of the Geotechnical Engineer, become inundated or excessively moistened shall have excess water removed and soil dried as specified above.

3.06 ROUGH GRADING

1. Rough grading shall include the shaping, trimming, rolling and finishing the surface of the sub- base, shoulders, and earth slopes, and the preparation of the sub-base for loam, seeding and paved surfaces. The grading of shoulders and sloped areas may be done by machine methods. Up to two inches in 100" tolerance will be permitted on slopes and one inch in 100" on lawn areas provided the slopes are uniform in appearance and without abrupt changes. All ruts shall be eliminated. Grading of subgrades for paved areas shall be finished at the required depth below and parallel to the proposed surface within 3/8 inch in 100" tolerance.

2. If, during the progress of rough grading work, water pipe, sewer conduit, drain, or other construction is damaged due to operations under this Contract, the Contractor shall repair all such damage at no additional cost to the Owner and restore damaged areas to their original condition.

3. Do all other cutting, filling and rough grading to the lines and grades indicated on the Drawings. Grade evenly to within the dimensions required for finished grades shown on the Drawings. No stone larger than three inches in largest dimension shall be placed in upper 12 inches of fill.

4. Grades shall be brought below finished grades in accordance with the various depths specified below:

1. Under slabs-on-grade, as specified herein and as shown on the Drawings.
2. Under paved areas, bottom of base course as shown on Drawings.
3. Under seeded areas, six inches.
4. Under cattail marsh area and pond bottom, 12 inches.

5. No rubbish of any description shall be allowed to enter fill material. Such material shall be removed from the site.

6. Complete the grading operations after the building has been finished, the utilities installed, site improvements constructed, and all materials, rubbish and debris removed from the site. Leave subgrade for lawns clean at required grades. There must be sufficient grade staking to provide correct lines and grades.

3.07 DEFICIENCY OF FILL MATERIAL

1. Provide required additional fill material from offsite sources to complete the work if a sufficient quantity of suitable material is not available from the required excavation on the project site.

3.08 SURPLUS OF FILL MATERIAL

1. Surplus fill which is not required to fulfill the requirements of the Contract shall be removed from the site and legally disposed of.

3.09 DUST AND EROSION CONTROL

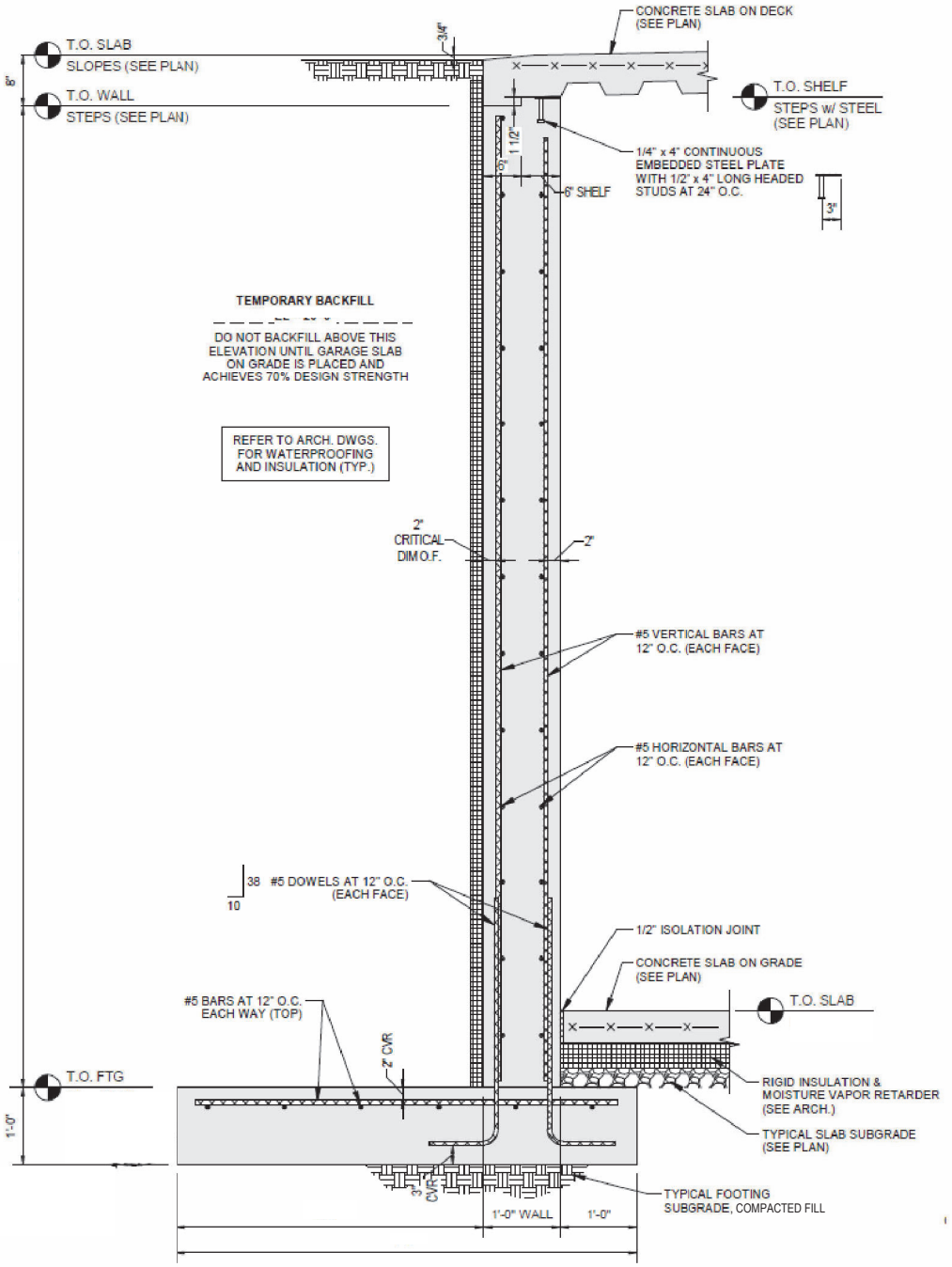
1. The Contractor shall take all necessary measures and provide equipment and/or materials to minimize dust from rising and blowing across the site and also to control surface water throughout the operation so that it does not run onto paved ways without being filtered. In addition, the Contractor shall control all dust created by construction operations and movement of construction vehicles, both on the site and on paved ways. Provide additional crushed stone where necessary to provide traps or pads for construction vehicles carrying sediment. Provide temporary swales and interceptor ditches to control surface runoff water where necessary.

2. If dust control is required off-site due to work under this Contract, in addition to watering, sweeping and other methods, the Contractor shall apply calcium chloride in the required amounts to properly control dust. These amounts shall be approved by the City Engineer prior to application.

3.10 RESTORATION OF SITE ITEMS

1. Wherever streets, lawns or other items within the Contract Limit Lines have been excavated in fulfilling the work required under the Contract, the Contractor shall furnish and install all material at no cost to the Owner to bring finish surface level with the existing adjacent conditions. All work shall be installed to match the existing conditions.

END OF SECTION 02200



1 S0.1 FOUNDATION WALL SECTION
3/4" = 1'-0"

NOTE: ALL FOOTINGS ARE TO REST ON CLEAN GRANULAR FILL COMPACTED IN LAYERS OF 12" OR LESS TO 95% COMPACTION.

ARCOVE ARCHITECTS

134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO:1028

ARCOVE ARCHITECTS
767 ISLINGTON ST, STE 2A
PORTSMOUTH NH 03801
603.731.5187
www.ARCove.com

DOUBLE MC, LLC
MCNABB PROPERTIES LTD
10 PLEASANT ST, STE 3
PORTSMOUTH NH 03801

REVISIONS:

REFERENCE:

REFERENCE SHEET:

DATE: 02/03/26

TYPICAL FOUNDATION DETAIL

SCALE:

SK-1

E # 23027044 09/08/2023 01:45:00 PM
Book 6505 Page 2411 Page 1 of 3
Register of Deeds, Rockingham County

Return to:

_____

_____

_____

LCHIP	ROA658982	25.00
TRANSFER TAX	RO125185	82,500.00
RECORDING		18.00
SURCHARGE		2.00

WARRANTY DEED

134 Pleasant Street, LLC, a New Hampshire limited liability company, with a principal place of business at 134 Pleasant Street, Portsmouth, New Hampshire 03801, FOR CONSIDERATION PAID, grants to **Double MC, LLC,** a New Hampshire limited liability company, with a principal place of business at 3 Pleasant Street, Suite 400, Portsmouth, New Hampshire 03801, with ***WARRANTY COVENANTS,*** the following described premises:

A certain tract or parcel of land with the buildings thereon situated on Pleasant Street, in the City of Portsmouth, County of Rockingham and State of New Hampshire as shown on a plan drawn by Millette, Sprague & Colwell, Inc. entitled "ALTA/ACSM Land Title Survey for Citizens Bank New Hampshire, 134 Pleasant Street, County of Rockingham, Portsmouth, NH" recorded in the Rockingham County Registry of Deeds as Plan D-26343, bounded and described as follows:

Beginning at a point on the southerly sideline of Pleasant Street at the southeasterly corner of land now or formerly of Strawbery Banke, Inc.; thence

South 46° 14' East along said Pleasant Street a distance of 122.39 feet, more or less, to a point; thence

South 57° 07' East still along Pleasant Street a distance of 79.29 feet, more or less, to a point at land now or formerly of the City of Portsmouth; thence

South 53° 45' West along land of the City of Portsmouth a distance of 121.33 feet, more or less, to a point; thence

South 61° 54' West along said City of Portsmouth land a distance of 194.24 feet, more or less, to a point; thence

North 24° 03' West along said City of Portsmouth land and other land of the City of Portsmouth a distance of 124.67 feet, more or less, to a point; thence

South 65° 57' 50" West along land of the City of Portsmouth a distance of 32.60 feet, more or less, to a point; thence

North 23° 44' 35" West along land of the City of Portsmouth a distance of 60.00 feet, more or less, to a point at land now or formerly of S & T Realty Trust; thence

North 66° 03' 55" East along said S & T Realty Trust land a distance of 32.60 feet, more or less, to a point at land now or formerly of Strawbery Banke, Inc.; thence

South 04° 51' 20" East along said Strawbery Banke, Inc. land a distance of 0.98 feet, more or less, to a point; thence

North 56° 41' East along said Strawbery Banke, Inc. land a distance of 175.24 feet, more or less, to a point; thence

North 57° 43' East continuing along said Strawbery Banke, Inc. land a distance of 50.44 feet, more or less, to the point of beginning.

TOGETHER WITH a right of way to Court Street as fully described in deed recorded at Book 1257, Page 466 of the Rockingham County Registry of Deeds.

Also conveying all right, title and interest in and to a right of way along a portion of the southerly bound of the premises described in Book 2975, Page 349.

Meaning and intending to describe and hereby convey the same premises in the deed of South Mill Pond, LLC to 134 Pleasant Street, LLC, dated February 23, 2005 and recorded with the Rockingham County Registry of Deeds at Book 4440, Page 2021.

This is not homestead property.

[Remainder of Page Intentionally Blank – Signature Page Follows]

DATED this 8 day of September, 2023.

134 PLEASANT STREET, LLC a New Hampshire limited liability company

Sharon Weston, Manager

STATE OF NEW HAMPSHIRE

COUNTY OF Rockingham, ss.

On September ___, 2023, before me, the undersigned notary public, personally appeared Sharon Weston, Manager of 134 Pleasant Street, LLC, a New Hampshire limited liability company, proved to me through satisfactory evidence of identification, which was her:

- ☐ photographic identification with signature issued by a federal or state governmental agency,
- ☐ oath or affirmation of a credible witness,
- ☒ personal knowledge of the undersigned,

to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose, duly authorized, in her capacity as manager of 134 Pleasant Street, a New Hampshire limited liability company.

Notary Public
My Commission Expires: _____
[SEAL]

JOHN K. BOSEN
MY COMMISSION EXPIRES DEC. 2, 2025
NOTARY PUBLIC
NEW HAMPSHIRE

H0.2 EXISTING PHOTOS
134 PLEASANT STREET
PORTSMOUTH, NH 03801

07/25/2025

ARCOVE ARCHITECTS

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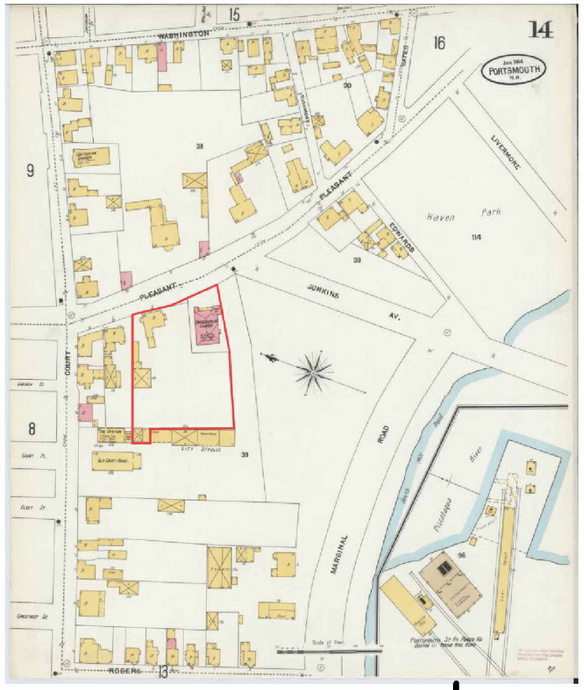
1813
UNIVERSALIST CHURCH & HOUSING



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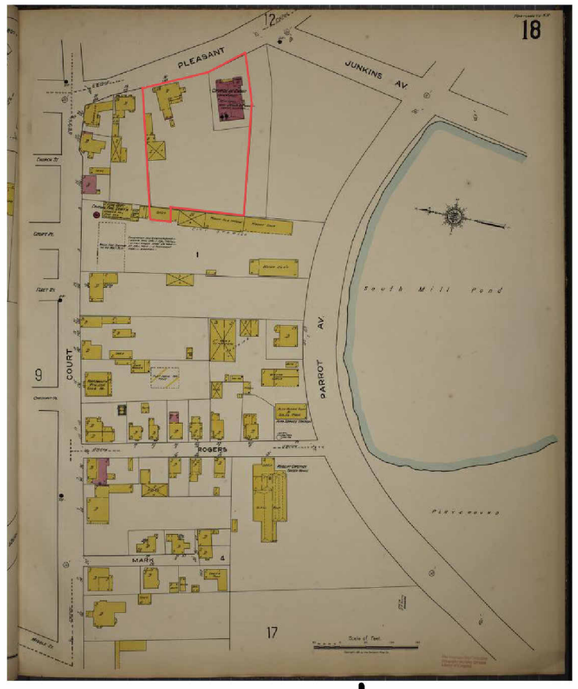

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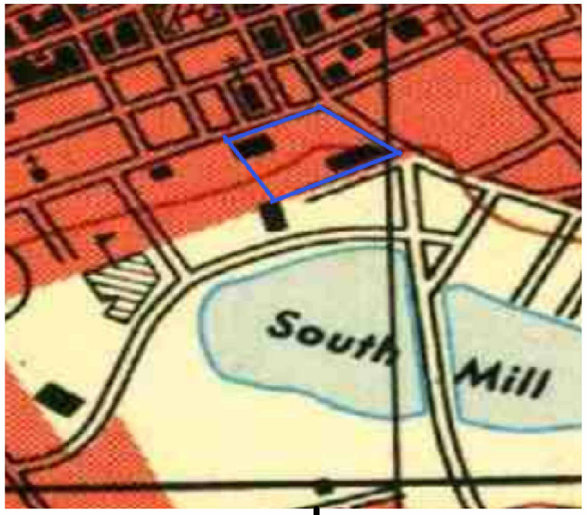
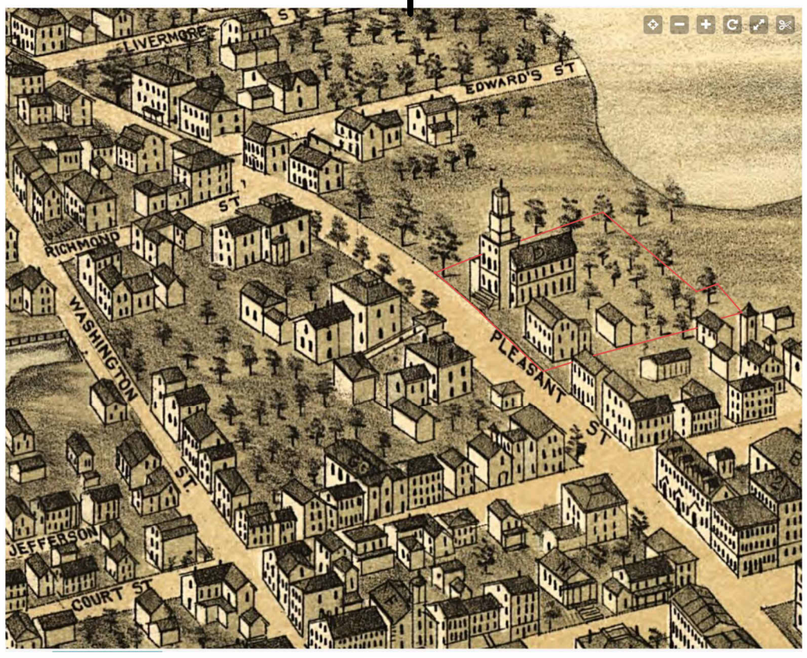


1952
GROCERY IN CONSTRUCTION TILL 1953
CHURCH DEMOLISHED AFTER



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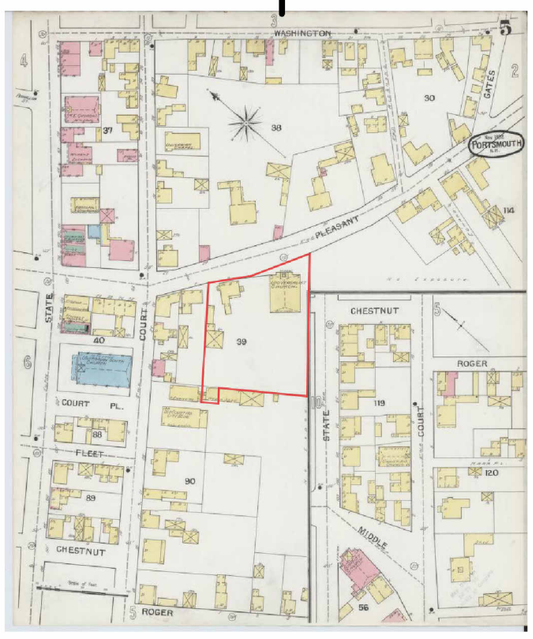

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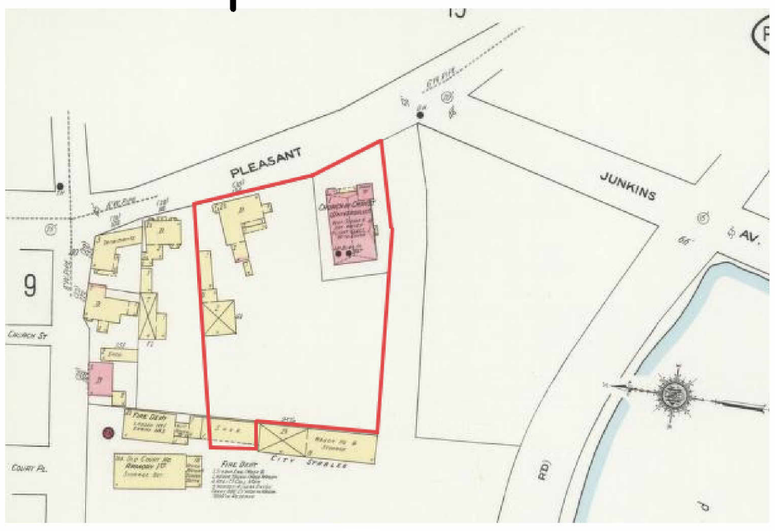

1910
UNIVERSALIST CHURCH & HOUSING

H0.4

HISTORIC TIMELINE
134 PLEASANT STREET
PORTSMOUTH, NH 03801

07/25/2025

ARCOVE ARCHITECTS

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EXISTING DRIVE UP WINDOW DIMENSION SKETCH

OWNER: DOUBLE MC, LLC
PROPERTY LOCATION: 134 PLEASANT STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

SCALE: 1"=40'

DATE: AUGUST 4, 2025

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

FB 276 PG 60

JOB # 5010156.1532

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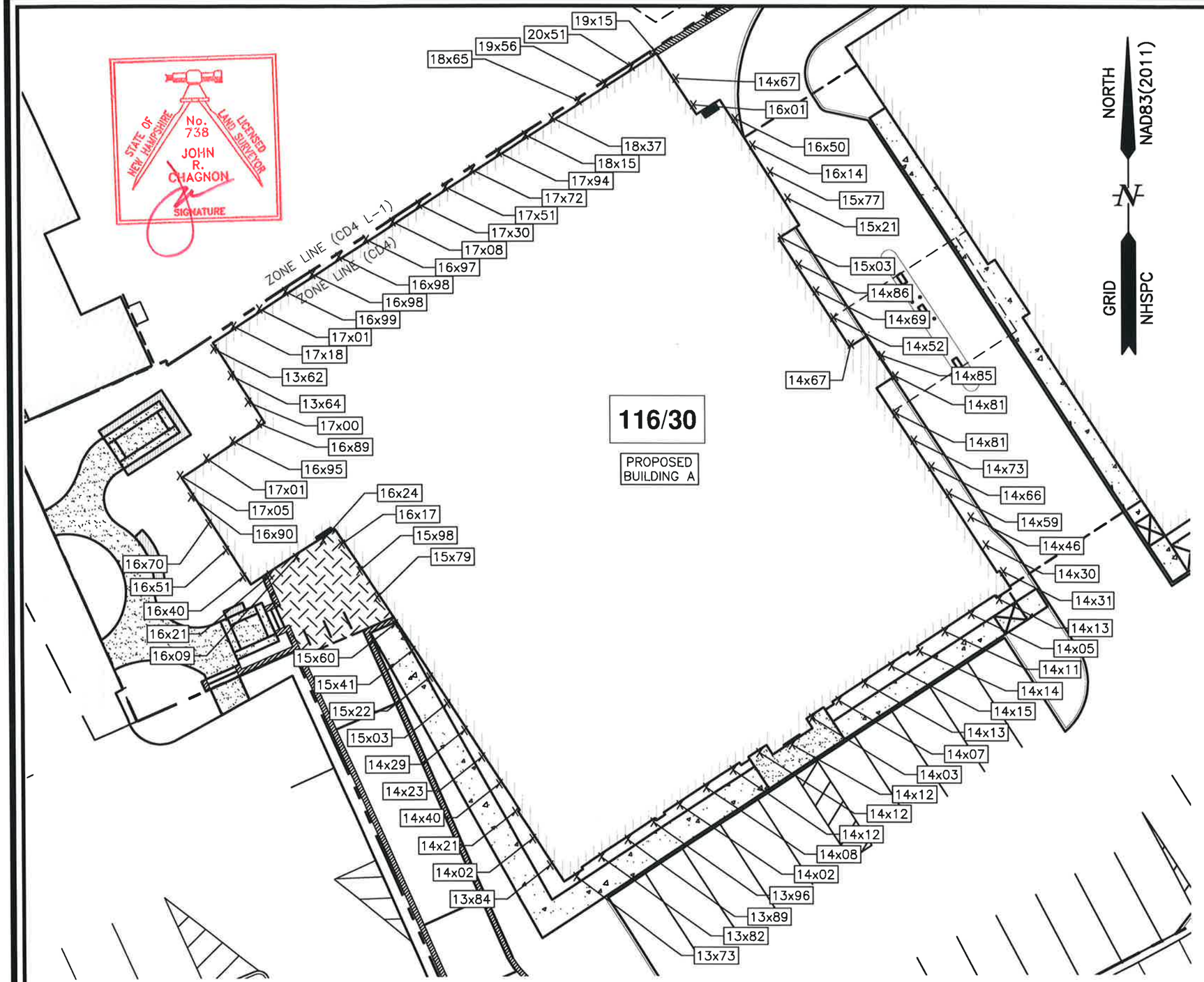

EXISTING AVERAGE GRADE				
	NORTH	EAST	SOUTH	WEST
	17.05	14.67	14.13	13.84
	17.01	16.01	14.05	14.02
	16.95	16.50	14.11	14.21
	16.89	16.14	14.14	14.40
	17.00	15.77	14.15	14.23
	13.64	15.21	14.13	14.29
	13.62	15.03	14.07	15.03
	17.18	14.86	14.03	15.22
	17.01	14.69	14.12	15.41
	16.99	14.52	14.12	15.60
	16.98	14.67	14.12	15.79
	16.98	14.85	14.08	15.98
	16.97	14.81	14.02	16.17
	17.08	14.81	13.96	16.24
	17.30	14.73	13.89	16.09
	17.51	14.66	13.82	16.21
	17.72	14.59	13.73	16.40
	17.94	14.46		16.51
	18.15	14.30		16.70
	18.37	14.31		
	18.65			
	19.56			
	20.51			
	19.15			
TOTAL	416.21	299.59	238.67	292.34
/# GRADES	416.21/24	299.59/20	238.67/17	292.34/19
AVG. GRADE	17.34	14.98	18.36	15.39
*SPOT GRADES TAKEN AT POINTS 6' ON CENTER ALONG PROPOSED BUILDING FOOTPRINT.				

EXISTING AVERAGE GRADE: 16.52

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

SITE REDEVELOPMENT
134 PLEASANT STREET
PORTSMOUTH, N.H.

