Tighe&Bond
Engineers | Environmental Specialists

C0960-006
May 20, 2020

Ms. Juliet Walker, Planning Director
City of Portsmouth Planning Board
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: Site Review Permit & Conditional Use Permit for Parking Applications
Proposed Multi-Family Development, 105 Bartlett Street, Portsmouth, NH

Dear Juliet:

On behalf of Iron Horse Properties, LLC, we are pleased to submit via the City of Portsmouth online permitting system the following supplemental information to support a request for a Site Review Permit and Conditional Use Permit for Shared Parking for the above referenced project:

- Site Plan Set last revised May 20, 2020
- TAC Comment Response Report dated May 20, 2020
- Grade Plane Exhibit dated May 20, 2020
- Truck Turning Exhibits last revised May 20, 2020
- Buffer Impact Exhibit last revised May 20, 2020

The enclosed revised plans and supplemental materials have been provided to address comments received from the Technical Advisory Committee (TAC) at their meeting held on May 5, 2020. Also enclosed is a Site Review Comment Response that includes responses to City staff comments.

We respectfully request to be placed on the TAC meeting agenda for June 2, 2020. If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at pmcrimmins@tighebond.com.

Sincerely,
TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Senior Project Manager

Neil A. Hansen, PE
Project Engineer

Cc: Clipper Traders, LLC
Iron Horse Properties, LLC
Portsmouth Lumber & Hardware, LLC

105 Bartlett Street - City of Portsmouth TAC COMMENT RESPONSE Date: May 20, 2020

	TAC Comment	Applicant Response	Sheet
City of Portsmouth TAC, May 05, 2020:			
TAC Comments from 5/4 Correspondence:			
1	Plans list proposed building height 54 story and 50' for buildings B and C, this appears to be a typo as the building is proposed to be 5 stories using the overlay district zoning. Please correct.	The site data table has been revised to a 4 story and 50' for buildings B and C.	C-102
2	A detailed building height plan should be submitted showing the average grade plane and heights along the perimeter of the building.	An average grade plane exhibit has been added to the submission package.	Grade Plane Exhibit
3	An application for a lot line adjustment is also being submitted, please clarify on plan set if the lot dimensions shown are existing or proposed.	An application for a lot line adjustment will be submitted to the Planning Board. The lot lines and lot dimensions shown on the Site Plan are proposed.	C-102
4	The building block lengths are accurately measured along the public greenway. For clarity, please clearly label the building lengths along that frontage to verify compliance with zoning requirements.	The building block length along the frontage have been labelled to verify compliance with zoning requirements.	C-102 & C-102.2
5	Has the applicant considered porous pavement for the parking lot area?	Due to the high water table at the site, porous pavement was not considered. Stormwater in the parking area will be treated via stormwater treatment units that are NHDES approved stormwater technologies.	C-103.1 & 103.2
6	The landscape plan is understandably conceptual in the future trail easement area. More details are necessary for the areas outside of the proposed trail easement area.	Landscape Plan with plantings, plant list, notes and details has included with the revised plan set.	L-1
7	There is reference to the raingarden planting details - have they been provided?	Rain garden cross section details are included in the Detail Sheets. Rain garden plantings have been identified as Native Grasses on the Landscape Plan.	C-505, L-1
8	Do not see the floodplain line referenced on the plan.	The floodplain line has been added to the plans.	C-101 thru C-104.2
9	Please describe whether the floodplain requirements found in the Zoning Ordinance Article 10.620 have been satisfied.	The floodplain requirements found in the Zoning Ordinance Article 10.620 have been satisfied. The building is not within the base flood area at elevation 9 or the extended floodplain area at elevation 11.	C-102, C-102.1 & 102.2
10	There are still concerns regarding fire department access for firefighting and rescue operations. Please see 2015 IFC Appendix D, particularly section D105. The fire truck turning exhibit looks extremely close and I only see where it goes down to the cul-de-sac just before building C. This should extend all the way throughout the project and show a turnaround if it is a dead end.	A fire truck turnaround has been added to the northeast of Building A. As shown in the enclosed Fire Truck Turning Exhibit, the City fire truck has the ability to turnaround. In addition, the turnaround has been extended to the future multi-use path to allow for emergency vehicle access in the rear of the buildings, if necessary.	C-102 & C-102.2, Truck Turning Exhibit
11	Consider an additional fire hydrant on the other side of Building A.	A fire hydrant has been added to the end of Building A.	C-102.2 & C-104.2
12	What are the addresses of the buildings going to be?	The applicant will work with the GIS and Fire Departments to determine the appropriate addresses for proposed buildings.	N/A
13	The roof drains entering the buildings may want to be PVC so they can be sealed up properly when penetrating the building.	The roof drains have been revised to be PVC where entering the buildings.	C-103.2
14	Move the hydrant proposed by the kitchen store off the island to behind the sidewalk 30’ closer to Bartlett St.	The hydrant proposed by the kitchen store has been moved off the island to behind the sidewalk 30’ closer to Bartlett St.	C-102.1 & C-104.1
15	The proposed outfall is too close to the power and communication drops from the existing poles.	The proposed power and communication drops and proposed outfall have been moved further apart.	C-104.1
16	The water pipe coming from Dover St needs to be replaced.	A label has been added to the Utility Plan indicating new water pipe shall be connected to the end of Dover Street.	C-104.2
17	What is the size, material type and manhole data for the sewer line leaving great rhythm that is to be reused?	Utility Plan show a new sewer main for Building B & C service connections.	C-104.2
18	Do not place the structure within 15’ of the center of the brick box.	Utility Plan has been revised to show all proposed structures 15ft from center of City sewer.	C-104.2

19	The 8” water main on Bartlett St should be retired as part of this project from the common site driveway to Woodbury Ave.	Utility Plan has been revised to indicate this line will be abandoned.	C-104.1
20	Independent third party review and inspection of all utilities and stormwater will be required.	Acknowledged.	N/A
21	One-way flow with angled parking should remain in same direction as today.	The angled parking in the lot in front of Ricci Lumber has been reversed to match the existing condition.	C-102.1
22	Parking around cul-de-sac will be challenging for drivers to parallel park into. Could stick out into drive aisle and impede traffic and emergency vehicles. Vehicles are rectangular, not curved, like trying to fit a square peg in a round hole.	Parking spaces around the cul-de-sac have been revised to angled spaces to avoid potential conflicts in the cul-de-sac.	C-102.2
23	Long dead-end parking aisle will result in vehicles backing up if no open spaces at end. Snow storage will eliminate any chance to turn around in winter.	Snow storage location has been revised to maintain striped aisle at dead end for turn around.	C-102.2
24	Parking spaces should be numbered and assigned. What is the plan for visitor parking?	Parking will be managed by the applicant's. A striped area has been provided at dead end of parking area to allow for turnaround.	C-102.2
25	Secondary access with resident-only gate should be provided out to Maplewood.	A secondary access to Maplewood is not proposed as adjacent parcel is not part of this project. Applicant has provided an Addendum to the original Traffic Study. Similar to the original study, the addendum reviewed project traffic such that all vehicles will travel to/from the development via Bartlett Street.	Traffic Addendum
26	Driveway corner radius at Bartlett should be enlarged to provide easier access and egress.	Driveway corner radius at Bartlett has been reviewed and revised to provide easier access and egress.	C-102.1
27	Green bike crossing box does not lead to a bike facility on the south side. Should be eliminated.	Green bike crossing has been eliminated.	C-102.1 & C-102.2
28	22 foot drive aisle with parallel parking will become even narrower in winter with snow banks.	The 22ft wide street was designed match dimensions for City's complete streets design guidelines on a city core slow street. A snow management plan has been developed to address snow removal and is included in the Operations & Maintenance Plan in the Drainage Analysis. In addition, Site Note #15 requires the property manager to perform timely snow removal and to haul snow off site as needed.	C-102.2
29	HP access aisles should have NO PARKING signs if possible.	No Parking signs have been added to HP access aisles.	C-102.2
30	There is concern with sight lines at corners of building with future multi-use path. Will bicyclists have enough sight distance?	The future multi-use path is shown for conceptual purposes only as the future North Mill Pond trail will be designed by the City. The conceptual layout shown on the Site Plan has been further modified to widen the path around the Building B and C corners which will provide more separation for pedestrians/bicyclists and will allow for emergency vehicles to get access to the rear of the buildings. The applicant agrees to coordinate with the City on the location of the future trail.	C-102.2
31	Given that a third party peer review was previously conducted for the traffic analysis when the original subdivision was submitted for this property, TAC would like to have a limited peer review completed of the updated traffic generation memorandum to confirm that the original conclusions are still applicable.	Acknowledged	Traffic Addendum
32	Please explain what the “amenity space” consists of and whether the off-street parking should be updated to include this space.	The amenity space located in Building C will be an area for use by the development's tenants.	C-102.2
33	In addition to Site Review approval this project will require a City Wetlands Conditional Use Permit with review by the Conservation Commission and Planning Board. The wetland conditional use permit application looks at the impact of the project on the tidal wetlands of the North Mill pond. This project will also need a permit from the NHDES Wetlands bureau for work within the 100’ tidal buffer zone of the state and an Alteration of Terrain permit to address stormwater impacts on the site. Additionally, for any impacts outside of the 100 tidal buffer zone but within the 250’ shoreland water quality protection zone this project will need a Shoreland Permit from NHDES.	Acknowledged. List of required permits and their statuses is located on the cover sheet.	Cover Sheet

Additional Comments from 5/5 TAC Meeting:			
34	Fire department is concerned with access to Building B.	A fire truck turnaround has been added to the northeast of Building A. The turnaround has been extended to the future multi-use path to allow for emergency vehicle access in the rear of the buildings. As shown on the turning templates, a fire truck has the ability to access rear of Building B if necessary.	C-102 & C-102.2, Truck Turning Exhibit
35	Buildings A & B may be considered as one building for fire code purposes due to the connected basement.	All three (3) buildings will be designed to meet applicable fire codes. Per zoning, Buildings A & B are measured as two (2) building footprints based on the average grade plane elevation shown in the enclosed Grade Plane Exhibit.	Grade Plane Exhibit
36	Applicant shall consider the potential to use the multi use path as fire access in rear of building.	A fire truck turnaround has been added to the northeast of Building A. The turnaround has been extended to the future multi-use path to allow for emergency vehicle access in the rear of the buildings. As shown on the turning templates, a fire truck has the ability to access rear of Building B if necessary.	C-102 & C-102.2, Truck Turning Exhibit
38	Applicant shall consider parking under Building C.	Building C will be a mixed use building that includes first floor office and amenity space. Leasable office space requires higher ceiling heights. It is anticipated that portions of the first floor in Building C will have a lower finish floor elevation than Building A and B in order to provide appropriate ceiling heights for leasing. A lower finish floor in Building C will not allow for the same basement parking design that is below Building A and B.	N/A
39	Applicant shall consider raingarden in the center of the cul-de-sac.	Cul-de-sac will be a raised landscape island that will include an entry display garden with sign, flagpole and feature tree. The stormwater management system has been designed to provide treatment for this pavement via stormwater treatment unit.	L-1
42	Show WB-67 turning template through the site to exit.	WB-67 turning template has been updated showing movement through the site.	Truck Turning Exhibit
43	Show fire truck template through the site, overhang hits cars at cul-de-sac exit.	Fire truck turning template has been updated showing movement through the site.	Truck Turning Exhibit
44	Check previously approved road in to see if variances were required for parking in front of the Ricci design center.	A proposed easement is shown for the parking that extends into the proposed road lot.	C-301.1