EXISTING AVERAGE GRADE PLANE–BUILDING A

SCALE: 1"=20'

JANUARY 2026

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

FB 276 PG 60

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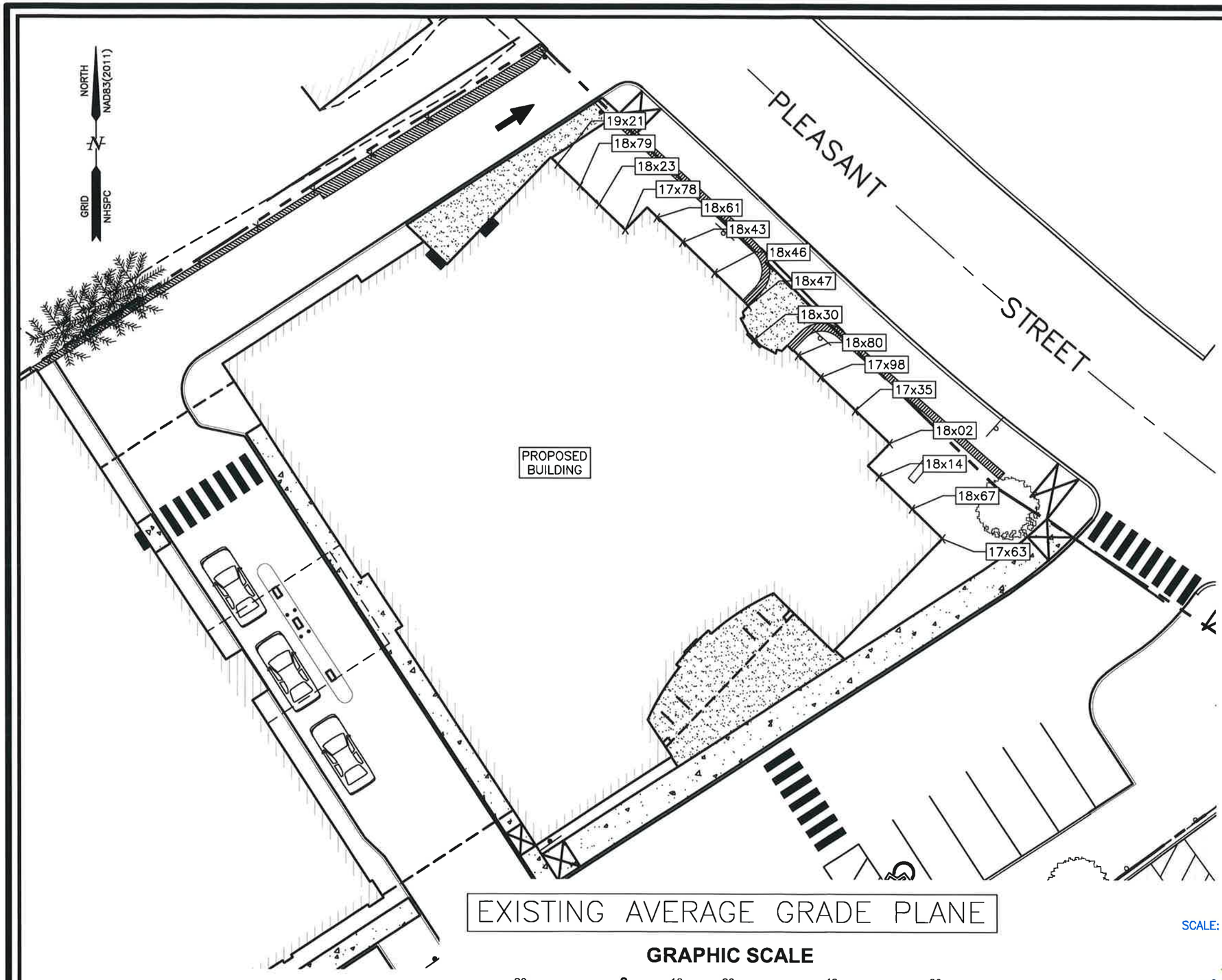

EXISTING AVERAGE GRADE

	SOUTH	WEST	NORTH	EAST
	N/A	N/A	N/A	19.21
				18.79
				18.23
				17.78
				18.61
				18.43
				18.46
				18.47
				18.30
				18.80
				17.98
				17.35
				18.02
				18.14
				18.67
				17.63
TOTAL	**N/A**	**N/A**	**N/A**	**292.87**
/# GRADES	**N/A**	**N/A**	**N/A**	**292.87/16**
AVG. GRAD	**N/A**	**N/A**	**N/A**	**18.30**

***SPOT GRADES TAKEN AT POINTS 6' ON CENTER ALONG PROPOSED BUILDING FOOTPRINT.**

EXISTING AVERAGE GRADE: 18.30

EXISTING AVERAGE GRADE PLANE

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

SITE REDEVELOPMENT
134 PLEASANT STREET
PORTSMOUTH, N.H.

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

SCALE: 1"=20'

SEPTEMBER 2025
REVISED 12-22-2025

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

FB 276 PG 60

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PROPOSED MIXED USE DEVELOPMENT

134 PLEASANT STREET, PORTSMOUTH, NEW HAMPSHIRE

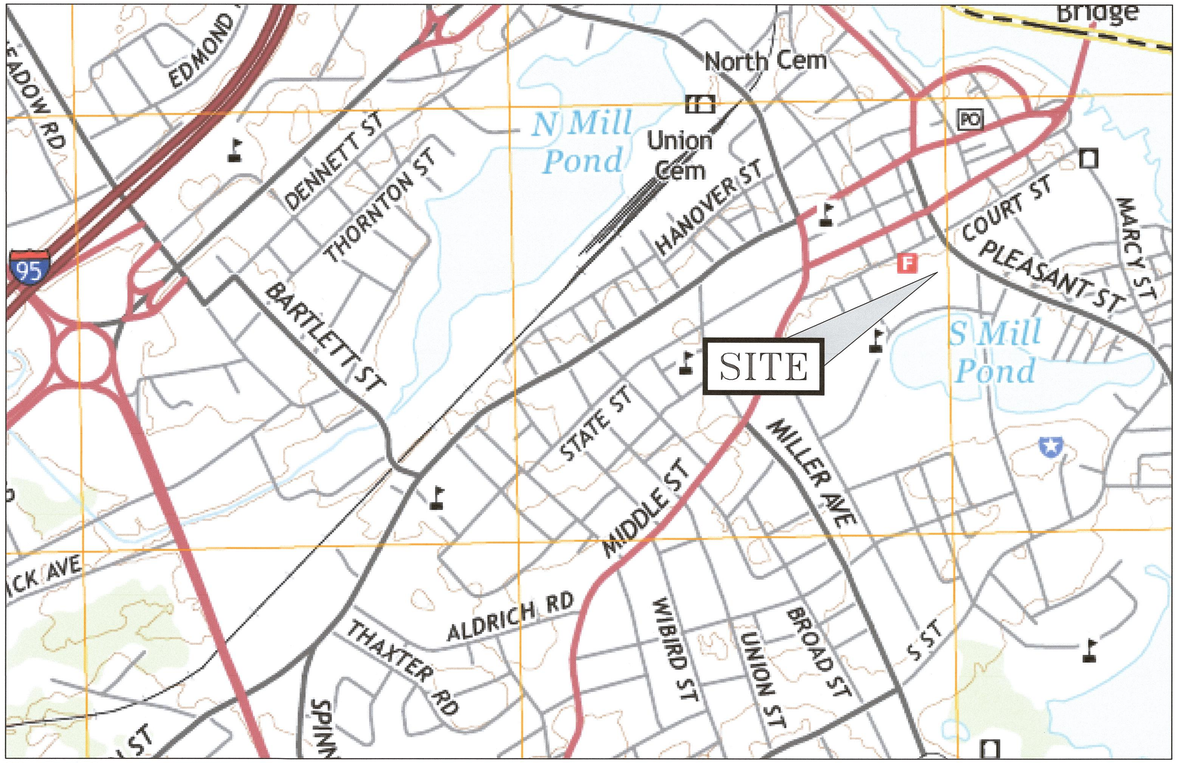
PERMIT PLANS

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



SCALE: NTS

PERMIT LIST:

PORTSMOUTH WETLAND CUP:	LU 25–138
PORTSMOUTH SITE PLAN:	LU 25–138
PORTSMOUTH HISTORIC DISTRICT:	LU 25–138
NHDES SHORELAND:	PBN 2026–00409
NHDES WETLAND:	PENDING

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 _____

INDEX OF SHEETS

–	PROPOSED LICENSE PLAN
V101	EXISTING CONDITIONS PLAN
V102	EXISTING UTILITY PLAN
V103	ORTHOPHOTO PLAN
V105	PARROT AVENUE PARKING LOT
C101	DEMOLITION PLAN
C102	SITE PLAN
L1–L2	LANDSCAPE PLANS
PB0.1–2.1	ARCHITECTURAL PLANS
C103	UTILITY PLAN
C103A	BASEMENT PLAN
C104	ON SITE GRADING & DRAINAGE PLAN
C104A	OFF SITE GRADING & DRAINAGE PLAN/PROFILE
C104B	OFF SITE GRADING & DRAINAGE PLAN ORTHOPHOTO
C104C	DRAINAGE AREA PLAN
C105	LIGHTING PLAN
C105A	NIGHT TIME LIGHTING PLAN
C106	TRUCK TURNING PLAN
C107	FIRE TRUCK TURNING PLAN
C108	NHDES PERMIT PLAN– CITY PROPERTY
D501–D507	DETAILS

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

DIG SAFE – ME – NH – RI – VT – 1–888–344–7233 CALL TOLL FREE

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

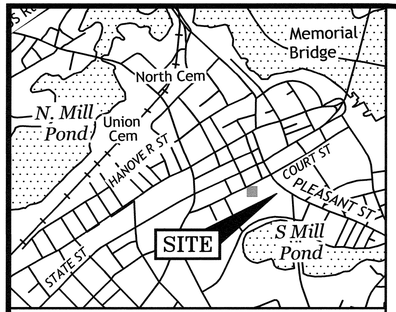
EXISTING	PROPOSED	
FM	FM	FORCE MAIN
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	PG	GAS LINE
D	D	STORM DRAIN
FD	FD	FOUNDATION DRAIN
W	W	WATER LINE
FS	FS	FIRE SERVICE LINE
UE	UGE	UNDERGROUND ELECTRIC SUPPLY
		UNDERGROUND ELECTRIC SERVICE
OHW	OHW	OVERHEAD ELECTRIC/WIRES
		RETAINING WALL
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
E	E	ELECTRIC METER
		TRANSFORMER ON CONCRETE PAD
W	W	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: 7 APRIL 2026

5010156.1532



LOCATION MAP SCALE: 1" = 1,000'

CURVE TABLE:

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	872.00'	290.98'	289.64'	N89°10'46"W	19°07'10"
C2	10.00'	17.54'	15.37'	S46°43'10"W	100°28'14"

LINE TABLE:

LINE	BEARING	DISTANCE
L2	N62°33'25"E	28.42'
L3	S23°46'15"E	75.06'
L4	N62°18'10"E	194.20'
L5	N54°09'10"E	121.33'
L6	S53°21'44"E	42.18'

116/3 N/F DOUBLE MC, LLC 100 PLEASANT STREET SUITE 300 PORTSMOUTH, NH 03801 6505/2411

115/4-1 N/F CITY OF PORTSMOUTH

109/25 N/F THE RONALD P. BOURGEAULT REVOCABLE TRUST RONALD P. BOURGEAULT, TRUSTEE 222 PLEASANT STREET PORTSMOUTH, NH 03801 5163/137

115/4 N/F STATE OF NEW HAMPSHIRE STATE HOUSE, CONCORD, NH 03301

115/4-1

PROPOSED LICENSE AREA

RIGHT-OF-WAY IN COMMON (SEE NOTE 8)

40' R.O.W.

JUNKINS AVENUE

PARROTT AVENUE

N24°39'40"W 214.27'

S06°28'37"E 270.59'

SMH-1252, SMH-891, SMH-892, SMH-1264, SMH-890, SMH-2003, SMH-889, SMH-894, SMH-893, SMH-A, SMH-163

CB-26133, CB-26057, CB-26058, CB-4407, CB-4408, CB-G, CB-H, CB-4449, CB-4448, CB-4275

DMH-26051, DMH-26052, DMH-26061, DMH-26062

WCV

PSNH 65/6 160 FAIR POINT

4"X4" GRANITE BOUND FOUND, FLUSH 1/24/2018

NO PARKING

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

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.

4.7.26

JOHN R. CHAGNON, LLS 738 DATE

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) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S TAX MAP 115 AS LOT 4-1.

2) OWNERS OF RECORD:
CITY OF PORTSMOUTH
1 JUNKINS AVENUE
PORTSMOUTH, N.H. 03801
RCRD 1093/64

3) EXISTING LOT AREA:
71,682 S.F.
1.65 ACRES

4) THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED LICENSE AREA ON ASSESSOR'S MAP 115, LOT 4-1 IN THE CITY OF PORTSMOUTH.

5) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

6) PARCEL IS BENEFITED BY A RIGHT OF WAY AS DESCRIBED IN RCRD 2975/349 AND SHOWN ON RCRD D-18880 AND RCRD D-26343.

REV.	DATE	DESCRIPTION	BY	CHK.
1	04/07/26	EMERGENCY ACCESS ONLY	SJR	JRC
0	02/25/26	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

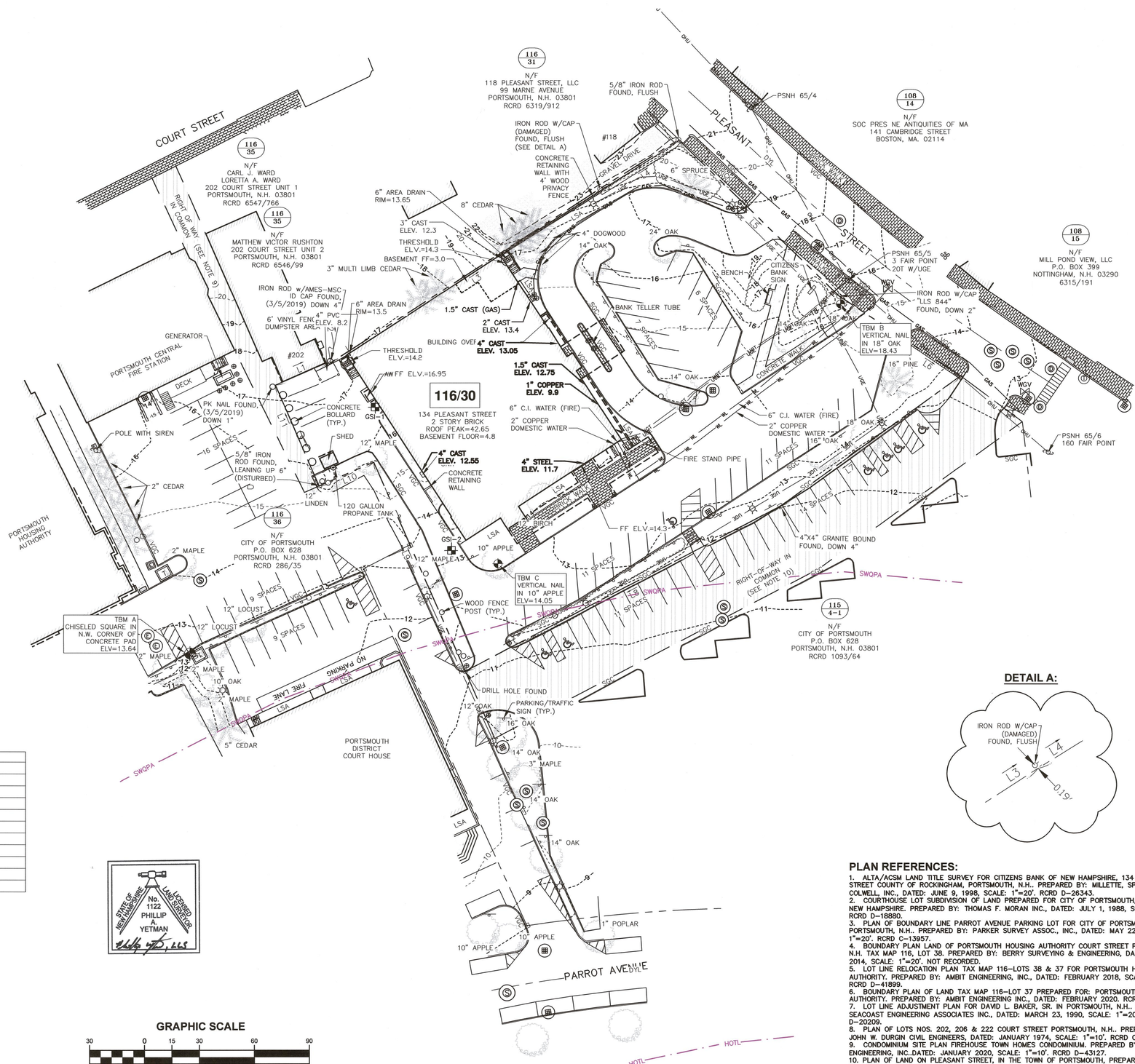
PROPOSED LICENSE PLAN
TAX MAP 115 - LOT 4-1
CITY OF PORTSMOUTH
TO:
DOUBLE MC, LLC
134 PLEASANT STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

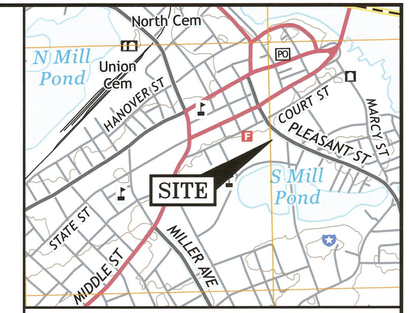
SCALE 1"=20' FEBRUARY 2026

FB 276 & PG 60 5010156.1532

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	
BENCHMARK	
RAILROAD SPIKE	
BOUND	
IRON ROD/PIPE FOUND	
SET 5/8" REBAR WITH SURVEYOR'S CAP	
SEWER MANHOLE	
DRAIN MANHOLE	
COMMUNICATIONS MANHOLE	
ELECTRIC MANHOLE	
UTILITY POLE	
CATCH BASIN	
HYDRANT	
GATE VALVE	GV GV GV
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	X
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 ELECTRICAL LINE	UGE UGE
UNDERGROUND COMMUNICATIONS LINE	UGT UGT
SHORELAND SETBACK LINE	SWQPA





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 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.

12) 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.

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 D-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.
10. PLAN OF LAND ON PLEASANT STREET, IN THE TOWN OF PORTSMOUTH, PREPARED BY: BENJAMIN SHERMAN, DATED 1822 AND REVISED MAY 6, 1842, SCALE: 1"=50', RCRD #00537.
11. PLAN OF LAND FOR SUSAN J. WENTWORTH EST., PORTSMOUTH, N.H., PREPARED BY: JOHN W. DURGIN, DATED: APRIL 22, 1940, SCALE: 1"=50'. RCRD #0937.

"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 1/20/2026

STATE OF NEW HAMPSHIRE No. 1122 PHILLIP A. YETMAN LICENSED LAND SURVEYOR

GRAPHIC SCALE
30 0 15 30 60 90
(IN FEET)
1 inch = 30 ft.

REV.	DATE	DESCRIPTION	BY	CHK
1	01-21-26	UPDATE EXISTING BLDG. UTILITIES	SJR	JRC
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	SCALE
MARCH 2025	1"=30'

DRAWN BY	DESIGNED BY	CHECKED BY
RJB	---	PAY

PROJECT No. 5010156.1532
FIELD BOOK / PAGE FB 276 PG 60

DRAWING No. **V101** REV. **1**

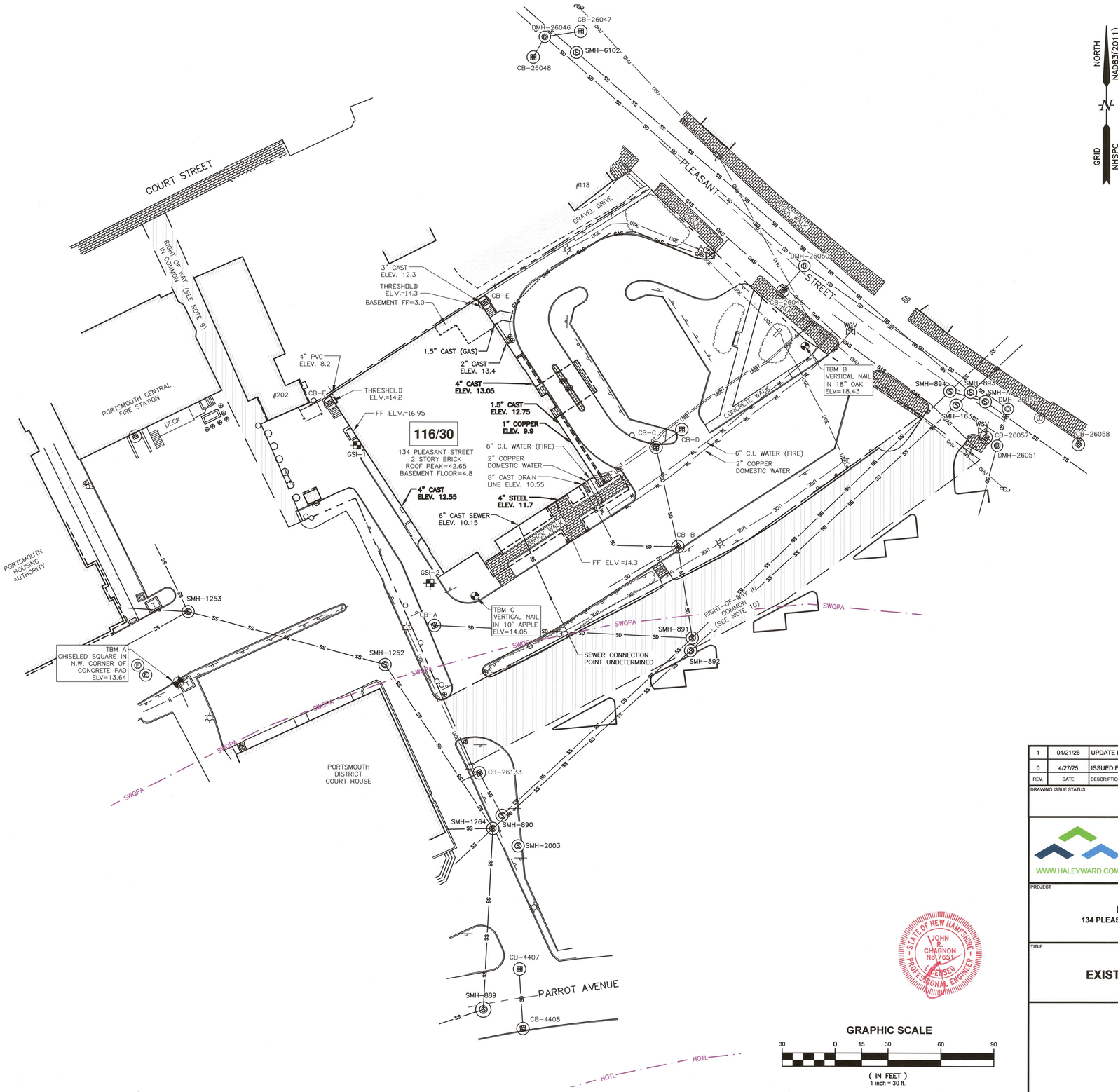
P:\Jobs\5010156.1532\DWG\FILES\5010156.1532-V-EC.DWG, 2026 01 20, 9:33 AM

SEWER MANHOLE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
SMH-889	EX	8.96	30" AC	0.30		SW
			30" AC		-0.14	N
SMH-1264	EX	9.90	18" VCP	-0.55		SE
			30" RCP	-0.15		SW
			18" AC	COULD NOT	MEASURE	NW
			30" CAST		-0.65	NE
SMH-890	EX	10.48	12" RCP	3.88		NW
			30" CAST		0.13	NE
SMH-2003	EX	9.96	18" VCP	-0.54		NW
					N/A	
SMH-851	EX	9.96				
SMH-1252	EX	11.79	18" CLAY	3.19		NW
			18" CLAY		3.14	SE
SMH-1253	EX	13.98	8" CLAY	6.98		SW
			6" CLAY	6.68		W
			18" CLAY	6.68		NW
			18" CLAY		6.63	SE
SMH-891	EX	11.00	30" CAST	-0.05		SW
			12" AC	6.25		NW
			18" AC	6.30		NE
			30" CAST		-0.05	NE
SMH-892	EX	10.91	30" CAST	-0.29		SW
			30" CAST		-0.29	NE
SMH-163	EX	13.13	36" CAST	-0.87		SW
			6" PVC	1.43		SE
			36" CAST		-0.87	NE
SMH-893	EX	13.24	36" CAST	-0.86		SW
			12" PVC	4.54		NW
			12" CLAY	4.54		SE
			36" CAST		-0.86	NE
SMH-A	EX	13.12	12" RCP (ENCLOSED)	3.57		NW
			12" RCP (ENCLOSED)		3.57	SE
			12" CLAY	4.57		NW
SMH-894	EX	13.43	36" CAST	-0.27		SW
			12" CLAY	4.33		SE
			36" CAST		-0.32	NE
SMH-6102	EX	22.87	8" PVC	14.27		NW
			8" PVC		14.22	SE

DRAINAGE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
CB-4407	EX	8.30	NO VISIBLE PIPES			
			WATER ELEVATION: 5.30			
			SUMP ELEVATION: 4.20			
CB-26133	EX	10.86	12" CLAY	4.31		SW
			12" CLAY		4.31	SE
CB-A	EX	12.22	12" AC		8.42	SE
CB-B	EX	12.80	8" CLAY	7.10		NW
			12" AC	7.10		NE
			12" AC	7.00		SW
			18" AC		7.00	S
CB-C	EX	13.47	12" AC	8.87		NE
			12" AC		8.82	S
CB-D	EX	13.54	4" AC	9.34		NW
			12" AC		9.34	SW
CB-E	EX	13.67	SILTED/LOCKED			
CB-F	EX	13.48	SILTED/LOCKED			
CB-26057	EX	12.53	12" CPP W/OIL SEPERATOR		8.33	SE
DMH-26046	EX	22.99	12" CPP	18.49		SW
			12" CPP	18.49		NE
			12" CPP	19.79		NW
			12" CPP		18.44	SE
CB-26048	EX	22.70				
CB-26047	EX	22.89				
DMH-26050	EX	17.45	12" PVC	12.80		NW
			12" PVC	12.80		SW
			12" PVC		12.80	SE
CB-26049	EX	17.08	12"PVC W/OIL SEPERATOR		11.78	NE
DMH-26052	EX	12.93	12" CPP	8.18		NW
			12" CPP		8.13	S
DMH-26051	EX	12.61	12" CPP	7.86		N
			12" CPP	8.11		NW
			12" CPP		7.81	S



REV.	DATE	DESCRIPTION	BY	CHK
1	01/21/26	UPDATE EXISTING UTILITIES	SJR	JRC
0	4/27/25	ISSUED FOR COMMENT	RJB	PAY

DRAWING ISSUE STATUS

SITE SURVEY

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

EXISTING UTILITIES PLAN

STATE OF NEW HAMPSHIRE – JOHN R. CHAGNON No. 7651 LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
JUNE 2025	1"=30'
DRAWN BY: RJB	DESIGNED BY: ---	CHECKED BY: PAY
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: V102	REV.: 1

P:\NH\5010156.NH\ALL\EXPLORATION SPRING\5010156.SHADOWS_TROPER\5010156.1532-PLEASANT\SITE\PORTSMOUTH\PORTSMOUTH-JRC02-CAD_FILES\5010156.1532-V-EC.DWG, 2026.01.20, 10:34 AM

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	SCALE
JULY 2025	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
RJB	---	PAY

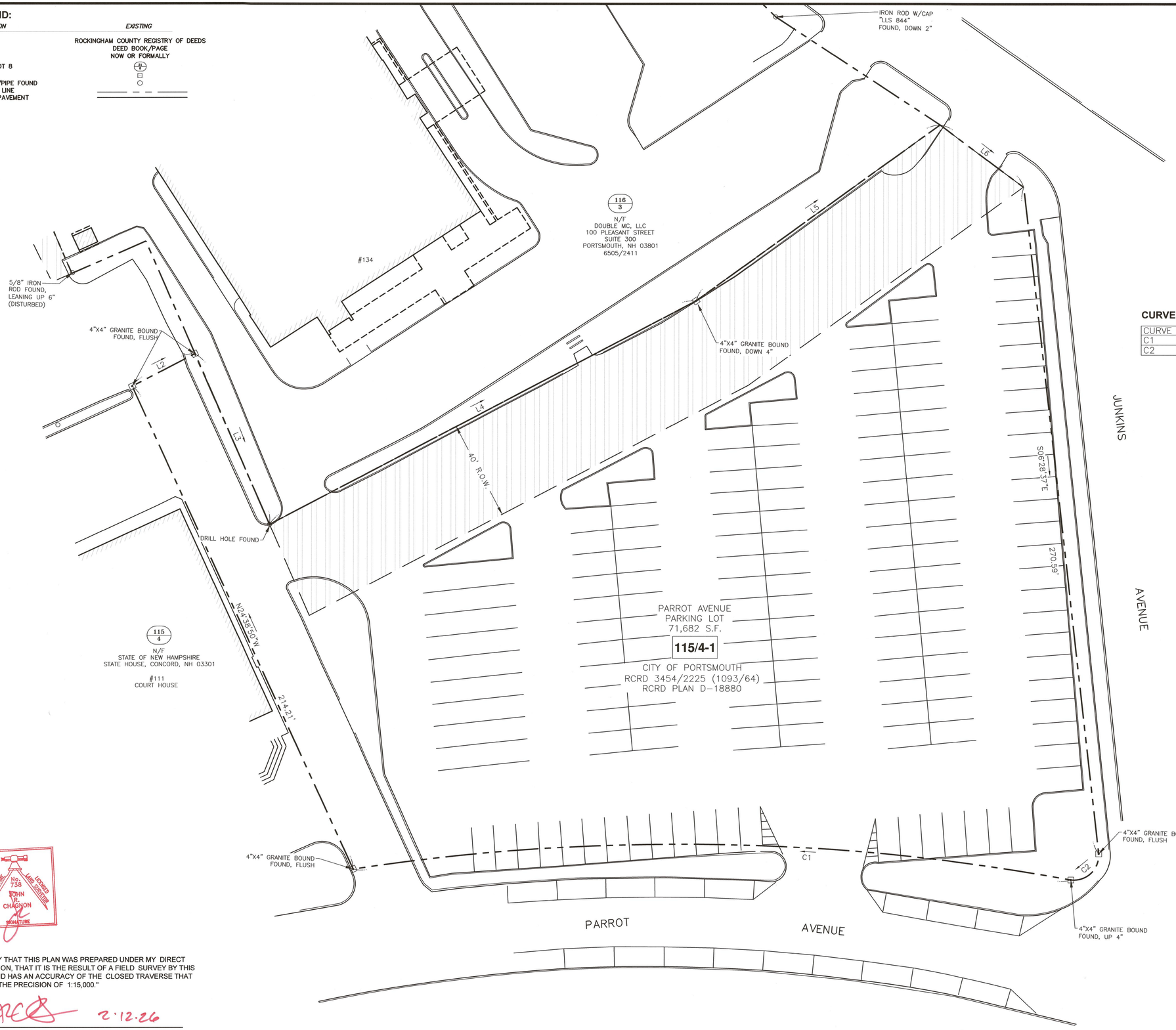
PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

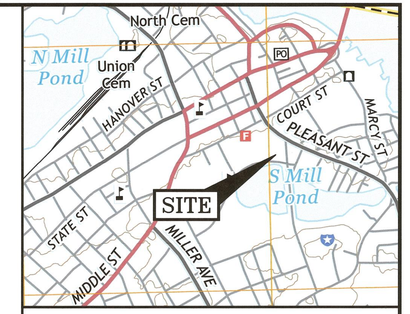
DRAWING No.	REV.
V103	0

FILE LOCATION: P:\NH\5010156-MCHABB_PROPERTIES\1532-134 PLEASANT ST., PORTSMOUTH-JRC\02-CAD_FILES\5010156.1532-V-EC.DWG, 2025.07.25, 10:09 AM

LEGEND:

DESCRIPTION	EXISTING
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
1234/123	DEED BOOK/PAGE
N/F	NOW OR FORMALLY
MAP 21 LOT 8	(8)
BOUND	□
IRON ROD/PIPE FOUND	○
PROPERTY LINE	———
EDGE OF PAVEMENT	———





LOCATION MAP SCALE: 1" = 1,000'

NORTH NAD83(2011) — GRID NHSPC

CURVE TABLE:

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	872.00'	290.98'	289.64'	N89°10'46"W	19°07'10"
C2	10.00'	17.54'	15.37'	S46°43'10"W	100°28'14"

LINE TABLE:

LINE	BEARING	DISTANCE
L2	N62°33'25"E	28.42'
L3	S23°46'15"E	75.06'
L4	N62°18'10"E	194.20'
L5	N54°09'10"E	121.33'
L6	S53°21'44"E	42.18'

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

STATE OF NEW HAMPSHIRE — No. 738 — JOHN R. CHAGNON — LICENSED 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."

2.12.26

JOHN R. CHAGNON, LLS 738 DATE

REV.	DATE	DESCRIPTION	BY	CHK.
0	2/12/26	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

PARROT AVENUE PARKING LOT

DATE: FEBRUARY 2026	SCALE: 1"=20'
DRAWN BY: RJB	DESIGNED BY: ---
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: V105	REV.: 0

FILE LOCATION: P:\NH\5010156.MCHABB_PROPERTIES\1532-134 PLEASANT ST., PORTSMOUTH-JRC\02-CAD_FILES\5010156.1532-V-EC.DWG, 2026.02.13, 7:29 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.

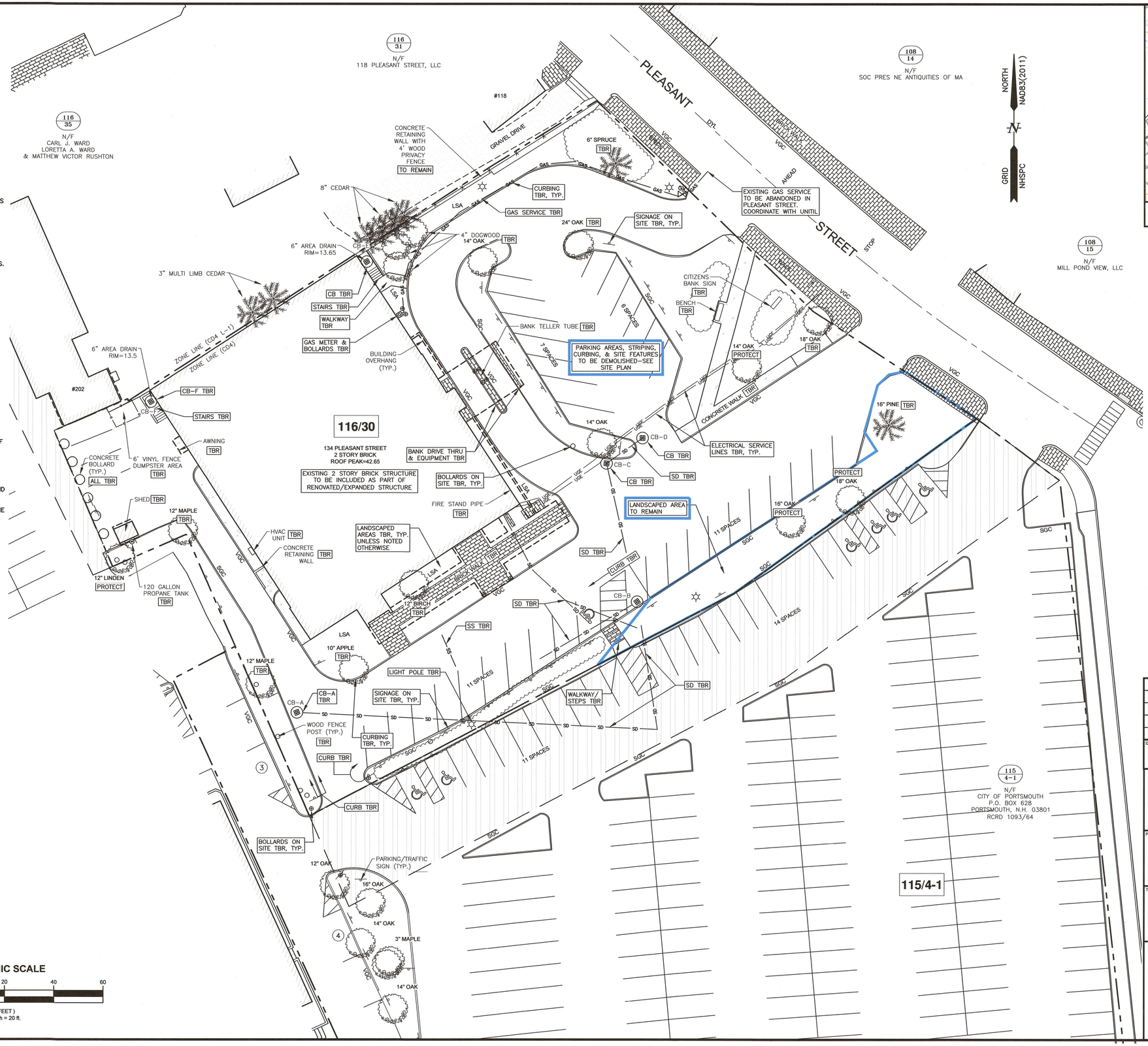
G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL 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.

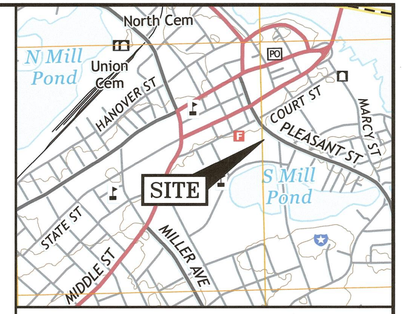
K) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS



GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.



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.

REV.	DATE	DESCRIPTION	BY	CHK
3	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
2	02-25-26	CB-A, SD PIPES	SJR	JRC
1	01-21-2026	UTILITY DEMO	SJR	JRC
0	07-18-2025	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

DEMOLITION PLAN

STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 12651 LICENSED PROFESSIONAL ENGINEER

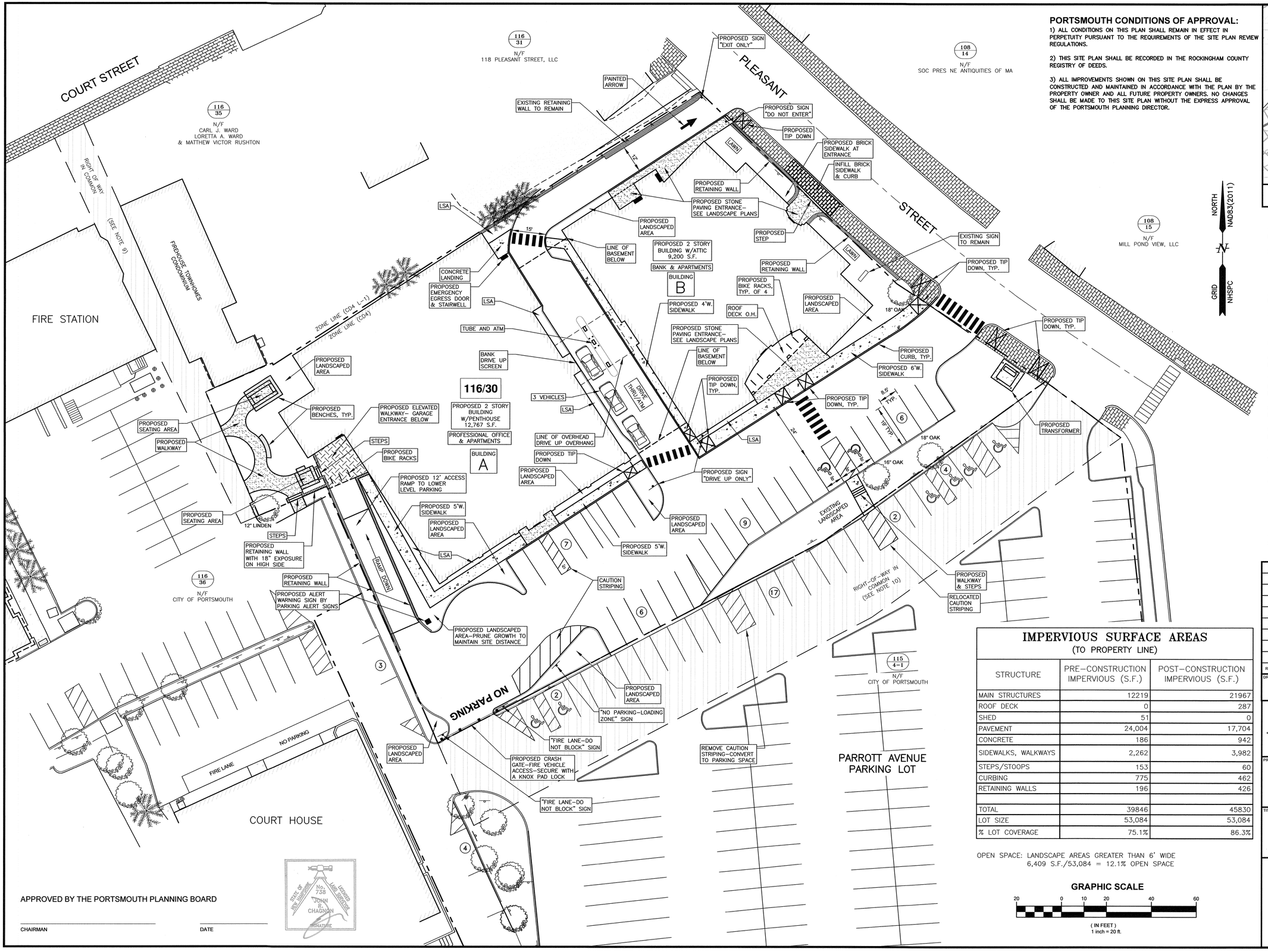
DATE	SCALE
JULY 2025	1"=20'

DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C101** REV. **3**

FILE LOCATION: P:\NH\5010156-MCNABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH\-JRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.06 1:51 PM

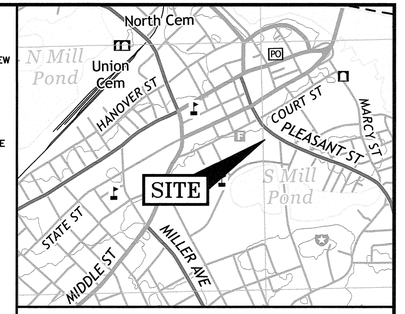


PORTSMOUTH CONDITIONS OF APPROVAL:

1) ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

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

3) 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.



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:
–RETAIL BANKING
–BANK HEADQUARTERS
–APARTMENTS
–PROFESSIONAL OFFICE

13) CITY COUNCIL APPROVAL REQUIRED FOR WORK ON CITY PROPERTY. COORDINATION AND INSPECTIONS OF CONSTRUCTION REQUIRED.

IMPERVIOUS SURFACE AREAS
(TO PROPERTY LINE)

STRUCTURE	PRE–CONSTRUCTION IMPERVIOUS (S.F.)	POST–CONSTRUCTION IMPERVIOUS (S.F.)
MAIN STRUCTURES	12219	21967
ROOF DECK	0	287
SHED	51	0
PAVEMENT	24,004	17,704
CONCRETE	186	942
SIDEWALKS, WALKWAYS	2,262	3,982
STEPS/STOOPS	153	60
CURBING	775	462
RETAINING WALLS	196	426
TOTAL	39846	45830
LOT SIZE	53,084	53,084
% LOT COVERAGE	75.1%	86.3%

OPEN SPACE: LANDSCAPE AREAS GREATER THAN 6' WIDE
6,409 S.F./53,084 = 12.1% OPEN SPACE

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

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

REV.	DATE	DESCRIPTION	BY	CHK
8	04-07-2026	EMERGENCY ACCESS ONLY	SJR	JRC
7	02-03-2026	STOP, ONE-WAY SIGNS, USE	SJR	JRC
6	01-21-2026	TIP DOWNS, EXIT DOOR, PARKING, NOTE 13	SJR	JRC
5	12-30-2025	LANDSCAPE DETAIL	SJR	JRC
4	12-22-2025	BUILDING & SITE LAYOUT	SJR	JRC
3	10-08-2025	PLAN NOTES	SJR	JRC
2	09-22-2025	REVISED DRIVE THROUGH	SJR	JRC
1	09-05-2025	REVISED LAYOUT	SJR	JRC
0	07-18-2025	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
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. 7651 – 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. **C102** REV. **8**

FILE LOCATION: P:\NH\5010156-MCNABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-JRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.09, 2:30 PM

Plant List - Perennials

ID	Qty	Botanical Name	Common Name	Scheduled Size
ABI	36	Amsonia 'Blue Ice'	Blue Star Flower	1 Gal.
ACT	6	Actaea racemosa	Black Cohosh	1 Gal.
AJM	22	Ajuga reptans 'Mahogany'	Bugleweed	2 QT
AMH	33	Amsonia hubrichtii	Arkansas Amsonia	1 Gal.
AMT	64	Amsonia tabernaemontana	Blue Star Flower	1 Gal.
ARU	4	Aruncus dioicus	Goat's Beard	1 Gal.
ASD	25	Astilbe 'Deutschland'	Early White Astilbe	1 Gal.
AU	48	Arctostaphylos uva-ursi	Bearberry	2 QT
BAP	15	Baptisia australis	False Indigo	1 Gal.
CARY	4	Caryopteris x clandonensis 'First Choice'	First Choice Blue Beard	1 Gal.
CBZ	220	Carex flacca 'Blue Zinger'	Blue Zinger Sedge	1 Gal.
EPI	128	Epimedium rubrum	Barrenwort	2 QT
ERA	70	Eragrostis spectabilis	Purple Lovegrass	1 Gal.
GMB	21	Geranium macrorrhizum 'Bevan's Variety'	Bevan's Variety Geranium	1 Gal.
HMT	71	Hemerocallis 'Mary Todd'	Daylily	1 Gal.
ISP	71	Iberis sempervirons 'Purity'	Candytuft	1 Gal.
PVS	10	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	2 Gal.
RBK	80	Rudbeckia 'Goldsturm'	Goldsturm Blackeyed Susan	1 Gal.
SEDK	35	Sedum kamtschaticum	Orange Stonecrop	2 QT
SEDS	235	Sedum sexangulare	Stonecrop	2 QT
SEDW	235	Sedum 'Weihenstephaner Gold'	Weihenstephaner Gold Stonecrop	1 Gal.
SS	425	Scilla siberica	Siberian Squill	Bulb
SSD	235	Sedum Sunsparkler 'Dazzleberry'	Dazzleberry Stonecrop	2 QT

Plant List - Trees and Shrubs

ID	Qty	Botanical Name	Common Name	Scheduled Size
ARB	3	Acer rubrum 'Bowhall'	Bowhall Maple	3 1/2" Cal.
COGN	1	Chamaecyparis obtusa 'Nana Gracilis'	Hinoki Cypress	2 1/2' Ht.
FG	13	Fothergilla gardenii	Dwarf Fothergilla	5 Gal.
GTH	2	Gleditsia triacanthos inermis 'Halka'	Halka Honeylocust	2" Cal.
HYP	36	Hypericum x 'Hidcote'	Hidcote St. John's Wort	2 Gal.
ICS	7	Ilex crenata 'Steeds'	Steeds Japanese Holly	5 Gal.
IGG	33	Ilex glabra 'Gem Box'	Gem Box Inkberry	1-2'
IGS	12	Ilex glabra 'Shamrock'	Shamrock Inkberry Holly	5 Gal.
IST	29	Ilex crenata 'Soft Touch'	Soft Touch Japanese Holly	2-3' Ht.
JBD	45	Juniperus communis depressa 'Blueberry Delight'	Blueberry Delight Juniper	2 Gal.
JPN	15	Juniperus procumbens 'Nana'	Dwarf Japanese Garden Juniper	3-4'
LT	1	Liriodendron tulipifera	Tulip Tree	2 1/2" Cal.
PHC	5	Pinus sylvestris 'Hillside Creeper'	Hillside Creeper Pine	2 Gal.
PJC	11	Pieris japonica 'Cavatine'	Cavatine Andromeda	3-4'
PLH	12	Pieris japonica 'Little Heath'	Little Heath Andromeda	3-4'
RCW	14	Rhododendron catawba 'White'	White CatawbaRhododendron	3-4'
RGL	242	Rhus aromatica 'Grow Low'	Grow Low Sumac	18"+ Ht.
RYP	23	Rhododendron yaku 'Princess'	Yaku Princess Rhody	2 GAL
SAW	7	Spiraea x bumalda 'Anthony Waterer'	Anthony Waterer Spirea	3-4'
TCG	7	Tilia cordata 'Greenspire'	Greenspire Littleleaf Linden	2 1/2" Cal.
VMR	3	Viburnum plicatum tomentosum 'Mariesii'	Marie's Doublefile Viburnum	3-4'

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

134 PLEASANT

134 PLEASANT STREET
PORTSMOUTH, NH

Project Title

TERRENCE PARKER — 00254 — LICENSED LANDSCAPE ARCHITECT — STATE OF NEW HAMPSHIRE

Landscape Architect

Scale: 1:240

REV.	DATE	DESCRIPTION
C	4/7/2026	Site Layout Update
B	2/25/2026	PB Submission
A	1/21/2026	TAC Submission

NO.	DATE	ISSUE NOTE

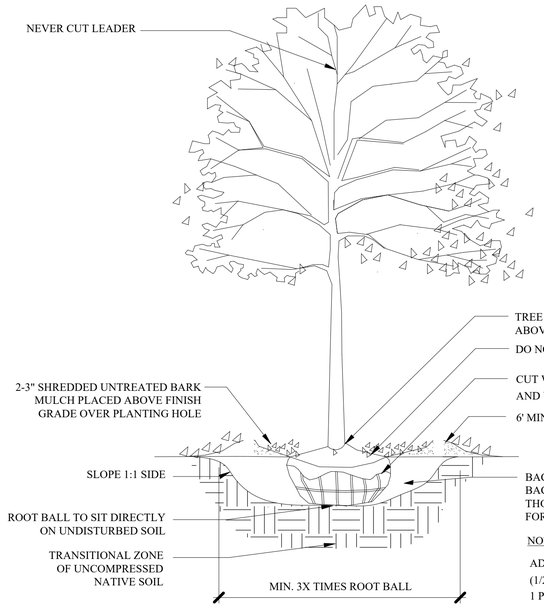
Project Manager	Drawn By
Date: 9/18/2025	Reviewed By
Project ID: 134 PLEASANT	

Sheet Title

LANDSCAPE PLAN

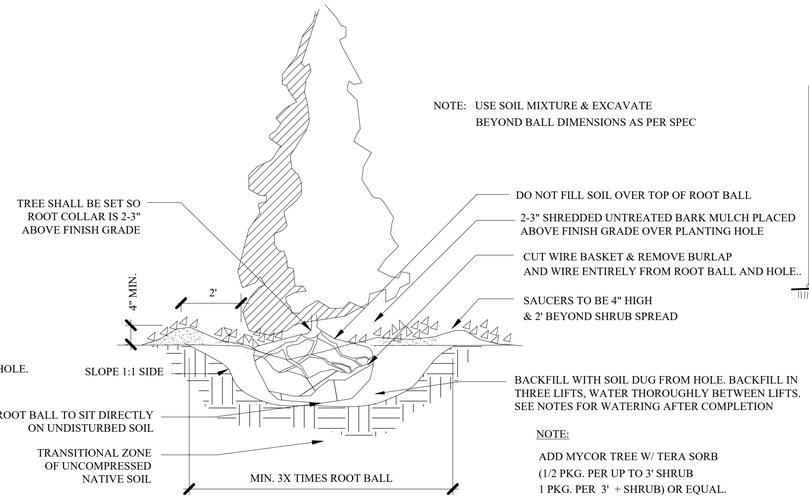
Sheet No.