PROPOSED MULTI-FAMILY DEVELOPMENT

105 BARTLETT STREET
PORTSMOUTH, NEW HAMPSHIRE

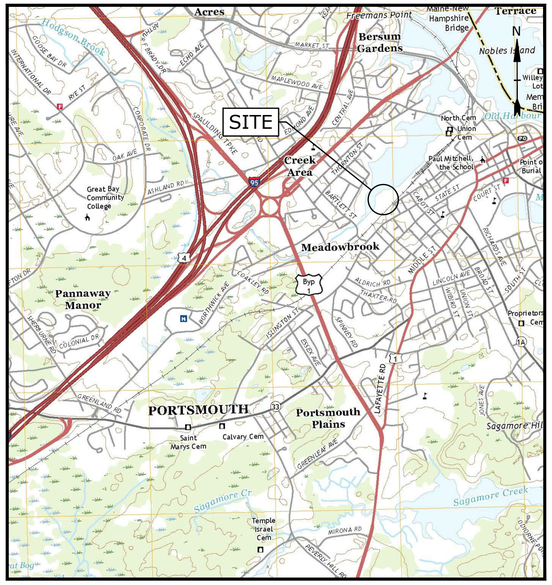
JANUARY 2, 2020

LAST REVISED: MAY 20, 2020

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	05/20/2020
C-101	OVERALL EXISTING CONDITIONS AND DEMOLITION PLAN	05/20/2020
C-101.1	EXISTING CONDITIONS AND DEMOLITION PLAN	05/20/2020
C-101.2	EXISTING CONDITIONS AND DEMOLITION PLAN	05/20/2020
C-102	OVERALL SITE PLAN	05/20/2020
C-102.1	SITE PLAN	05/20/2020
C-102.2	SITE PLAN	05/20/2020
C-102.3	BASEMENT LEVEL SITE PLAN	05/20/2020
C-103.1	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	05/20/2020
C-103.2	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	05/20/2020
C-104.1	UTILITIES PLAN	05/20/2020
C-104.2	UTILITIES PLAN	05/20/2020
C-301.1	EASEMENT PLAN	05/20/2020
C-301.2	EASEMENT PLAN	05/20/2020
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	05/20/2020
C-502	DETAILS SHEET	05/20/2020
C-503	DETAILS SHEET	05/20/2020
C-504	DETAILS SHEET	05/20/2020
C-505	DETAILS SHEET	05/20/2020
C-506	DETAILS SHEET	05/20/2020
L-1	LANDSCAPE PLAN	05/20/2020

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	PENDING	
LOT LINE REVISION PERMIT	PENDING	
CONDITIONAL USE PERMIT - SHARED PARKING	PENDING	
CONDITIONAL USE PERMIT - WETLAND BUFFER	PENDING	
STATE		
NHDES - ALTERATION OF TERRAIN PERMIT	PENDING	
NHDES - WETLAND PERMIT	PENDING	
NHDES - SHORELAND PERMIT	PENDING	
NHDES - SEWER CONNECTION PERMIT	PENDING	
FEDERAL		
EPA - NPDES CGP	PENDING	

T&B PROJECT NO: C0960-006



LOCATION MAP
SCALE: 1" = 2000'

PREPARED BY:

Tighe&Bond

177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
603-433-8818

APPLICANT:

IRON HORSE PROPERTIES, LLC
105 BARTLETT STREET
PORTSMOUTH, NEW HAMPSHIRE 03801

OWNERS:

TAX MAP 157, LOT 1
CLIPPER TRADERS, LLC
105 BARTLETT STREET
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 164, LOT 4-2
IRON HORSE PROPERTIES, LLC
105 BARTLETT STREET
PORTSMOUTH, NH 03801

TAX MAP 157 LOT 2
TAX MAP 164, LOT 1
PORTSMOUTH HARDWARE & LUMBER, LLC
105 BARTLETT STREET
PORTSMOUTH, NH 03801

STATE OF NEW HAMPSHIRE
BRADLEE MEZQUITA
No. 08830
LICENSED
PROFESSIONAL ENGINEER
5-20-2020

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 19378
LICENSED
PROFESSIONAL ENGINEER
5-20-2020

TAC REVIEW SUBMISSION
COMPLETE SET 21 SHEETS

LEGEND

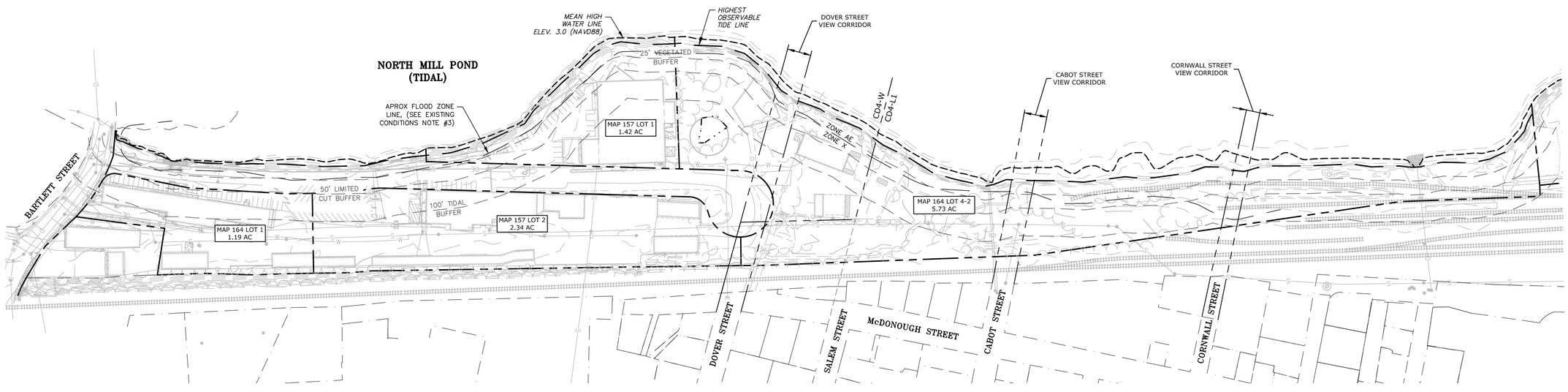
- BUILDING
- BUILDING OVERHANG
- BUILDING NO. 50 — BUILDING HATCH/TEXT
- CURB
- EDGE OF PAVEMENT
- RETAINING WALL
- STONE WALL
- CHAIN LINK FENCE
- FENCE LINE
- TREELINE
- PAVEMENT MARKING
- TRAFFIC SIGN
- 200 — MAJOR CONTOURS
- MINOR CONTOURS
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- W — WATER LINE
- E — UNDERGROUND ELECTRIC LINE
- OE — OVERHEAD ELECTRIC LINE
- G — UNDERGROUND GAS LINE
- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- HYDRANT
- WGV — WATER GATE VALVE
- UTILITY POLE
- TELEPHONE STRUCTURE
- GGV — GAS GATE VALVE
- BOLLARD
- GAS SHUTOFF
- WATER SHUTOFF

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY AMBIT ENGINEERING, INC., DATED 3/5/2018.
2. WETLAND DELINEATION BY STEVEN D. RIKER, CWS, ON 8/8/2017, AND FIELD LOCATED BY AMBIT ENGINEERING, INC. ON 8/9/2017
3. FLOOD HAZARD ZONES: "AE ELEV. 9" (SPECIAL FLOOD HAZARD AREA) AND "X" (NOT A SPECIAL FLOOD HAZARD AREA), PER FIRM MAP #33015C0259E, DATED 5/17/05.

REFERENCE PLANS:

1. "PROPOSED SUBDIVISION PLANS, CLIPPER TRADERS, LLC" PREPARED BY AMBIT ENGINEERING, INC., DATED DECEMBER 14, 2018.



Tighe&Bond

STATE OF NEW HAMPSHIRE — BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 19376 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

0 100' 200'
GRAPHIC SCALE

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

OVERALL EXISTING CONDITIONS PLAN

SCALE: AS SHOWN

C-101

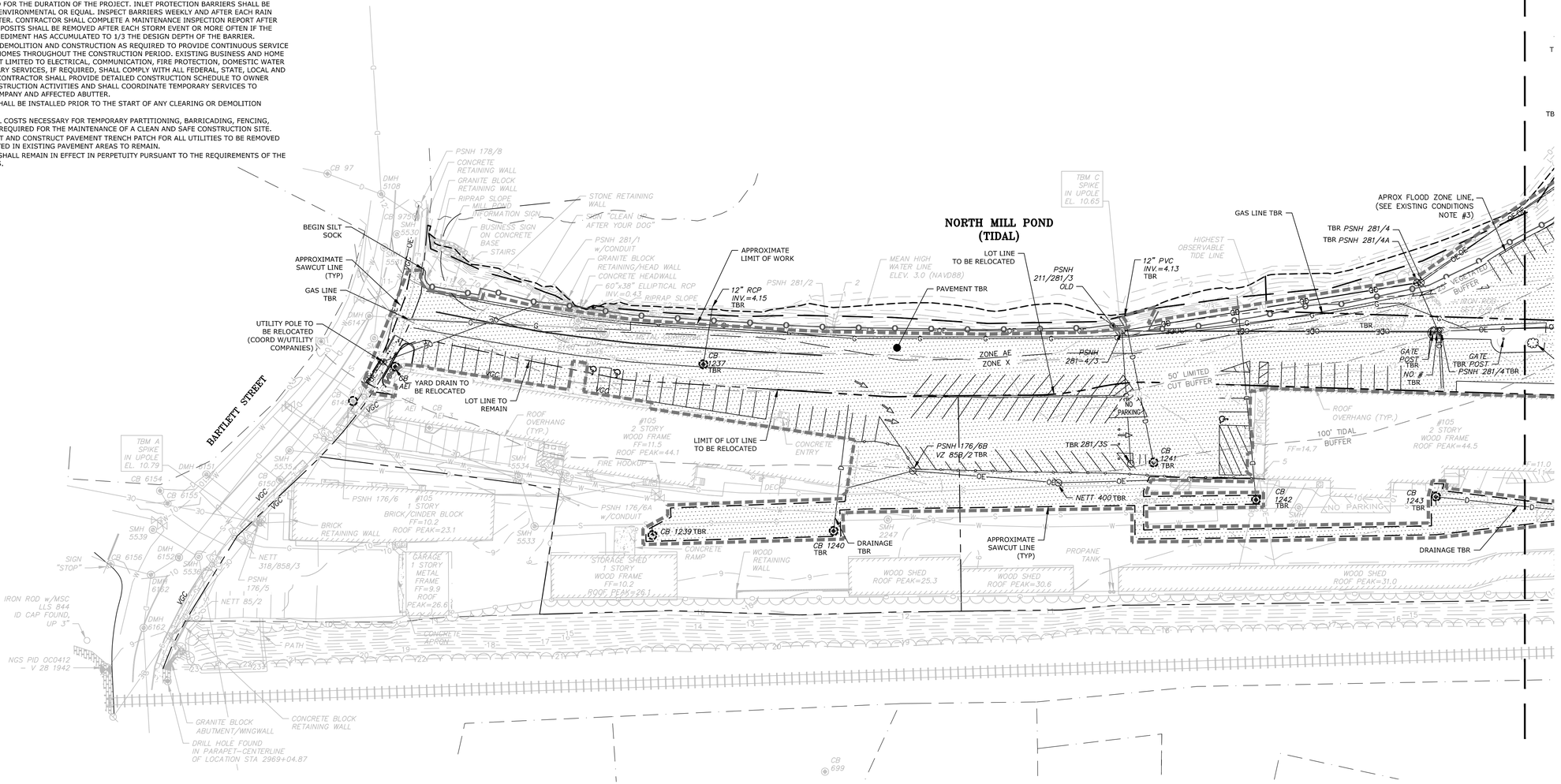
DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. ALL ITEMS WITHIN THE LIMIT OF WORK ARE TO REMAIN UNLESS SPECIFICALLY IDENTIFIED TO BE REMOVED OR OTHERWISE ALTERED BY THE CONTRACTOR. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, MANHOLES, CATCH BASINS, UNDERGROUND PIPING & UTILITIES, POLES, STAIRS, STRUCTURES, FENCES, RAMPS, BUILDING FOUNDATIONS, TREES, AND LANDSCAPING. THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER IF THE TREATMENT OF CERTAIN ITEMS IS UNCLEAR.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT 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 THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- PROPOSED SILT SOCK
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- PROPOSED CONSTRUCTION EXIT
- BUILDING / FOUNDATION TO BE REMOVED
- LOCATION OF PROPOSED BUILDING
- INLET PROTECTION SILT SACK