L-1



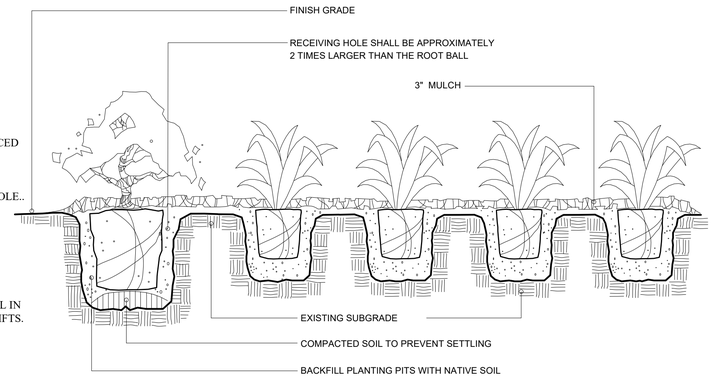
1 L-2

TREE PLANTING - 2"+ CAL.
SCALE: NTS



2 L-2

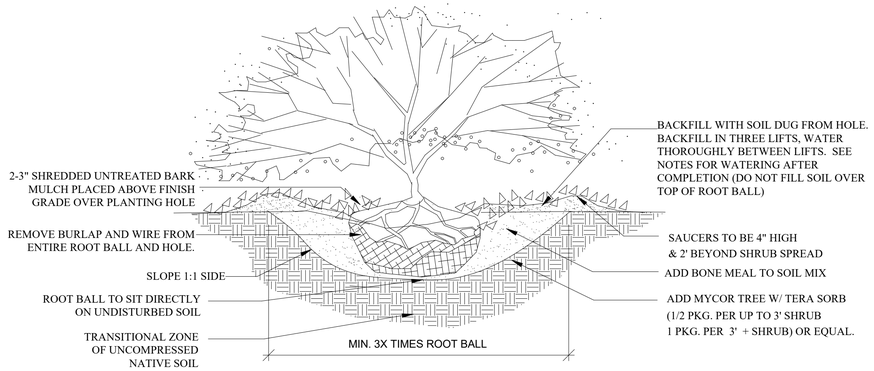
PYRAMIDAL EVERGREEN TREE PLANTING
SCALE: NTS



NOTE: SHRUBS SHALL BE PLANTED A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.

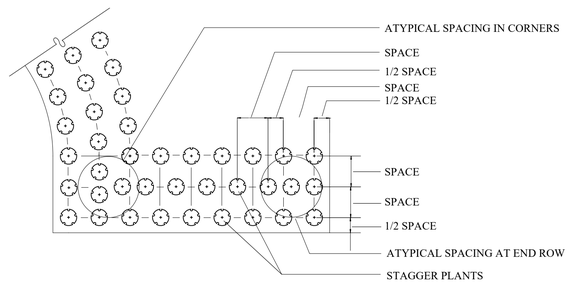
3 L-2

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 | terrence@terrafirmalandarch.com

Project Title
134 PLEASANT
134 PLEASANT STREET
PORTSMOUTH, NH

TERRENCE PARKER — 00254 — NEW HAMPSHIRE — REGISTERED LANDSCAPE ARCHITECT

Landscape Architect

Scale
SEE DETAILS

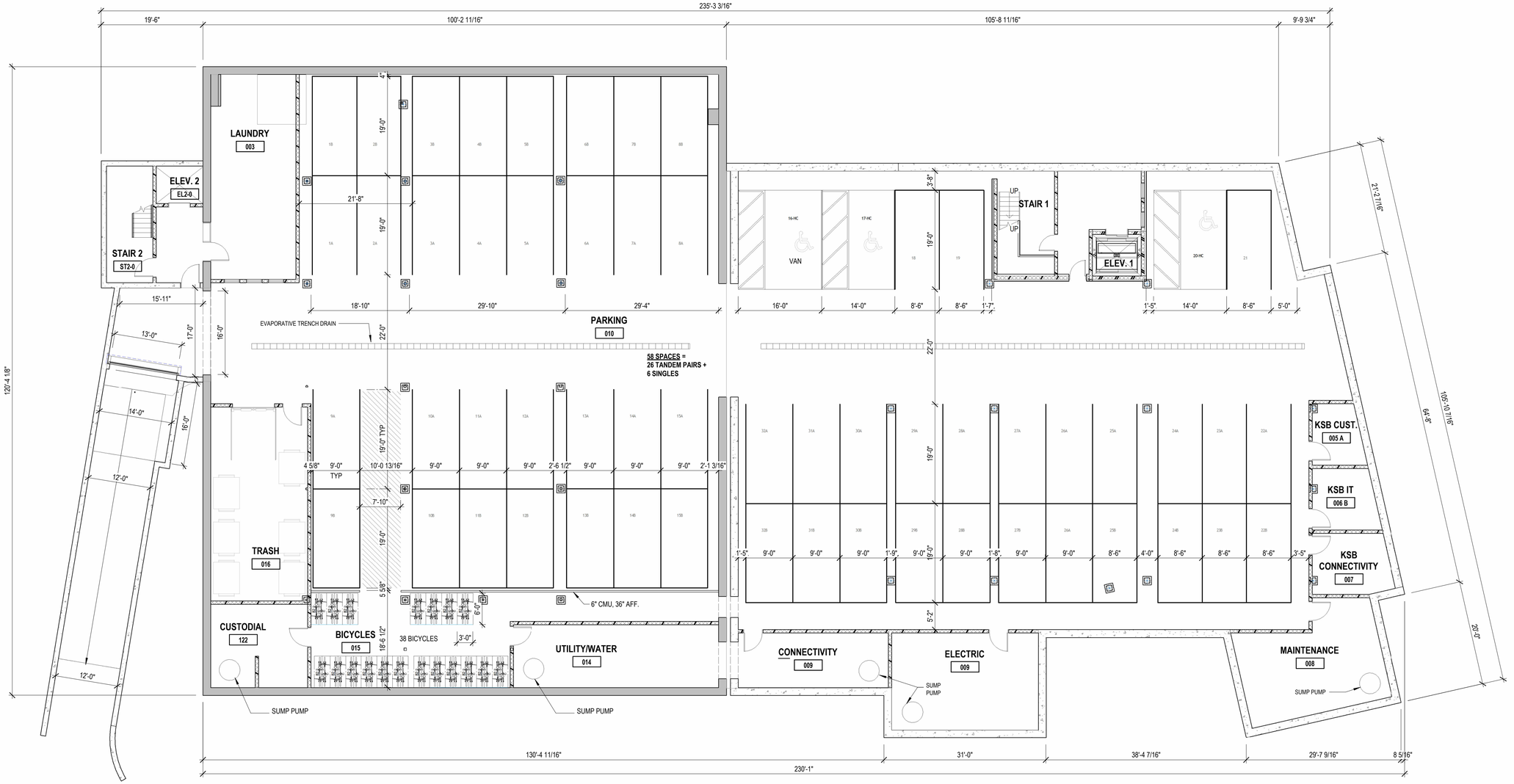
REV.	DATE	DESCRIPTION
C	4/7/2026	Site Layout Update
B	2/25/2026	PB Submission
A	1/21/2026	TAC Submission

NO.	DATE	ISSUE NOTE

Project Manager | Drawn By
Date: 9/18/2025 | Reviewed By
Project ID: 134 PLEASANT

Sheet Title
LANDSCAPE PLAN

Sheet No.
L-2



1 **PB BASEMENT**
3/32" = 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

HALEY WARD
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: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

PB0.1

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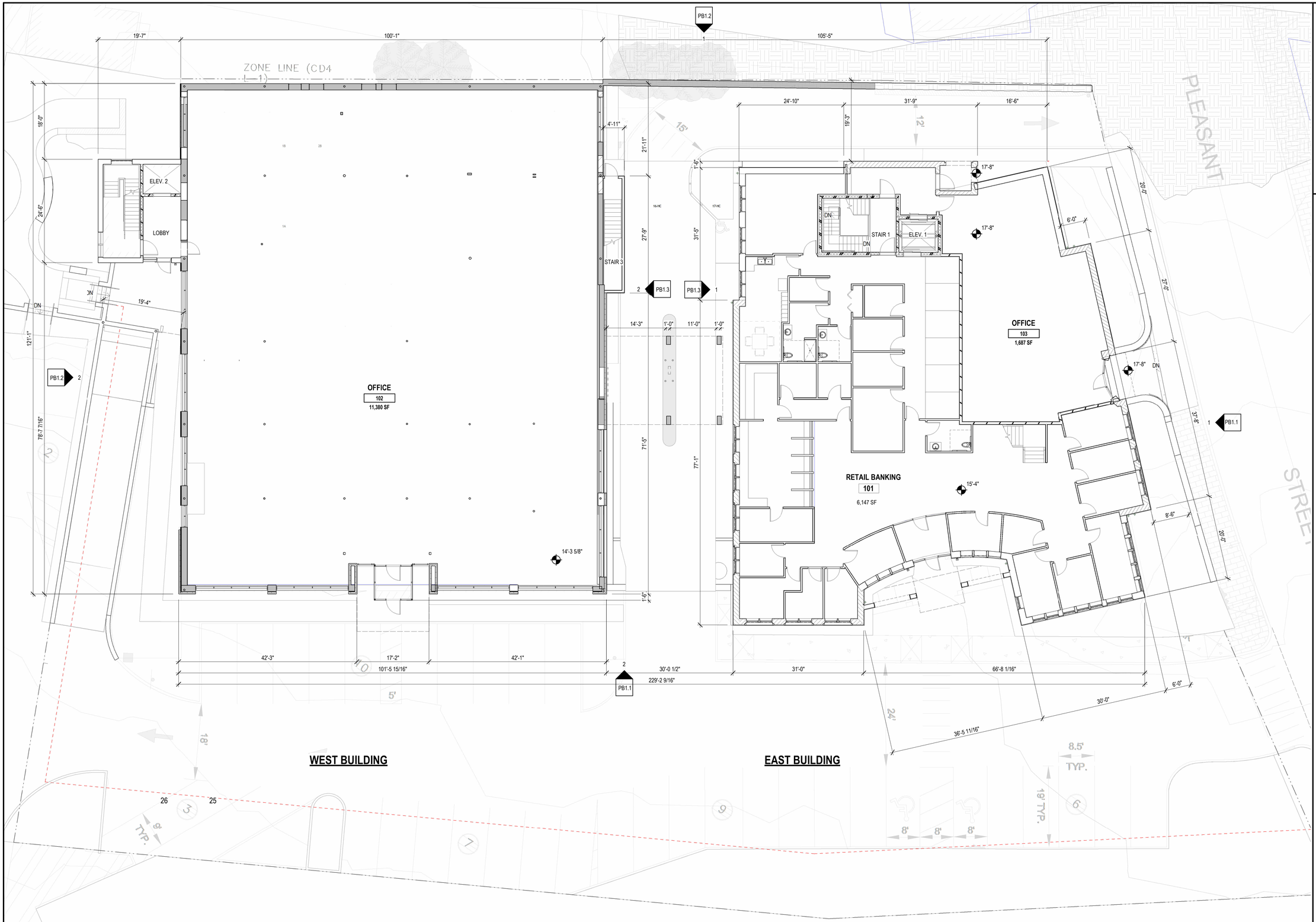

1 PB LEVEL 1
3/32" = 1'-0"

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LEVEL 1 FLOOR PLANS

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

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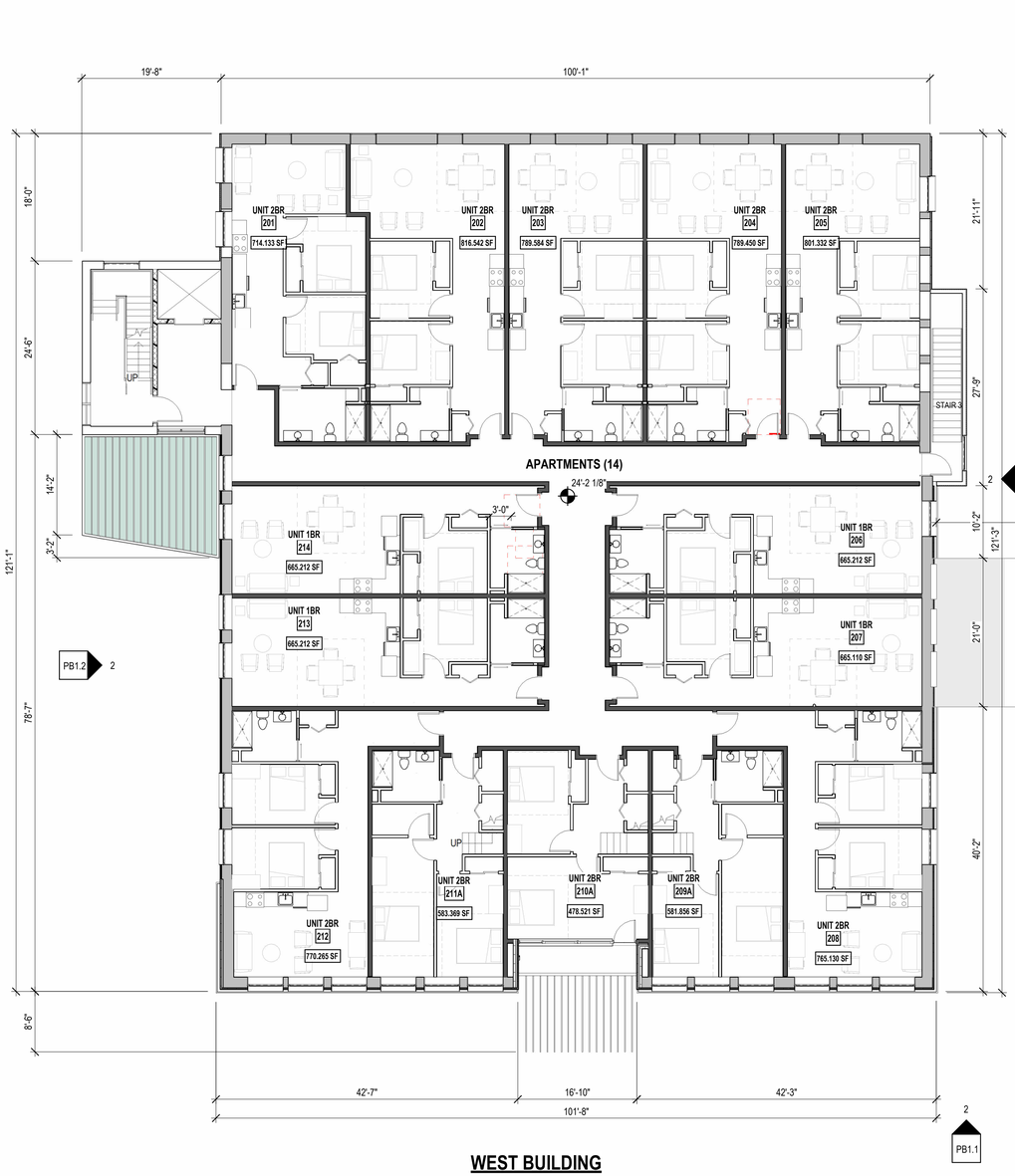
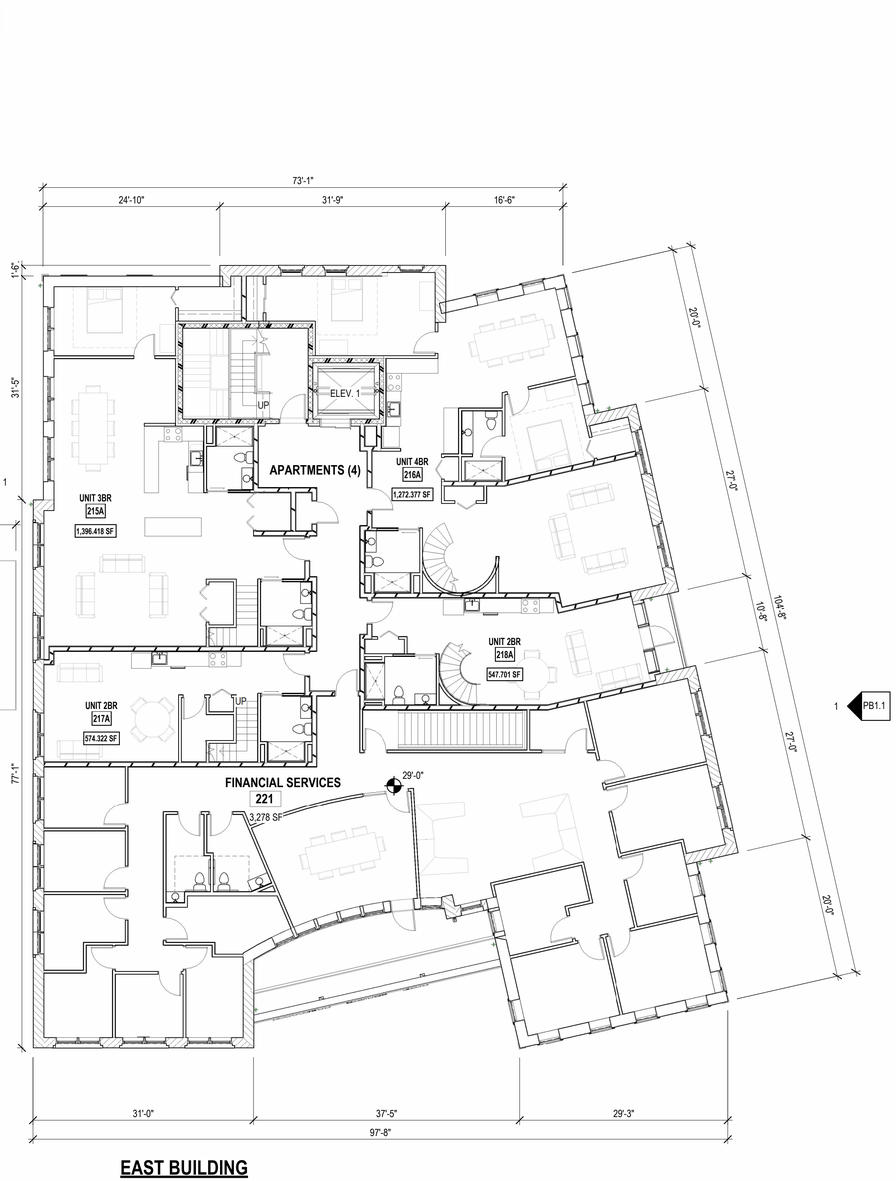


WEST BUILDING



EAST BUILDING

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LEVEL 2 FLOOR PLANS

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

PB0.3

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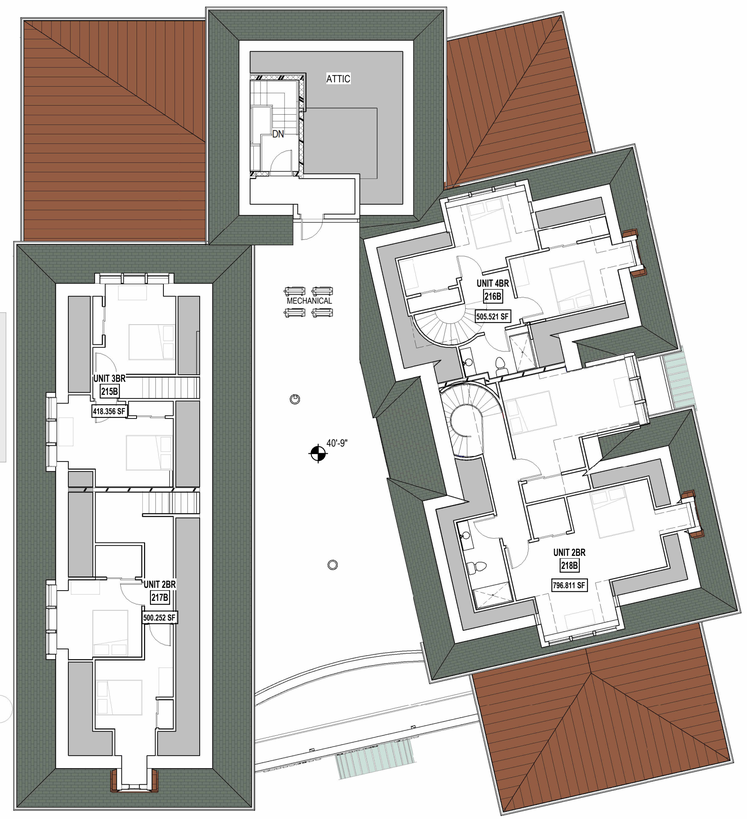
AREA OF PENTHOUSE : 5,329 SF
AREA OF FLOOR BELOW: 12,675 SF

PENTHOUSE TO FLOOR BELOW: 42%

WEST BUILDING



EAST BUILDING

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PORTSMOUTH, NH 03801

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PENTHOUSE / ATTIC FLOOR PLANS

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

PB0.4

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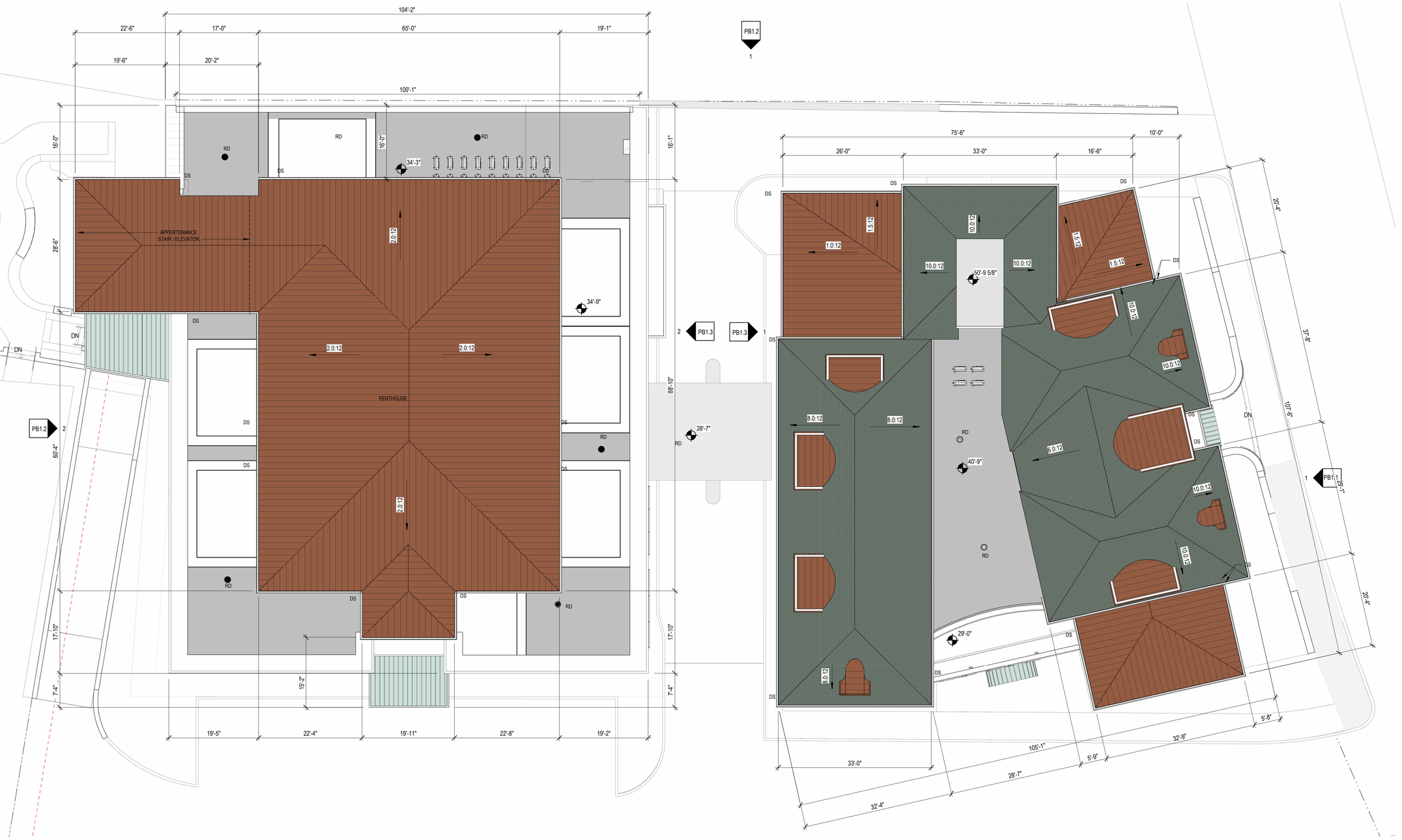

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ROOF PLAN

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TSK

PB0.5

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1 **PB EAST ELEVATION**
3/32" = 1'-0"

2 **PB SOUTH ELEVATION**
3/32" = 1'-0"

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SOUTH - EAST ELEVATIONS

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

PB1.1

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1 **PB NORTH ELEVATION**
3/32" = 1'-0"

2 **PB WEST ELEVATION**
3/32" = 1'-0"

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NORTH - WEST ELEVATIONS

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

PB1.2

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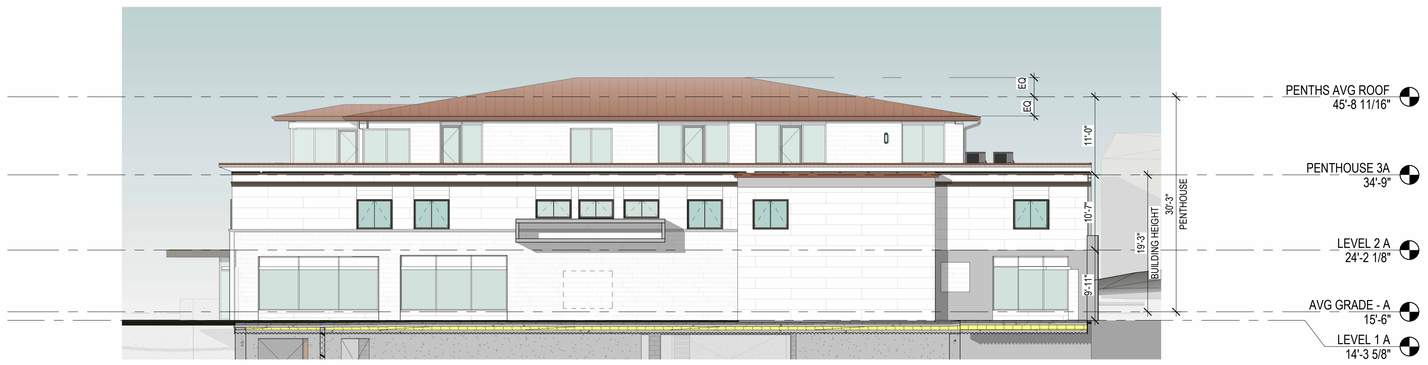
1 **DRIVE-THROUGH: EAST ELEVATION OF WEST BUILDING**
3/32" = 1'-0"



2 **DRIVE-THROUGH: WEST ELEVATION OF EAST BUILDING**
3/32" = 1'-0"

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SIDE ELEVATIONS

SCALE: 3/32" = 1'-0"
DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

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VIEW FROM LANGDON HOUSE PB

VIEW FROM PLEASANT STREET AT TREADWELL HOUSE PB

VIEW FROM JUNKINS AVENUE AT CITY HALL PB

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VIGNETTES

SCALE:

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DRAWN: HA
CHECKED: TK

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VIEW FROM PLEASANT STREET

3D View SW

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Portsmouth, NH 03801
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VIGNETTES

0' 4' 8' 16'
SCALE:

DATE: 04/06/2026
DRAWN: HA
CHECKED: Checker

PB2.2

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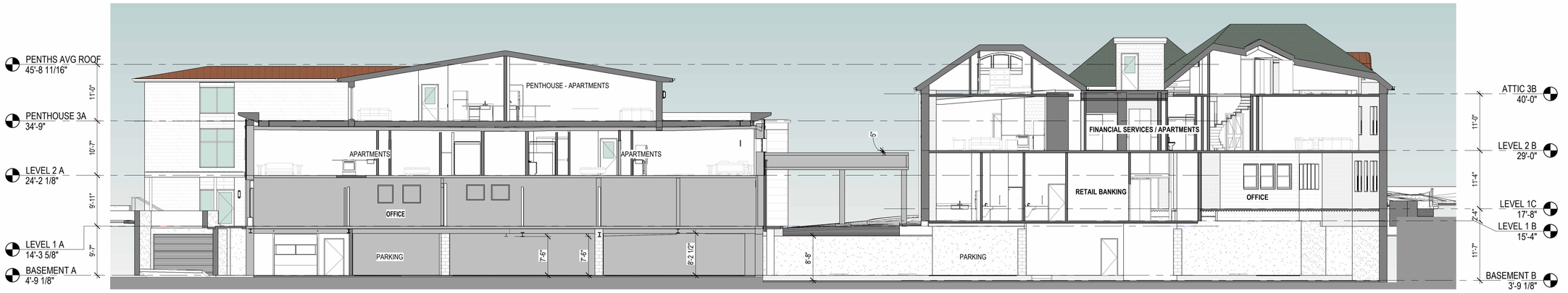
VIEW FROM JUNKINS AVENUE AT CITY HALL PB

VIEW FROM JUNKINS AVENUE AT CITY HALL PB



2 **LONGITUDINAL SECTION EW**
3/32" = 1'-0"

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134 PLEASANT STREET

PORTSMOUTH, NH 03801

PROJECT NO: 1028

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BUILDING SECTION & VIGNETTES

0' 4' 8' 16'

SCALE: 3/32" = 1'-0"

DATE: 04/06/2026
DRAWN: HA
CHECKED: TK

PB3.1

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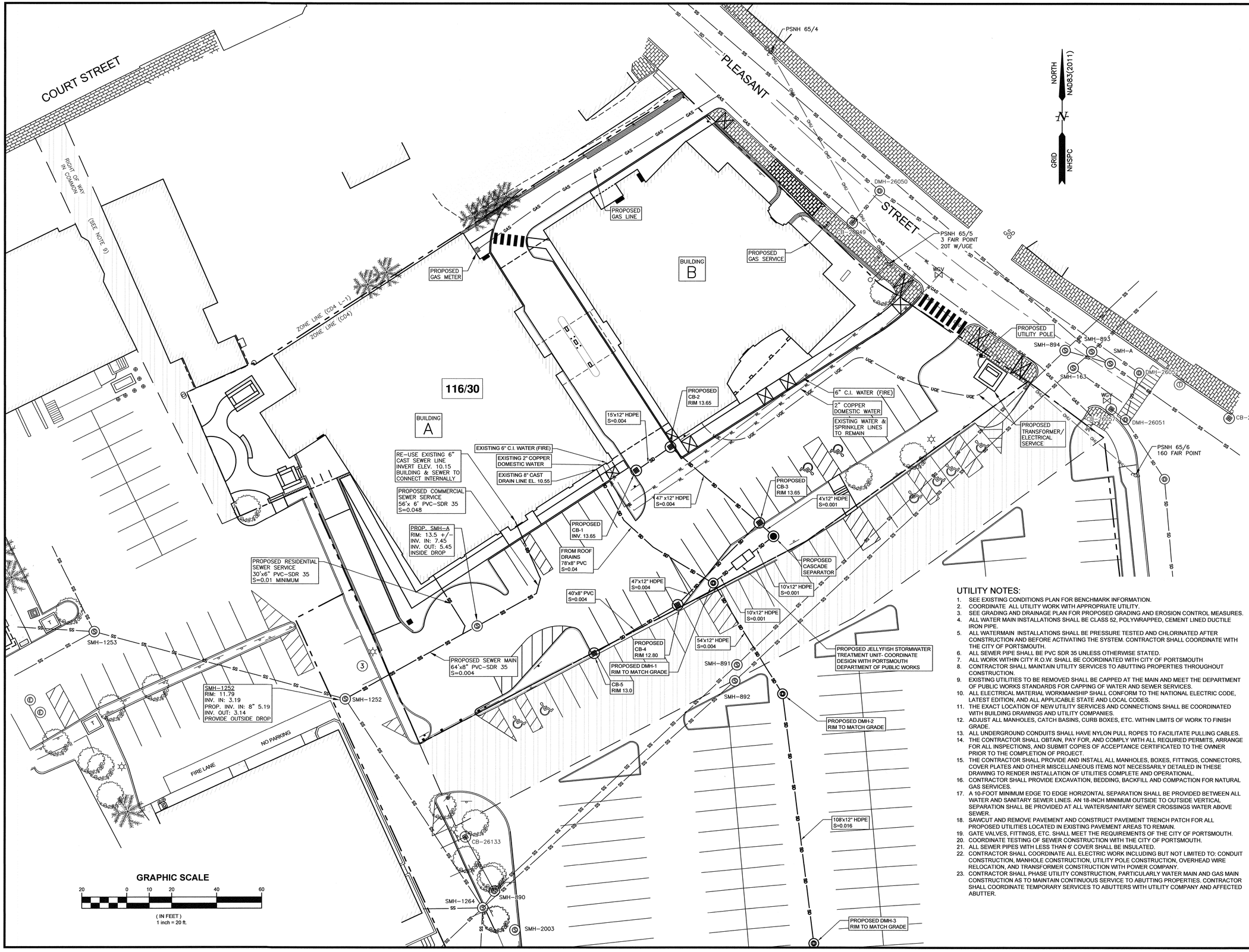
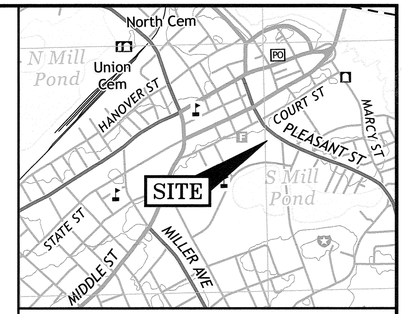




LOCATION MAP SCALE: 1" = 1,000'

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 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) PROVIDE TEMPORARY WATER AND SEWER SERVICES TO ALL IMPACTED PROPERTIES DURING NEW WATER AND SEWER MAIN INSTALLATION.

5) PROPOSED SEWER FLOW:

PROFESSIONAL OFFICE: 13,956 S.F. X 2.5 GPD/100 S.F.
= 349 GPD

BANK AND BANK OFFICE: 10,358 S.F. X 2.5 GPD/100 S.F.
= 259 GPD

22 APARTMENTS X 216 GPD/APARTMENT
= 4,752 GPD

TOTAL FLOW 5,360 GPD.

6) APPLICANT, AND AUTHORIZED AGENTS, SHALL WORK WITH THE CITY OF PORTSMOUTH AND UTILITY PROVIDERS TO CONSTRUCT NEW, PERMANENT SERVICE CONNECTIONS TO PROPOSED WATER, SEWER, STORMDRAIN, POWER , AND COMMUNICATIONS.

UTILITY NOTES:

1. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.
3. SEE GRADING AND DRAINAGE PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
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. 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.
10. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
11. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.
12. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
13. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
14. 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.
15. 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.
16. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
17. 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.
18. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
19. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
20. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
21. ALL SEWER PIPES WITH LESS THAN 6' COVER SHALL BE INSULATED.
22. 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.
23. 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 UTILITY COMPANY AND AFFECTED ABUTTER.

REV.	DATE	DESCRIPTION	BY	CHK
5	04-07-2026	EMERGENCY ACCESS ONLY	SJR	JRC
4	02-25-2026	CATCH BASINS, DRAINAGE	SJR	JRC
3	02-03-2026	JELLYFISH, DRAINAGE	SJR	JRC
2	01-21-2026	UPDATE PROPOSED UTILITIES	SJR	JRC
1	12-22-2025	ISSUED FOR APPROVAL	SJR	JRC
0	09-05-2025	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

UTILITY PLAN

STATE OF NEW HAMPSHIRE – JOHN R. CHAGNON – NO. 7854 – LICENSED PROFESSIONAL ENGINEER

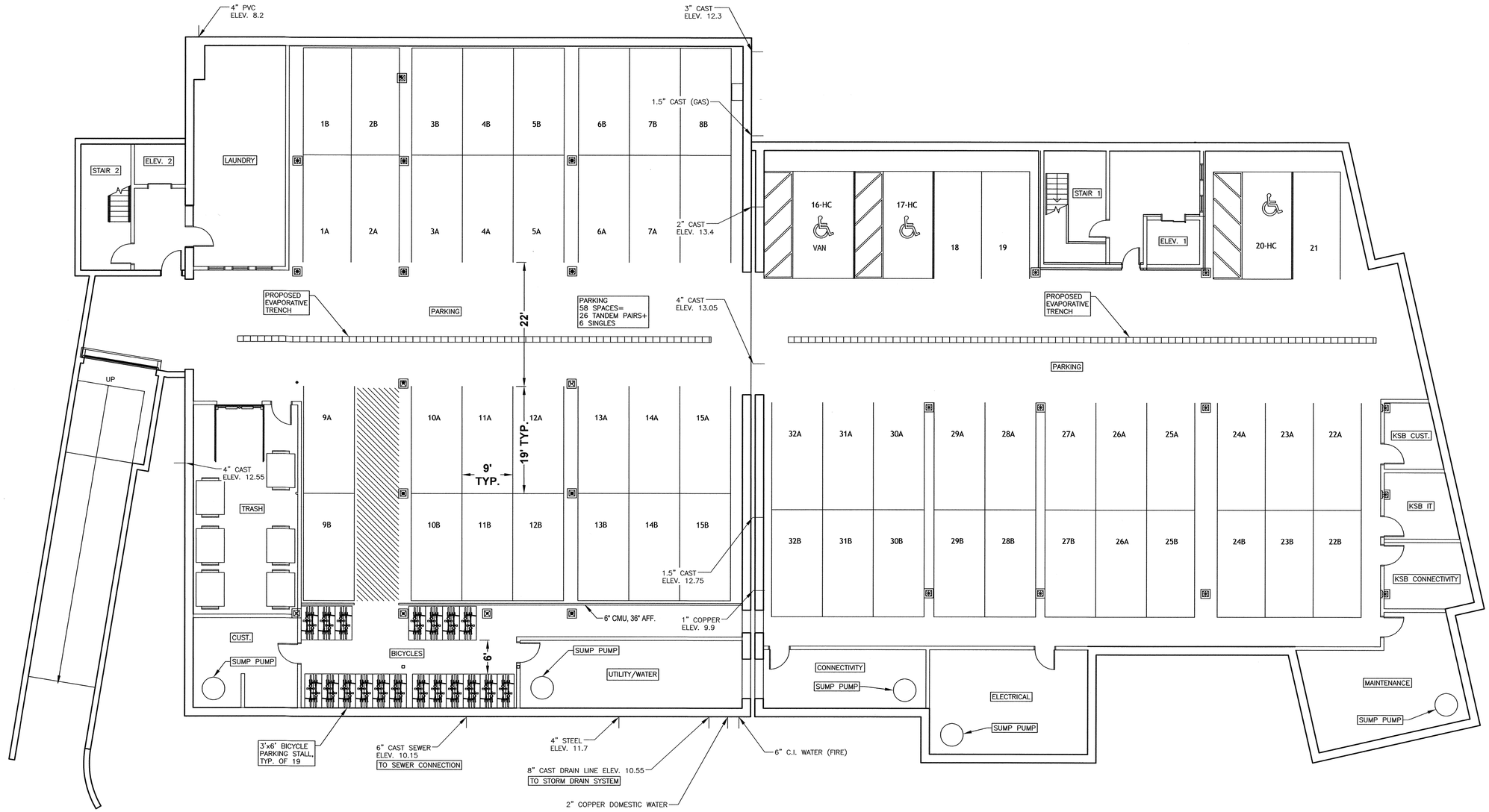
DATE	SCALE
JULY 2025	1"=20'

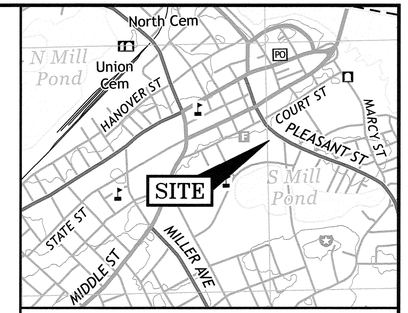
DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C103** REV. **5**

FILE LOCATION: P:\NH\5010156.MCNABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-JRC\2D-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.06, 1:31 PM





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 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) PROVIDE TEMPORARY CONSTRUCTION DEWATERING. COORDINATE WITH PORTSMOUTH DPW.

BASEMENT NOTES:

1. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.
3. EXISTING BASEMENT DEWATERING SYSTEM (SUMP PUMPS) AND ANY NEW SUMP PUMPS SHALL BE CONNECTED TO THE EXTERIOR STORM DRAINAGE SYSTEM.

GRAPHIC SCALE

10 0 5 10 20 30

(IN FEET)
1 inch = 10 ft.

REV.	DATE	DESCRIPTION	BY	CHK
2	04-07-26	BICYCLE RACKS	SJR	JRC
1	02-25-26	LAYOUT	SJR	JRC
0	01-21-26	ISSUED FOR APPROVAL	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

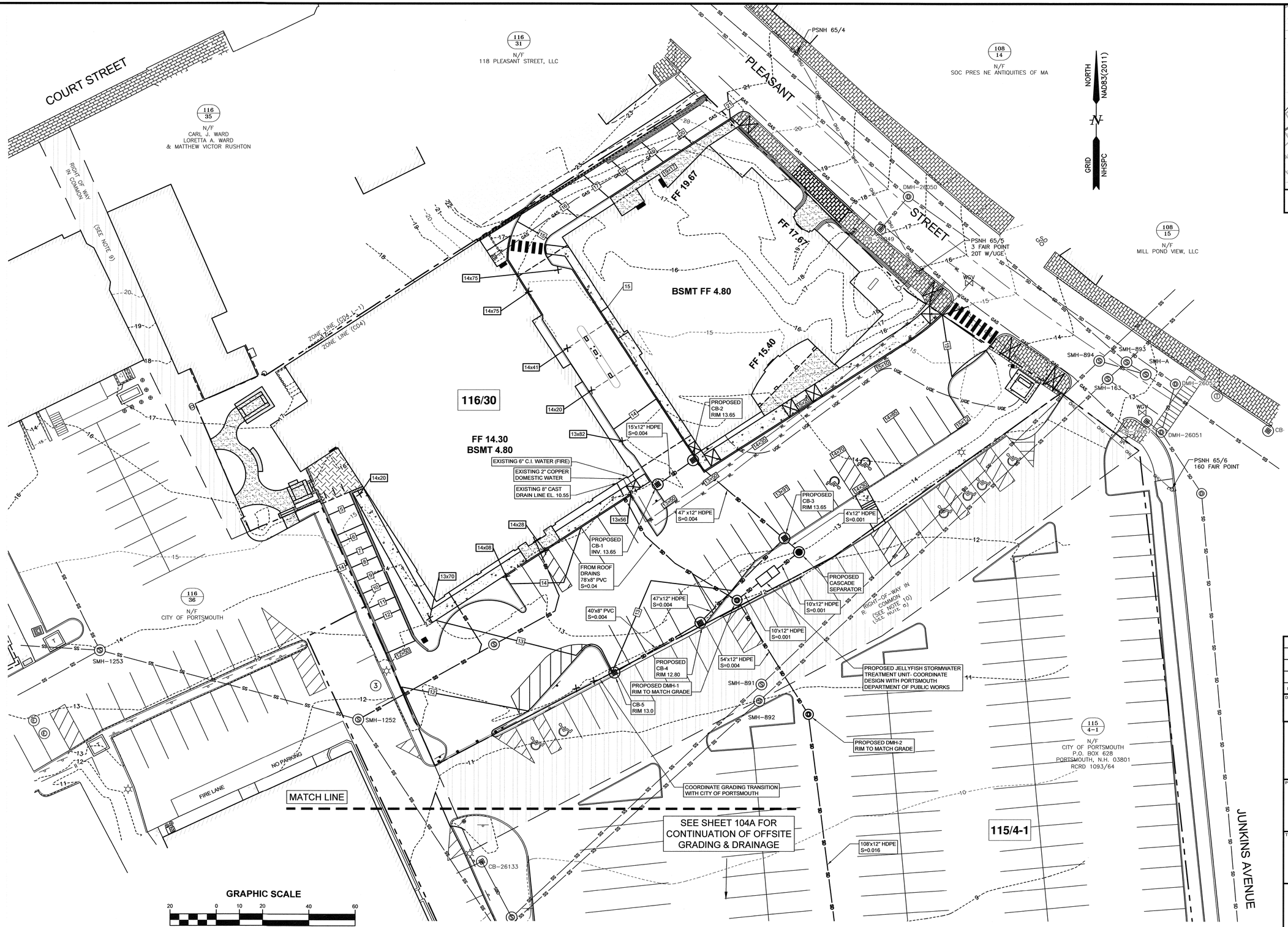
DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

BASEMENT PLAN

DATE: JULY 2025	SCALE: 1"=10'
DRAWN BY: SJR	DESIGNED BY: ---
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C103A	REV.: 2

FILE LOCATION: P:\NH\5010156-MCHABB_PROPERTIES\1532-134 PLEASANT ST., PORTSMOUTH-JRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.03.31, 11:49 AM



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) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

5) CITY OF PORTSMOUTH STORMWATER CONNECTION PERMIT REQUIRED.

REV.	DATE	DESCRIPTION	BY	CHK.
3	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
2	02-25-26	DRAINAGE LAYOUT, GRADES	SJR	JRC
1	01-21-26	DRAINAGE & GRADING UPDATES	SJR	JRC
0	12-22-25	ISSUED FOR APPROVAL	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

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200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

ON SITE GRADING & DRAINAGE PLAN

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 14651
LICENSED
PROFESSIONAL ENGINEER

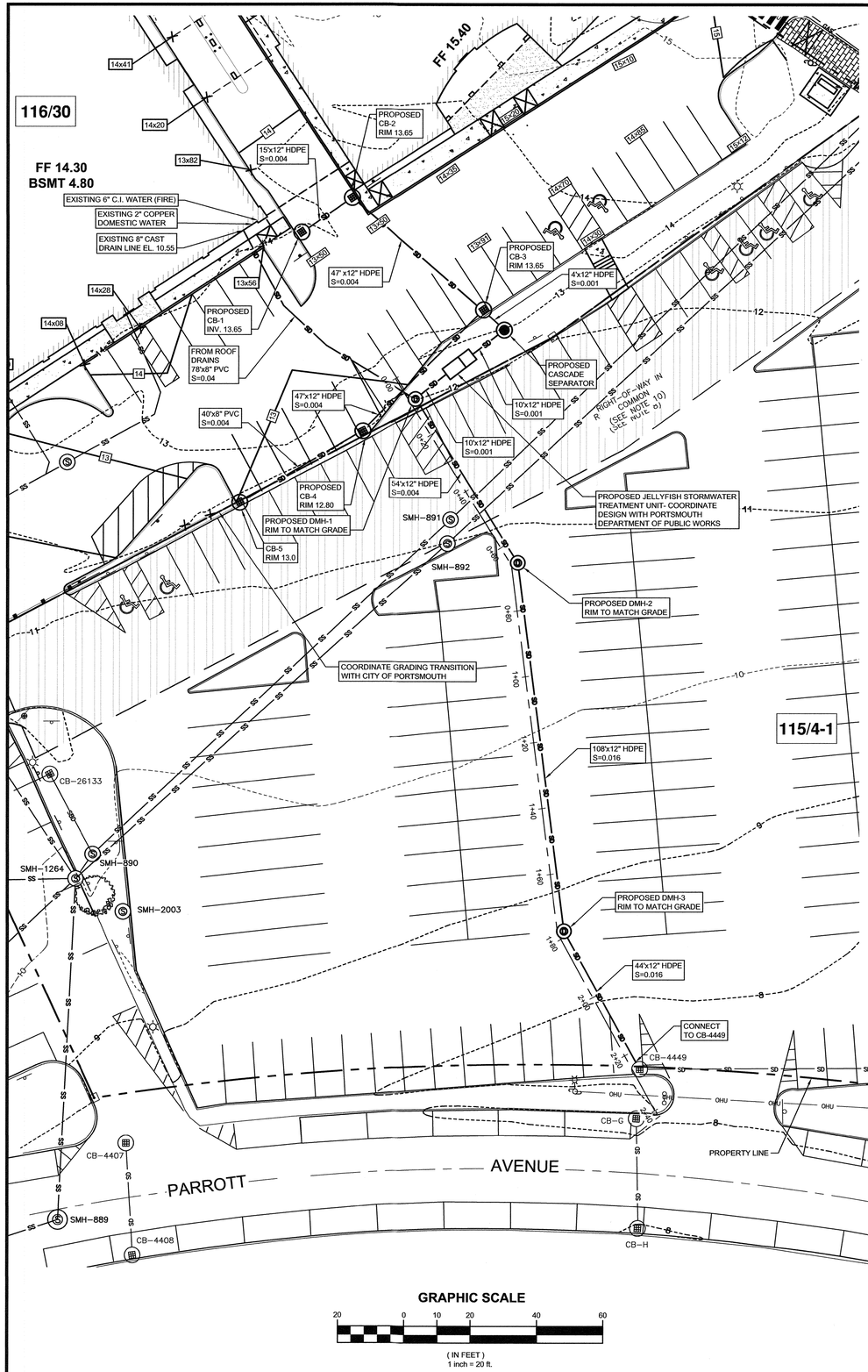
DATE	SCALE
JULY 2025	1"=20'

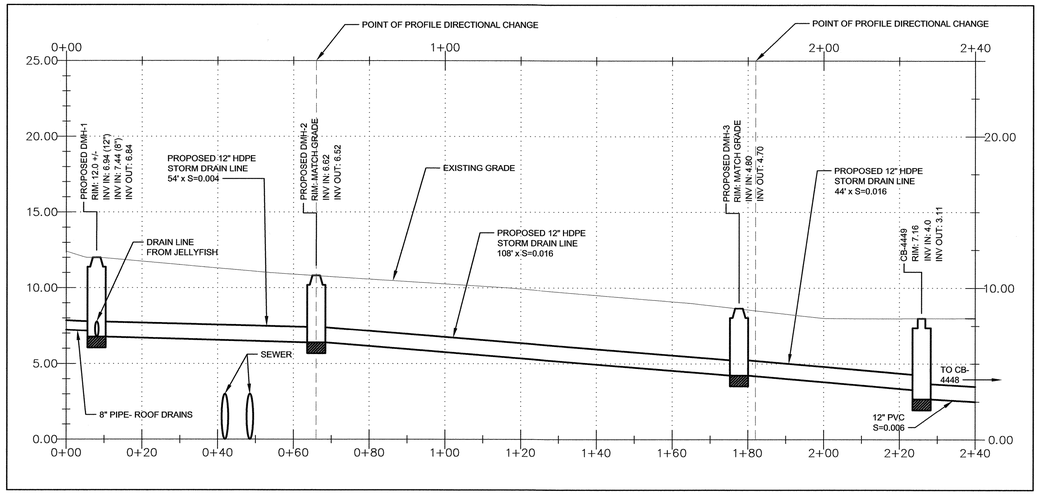
DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C104** REV. **3**

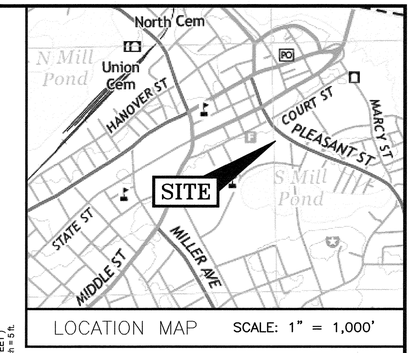
FILE LOCATION: P:\NH\5010156-MCNABB_PROPERTIES\1533-134 PLEASANT ST - PORTSMOUTH\~IRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 20250.DWG, 2026.04.06, 1:39 PM





PROFILE VIEW OF PROPOSED SITE DRAINAGE TO PARROTT AVE. - STA 0+00 TO 2+40

SCALE: H: 1"=20' / V: 1"=5'



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) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

5) CITY OF PORTSMOUTH STORMWATER CONNECTION PERMIT REQUIRED.