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE



MATCH LINE SHEET 2
MATCH LINE SHEET 1

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
5-20-2020

PATRICK M. CRIMMINS No. 13376 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: AS SHOWN

C-101.1

Last Saved: 5/20/2020
Plotted: Wednesday, May 20, 2020 - 12:49pm By: NAHanson
Tighe & Bond: J:\C0960 Catharines\C-0960-006 105 Bartlett Street\Drawings, Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- PROPOSED SILT SOCK
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- PROPOSED CONSTRUCTION EXIT
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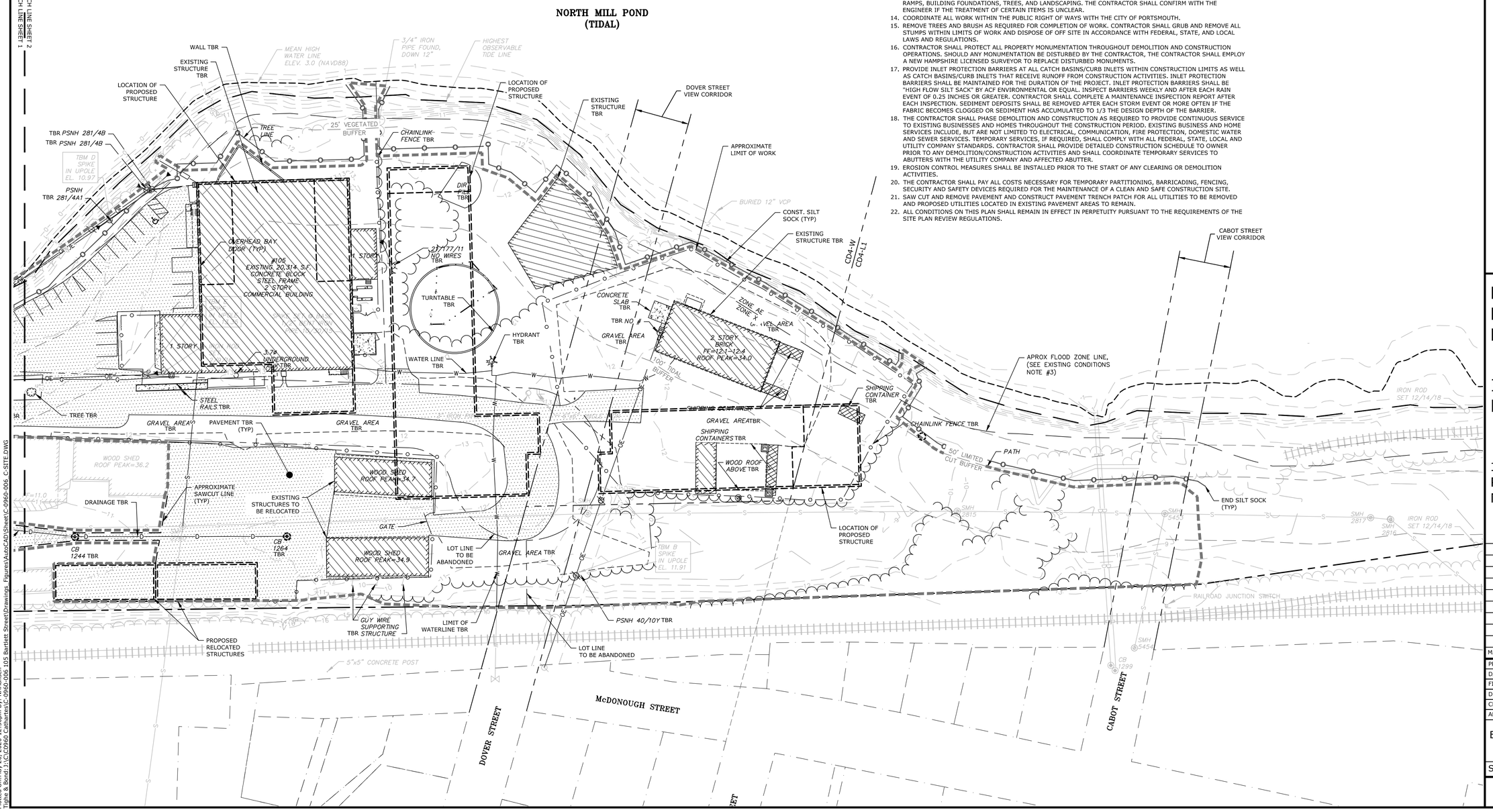
- INLET PROTECTION SILT SACK

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE



DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. ALL ITEMS WITHIN THE LIMIT OF WORK ARE TO REMAIN UNLESS SPECIFICALLY IDENTIFIED TO BE REMOVED OR OTHERWISE ALTERED BY THE CONTRACTOR. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, MANHOLES, CATCH BASINS, UNDERGROUND PIPING & UTILITIES, POLES, STAIRS, STRUCTURES, FENCES, RAMPS, BUILDING FOUNDATIONS, TREES, AND LANDSCAPING. THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER IF THE TREATMENT OF CERTAIN ITEMS IS UNCLEAR.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT 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 THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5-20-2020

PATRICK M. CUMMINGS No. 19376 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5-20-2020

0 40' 80'
GRAPHIC SCALE

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
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D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: AS SHOWN

C-101.2

Last Saved: 5/20/2020
Printed: May 20, 2020 - 12:50pm By: NAHanson
Tighe & Bond: J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings, Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

SITE DATA:

PROJECT LOCATION: TAX MAP 157, LOT 1
TAX MAP 157, LOT 2
TAX MAP 164, LOT 1
TAX MAP 164, LOT 4-2

105 BARTLETT STREET
PORTSMOUTH, NEW HAMPSHIRE

SITE ZONING DISTRICT: CHARACTER DISTRICT 4 (CD4-W)
CHARACTER DISTRICT 4 (CD4-L1)
WEST END INCENTIVE OVERLAY DISTRICT

ALLOWED USE ON SITE: PROFESSIONAL OFFICE, BUSINESS OFFICE, MULTIFAMILY DWELLING

DEVELOPMENT STANDARDS

BUILDING PLACEMENT (PRINCIPAL BUILDING):	REQUIRED (CD4-W)	PROPOSED (CD4-W)	REQUIRED (CD4-L1)	PROPOSED (CD4-L1)
MAX PRINCIPAL FRONT YARD:	10 FT	0 FT	15 FT	N/A
MINIMUM SIDE YARD:	15 FT(1)	<6 FT(2)	15 FT(1)	86 FT
MINIMUM REAR YARD:	5 FT	269 FT	5 FT	269 FT
FRONT LOT LINE BUILDOUT:	50% MIN	69%	60% MIN, 80% MAX	N/A

BUILDING AND LOT OCCUPATION:	REQUIRED (CD4-W)	PROPOSED (CD4-W)	REQUIRED (CD4-L1)	PROPOSED (CD4-L1)
MAXIMUM BUILDING BLOCK LENGTH:	200 FT	196 FT	100 FT(3)	34 FT
MAXIMUM FAÇADE MODULATION LENGTH:	80 FT	<80 FT	50 FT	<50 FT
MAXIMUM ENTRANCE SPACING:	50 FT	<50 FT	NR	NR
MAXIMUM BUILDING COVERAGE:	80%(4)	±24.0%	80%(4)	±1.3%
MAXIMUM BUILDING FOOTPRINT:	20,000 SF(5)	20,000 SF	3,500 SF(6)	2,852 SF
MINIMUM LOT AREA:	5,000 SF	220,768 SF	3,000 SF	220,768 SF
MINIMUM LOT AREA PER DWELLING UNIT:	NR(7)		NR(7)	
MINIMUM OPEN SPACE:	15%	48%	25%	48%
MAXIMUM GROUND FLOOR GFA PER USE:	15,000 SF	10,300 SF	NR	

(1) - PER 10.516.20, MINIMUM SIDE YARD SETBACK ADJOINING A RAILROAD RIGHT OF WAY SHALL BE 15FT
(2) - VARIANCE GRANTED BY ZONING BOARD OF ADJUSTMENT ON JANUARY 22, 2020
(3) - MAXIMUM BLOCK LENGTH ALLOWED IN WEST END INCENTIVE OVERLAY DISTRICT FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.
(4) - MAXIMUM BUILDING COVERAGE ALLOWED IN THE WEST END INCENTIVE OVERLAY DISTRICT FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.
(5) - ADDITIONAL 5,000 SF OF GFA (INCREASED FROM 15,000 SF) ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.
(6) - ADDITIONAL 1,000 SF OF GFA (INCREASED FROM 2,500 SF) ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.
(7) - NO MINIMUM LOT AREA PER DWELLING UNIT REQUIRED IN THE WEST END INCENTIVE OVERLAY DISTRICT FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.

BUILDING FORM (PRINCIPAL BUILDING):	REQUIRED (CD4-W)	PROPOSED (CD4-W)	REQUIRED (CD4-L1)	PROPOSED (CD4-L1)
BUILDING HEIGHT:	4 STORIES (1) 50' MAX (2)	4 STORIES, 50'	2 STORIES (1) 30' MAX (2)	2 STORIES, 30' (BLDG A)
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 IN	<36 IN	36 IN	<36 IN
MINIMUM GROUND STORY HEIGHT:	9 FT(3)	12 FT	9 FT(3)	11 FT
MINIMUM SECOND STORY HEIGHT:	N/A		N/A	
FAÇADE GLAZING:				
SHOPFRONT FAÇADE:	70% MIN	>70%	70% MIN	>70%
OTHER FAÇADE TYPES:	20% TO 50%		20% TO 40%	
ALLOWED ROOF TYPES:	FLAT, GABLE, HIP, GAMBREL, OR MANSARD	FLAT	FLAT, GABLE, HIP, GAMBREL, OR MANSARD	FLAT
ROOF PITCH, IF ANY:				
GABLE	6:12 - 12:12		6:12 - 12:12	
HIP	3:12 MIN		3:12 MIN	
MANSARD/GAMBREL	6:12 - 30:12		6:12 - 30:12	
ALLOWED BUILDING TYPES:	APARTMENT BUILDING	APARTMENT BUILDING		

(1) - ADDITIONAL 1 STORY (INCREASED FROM 1 AND 3 RESPECTIVELY) ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.
(2) - ADDITIONAL 10' OF BUILDING HEIGHT (INCREASED FROM 20' AND 40' RESPECTIVELY) ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.
(3) - MINIMUM GROUND STORY HEIGHT ALLOWED IN WEST END INCENTIVE OVERLAY DISTRICT FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.

COMMUNITY SPACE:		
	44,154 SF	55,192 SF
	20%	25%

OFF-STREET PARKING REQUIREMENTS:

PARKING SPACES REQUIRED:

DWELLING UNITS:		
0 SF TO 500 SF 0.5 SPACES PER UNIT	BUILDING A, 1 UNITS	0.5 SPACES
	BUILDING B, 1 UNITS	0.5 SPACES
	BUILDING C, 3 UNITS	1.5 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		3 SPACES
500 SF TO 750 SF 1.0 SPACES PER UNIT	BUILDING A, 24 UNITS	24 SPACES
	BUILDING B, 41 UNITS	41 SPACES
	BUILDING C, 26 UNITS	26 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		91 SPACES
OVER 750 SF 1.3 SPACES PER UNIT	BUILDING A, 21 UNITS	27.3 SPACES
	BUILDING B, 36 UNITS	46.8 SPACES
	BUILDING C, 21 UNITS	27.3 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		102 SPACES

OFFICE:		
1 SPACE PER 350 SF	10,300 SF	
MINUS 25% FOR WEST END INCENTIVE		23 SPACES
VISITORS:		
1 SPACE FOR EVERY 5 DWELLING UNITS	174 UNITS	35 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		254 SPACES

TOTAL PARKING SPACES PROVIDED:
TOTAL PARKING SPACES PROVIDED = 124 SPACES (SURFACE PARKING)
66 SPACES (BUILDING A, UNDERGROUND)
44 SPACES (BUILDING B, UNDERGROUND)
24 SPACES (PRIVATE ROADWAY)(1)
258 SPACES

ADA SPACES REQUIRED= 7 SPACES (FOR 201-300 FACILITY TOTAL)
ADA SPACES PROVIDED= 7 SPACES (INCLUDED IN SURFACE PARKING COUNT OF 124)

(1) - CONDITIONAL USE PERMIT REQUIRED FOR SHARED PARKING ON SEPARATE LOT

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:	8.5' X 19'	8.5' X 19'
DRIVE AISLE WIDTH:	24 FT	24 FT

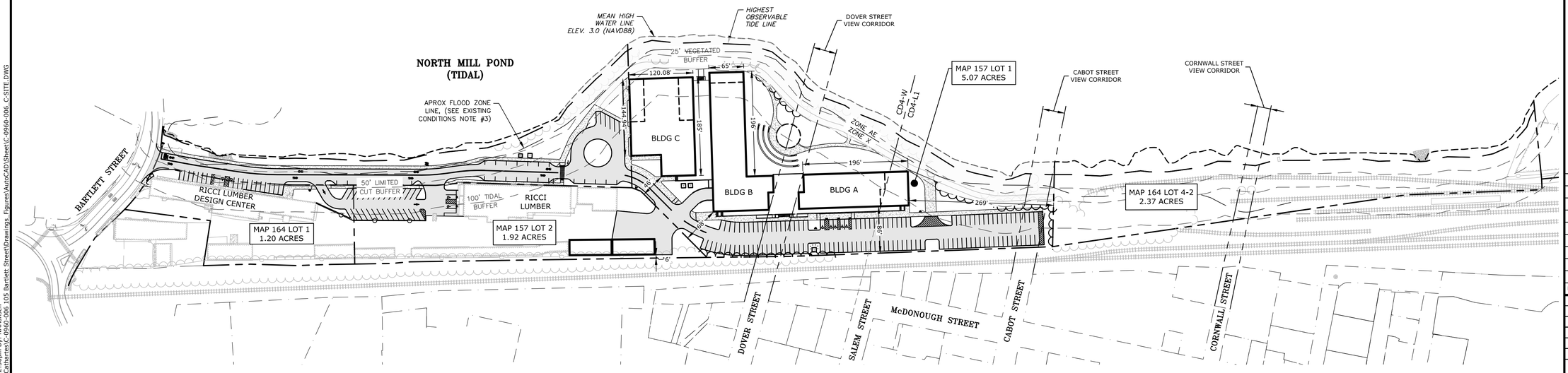
BIKE SPACES REQUIRED:
1 BIKE SPACE / 5 DWELLING UNITS, MAXIMUM OF 30 SPACES — 30 SPACES — 30 SPACES*

*INDOOR BIKE STORAGE WILL BE PROVIDED THAT MEETS OR EXCEEDS THE REQUIREMENT.

LEGEND

- PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CURB
- PROPOSED BUILDING
- PROPOSED PAVEMENT SECTION
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BOLLARD
- BLDG BUILDING
- TYP TYPICAL
- COORD COORDINATE
- 30'R PROPOSED CURB RADIUS
- VGC PROPOSED VERTICAL GRANITE CURB
- SGC PROPOSED SLOPED GRANITE CURB
- MVGC PROPOSED MOUNTABLE VERTICAL GRANITE CURB

ZONING VARIANCES:		
REQUIREMENT:	SECTION:	GRANTED:
(1) - MINIMUM SIDE YARD SETBACK FROM RAILROAD:	10.516.20	1/22/2020



0 100' 200'
GRAPHIC SCALE

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5-20-2020

PATRICK M. CUMMINS No. 19378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

OVERALL SITE PLAN

SCALE: AS SHOWN

C-102

Last Saved: 5/20/2020
Plotted: Thursday, May 21, 2020 @ 12:50pm By: NAHansen
Tighe & Bond J:\C\C0960 Catharles\C-0960-006 105 Bartlett Street\Drawings Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES SHALL BE THERMOPLASTIC MATERIAL. THERMOPLASTIC MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO AASHTO M249. (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. SEE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
15. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF WHEN SNOW BANKS EXCEED 6 FEET IN HEIGHT.
16. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
17. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
18. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
19. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
20. ALL TREES TO BE PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
21. THE APPLICATION SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.

LEGEND

	PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE SIDEWALK
•	PROPOSED BOLLARD
BLDG	BUILDING
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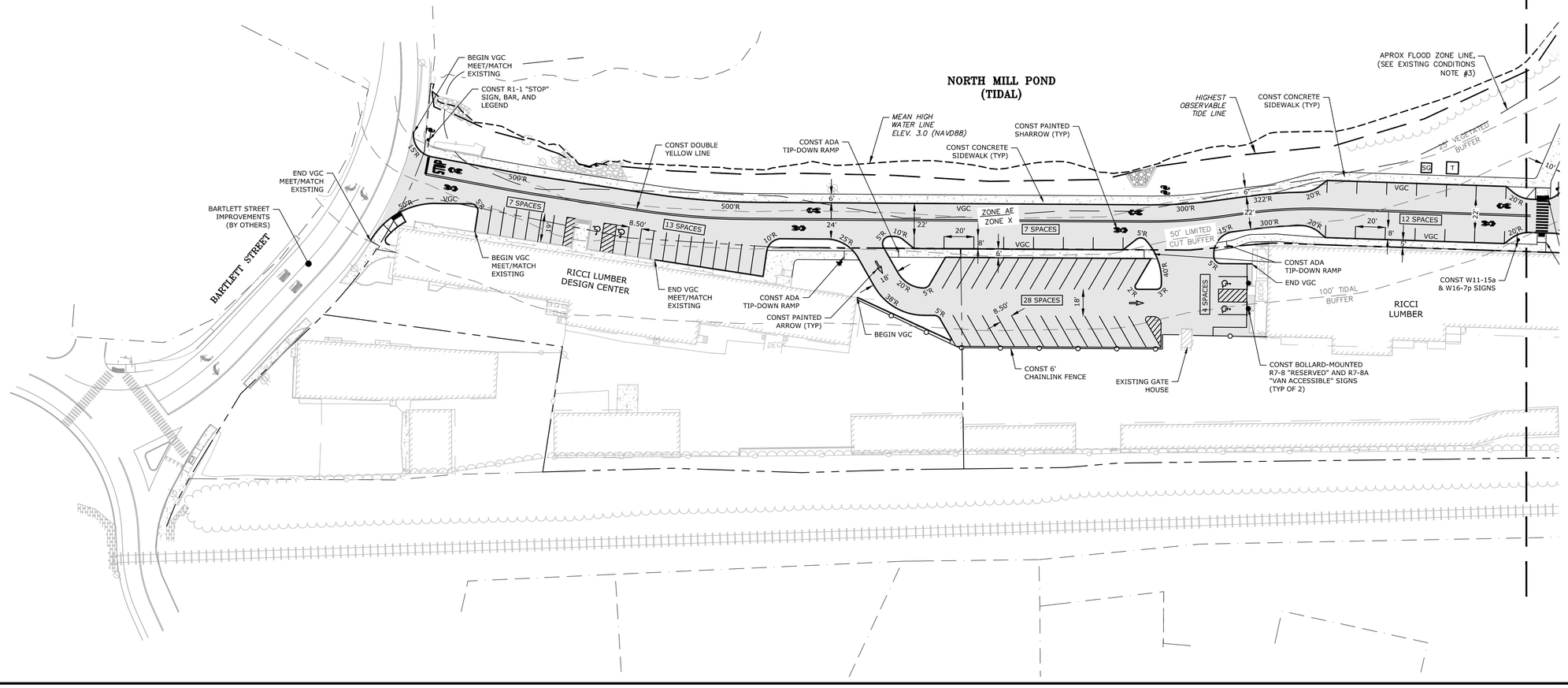

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GRAPHIC SCALE

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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

SITE PLAN

SCALE: AS SHOWN

C-102.1

Last Saved: 5/20/2020
Plotted: Wednesday, May 20, 2020 - 12:51pm By: NAHansen
Tighe & Bond: J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