NORTH NAD83(2011)
GRID NHSPC

EXISTING DRAINAGE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INV. IN	INV. OUT	DIRECTION
CB-4407	EX	8.30	NO VISIBLE PIPES			
			WATER ELEVATION: 5.30			
			SUMP ELEVATION: 4.20			
CB-26133	EX	10.86	12" CLAY	4.31		SW
			12" CLAY		4.31	SE
CB-A	EX	12.22	12" AC		8.42	SE
CB-B	EX	12.80	8" CLAY	7.10		NW
			12" AC	7.10		NE
			12" AC	7.00		SW
			18" AC		7.00	S
CB-C	EX	13.47	12" AC	8.87		NE
			12" AC		8.82	S
CB-D	EX	13.54	4" AC	9.34		NW
			12" AC		9.34	SW
CB-E	EX	13.67	SILTED/LOCKED			
CB-F	EX	13.48	SILTED/LOCKED			
CB-G	EX	7.76	4" CLAY		4.76	
CB-H	EX	7.94	6" CLAY	4.24		
CB 26057	EX	12.53	12" CPP W/OIL SEPERATOR		8.33	SE
CB 26048	EX	22.70				
CB 26047	EX	22.89				
CB-26049	EX	17.08	12"PVC W/OIL SEPERATOR		11.78	NE
CB-4275	EX	7.46		2.56		NW
					2.56	S
CB-4448	EX	6.73	12" PVC	2.53		E
			12" PVC		2.53	SE
CB-4449	EX	7.16	12" PVC		3.11	E
DMH 26046	EX	22.99	12" CPP	18.49		SW
			12" CPP	18.49		NE
			12" CPP	19.79		NW
			12" CPP		18.44	SE
DMH 26050	EX	17.45	12" PVC	12.80		NW
			12" PVC	12.80		SW
			12" PVC		12.80	SE
DMH-26052	EX	12.93	12" CPP	8.18		NW
			12" CPP		8.13	S
DMH-26051	EX	12.61	12" CPP	7.86		N
			12" CPP	8.11		NW
			12" CPP		7.81	S
DMH-26061	EX	8.02				
DMH-26062	EX	7.84				

PROPOSED DRAINAGE STRUCTURE TABLE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INV. IN	INV. OUT	DIRECTION
CB-1	PROP	13.65			10.90	E
CB-2	PROP	13.65		10.84		W
					10.74	E
CB-3	PROP	13.65		10.55		N&W
CB-4	PROP	12.80		10.84		W
					10.74	E
CB-5	PROP	13.00		11.00		E
SEPARATOR	PROP	13.00		10.41		N
					10.41	W
JELLYFISH	PROP	12.50	12" HDPE	10.31		E
			12" HDPE		7.04	W
DMH 1	PROP	XGD	12" HDPE	6.94		E
			12" HDPE		6.84	S
			8" PVC	7.44		N
DMH 2	PROP	XGD	12" HDPE	6.62		N
			12" HDPE		6.52	S
DMH 3	PROP	XGD	12" HDPE	4.70		N
			12" HDPE		4.80	S

XGD = EXISTING GRADE

REV.	DATE	DESCRIPTION	BY	CHK.
1	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
0	02-25-26	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

OFF SITE GRADING & DRAINAGE/PROFILE

JOHN CHAGNON No. 7855 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

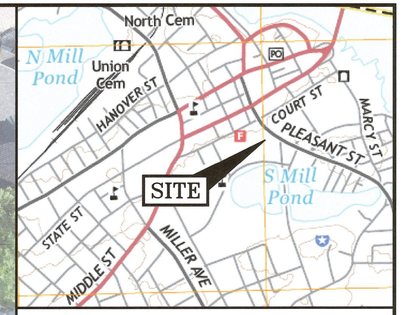
DATE	SCALE
JULY 2025	1"=20'

DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C104A** REV. **1**

FILE LOCATION: P:\M\5010156.MCHABB_PROPERTIES\1532-134 PLEASANT ST., PORTSMOUTH-JRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026-04-01, 8:28 AM



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 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).

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
2	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
1	02-25-26	DRAINAGE LAYOUT	SJR	JRC
0	02-03-26	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

OFF SITE GRADING & DRAINAGE PLAN ORTHOPHOTO

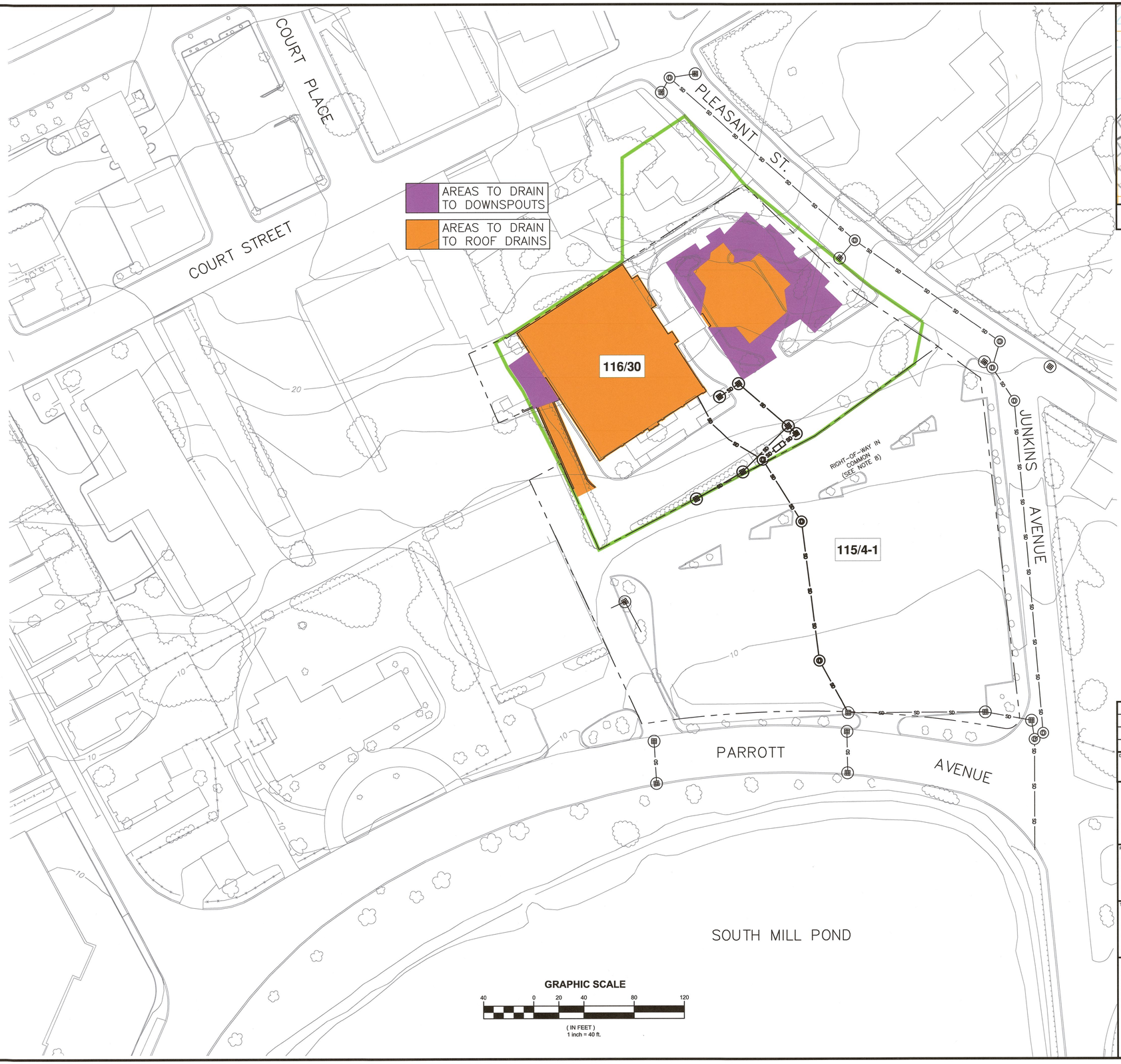
DATE: JULY 2025	SCALE: 1"=20'
DRAWN BY: SJR	DESIGNED BY: ---
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: **C104B**	REV.: **2**

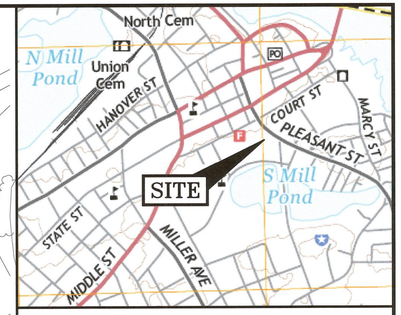
FILE LOCATION: P:\NH\5010156.MCHABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-JRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.06, 2:13 PM

DRAINAGE AREAS

TOTAL SUBCATCHMENT AREA		59,274 S.F.
BUILDINGS & RAMP EXCLUSION (ROOF DRAINS)		16,963 S.F.
TOTAL DRAINAGE CONTRIBUTING AREA		42,311 S.F.

NOTE: ROOF DRAINS WILL NOT BE CONNECTED TO THE STORMWATER TREATMENT SYSTEM.





LOCATION MAP SCALE: 1" = 1,000'

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 116 AS LOT 30, AND MAP 115 AS LOT 4–1.

2) THE PURPOSE OF THIS PLAN IS TO SHOW THE SITE DEVELOPMENT DRAINAGE AREA FOR THE 134 PLEASANT STREET PROJECT.

NORTH (NAD83(2011))
GRID
NHSPC

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
2	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
1	02-25-26	REVISED DRAINAGE AREAS	SJR	JRC
0	02-10-26	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
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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

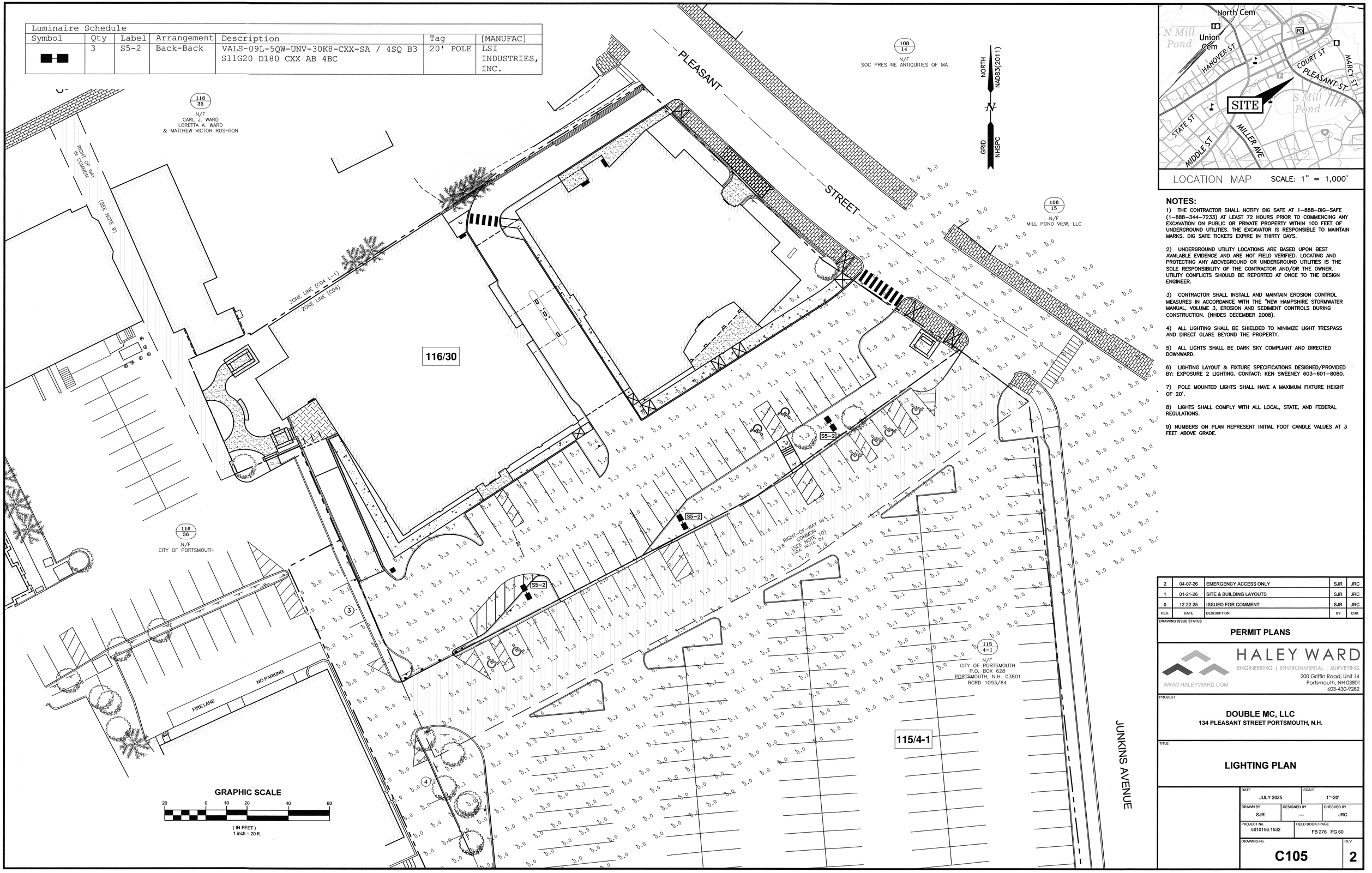
DRAINAGE AREA PLAN

STATE OF NEW HAMPSHIRE – JOHN R. CHAGNON No. 7651 – PROFESSIONAL ENGINEER – SEALED

DATE: JULY 2025	SCALE: 1"=40'
DRAWN BY: SJR	DESIGNED BY: ---
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C104C	REV.: 2

FILE LOCATION: P:\NH\5010156-MCHABB_PROPERTIES\5152-134 PLEASANT ST., PORTSMOUTH\IRC\02-CAD_FILES\CIVIL\5010156.1532-SITE 2026.DWG, 2026.04.03, 7:26 AM

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	3	S5-2	Back-Back	VALS-09L-5QW-UNV-30K8-CXX-SA / 4SQ B3 S11G20 D180 CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.



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 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) 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.

7) POLE MOUNTED LIGHTS SHALL HAVE A MAXIMUM FIXTURE HEIGHT OF 20'.

8) LIGHTS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

9) NUMBERS ON PLAN REPRESENT INITIAL FOOT CANDLE VALUES AT 3 FEET ABOVE GRADE.

REV.	DATE	DESCRIPTION	BY	CHK
2	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
1	01-21-26	SITE & BUILDING LAYOUTS	SJR	JRC
0	12-22-25	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

LIGHTING PLAN

DATE: JULY 2025	SCALE: 1"=20'
DRAWN BY: SJR	DESIGNED BY: ---
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C105	REV.: 2

FILE LOCATION: P:\#H\5010156-MCHABI_PROPERTIES\1532-134 PLEASANT ST., PORTSMOUTH-RC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.03.31 - 12:28 PM

ARCOVE ARCHITECTS

767 ISLINGTON ST, STE 2A
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

HALEY WARD
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

NIGHT TIME LIGHTING VIEWS

0' 4' 8' 16'
SCALE:

DATE: 04/06/2026
DRAWN: HA
CHECKED: Checker

C105A

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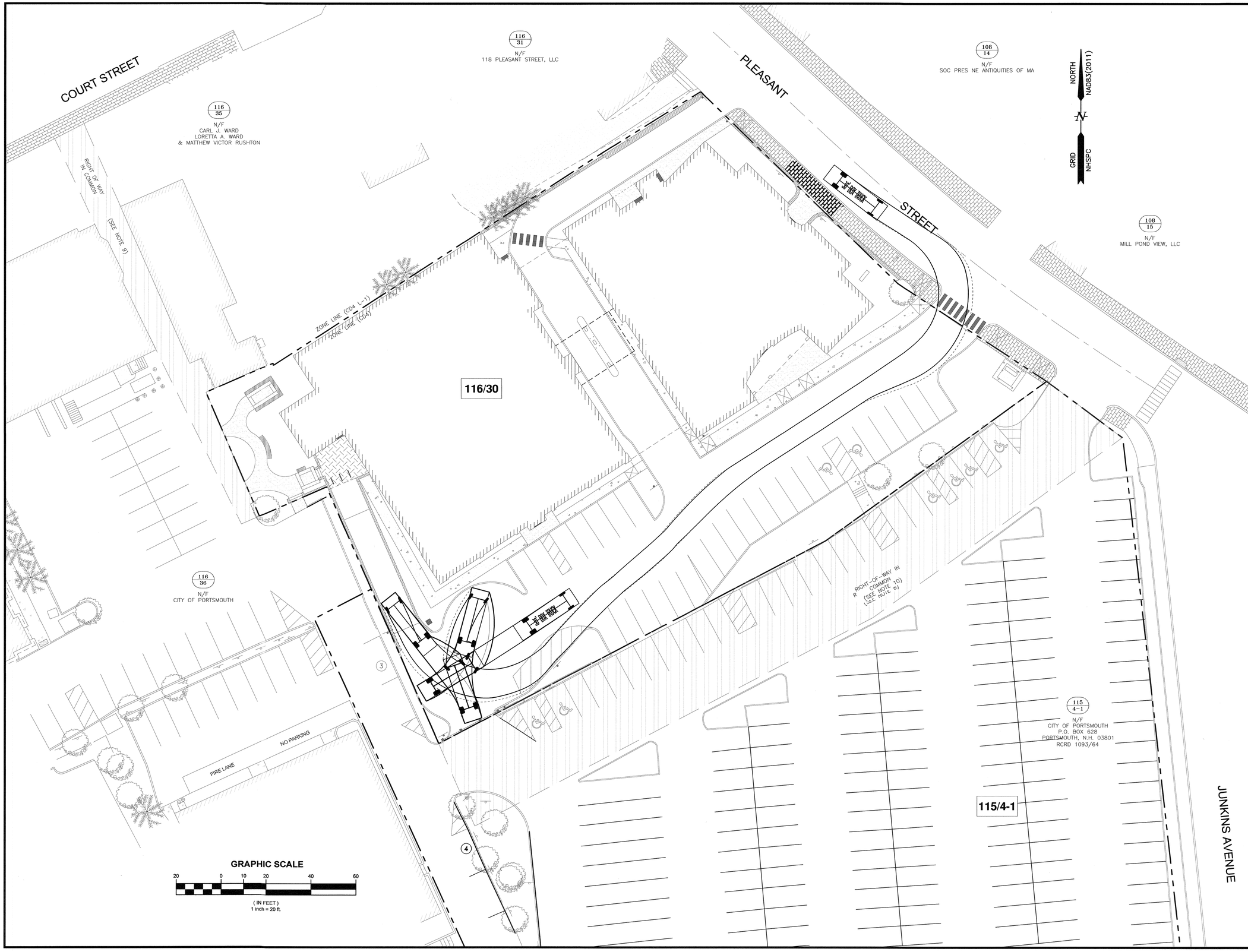
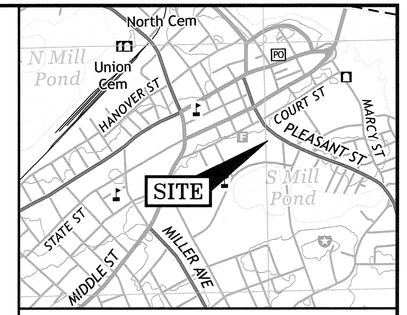




LOCATION MAP SCALE: 1" = 1,000'

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 30' BOX TRUCK (WB-30) TURNING AT THE SITE.

REV.	DATE	DESCRIPTION	BY	CHK
1	04-07-2026	EMERGENCY ACCESS ONLY	SJR	JRC
0	02-03-2026	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

TRUCK TURNING PLAN

JOHN R. CHAGNON No. 7851 – STATE OF NEW HAMPSHIRE – LICENSED PROFESSIONAL ENGINEER

DATE: FEBRUARY 2026	SCALE: 1"=20'
DRAWN BY: SJR	DESIGNED BY: —
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C106	REV.: 1

FILE LOCATION: P:\NH\5010156-MCNABB_PROPERTIES\1532-134 PLEASANT ST., PORTSMOUTH-JRC\02-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.03, 12:25 PM

COURT STREET

116/35
N/F
CARL J. WARD
LORETTA A. WARD
& MATTHEW VICTOR RUSHTON

RIGHT OF WAY IN COMMON (SEE NOTE 9)

116/31
N/F
118 PLEASANT STREET, LLC

108/14
N/F
SOC PRES NE ANTIQUITIES OF MA

PLEASANT STREET

48' AERIAL FIRE TRUCK (INFERNO) TURNING RADIUS PATH

NORTH NAD83(2011)

GRID NHSPC

108/15
N/F
MILL POND VIEW, LLC

ZONE LINE (CD4 L-1)

ZONE LINE (CD4)

116/30

116/36
N/F
CITY OF PORTSMOUTH

NO PARKING

FIRE LANE

48' AERIAL FIRE TRUCK (INFERNO) TURNING RADIUS PATH

RIGHT-OF-WAY IN COMMON (SEE NOTE 10) (SEE NOTE 6)

115/4-1
N/F
CITY OF PORTSMOUTH
P.O. BOX 628
PORTSMOUTH, N.H. 03801
RCRD 1093/64

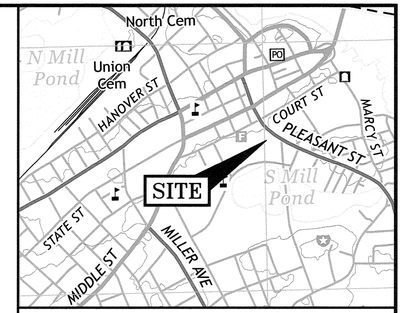
115/4-1

JUNKINS AVENUE

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.



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 48' AERIAL FIRE TRUCK (INFERNO) TURNING AT THE SITE.

REV.	DATE	DESCRIPTION	BY	CHK
1	04-07-2026	EMERGENCY ACCESS ONLY	SJR	JRC
0	02-03-2026	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

FIRE TRUCK TURNING PLAN

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 7651
LICENSED
PROFESSIONAL ENGINEER

DATE: FEBRUARY 2026	SCALE: 1"=20'
DRAWN BY: SJR	DESIGNED BY: — / CHECKED BY: JRC
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C107	REV.: 1

FILE LOCATION: P:\NH\5010156-MCNABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-NH\CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.03, 12:17 PM

LOCATION MAP SCALE: 1" = 1,000'

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S TAX MAP 115 AS LOT 4-1.

2) OWNERS OF RECORD:
CITY OF PORTSMOUTH
1 JUNKINS AVENUE
PORTSMOUTH, N.H. 03801
RCRD 1093/64

3) PARCEL IS PARTIALLY IN SPECIAL FLOOD HAZARD AREA ZONE AE AS SHOWN ON FIRM PANEL 33015C0259F. EFFECTIVE JANUARY 29, 2021.

4) EXISTING LOT AREA:
71,740 S.F.
1.65 ACRES

5) PARCEL IS LOCATED IN THE MUNICIPAL (M) DISTRICT.

6) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

7) THE PURPOSE OF THIS PLAN IS TO SHOW SHORELAND AND TIDAL BUFFER ZONE IMPACTS ON ASSESSOR'S MAP 115, LOT 4-1 IN THE CITY OF PORTSMOUTH.

8) PARCEL IS BENEFITED BY A RIGHT OF WAY AS DESCRIBED IN RCRD 2975/349 AND SHOWN ON RCRD D-18880 AND RCRD D-26343.

IMPACT AREAS
(WITHIN THE 250' SWQPA ZONE)

ZONE	TEMPORARY IMPACT (S.F.)	PERMANANT IMPACT (S.F.)
250' PROTECTED SHORELAND	3016	154
100' TIDAL BUFFER	562	39

LOT 115/4-1 IMPACT AREAS
(WITHIN THE 250' SWQPA ZONE)

	EXISTING	PROPOSED
LOT AREA IN 250' (S.F.)	57,087	57,087
TOTAL IMPERVIOUS AREA (S.F.)	53,487	53,487

REV.	DATE	DESCRIPTION	BY	CHK
3	04-07-26	EMERGENCY ACCESS ONLY	SJR	JRC
2	03-11-2026	ADDED IMPACT AREA	SJR	JRC
1	02-25-2026	REVISED LAYOUT	SJR	JRC
0	02-09-2026	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
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WWW.HALEYWARD.COM
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282

PROJECT

CITY OF PORTSMOUTH
P.O. BOX 628 PORTSMOUTH, N.H.

TITLE

NHDES PERMIT PLAN-
CITY PROPERTY

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

STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 9641 LICENSED PROFESSIONAL ENGINEER

DATE	JULY 2025
SCALE	1"=20'
DRAWN BY	SJR
DESIGNED BY	---
CHECKED BY	JRC
PROJECT No.	5010156.1532
FIELD BOOK / PAGE	FB 276 PG 60
DRAWING No.	C108
REV.	3

FILE LOCATION: P:\NHS\5010156-MICHAUD_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-JROSE-CAD_FILES\CIVIL\5010156.1532 SITE 2026.DWG, 2026.04.06, 2:01 PM

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

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 CITY OF PORTSMOUTH CMMP 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. CONSTRUCT FOUNDATIONS.

ROUGH GRADE SITE.

LAYOUT AND INSTALL ALL BURIED UTILITIES TO THE PROPOSED BUILDING FOUNDATIONS. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

CONSTRUCT BUILDING.

CONNECT UTILITIES.

PLACE BINDER LAYER OF PAVEMENT FOR SIDEWALKS.

AFTER BUILDINGS ARE COMPLETED, FINISH ALL REMAINING SIDEWALK WORK.

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 WITH ASSOCIATED UTILITIES AND PARKING.

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 0.94 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 PISCATAQUA RIVER.

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.

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 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.

MAINTENANCE AND PROTECTION

THE SILTSOXX BARRIER AND CATCH BASIN FILTERS SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

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.

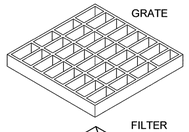
ALLOWABLE NON-STORMWATER DISCHARGES
1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS 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.

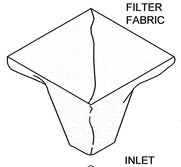
WASTE DISPOSAL

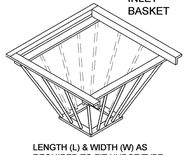
1. WASTE MATERIAL
   - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   - NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   - ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE 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

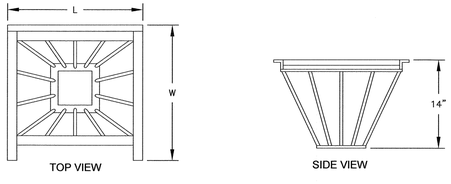
1. CONTRACTOR SHALL CONTACT THE NHDES AND/OR LOCAL JURISDICTION PRIOR TO
2. COMMENCING ANY BLASTING ACTIVITIES.
3. FOR ANY PROJECT FOR WHICH BLASTING OF BEDROCK IS ANTICIPATED, THE APPLICANT
4. SHALL SUBMIT A BLASTING PLAN THAT IDENTIFIES:
   - WHERE THE BLASTING ACTIVITIES ARE ANTICIPATED TO OCCUR;
   - THE ESTIMATED QUANTITY OF BLAST ROCK IN CUBIC YARDS; AND
   - SITE-SPECIFIC BLASTING BEST MANAGEMENT PRACTICES.







LENGTH (L) & WIDTH (W) AS REQUIRED TO FIT NHDOT TYPE GRATE & FRAME.



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.