MATCH LINE SHEET 2
MATCH LINE SHEET 1

LEGEND

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	PROPOSED PROPERTY LINE
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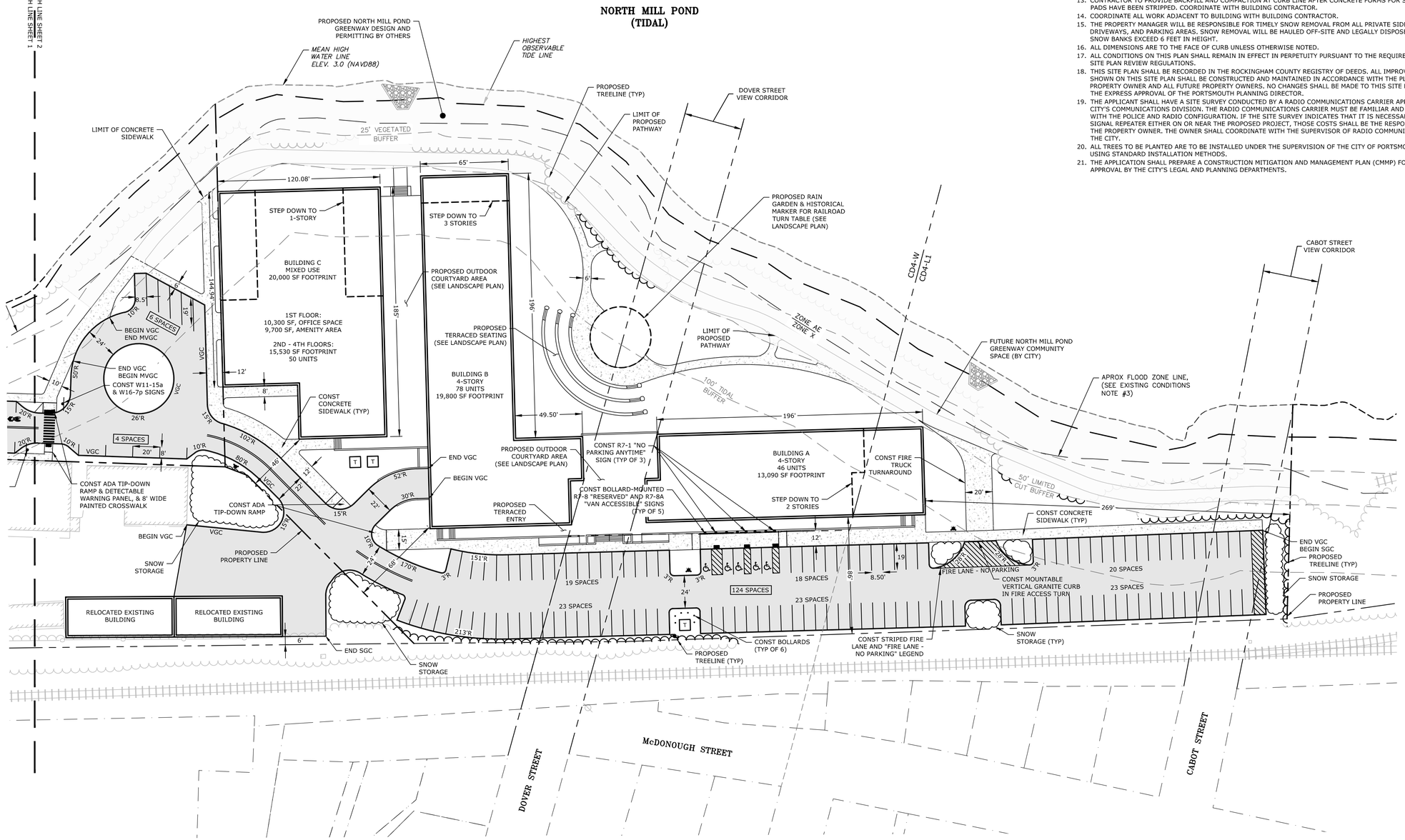
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
15. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF WHEN SNOW BANKS EXCEED 6 FEET IN HEIGHT.
16. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
17. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
18. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
19. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
20. ALL TREES TO BE PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
21. THE APPLICATION SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.



0 40' 80'
GRAPHIC SCALE

Tighe&Bond

BRADLEE MEZQUITA No. 05830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5-20-2020

PATRICK M. CRIMMINS No. 12375 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

SITE PLAN

SCALE: AS SHOWN

C-102.2

Last Saved: 5/20/2020
Plotted: Wednesday, May 20, 2020 - 12:52pm By: NAHenson
Tighe & Bond: J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings, Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

LEGEND

	PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE SIDEWALK
•	PROPOSED BOLLARD
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	PROPOSED VERTICAL GRANITE CURB
SGC	PROPOSED SLOPED GRANITE CURB
MVGC	PROPOSED MOUNTABLE VERTICAL GRANITE CURB

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES SHALL BE THERMOPLASTIC MATERIAL. THERMOPLASTIC MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO AASHTO M249. (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. SEE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
15. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF WHEN SNOW BANKS EXCEED 6 FEET IN HEIGHT.
16. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
17. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
18. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
19. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
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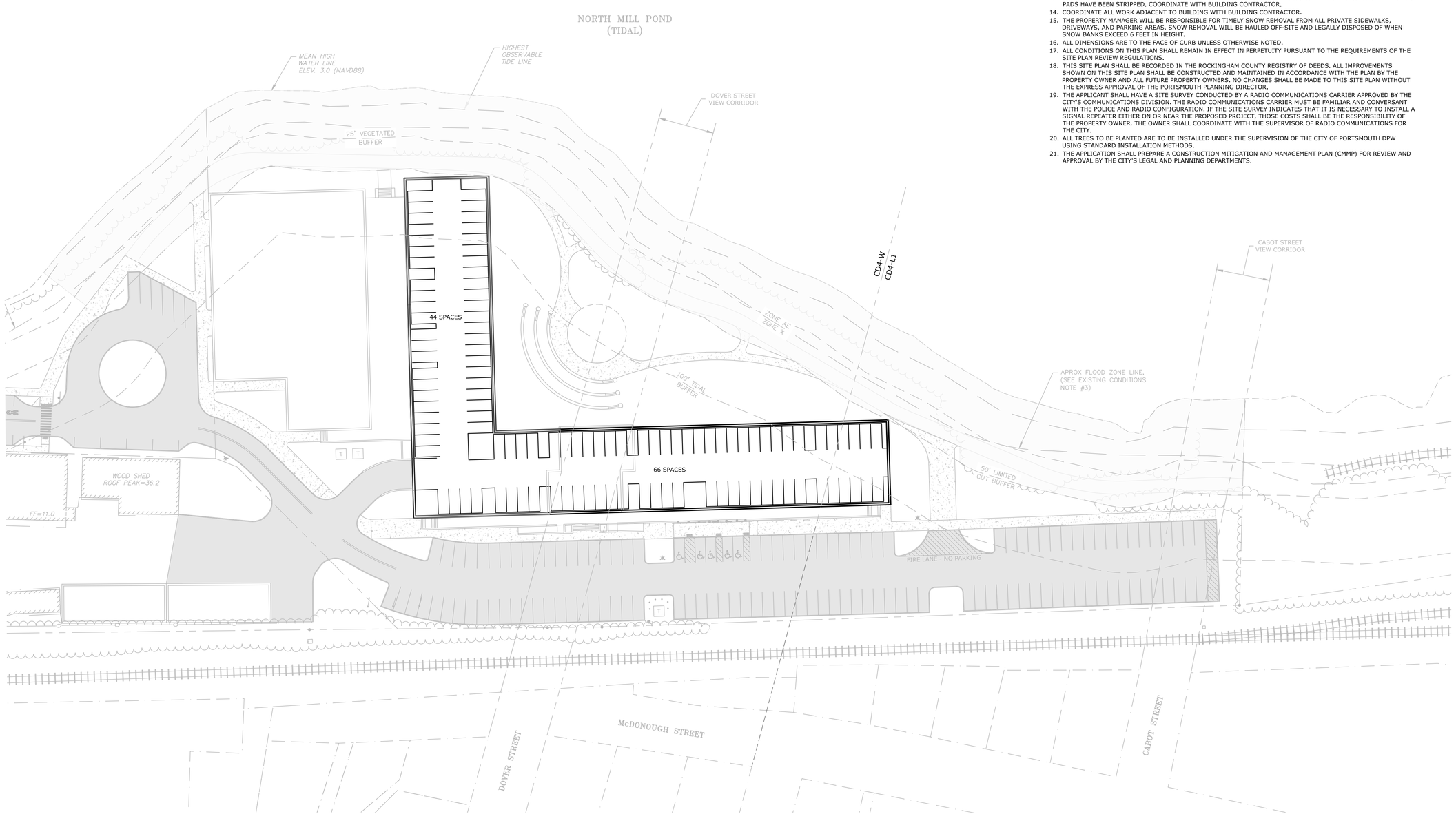
21. THE APPLICATION SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.



0 40' 80'
GRAPHIC SCALE

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

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PROJECT NO:	C-0960-006
DATE:	April 20, 2020
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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

BASEMENT LEVEL SITE PLAN

SCALE: AS SHOWN

C-102.3

Last Saved: 5/20/2020
Printed: 5/20/2020, 12:52pm By: NAHenson
Tighe & Bond: J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings, Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS — 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL — 95%
   - BELOW LOAM AND SEED AREAS — 90%

   * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

10 / 9	PROPOSED MAJOR CONTOUR LINE / PROPOSED MINOR CONTOUR LINE
	PROPOSED DRAIN LINE (TYP)
	PROPOSED SILT SOCK
	INLET PROTECTION SILT SACK
	PROPOSED CATCHBASIN
	PROPOSED DOUBLE GRATE CATCHBASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED YARD DRAIN
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
TC	TOP OF CURB
BC	BOTTOM OF CURB
HW	HEADWALL

DRAINAGE STRUCTURE TABLE

CB1242
RIM=9.30
INV.OUT=5.80 SW

CB1243
RIM=9.55
INV.IN=6.65 NW
INV.OUT=6.55 SE

CB1244
RIM=10.00
INV.OUT=6.85 SW

CB1264
RIM=9.25
INV.OUT=6.25 NE

PCB1
RIM=8.25
INV.OUT=5.20 E

PCB2
RIM=8.20
INV.OUT=5.20 N

PCB3
RIM=8.40
INV.OUT=5.40 NW

PCB4
RIM=8.70
INV.OUT=4.45 NW

PCB5
RIM=9.60
INV.OUT=6.10 NW

PCB6
RIM=9.80
INV.OUT=6.30 SW

PCB7
RIM=10.70
INV.OUT=6.25 N

PCB8
RIM=12.95
INV.OUT=7.00 W

PCB9
RIM=12.75
INV.OUT=7.00 NE

PCB10
RIM=12.15
INV.OUT=6.55 W

PCB11
RIM=10.95
INV.OUT=6.50 NW

PCB12
RIM=8.60
INV.OUT=5.60 NE

PCB13
RIM=8.60
INV.OUT=5.35 S

PCB14
RIM=11.55
INV.OUT=7.55 S

PDMH1
RIM=8.35
INV.IN=5.10 W
INV.IN=5.10 S
INV.IN=5.10 SE
INV.OUT=5.00 NE

PDMH2
RIM=9.05
INV.IN=4.90 SW
INV.IN=4.35 SE
INV.OUT=4.80 NE

PDMH3
RIM=10.50
INV.IN=4.10 SE
INV.IN=4.20 SW
INV.OUT=4.00 NW

PDMH4
RIM=9.85
INV.IN=6.00 NE
INV.IN=6.00 SE
INV.OUT=5.90 SW

PDMH5
RIM=11.30
INV.IN=5.05 NE
INV.OUT=4.95 SW

PDMH6
RIM=11.15
INV.IN=6.50 E
INV.IN=5.95 S
INV.IN=5.95 SW
INV.OUT=5.85 NW

PDMH7
RIM=12.00
INV.IN=5.60 SE
INV.OUT=5.50 NW

PDMH9 (6' DIA)
RIM=13.00
INV.IN=5.95 SW
INV.IN=5.95 SE
INV.IN=5.95 E
INV.OUT=5.85 NW

PDMH10
RIM=13.50
INV.IN=5.50 SE
INV.IN=7.30 N
INV.IN=5.50 SW
INV.OUT=5.40 NW

PDMH11
RIM=10.90
INV.IN=4.70 SE
INV.IN=5.00 SW
INV.OUT=4.60 N

PDMH12
RIM=8.75
INV.IN=5.15 SW
INV.IN=5.25 N
INV.OUT=5.15 NE

PDMH13
RIM=9.60
INV.IN=5.40 SE
INV.IN=5.40 NE
INV.IN=4.50 SW
INV.OUT=4.40 NW

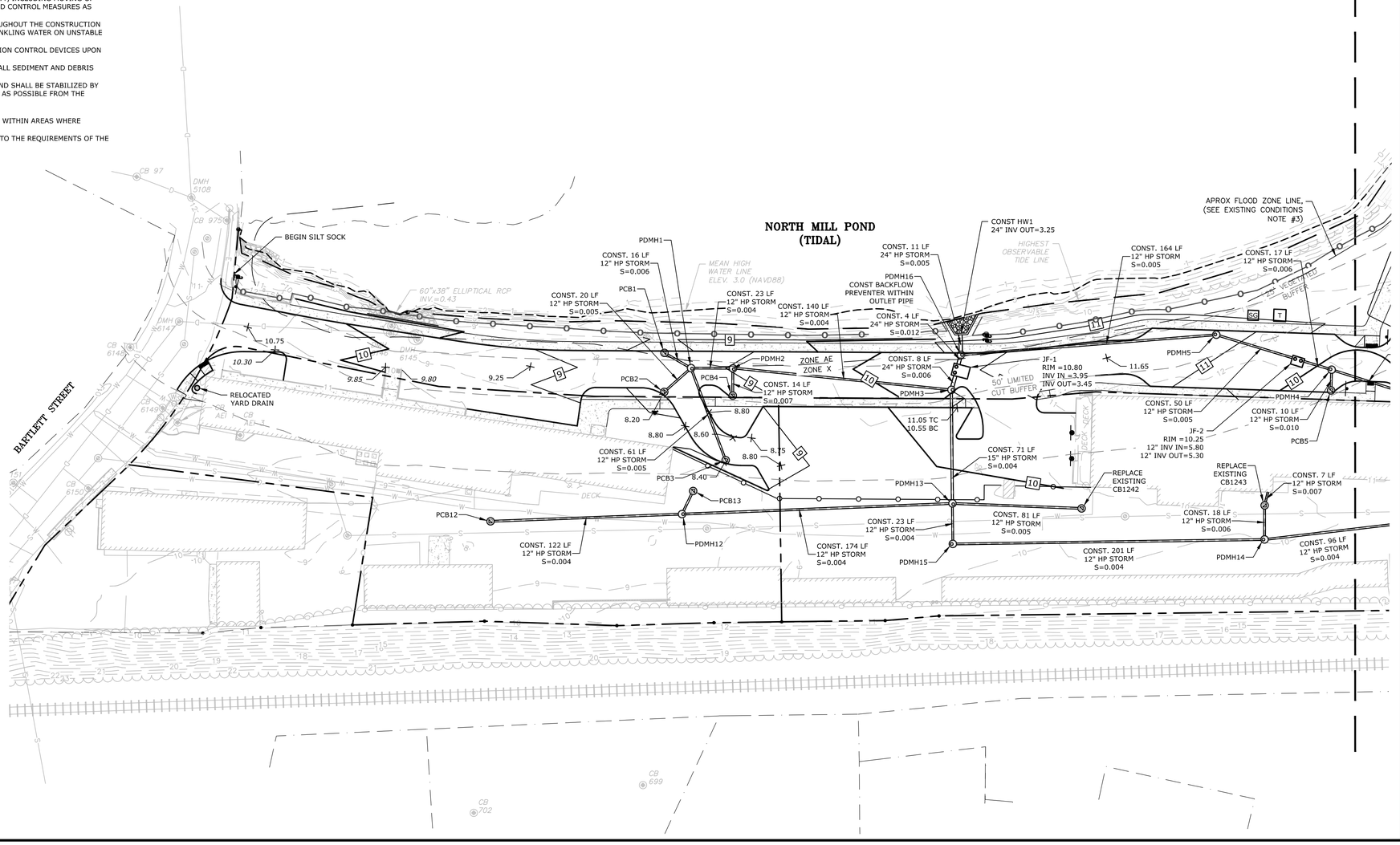
PDMH14
RIM=10.00
INV.IN=6.45 NE
INV.IN=6.45 NW
INV.OUT=6.35 SW

PDMH15
RIM=9.70
INV.IN=5.60 NE
INV.OUT=5.50 NW

PDMH16
RIM=10.60
INV.IN=3.40 SE
INV.IN=4.20 NE
INV.OUT=3.30 NW

PDMH17
RIM=17.50
INV.IN=4.95 SE
INV.IN=6.50 NE
INV.IN=6.50 SW
INV.OUT=4.85 NW

POS-01
RIM=10.50
INV.OUT=7.15 NE



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GRAPHIC SCALE

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5-20-2020

PATRICK M. CRIMMINS No. 13376 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
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Proposed Multi-Family Development

Iron Horse Properties, LLC

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GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103.1

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LEGEND

- PROPOSED MAJOR CONTOUR LINE
- PROPOSED MINOR CONTOUR LINE
- PROPOSED DRAIN LINE (TYP)
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED YARD DRAIN

BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
TC	TOP OF CURB
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CB1242
RIM=9.30
INV.OUT=5.80 SW

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CB1244
RIM=10.00
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CB1264
RIM=9.25
INV.OUT=6.25 NE

PCB1
RIM=8.25
INV.OUT=5.20 E

PCB2
RIM=8.20
INV.OUT=5.20 N

PCB3
RIM=8.40
INV.OUT=5.40 NW

PCB4
RIM=8.70
INV.OUT=4.45 NW

PCB5
RIM=9.60
INV.OUT=6.10 NW

PCB6
RIM=9.80
INV.OUT=6.30 SW

PCB7
RIM=10.70
INV.OUT=6.25 N

PCB8
RIM=12.95
INV.OUT=7.00 W

PCB9
RIM=12.75
INV.OUT=7.00 NE

PCB10
RIM=12.15
INV.OUT=6.55 W

PCB11
RIM=10.95
INV.OUT=6.50 NW

PCB12
RIM=8.60
INV.OUT=5.60 NE

PCB13
RIM=8.60
INV.OUT=5.35 S

PCB14
RIM=11.55
INV.OUT=7.55 S

PDMH1
RIM=8.35
INV.IN=5.10 W
INV.IN=5.10 S
INV.IN=5.10 SE
INV.OUT=5.00 NE

PDMH2
RIM=9.05
INV.IN=4.90 SW
INV.IN=4.35 SE
INV.OUT=4.80 NE

PDMH3
RIM=10.50
INV.IN=4.10 SE
INV.IN=4.20 SW
INV.OUT=4.00 NW

PDMH4
RIM=9.85
INV.IN=6.00 NE
INV.IN=6.00 SE
INV.OUT=5.90 SW

PDMH5
RIM=11.30
INV.IN=5.05 NE
INV.OUT=4.95 SW

PDMH6
RIM=11.15
INV.IN=6.50 E
INV.IN=5.95 S
INV.IN=5.95 SW
INV.OUT=5.85 NW

PDMH7
RIM=12.00
INV.IN=5.60 SE
INV.OUT=5.50 NW

PDMH9 (6' DIA)
RIM=13.00
INV.IN=5.95 SW
INV.IN=5.95 SE
INV.IN=5.95 E
INV.OUT=5.85 NW

PDMH10
RIM=13.50
INV.IN=5.50 SE
INV.IN=7.30 N
INV.IN=5.50 SW
INV.OUT=5.40 NW

PDMH11
RIM=10.90
INV.IN=4.70 SE
INV.IN=5.00 SW
INV.OUT=4.60 N

PDMH12
RIM=8.75
INV.IN=5.15 SW
INV.IN=5.25 N
INV.OUT=5.15 NE

PDMH13
RIM=9.60
INV.IN=5.40 SE
INV.IN=5.40 NE
INV.IN=4.50 SW
INV.OUT=4.40 NW

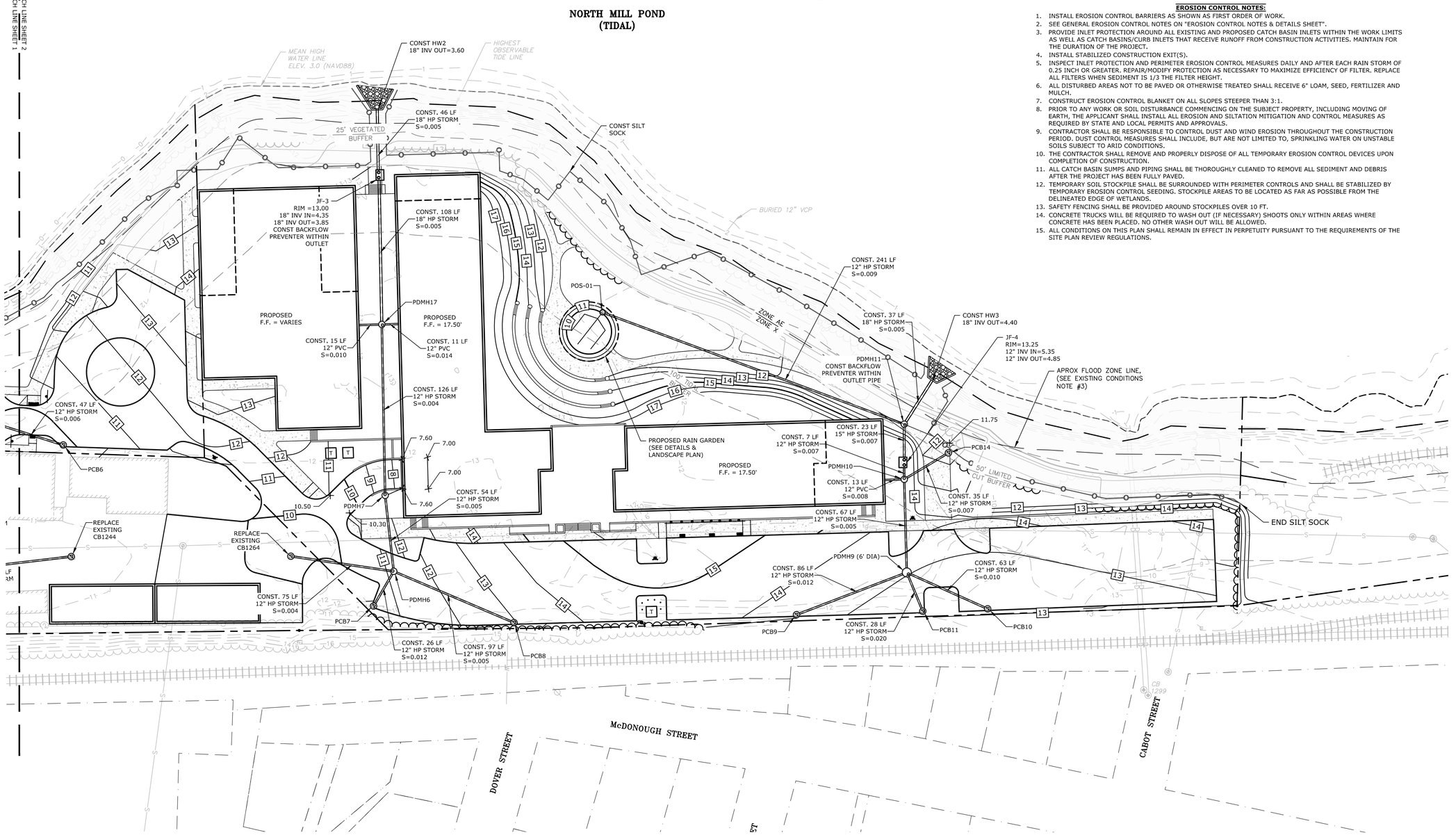
PDMH14
RIM=10.00
INV.IN=6.45 NE
INV.IN=6.45 NW
INV.OUT=6.35 SW