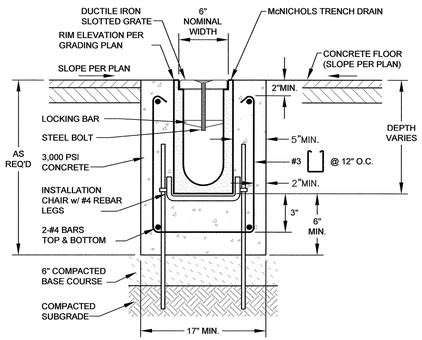
3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- -RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
- -MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

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.)

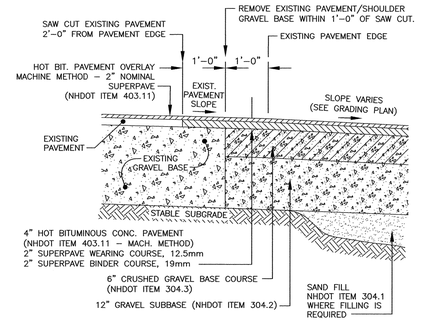
5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

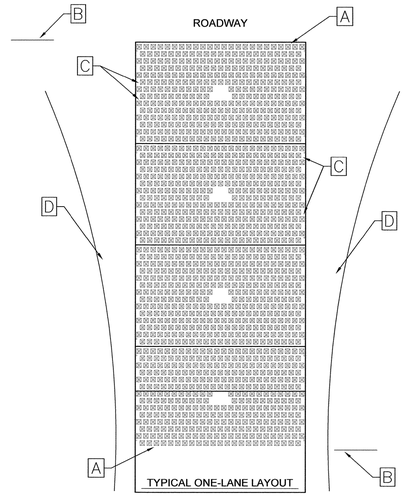
A C104 CATCH BASIN INLET BASKET
NTS



B C102 EVAPORATOR TRENCH DETAIL
COORDINATE WITH BUILDING PLANS
NTS



D C102 TYPICAL PAVEMENT CROSS SECTION
OFF SITE REPAIR AS NEEDED
NTS



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.

C C102 FODS SEDIMENT TRACKING SYSTEM
NTS

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).

REV.	DATE	DESCRIPTION	BY	CHK.
0	10/21/25	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

DETAILS

JOHN R. CHAGNON No. 7651 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

DATE	SCALE
SEPTEMBER 2025	1"=20'

DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C501** REV. **0**

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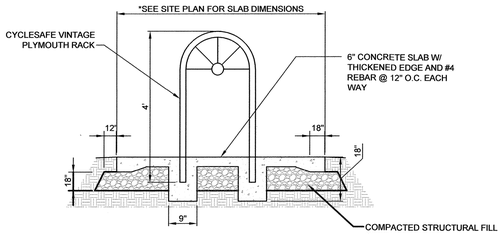
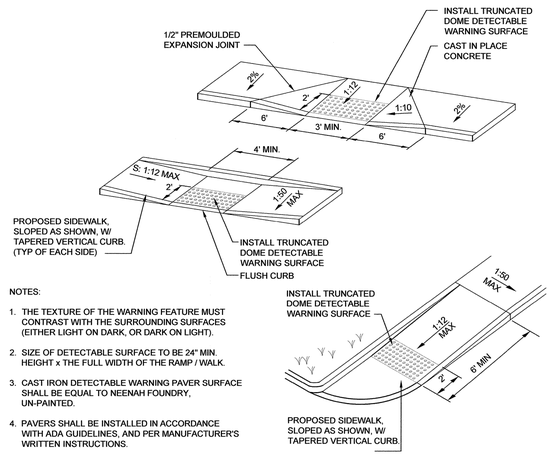


E C102 BIKE RACK DETAIL

BIKE RACK SUBSTITUTIONS UPON APPROVAL NTS

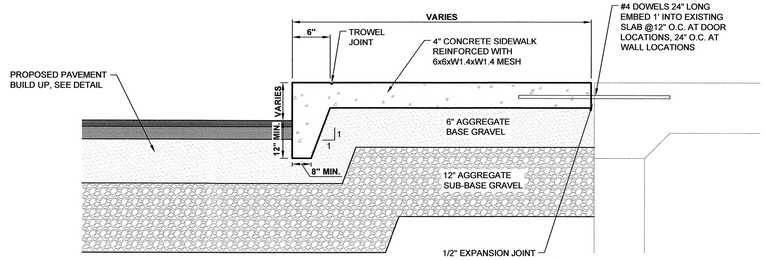


NOTES:

1. THE TEXTURE OF THE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT ON DARK, OR DARK ON LIGHT).
2. SIZE OF DETECTABLE SURFACE TO BE 24" MIN. HEIGHT x THE FULL WIDTH OF THE RAMP / WALK.
3. CAST IRON DETECTABLE WARNING PAVER SURFACE SHALL BE EQUAL TO NEENAH FOUNDRY, UN-PAINTED.
4. PAVERS SHALL BE INSTALLED IN ACCORDANCE WITH ADA GUIDELINES, AND PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

H C102 TYPICAL HANDICAP CURB RAMP DETAILS

NTS



NOTE:
EXPANSION JOINTS SHALL BE INSTALLED EVERY 20' WITH SCORE JOINTS EVERY 5'. EXPANSION JOINTS SHALL ALSO BE PLACED WHERE THE SIDEWALK ABUTS THE BUILDING, BETWEEN ADJACENT SLABS, CURBS OR AT PENETRATION STRUCTURES. EXPANSION JOINTS ARE TO BE 1/2" WIDE.

K C102 CONCRETE SIDEWALK W/ INTEGRAL CURB DETAIL

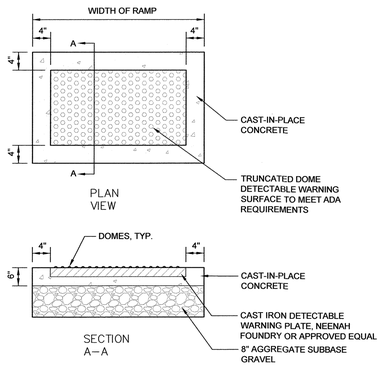
NTS

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. DETECTABLE WARNINGS SHALL BE AN INTEGRAL PART OF THE RAMP AND COMPLY WITH ALL SECTIONS OF THE ADA ACCESSIBILITY GUIDELINES AND ALL SECTIONS OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. ALL DETECTABLE WARNING AREAS SHALL START 6-10" FROM THE FLOW LINE OF THE CURB, BE 24" IN DEPTH AND COVER THE COMPLETE WIDTH OF THE RAMP AREA ONLY. MATCH ROADWAY RADIUS, TYP.

F C102 TYPICAL DETECTABLE WARNING SURFACE 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.

I C103 TYPICAL VALVE AND BOX DETAIL

NTS

BRICK PAVEMENT NOTES

SCOPE OF WORK:

1) THE WORK SHALL CONSIST OF CONSTRUCTING/RECONSTRUCTING THE SUB-BASE AND CONSTRUCTING A NEW BRICK SIDEWALK AS DIRECTED IN THE FIELD BY THE ENGINEER AND COORDINATED WITH PORTSMOUTH DPW.
2) REVEAL SHALL BE COORDINATED WITH PORTSMOUTH DPW.

METHODS OF CONSTRUCTION:

A) ALL LABOR AND MATERIALS SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 608, AND CITY OF PORTSMOUTH SPECIFICATIONS FOR NEW BRICK SIDEWALK, SECTION 6.

B) EXCAVATION FOR SIDEWALKS SHALL BE AT A DEPTH OF 10 INCHES BELOW FINISH GRADE. IN AREAS NOT BUTTING CURBING OR BUILDINGS, THE EXCAVATION SHALL BE 6 INCHES WIDER THAN THE FINISHED SIDEWALK WIDTH. AT ALL DRIVE CROSSINGS, THE DEPTH OF EXCAVATION SHALL BE INCREASED ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE NEAT AND SQUARE CUTTING OF EXISTING ASPHALT ROAD SURFACE AS NEEDED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S OWN EXPENSE.

C) THE BASE MATERIAL SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 100% PASSING THE 3 INCH SIEVE, 95% TO 100% PASSING THE 2 INCH SIEVE, 55% TO 85% PASSING THE 1 INCH SIEVE, AND 27% TO 52% PASSING THE NO. 4 SIEVE. AT LEAST 50% OF THE MATERIALS RETAINED ON THE 1 INCH SIEVE SHALL HAVE A FRACTURED FACE. THE BASE MATERIAL SHALL BE THOROUGHLY COMPACTED TO THE DEPTH SPECIFIED OR DIRECTED. IN THE WAY OF ALL DRIVE CROSSINGS THE BASE WILL BE INCREASED TO A COMPACTED DEPTH OF 12 INCHES. GRAVEL REQUIREMENTS FOR RECONSTRUCTION WILL BE AS DIRECTED, BASED ON SITE CONDITIONS. THE WORK INCLUDES BACKING UP ANY AND ALL CURB BEING INSTALLED BY OTHERS ON BOTH SIDES.

D) THE CLAY BRICK PAVERS SHALL BE LAID IN A 1 INCH BED OF A SAND MIXTURE COMPRISED OF: 3 PARTS SAND MIXED WITH 1 PART PORTLAND CEMENT.

E) THE CONTRACTOR SHALL LAY THE BRICKS SO THAT APPROXIMATELY 4.5 BRICKS SHALL COVER ONE SQUARE FOOT.

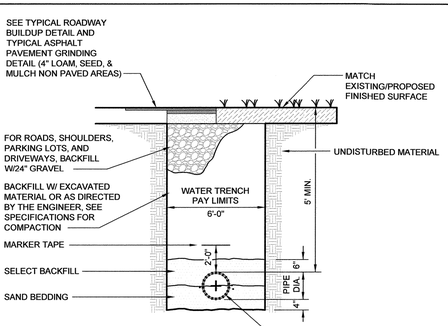
F) THE SIDEWALK SHALL PITCH TOWARDS THE STREET AS SHOWN ON THE GRADING PLAN.

G) IN AREAS WHERE THE FRONT OF THE BRICK SIDEWALK IS NOT ADJACENT TO GRANITE CURBING, THE CONTRACTOR SHALL INSTALL EDGING TO HOLD THE BRICKS IN PLACE. SUCH EDGING SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

H) THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BRICKS FOR APPROVAL BY THE CITY BEFORE BRICKS ARE INSTALLED.

CONSTRUCTION NOTE:

EXISTING GRANITE CURB DISTURBED BY CONSTRUCTION SHALL BE REUSED AND ANY MISSING CURB SHALL BE REPLACED WITH NEW CURB MATCHING EXISTING CURB SIZE. NO CURB LESS THAN 3' IN LENGTH WILL BE ALLOWED.



NOTE:

1. MATCH EXISTING SURFACE FINISH, EXCEPT WHERE NOTED. IN LAWN AREAS INSTALL 4" OF LOAM AND SEED AND MULCH.

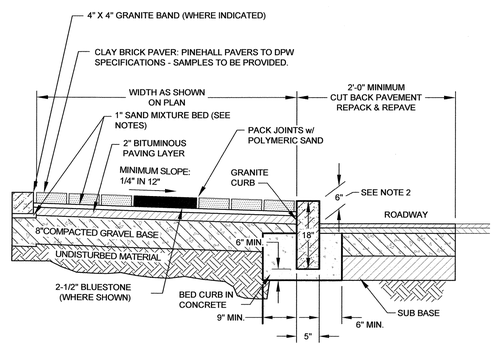
G C103 TYPICAL TRENCH DETAIL-DUCTILE IRON WATER MAIN

NTS

NOTE:
1) INSTALLATION OF WATER MAIN TAP & CURB STOP & BOX SHALL ONLY BE PERFORMED BY THOSE AUTHORIZED BY THE PUBLIC WORKS DEPARTMENT.
2) IN AREAS OF HEAVY GROWTH THE CURB BOX COVER SHALL BE SET 6" ABOVE FINISH GRADE AND A WITNESS STAKE SET.
3) CURB BOX SHALL BE SET APPROXIMATELY 12" OUTSIDE PROPERTY LINE AS SHOWN.
4) PRIOR TO ACCEPTANCE, A PLAN INDICATING THE LOCATION OF THE CURB BOX SHALL BE SUBMITTED TO THE CITY OF PORTSMOUTH WATER DIVISION.

J C103 TYPICAL WATER SERVICE CONNECTION DETAIL

NTS



L C102 BRICK SIDEWALK W/ VERTICAL GRANITE CURB DETAIL

(STONE DUST BEDDING OVER BITUMINOUS PAVING) NTS

REV	DATE	DESCRIPTION	BY	CHK
1	01/21/26	DETAIL H	SJR	JRC
0	10/21/25	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

PERMIT PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
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Portsmouth, NH 03801
603-430-9282
WWW.HALEYWARD.COM

PROJECT

DOUBLE MC, LLC
134 PLEASANT STREET PORTSMOUTH, N.H.

TITLE

DETAILS

JOHN R. CHAGNON No. 7651 STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER

DATE	SCALE
SEPTEMBER 2025	1"=20'
DRAWN BY: SJR	DESIGNED BY: ---	CHECKED BY: JRC
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C502	REV.: 1

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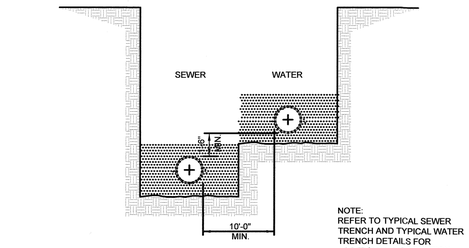
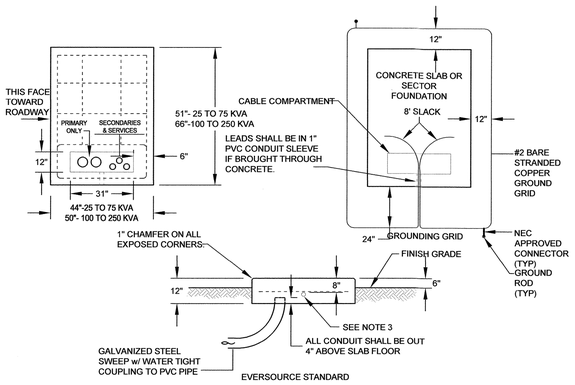
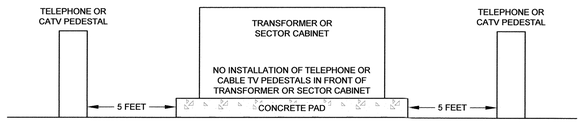


NOTE:
REFER TO TYPICAL SEWER TRENCH AND TYPICAL WATER TRENCH DETAILS FOR ADDITIONAL INFORMATION.

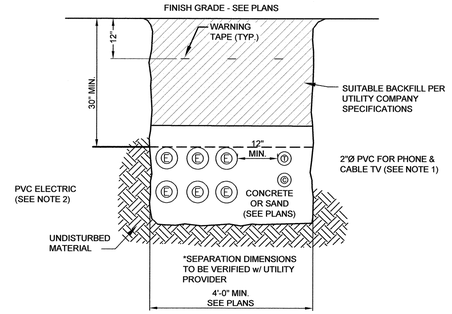
M C103 TYPICAL SEWER/WATER SEPARATION DETAIL
NTS





NOTES
1. ALL REINFORCING TO BE #6 BARS.
2. 1" PVC CONDUIT SLEEVE FOR GROUND GRID LEADS.
3. THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR 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.
4. NO SHRUBS, FENCES, OR PERMANENT STRUCTURES CAN BE PLACED WITHIN 10 FEET OF THE FRONT AND 5 FEET OF THE SIDES AND BACK OF PAD-MOUNTED EQUIPMENT. THE COMPANY HAS THE RIGHT TO REMOVE THESE OBJECTS WITHOUT NOTICE TO THE OWNER.

N C103 TRANSFORMER PAD DETAIL
COORDINATE WITH EVERSOURCE
NTS



NOTES:
1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCHED. 40 FOR THE REMAINDER.

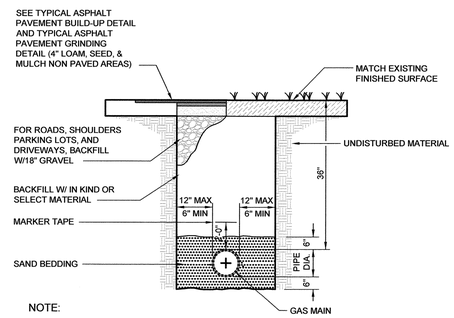
2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.

3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)

4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT

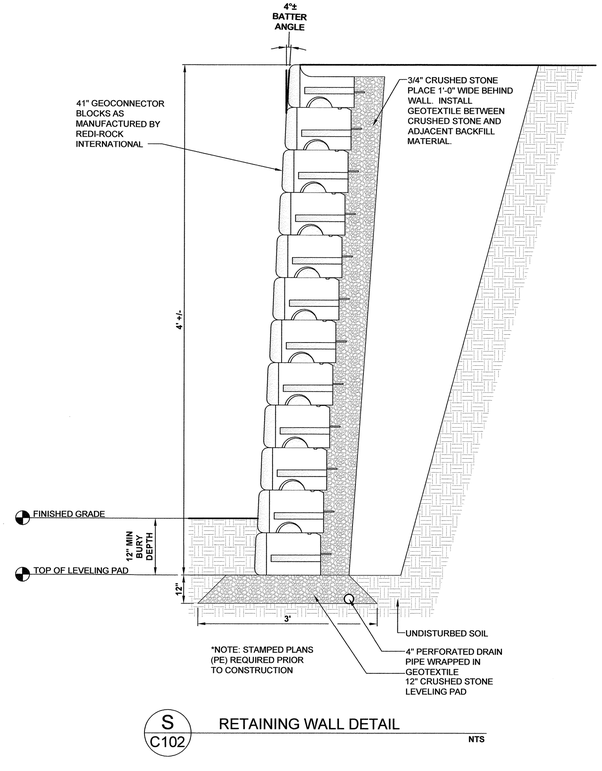
5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANY'S PRIOR TO ANY CONSTRUCTION.

P C103 TYPICAL UNDERGROUND UTILITY TRENCH DETAIL
NTS

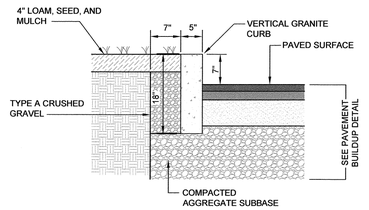


NOTE:
1. COMPACT ALL GRANULAR MATERIAL AND BACKFILL TO 95%.
2. SIDE CLEARANCE APPLICABLE TO BACKHOE OPERATIONS.

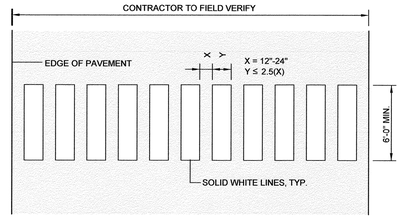
Q C103 TYPICAL GAS TRENCH DETAIL
NTS



S C102 RETAINING WALL DETAIL
NTS

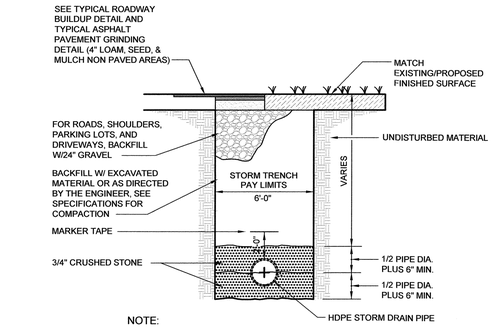


T C102 TYPICAL GRANITE CURB DETAIL
NTS



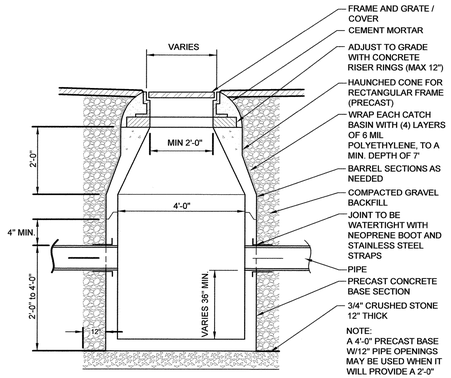
NOTE:
1. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MUTCD

U C102 TYPICAL CROSSWALK DETAIL
NTS



NOTE:
1. MATCH EXISTING SURFACE FINISH, EXCEPT WHERE NOTED. IN LAWN AREAS INSTALL 4" OF LOAM AND SEED AND MULCH.

O C104 TYPICAL STORM DRAIN TRENCH DETAIL
NTS



NOTE:
A 4'-0" PRECAST BASE W/12" PIPE OPENINGS MAY BE USED WHEN IT WILL PROVIDE A 2'-0" SUMP AND 12"± RING ABOVE ALL OPENINGS INTO THE BASE.

R C104 TYPICAL CATCH BASIN DETAIL
NTS

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).

REV.	DATE	DESCRIPTION	BY	CHK
0	10/21/25	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
DETAILS

JOHN R. CHAGNON 10/21/25 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE –

DATE	SCALE
SEPTEMBER 2025	1"=20'
DRAWN BY: SJR	DESIGNED BY: ---	CHECKED BY: JRC
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C503	REV.: 0

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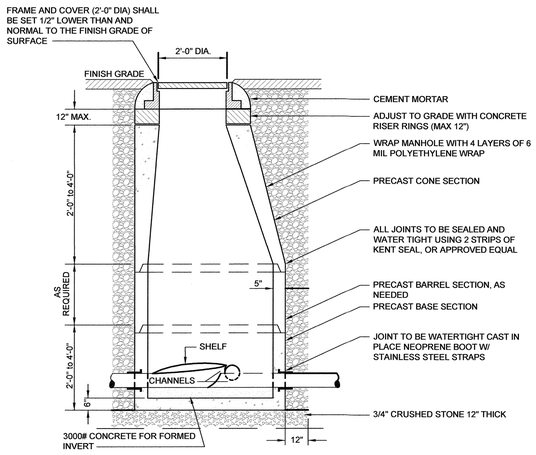
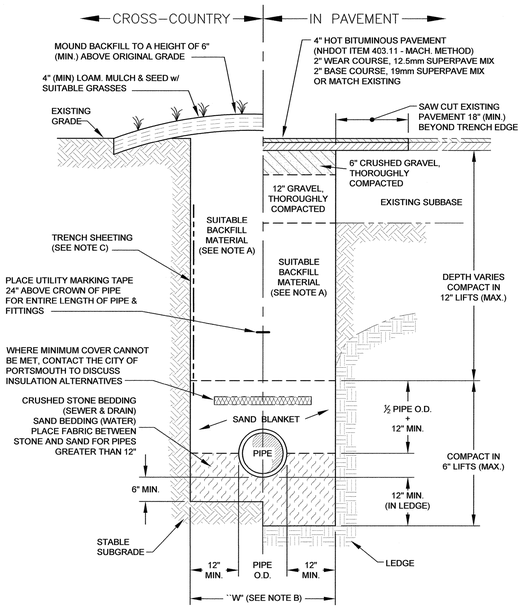


V C103 TYPICAL SEWER MANHOLE DETAIL

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:
IF REQUIRED. WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):
6' 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.

W C103 TYPICAL PIPE TRENCH DETAIL

NTS

SEWER UTILITY GENERAL NOTES:

1) MINIMUM PIPE SIZE FOR COMMERCIAL SERVICE SHALL BE SIX 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"
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.

B. DUCTILE IRON PIPE, FITTINGS AND JOINTS.

1. DUCTILE IRON PIPE AND FITTINGS FOR SEWERS 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 MOULDS OR SAND LINED MOULDS FOR SEWER APPLICATIONS.

2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:

A21.11 RUBBER GASKET 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 DEPENDING ON THE PIPE ENCOUNTERED, FOR PVC PIPE, OR CUT IN A SANITARY TEE. FOR CLAY PIPE, USE INSERT-A-TEE OR CUT IN A SANITARY TEE. ALL WORK TO BE APPROVED BY GOVERNING BODY.

6) 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.

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 704.07.

8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM DWELLING 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, 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.

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, GRADED 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 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) CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.

14) 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.

15) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB-SITE SAFETY AND COMPLIANCE WITH GOVERNING REGULATIONS.

16) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE TRENCH DETAIL.

17) 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.

18) 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".

19) FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

20) 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.

21) 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).

22) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION.

23) THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.

24) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV-WQ 704 DESIGN OF SEWERS.

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.

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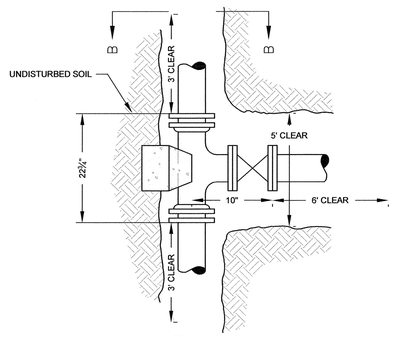
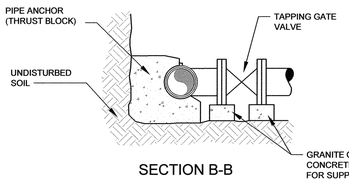


PLAN

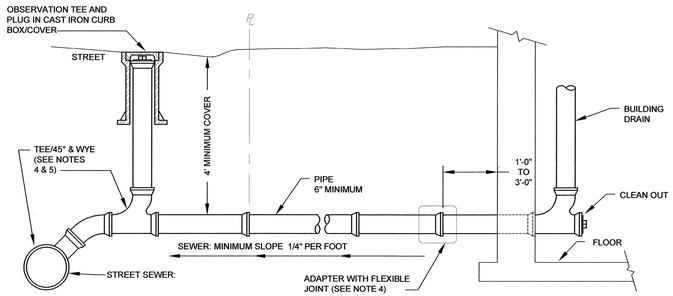


SECTION B-B

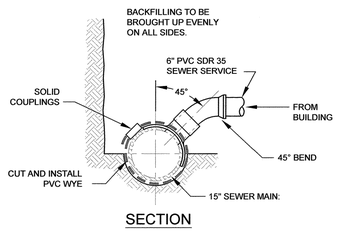
NOTES:
1) ALL MATERIALS SHALL BE APPROVED BY THE PORTSMOUTH WATER DEPARTMENT PRIOR TO INSTALLATION AND USE.
2) ALL JOINTS SHALL BE MECHANICAL.
3) "CLEAR" DIMENSIONS SHOWN ATE REQUIRED FOR WORKSPACE. NO JOINTS ON PIPE BEING TAPPED WITHIN "CLEAR" AREA.
4) FORD TYPE STAINLESS STEEL TAPPING SADDLES OR APPROVED EQUAL ARE ALSO ACCEPTABLE.