PDMH15
RIM=9.70
INV.IN=5.60 NE
INV.OUT=5.50 NW

PDMH16
RIM=10.60
INV.IN=3.40 SE
INV.IN=4.20 NE
INV.OUT=3.30 NW

PDMH17
RIM=17.50
INV.IN=4.95 SE
INV.IN=6.50 NE
INV.IN=6.50 SW
INV.OUT=4.85 NW

POS-01
RIM=10.50
INV.OUT=7.15 NE



GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
   - BELOW LOAM AND SEED AREAS 90%
   - * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

Tighe&Bond

STATE OF NEW HAMPSHIRE — BRADLEE MEZQUITA No. 08830 — LICENSED PROFESSIONAL ENGINEER — 5-20-2020

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 13570 — LICENSED PROFESSIONAL ENGINEER — 5-20-2020

0 40' 80'
GRAPHIC SCALE

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103.2

Last Saved: 5/20/2020
Plotted: Wednesday, May 20, 2020 - 3:32pm By: NAHanson
Tighe & Bond: J:\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings, Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER/SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMMUNICATIONS & COMCAST
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. THE APPLICANT SHALL COORDINATE WITH THE CITY'S CONSULTANT TO COMPLETE A WATER CAPACITY ANALYSIS USING THE CITY'S CAPACITY MODELING AND SHALL MODIFY THE WATER SERVICE DESIGN AS REQUIRED. THE PRIVATE WATER LINE THAT CURRENTLY FEEDS THE DEVELOPMENT LOT SHALL BE EITHER REPLACED OR ABANDONED DEPENDING ON THE OUTCOME OF THE STUDY. ALL MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE DPW AND THE FIRE DEPARTMENT.
6. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
7. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
8. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
10. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
11. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
12. 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.
13. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
14. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
15. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
16. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
17. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
18. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
19. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
20. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
21. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
22. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
23. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
24. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
25. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
26. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
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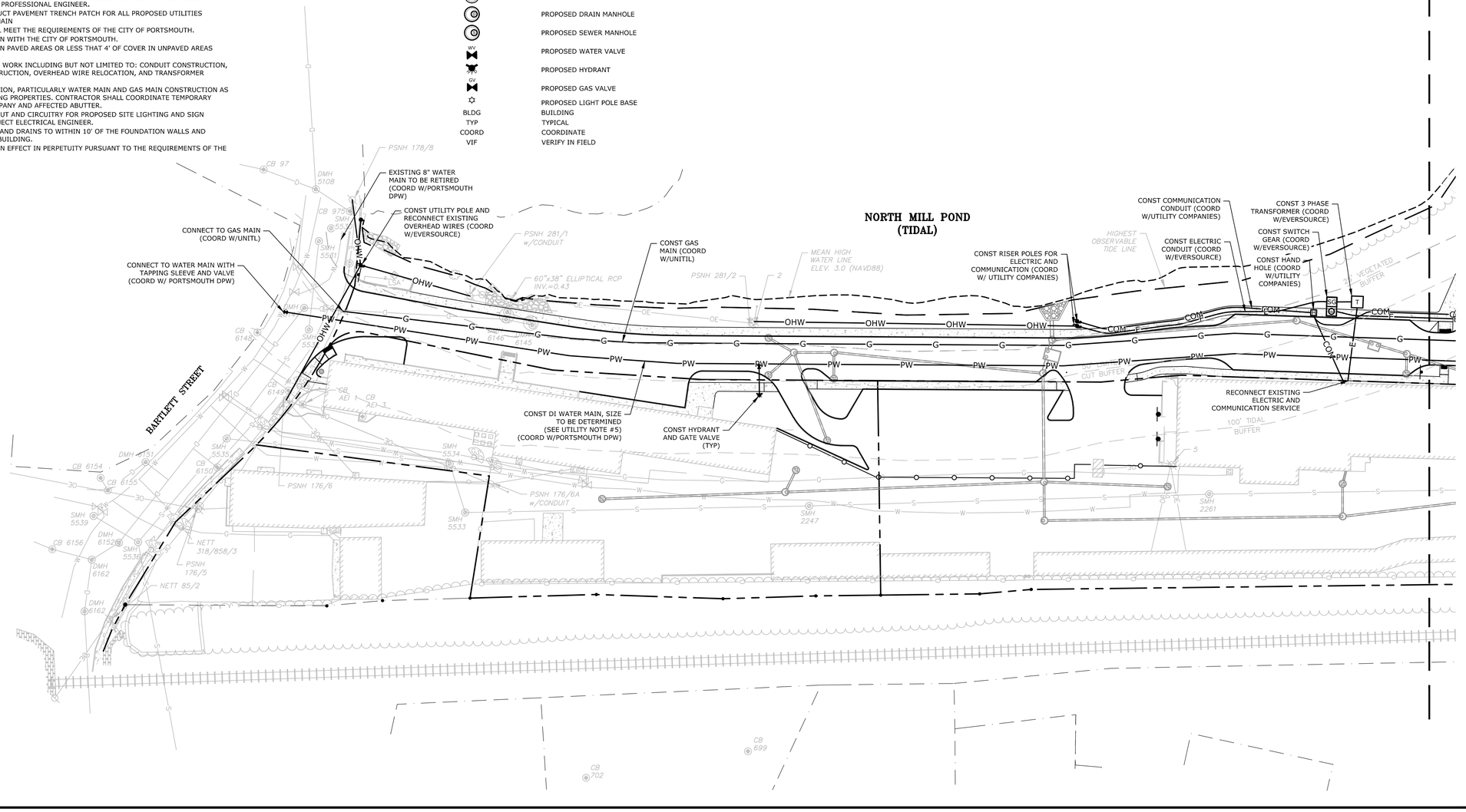
28. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
29. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
30. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
31. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

D	EXISTING STORM DRAIN
S	EXISTING SANITARY SEWER
W	EXISTING WATER
G	EXISTING GAS
E	EXISTING UNDERGROUND ELECTRIC
OE	EXISTING OVERHEAD UTILITY
	PROPOSED STORM DRAIN
SS	PROPOSED SANITARY SEWER
PW	PROPOSED WATER
G	PROPOSED GAS
E	PROPOSED UNDERGROUND ELECTRIC
COM	PROPOSED UNDERGROUND TELECOMMUNICATION
	EXISTING CATCHBASIN
D	EXISTING DRAIN MANHOLE
S	EXISTING SEWER MANHOLE
	EXISTING HYDRANT
WV	EXISTING WATER VALVE
	EXISTING WATER SHUT OFF
GV	EXISTING GAS VALVE
	EXISTING GAS SHUT OFF
	EXISTING UTILITY POLE
E	EXISTING ELECTRIC MANHOLE
T	EXISTING TELEPHONE MANHOLE
	PROPOSED CATCHBASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE
WV	PROPOSED WATER VALVE
	PROPOSED HYDRANT
GV	PROPOSED GAS VALVE
	PROPOSED LIGHT POLE BASE
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
VIF	VERIFY IN FIELD



0 40' 80'
GRAPHIC SCALE

Proposed Multi-Family Development

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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

UTILITIES PLAN

SCALE: AS SHOWN

C-104.1

Last Saved: 5/20/2020
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Tighe & Bond: J:\CC\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings, Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

MATCH LINE SHEET 2
MATCH LINE SHEET 1

NORTH MILL POND
(TIDAL)

MEAN HIGH WATER LINE ELEV. 3.0 (NAVD88)

HIGHEST OBSERVABLE TIDE LINE

25' VEGETATED BUFFER

BURIED 12" VCP

100' BUFFER

50' LIMITED CUT BUFFER

CONST SEWER CONNECTION 57 LF, 8" PVC SDR 35 S=0.020, INV=8.35 (COORD W/BUILDING DWGS)

CONST ELECTRIC CONDUIT (COORD W/EVERSOURCE)

CONST FIRE AND DOMESTIC WATER SERVICE CONNECTIONS (COORD W/BUILDING DWGS, FIRE DEPT & DPW)

CONST GAS CONNECTION (COORD W/UNITIL & BUILDING DWGS)

PSMH1
RIM=13.20
INV IN=7.20
W/INSIDE DROP
INV OUT=2.75

CONST ELECTRIC AND COMMUNICATION CONNECTIONS (COORD W/BUILDING DWGS & UTILITY COMPANIES)

CONST 3 PHASE TRANSFORMER (TYP OF 2) (COORD W/EVERSOURCE)

CONST ELECTRIC AND COMMUNICATION CONNECTIONS (COORD W/BUILDING DWGS & UTILITY COMPANIES)

CONST SEWER CONNECTION 6 LF, 8" PVC SDR 35 S=0.025, INV=5.15 (COORD W/BUILDING DWGS)

CONST FIRE AND DOMESTIC WATER SERVICE CONNECTIONS (COORD W/BUILDING DWGS, FIRE DEPT & DPW)

CONST ELECTRIC AND COMMUNICATION CONNECTIONS (COORD W/BUILDING DWGS & UTILITY COMPANIES)

CONST SEWER CONNECTION 5 LF, 8" PVC SDR 35 S=0.033, INV=5.60 (COORD W/BUILDING DWGS)

CONST HYDRANT AND GATE VALVE (TYP)

CONNECT TO EXISTING SEWER WITH WYE CONNECTION INV=2.35

CONST 155 LF 8"PVC SDR 35 S = 0.005

CONST 116 LF 8"PVC SDR 35 S = 0.005

CONST HAND HOLE (COORD W/UTILITY COMPANIES)

CONST GAS CONNECTION (COORD W/UNITIL & BUILDING DWGS)