X C103 TAPPING SLEEVE & GATE DETAILS

INSTALL PER PORTSMOUTH REQUIREMENTS NTS

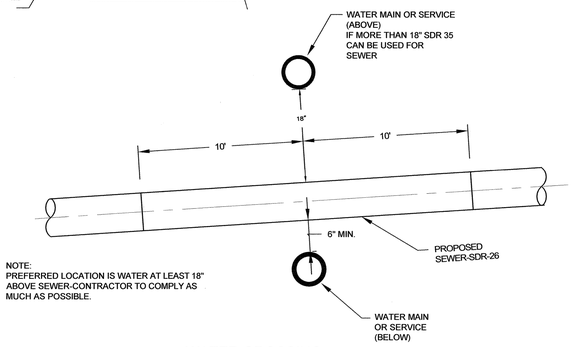


SEWER SERVICE



SECTION

SEWER SERVICE CONNECTION



NOTE:
PREFERRED LOCATION IS WATER AT LEAST 18" ABOVE SEWER-CONTRACTOR TO COMPLY AS MUCH AS POSSIBLE.

WATER CROSSING

Y C103 SEWER SERVICE DETAILS

INSTALL PER PORTSMOUTH REQUIREMENTS NTS

REV.	DATE	DESCRIPTION	BY	CHK
0	10/21/25	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

DETAILS

JOHN R. CHANNON No. 9651 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

DATE: SEPTEMBER 2025		SCALE: 1"=20'
DRAWN BY: SJR	DESIGNED BY: ---	CHECKED BY: JRC
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60	
DRAWING No.: C504		REV.: 0

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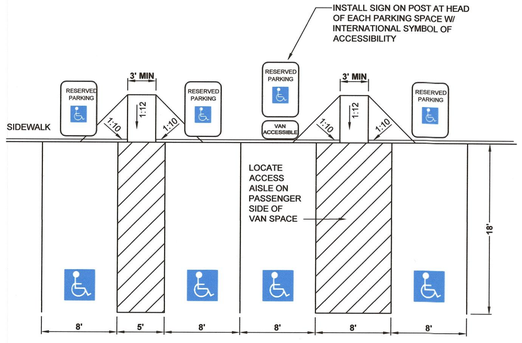
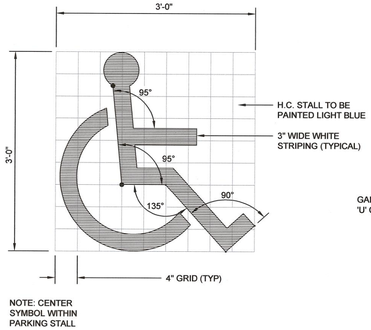


NOTES:

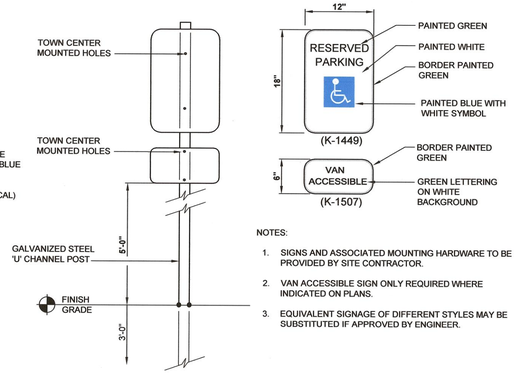
1. CAR PARKING SPACE: 8' WIDE MINIMUM W/ ACCESS AISLE 5' WIDE MINIMUM.
2. VAN PARKING SPACE 8' WIDE MINIMUM W/ ACCESS AISLE 8' WIDE MINIMUM.
3. SLOPES ACROSS PARKING SPACES IN EACH DIRECTION SHALL BE 2% MAX.

TYPICAL HANDICAP PARKING STALL LAYOUT



NOTE: CENTER SYMBOL WITHIN PARKING STALL

TYPICAL HANDICAP PARKING STALL SYMBOL



NOTES:

1. SIGNS AND ASSOCIATED MOUNTING HARDWARE TO BE PROVIDED BY SITE CONTRACTOR.
2. VAN ACCESSIBLE SIGN ONLY REQUIRED WHERE INDICATED ON PLANS.
3. EQUIVALENT SIGNAGE OF DIFFERENT STYLES MAY BE SUBSTITUTED IF APPROVED BY ENGINEER.

TYPICAL HANDICAP PARKING SIGNS

Z / C102 TYPICAL HANDICAP PARKING DETAILS — NTS

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.

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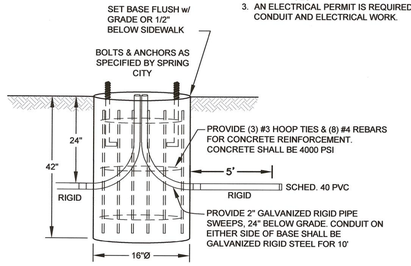
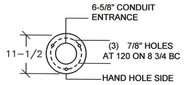
3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

NOTES:

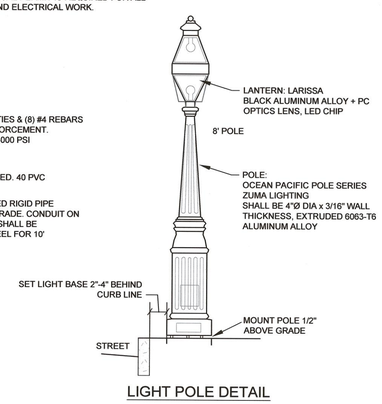
1. ELECTRICAL INSTALLATION SHALL BE BY A LICENSED ELECTRICIAN.
2. LIGHTS SHALL BE WIRED IN ACCORDANCE WITH NEC AND CITY OR PORTSMOUTH ORDINANCES
3. AN ELECTRICAL PERMIT IS REQUIRED FOR ALL CONDUIT AND ELECTRICAL WORK.



LIGHT POLE BASE DETAIL



BOLT PATTERN



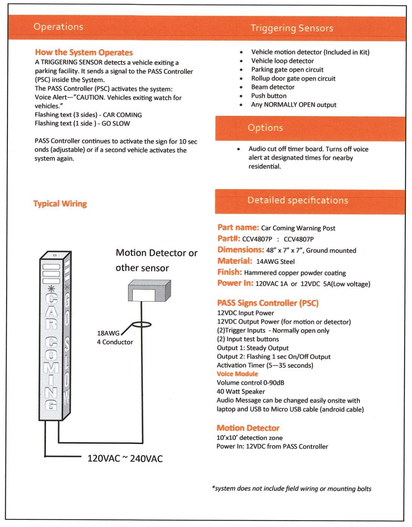
LIGHT POLE DETAIL

AA / C102 CITY STREET LIGHT DETAIL IF NEEDED — NTS

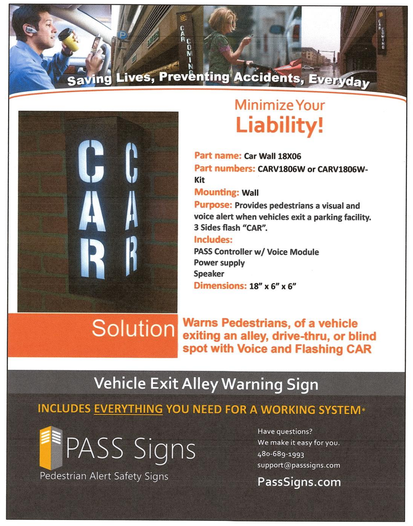
NOTES:

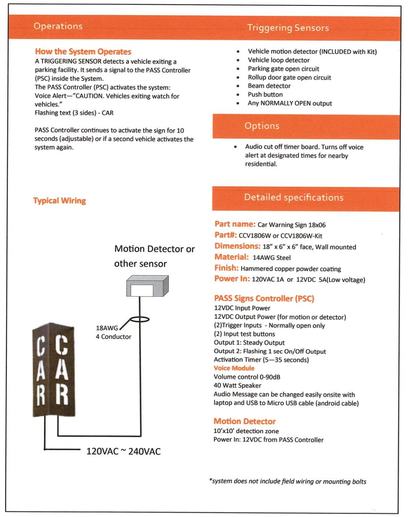
1. ALL SIGNAGE MUST BE MUTCD COMPLIANT.
2. SIGNS AND ASSOCIATED MOUNTING HARDWARE TO BE PROVIDED BY SITE CONTRACTOR.

BB / C102 "EXIT ONLY" & "ONE-WAY" SIGN DETAIL — NTS



WARNING POST SIGN





WARNING WALL MOUNTED SIGN

CC / C102 ALERT WARNING SIGNS BY PARKING ALERT SIGNS — NTS

REV.	DATE	DESCRIPTION	BY	CHK
1	01/21/26	DETAIL BB, CC	SJR	JRC
0	10/21/25	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

DETAILS

JOHN R. CHANNON No. 9854 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

DATE	SCALE
SEPTEMBER 2025	1"=20'

DRAWN BY	DESIGNED BY	CHECKED BY
SJR	---	JRC

PROJECT No.	FIELD BOOK / PAGE
5010156.1532	FB 276 PG 60

DRAWING No. **C505** REV. **1**

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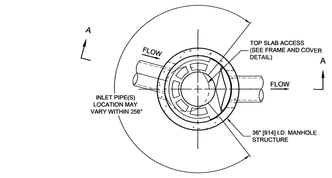
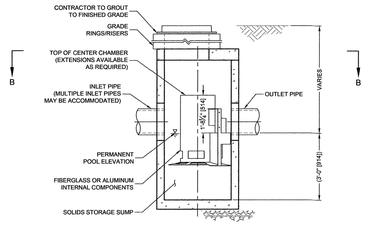


PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

CASCADE
separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-3 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

CURB INLET ONLY (NO INLET PIPE)

CURB INLET WITH INLET PIPE OR PIPES

FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO H20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-3
CASCADE SEPARATOR
STANDARD DETAIL

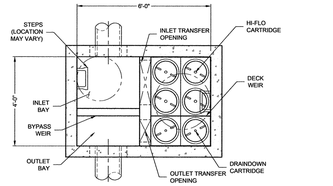
I:\COMMON\CAD\TREATMENT\21 CASCADE\HD STANDARD DRAWINGS\BROWN PROCESS\BROWN PROCESS\CS-3.DWG 6/29/2023 2:40 PM

JELLYFISH DESIGN NOTES

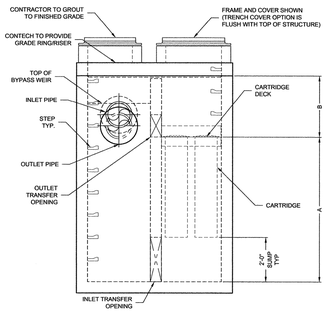
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT, CURB INLET OR SHALLOW PIPE INLET OPTIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART.)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	0.89	0.67	0.45	0.25
DECK TO INSIDE TOP (MIN) (B)	5'-0"	4'-0"	4'-0"	4'-0"

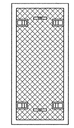


PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID						*
WATER QUALITY FLOW RATE (cfs)						*
PEAK FLOW RATE (cfs)						*
RETURN PERIOD OF PEAK FLOW (yrs)						*
# OF CARTRIDGES REQUIRED (HF / DD)						*
CARTRIDGE LENGTH						*
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL	
INLET #1	*	*	*	*	*	
INLET #2	*	*	*	*	*	
OUTLET	*	*	*	*	*	

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION		*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION AND SITE SPECIFIC EARTH COVER REQUIREMENT. TYPICAL CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-978, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE (WHERE APPLICABLE) AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish™ Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,728; 8,277,818; US & CA/LWD; OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0406
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

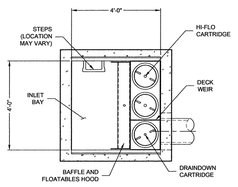
C:\USERS\JOHN.WRIGHT\ONEDRIVE - THE QUARKTE COMPANY\ENGINEERING\STD\STANDARD DETAILS\JFPD0406-DTL.DWG 11/15/2022 3:01 PM

JELLYFISH DESIGN NOTES

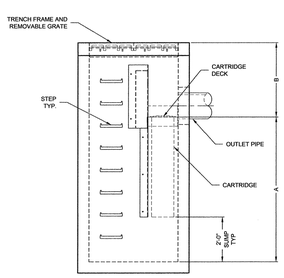
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD SURFACE INLET STYLE WITH TRENCH GRATE AND COVER IS SHOWN. ALTERNATE CURB INLET OR PIPE INLET OPTIONS ARE AVAILABLE. MAXIMUM 5.0 CFS PEAK FLOW CAPACITY.

CARTRIDGE SELECTION

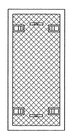
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART.)	0.179 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	0.45	0.33	0.22	0.12
OUTLET INVERT TO RIM (MIN) (B)	3'-4"	3'-4"	3'-4"	3'-4"



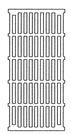
PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW



24" TRENCH COVER
N.T.S.



24" TRENCH GRATE
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID						*
WATER QUALITY FLOW RATE (cfs)						*
PEAK FLOW RATE (cfs)						*
RETURN PERIOD OF PEAK FLOW (yrs)						*
# OF CARTRIDGES REQUIRED (HF / DD)						*
CARTRIDGE LENGTH						*
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL	
INLET #1	*	*	*	*	*	
INLET #2	*	*	*	*	*	
OUTLET	*	*	*	*	*	

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION		*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION AND SITE SPECIFIC EARTH COVER REQUIREMENT. TYPICAL CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-978, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE (WHERE APPLICABLE) AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish™ Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,728; 8,277,818; US & CA/LWD; OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFSI0404
STANDARD DETAIL
SURFACE INLET CONFIGURATION

I:\COMMON\COMMONSTORMWATER TICKETS IN PROGRESS\BROWN\2018\PLEASANT ST - PORTSMOUTH\JFSI0404-DTL.DWG 7/16/2025 2:48 PM

DD
C104A
JELLYFISH FILTRATION SYSTEM
BY CONTECH ENGINEERED SOLUTIONS, LLC
NTS

SEE INSPECTION & MAINTENANCE ON SHEET C507

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).

REV.	DATE	DESCRIPTION	BY	CHK
1	02/25/26	JELLYFISH DETAILS	SJR	JRC
0	10/21/25	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

DETAILS

DATE	SEPTEMBER 2025
SCALE	1"=20'
DRAWN BY	SJR
DESIGNED BY	---
CHECKED BY	JRC
PROJECT No.	5010156.1532
FIELD BOOK / PAGE	FB 276 PG 60
DRAWING No.	C506
REV.	1

FILE LOCATION: P:\NH\5010156-MCNABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-JRC\02-CAD_FILES\CIVIL\5010156 1532 SITE 2025.DWG, 2026.02.24, 7:58 AM

1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

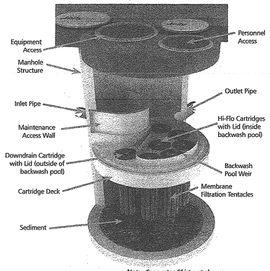
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



Note: Separator Skirt not shown

2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent.*

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

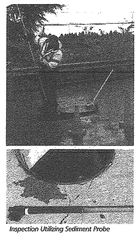
3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

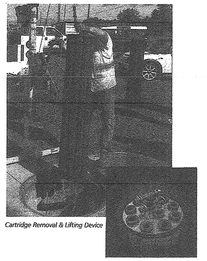
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. ***Caution: Dropping objects onto the cartridge deck may cause damage.***
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. ***Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs.***
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.

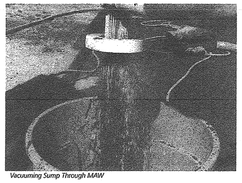


Cartridge Removal & Lifting Device

2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. ***Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane.***
4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

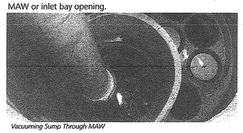
5.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.



Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.



Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. ***Caution: Do not force the cartridge downward; damage may occur.***
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

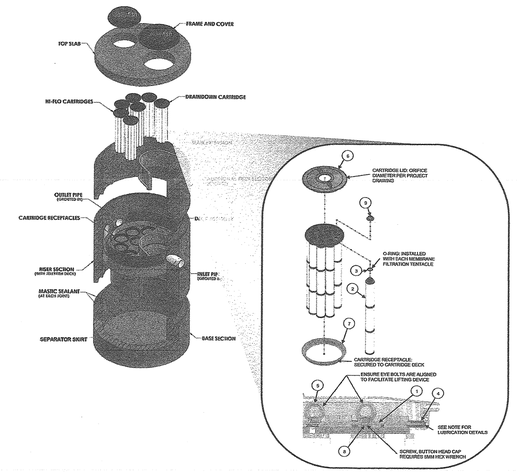


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30603	OATEY	PIPE LUBRICANT
PSLUB3L1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (ITem 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

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).

REV.	DATE	DESCRIPTION	BY	CHK.
0	02/25/26	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

DETAILS

DATE: SEPTEMBER 2025	SCALE: 1"=20'
DRAWN BY: SJR	DESIGNED BY: ---
CHECKED BY: JRC	
PROJECT No.: 5010156.1532	FIELD BOOK / PAGE: FB 276 PG 60
DRAWING No.: C507	REV.: 0

FILE LOCATION: P:\HHS0\10156-MCNABB_PROPERTIES\1532-134 PLEASANT ST - PORTSMOUTH-JR\C50-CAD_FILES\CIVIL\10115B.1532 SITE 2025.DWG, 2026.02.24, 8:39 AM

TECHNICAL MEMORANDUM

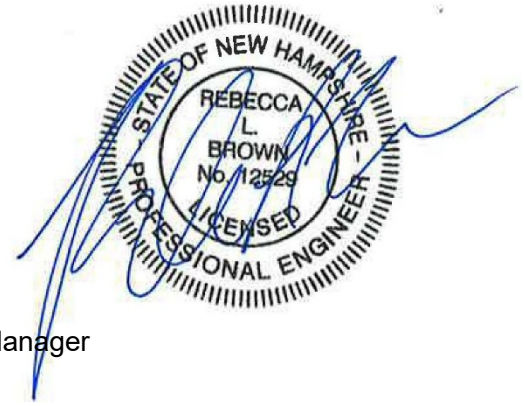
REF: NEX-2500268.00

DATE: April 14, 2026

TO: Mr. Mark A. McNabb
McNabb Properties
3 Pleasant Street, Suite 400
Portsmouth, New Hampshire 03801

FROM: Ms. Rebecca L. Brown, P.E., Senior Project Manager
Ms. Cecilia Donaldson, EIT, Designer

RE: Trip Generation Supplemental
134 Pleasant Street – Portsmouth, New Hampshire



Introduction

Greenman-Pedersen, Inc. (GPI) previously prepared a *Traffic Impact Assessment* (TIA) for a proposed mixed-use development to be located at 134 Pleasant Street in Portsmouth, New Hampshire, which was updated on April 13, 2026. The site currently contains a 9,400 square foot (SF) Citizens Bank headquarters with two drive-through lanes and office space totaling 7,175 SF. The project consists of renovating the existing structures on site and constructing a new mixed-use building. Upon completion, the project will provide a ±6,339 SF retail banking office for Kennebunk Savings Bank, ±3,423 SF financial services offices, ±13,998 SF of professional office space, and 22 apartment units. The TIA included a detailed estimate of the trips to be generated by the proposed development, as well as a comparison to the trips generated by the former use of the site. The results of the analysis indicated that the redevelopment would result in an overall reduction in trips generated by the proposed development. During a Planning Board meeting held on March 26, 2026, Vice Chair Anthony Coviello questioned how the project could be resulting in a reduction in trips when the overall commercial square footage of the development is increasing by over 7,000 SF. This memorandum has been prepared to explain the causes reduction in trips despite the increase in overall square footage. This memorandum compares the trips generated under existing and proposed conditions by the type of use and explains the reasons for the change in trips related to each type of use.

Residential Trips

There are currently no residential units on the site and the site is proposed to provide 22 apartment units under build conditions. GPI utilized Institute of Transportation Engineers (ITE) trip rates for Land Use Code (LUC) 220 (Multi-Family Low-Rise Housing) in dense urban areas to estimate the trips to be generated by the proposed residential units. With the availability of walking, biking, and transit services in a downtown setting, along with close proximity to opportunities for employment, dining, shopping, and entertainment, the proposed residential units with generate a limited number of trips as demonstrated in Table 1.

Office Trips

The existing site contains a total of 7,175 SF of office space, while the proposed site will provide a total of 17,421 SF of office space. GPI utilized ITE trip rates for office buildings in dense multi-use urban settings for the estimate of both existing and proposed office spaces. However, ITE provides separate trip rates for offices of less than 10,000 SF in size (LUC 712 – Small Office Building) and offices over 10,000 SF in size (LUC 710 – General Office Building). Therefore, LUC 712 was utilized to estimate trips generated by the existing office space, while LUC 710 was utilized to estimate the trips generated by the proposed office space. Offices under 10,000 SF typically generate a higher number of trips on a per SF basis than larger offices as hallway, storage, restroom, lobby, breakroom and other ancillary spaces are limited in an office building under 10,000 SF. Larger offices tend to have a much higher percentage of ancillary spaces that do not generate new employee trips to the site. As a result, larger offices have a lower trip rate per SF than offices under 10,000 SF. Therefore, even though the size of the office space is increasing, the total number of trips generated by the office space is not resulting in a significant increase in trips over the existing office space, although some increase will occur.

The other item to note is that smaller office buildings tend to have more condensed peak periods. Because they are often operated by a single tenant, commuter trips tend to be concentrated around the tenant's hours of operation, resulting in a high percentage of the daily trips occurring in the weekday AM and PM peak hours. Larger office buildings may be operated by multiple tenants with varying schedules or have a broader range of types of employees that work varying schedules. As a result, the daily trips become more spread throughout the day and less concentrated on the weekday AM and PM peak hours. Due to this spreading of the peak hours, the proposed office space is estimated to result in a net decrease in vehicle trips during the weekday AM peak hour as compared to the existing office space, but a slight increase in trips during all other time periods. The comparison of existing and proposed office trips is summarized in Table 1.

Bank Trips

The site currently contains a 9,400 SF Citizens Bank with two drive-through lanes. The proposed site will contain a 6,339 SF Kennebunk Savings Bank with two drive-through lanes. GPI utilized ITE trip rates for LUC 912 (Drive-In Bank) to estimate the trips generated by both the existing Citizens Bank and the proposed Kennebunk Savings Bank. As demonstrated in Table 1, the reduction in banking square footage results in a reduction in trips generated by the bank use on the site as compared to the existing use.

During the March 26, 2026 Planning Board Meeting, Vice Chair Coviello questioned how a reduction in banking square footage could result in such a substantial decrease in trips since both the existing and proposed banks both provide two drive-through lane. Mr. Coviello stated a belief that a similar number of drive-through lanes should result in a similar number of trips. While Mr. Coviello is correct that the drive-through portion of the site is likely to generate a similar number of trips under existing and future conditions, the drive-through only accounts for a portion of the total trips generated by the banking use.

Years ago, the drive-through lanes generated a high volume of traffic as a significant portion of banking activities occurred at drive-up tellers. As a result, it was not unusual for branch banks to provide as many as 10-12 drive-up teller lanes. At that time, the volumes of traffic generated by a bank was largely dependent on the number of drive-through lanes provided, as evidenced by trip rates contained in older versions of the ITE *Trip Generation Manual* that demonstrated a high correlation between number of lanes and trips generated. Modern banking practices have resulted in far fewer patron trips to banks for simple transactions like deposits and withdrawals. The implementation of direct-deposit of paychecks, mobile banking and check deposit, and cash exchange applications like Venmo and CashApp have reduced the need for bank patrons to visit the bank for these services. The majority of patron trips to the bank are for the application for loans and mortgages or the initial opening or closing of an account. As a result, most banks now only provide one to two drive-through lanes, with one often being dedicated to ATM service. Empirical trip

generation data in recent versions of the ITE *Trip Generation Manual* no longer demonstrate a strong correlation between number of drive-through lanes and the number of trips generated by a bank. Instead, there is a strong correlation between the size of the bank and the trips it generates, as many more of the trips generated by banks are now from employees than from patrons as compared to banks even just 10 years ago.

As the proposed bank will represent a reduction in the banking square footage on the site, it will also result in a reduction in the number of trips generated by the banking use. This occurs largely because the smaller bank size accommodates fewer employees than the existing bank space, and fewer employees results in fewer patron appointments for loan applications and other complex banking services.

TABLE 1 – Trip Generation Comparison by Use

Time Period/Direction	Residential Trips (LUC 221)	Office Trips			Bank Trips (LUC 912)		
	Proposed [a]	Existing (LUC 712) [b]	Proposed (LUC 710) [c]	Net Change [d]	Existing [e]	Proposed [f]	Net Change [g]
Weekday Daily	**64**	72	162	**90**	930	626	**-304**
Weekday AM Peak Hour:							
Enter	**1**	20	13	**-7**	55	37	**-18**
Exit	**14**	4	2	**-2**	39	26	**-13**
Total	**15**	24	15	**-9**	94	67	**-27**
Weekday PM Peak Hour:							
Enter	**8**	4	2	**-2**	99	67	**-32**
Exit	**1**	7	13	**6**	99	66	**-33**
Total	**9**	11	15	**4**	198	133	**-65**
Saturday Daily	**58**	6	24	**18**	812	548	**-264**
Saturday Midday Peak Hour:							
Enter	**2**	0	0	**0**	126	85	**-41**
Exit	**4**	1	3	**2**	121	81	**-40**
Total	**6**	1	3	**2**	247	166	**-81**

[a] ITE LUC 220 (Multi-family Housing (Low-Rise)) in Dense Multi-Use Urban setting for 22 units.
[b] ITE LUC 712 (Small Office Building) in Dense Multi-Use Urban setting for 7.175 ksf.
[c] ITE LUC 710 (General Office Building) in Dense Multi-Use Urban setting for 17.421 ksf.
[d] Proposed Office Trips minus Existing Office Trips
[e] ITE LUC 912 (Drive-In Bank) in Dense Multi-Use Urban setting for 9.40 ksf.
[f] ITE LUC 912 (Drive-In Bank) in Dense Multi-Use Urban setting for 6.339 ksf.
[g] Proposed Bank Trips minus Existing Bank Trip