CONST HYDRANT AND GATE VALVE (TYP)

CONST GAS MAIN CAP AND VALVE (COORD W/UNITIL)

CONNECT TO EXISTING BRICK SEWER WITH INSERTA TEE CONNECTION INV=3.50 (VIF)

PSMH3
RIM=12.50
INV IN=5.50
INV OUT=5.40

CONST 23 LF 8"PVC SDR 35 S = 0.005

CONST HYDRANT AND GATE VALVE (TYP)

CONNECT TO EXISTING SEWER AT MAIN INV=2.15 (VIF)

CONST DI WATER MAIN, SIZE TO BE DETERMINED (SEE UTILITY NOTE #5) (COORD W/PORTSMOUTH DPW)

PSMH2
RIM=12.00
INV IN=5.00
W/INSIDE DROP
INV OUT=3.15

CONST GAS MAIN (COORD W/UNITIL)

CONST ELECTRIC MANHOLE (COORD W/EVERSOURCE)

CONST WATER MAIN VALVE AND CAP (COORD W/PORTSMOUTH DPW)

CONST COMMUNICATION CONDUIT (COORD W/UTILITY COMPANIES)

CONST TEE W/VALVES, 8" MAIN TO DOVER STREET (COORD W/PORTSMOUTH DPW)

CONST 3 PHASE TRANSFORMER (COORD W/EVERSOURCE)

CONST UTILITY POLE AND OVERHEAD WIRE TO EXISTING POLE AT END OF DOVER STREET (COORD W/EVERSOURCE)

CONNECT TO 8" MAIN AT END OF DOVER STREET (COORD W/PORTSMOUTH DPW)

SMH 2240
SMH 2815
SMH 5453
SMH 2817
SMH 2816
SMH 5454
CB 1299

McDONOUGH STREET
DOVER STREET
CABOT STREET

LEGEND

D	EXISTING STORM DRAIN
S	EXISTING SANITARY SEWER
W	EXISTING WATER
G	EXISTING GAS
E	EXISTING UNDERGROUND ELECTRIC
OE	EXISTING OVERHEAD UTILITY
	PROPOSED STORM DRAIN
SS	PROPOSED SANITARY SEWER
PW	PROPOSED WATER
G	PROPOSED GAS
E	PROPOSED UNDERGROUND ELECTRIC
COM	PROPOSED UNDERGROUND TELECOMMUNICATION
	EXISTING CATCHBASIN
	EXISTING DRAIN MANHOLE
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WV	EXISTING WATER VALVE
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Tighe&Bond

STATE OF NEW HAMPSHIRE – BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER – 5-20-2020

STATE OF NEW HAMPSHIRE – PATRICK M. CRIMMINS No. 13078 LICENSED PROFESSIONAL ENGINEER – 5-20-2020

0 40' 80'
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CHECKED:	PMC
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UTILITIES PLAN

SCALE: AS SHOWN

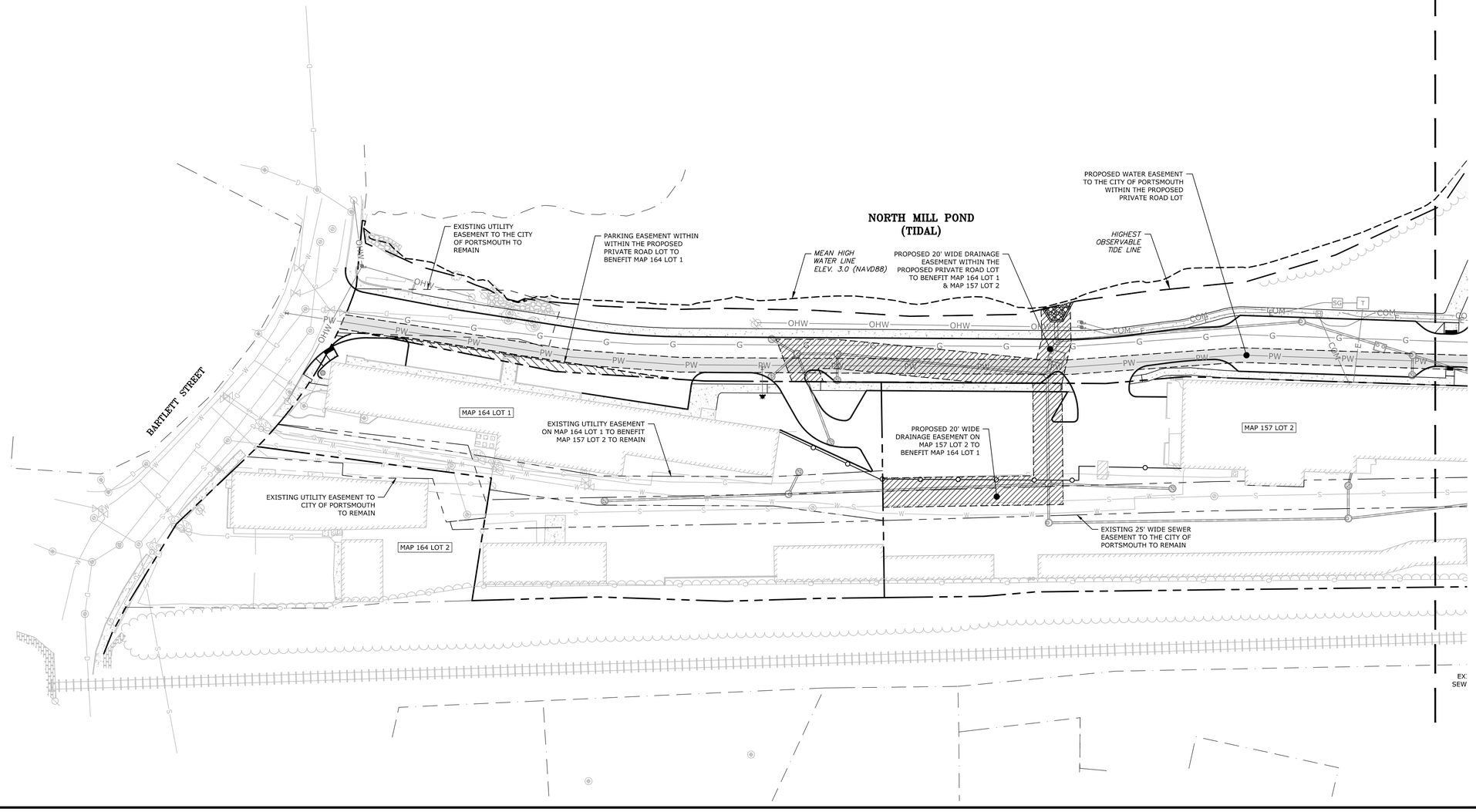
C-104.2

Last Saved: 5/20/2020
Printed: Wednesday, May 20, 2020 - 12:55pm By: NAHansen
Tighe & Bond: J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

LEGEND

- PROPOSED SEWER EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED PARKING EASEMENT
- PROPOSED WATER EASEMENT
- PROPOSED COMMUNITY SPACE EASEMENT

EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEED PRIOR TO ISSUING BUILDING PERMITS.



Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

5-20-2020

PATRICK M. CRIMMINS No. 13576 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

5-20-2020

0 40' 80'
GRAPHIC SCALE

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

EASEMENT PLAN

SCALE: AS SHOWN

C-301.1

MATCH LINE SHEET 2
MATCH LINE SHEET 1

NORTH MILL POND
(TIDAL)

MEAN HIGH WATER LINE ELEV. 3.0 (NAVD88)

HIGHEST OBSERVABLE TIDE LINE

PROPOSED 50' COMMUNITY SPACE EASEMENT TO BENEFIT THE CITY OF PORTSMOUTH WITHIN TAX MAP 157 LOT 1

PROPOSED 20' WIDE SEWER EASEMENT WITHIN THE PROPOSED PRIVATE ROAD LOT TO BENEFIT PROPOSED TAX MAP 157 LOT 1

PROPOSED TAX MAP 157 LOT 1

PROPOSED 20' WIDE SEWER EASEMENT ON MAP 157 LOT 2 TO BENEFIT PROPOSED TAX MAP 157 LOT 1

PROPOSED 20' WIDE DRAINAGE EASEMENT TO BENEFIT MAP 157 LOT 2

EXISTING 30' WIDE DRAINAGE EASEMENT TO THE CITY OF PORSTMOUTH TO REMAIN

EXISTING 25' WIDE SEWER EASEMENT TO THE CITY OF PORTSMOUTH TO REMAIN

EXISTING 20' WIDE SEWER EASEMENT TO BENEFIT THE PROPOSED LOT TO REMAIN

PROPOSED WATER EASEMENT TO THE CITY OF PORTSMOUTH WITHIN PROPOSED MAP 157 LOT 1

EXISTING 20' WIDE PRIVATE SEWER EASEMENT TO REMAIN

EXISTING 20' WIDE WATER LINE EASEMENT TO BENEFIT THE PROPOSED LOT TO REMAIN

McDONOUGH STREET

DOVER STREET

CABOT STREET

LEGEND

- PROPOSED SEWER EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED PARKING EASEMENT
- PROPOSED WATER EASEMENT
- PROPOSED COMMUNITY SPACE EASEMENT

EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEED PRIOR TO ISSUING BUILDING PERMITS.

Tighe&Bond

STATE OF NEW HAMPSHIRE
BRADLEE MEZQUITA
No. 08830
LICENSED
PROFESSIONAL SURVEYOR
5-20-2020

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 15076
LICENSED
PROFESSIONAL ENGINEER
5-20-2020

0 40' 80'
GRAPHIC SCALE

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EASEMENT PLAN

SCALE: AS SHOWN

C-301.2

Last Saved: 5/20/2020
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GENERAL PROJECT INFORMATION

PROJECT APPLICANT: IRON HORSE PROPERTIES, LLC
105 BARTLETT STREET
PORTSMOUTH, NH 03801
PROJECT NAME: PROPOSED MULTI-FAMILY DEVELOPMENT
PROJECT ADDRESS: 105 BARTLETT STREET
PORTSMOUTH, NH 03801
PROJECT LATITUDE/LONGITUDE: 43°-04'-20" N / 70°-46'-15" W

PROJECT MAP/LOT:
MAP 157 / LOT 1
MAP 157 / LOT 2
MAP 164 / LOT 1
MAP 164 / LOT 4-2

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTING TWO (2) MULTI-FAMILY APARTMENT BUILDINGS WITH BASEMENT LEVEL PARKING, ONE (1) MIXED-USE BUILDING WITH FIRST FLOOR OFFICE AND AMENITY SPACE, AS WELL AS UPPER STORY APARTMENTS.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 6.5 ACRES.

SOIL CHARACTERISTICS

BASED ON THE SITE SPECIFIC SOIL SURVEY CONDUCTED BY LEONARD LORD, PHD, CSS, CSW ON OCTOBER 29 AND DECEMBER 2, 2019, THE SOILS ON SITE CONSIST OF __WITH A HYDROLOGIC SOIL GROUP RATING OF A TO D.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA SUBSURFACE DRAINAGE WHICH ULTIMATELY FLOWS TO NORTH MILL POND.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - CONTROL OF DUST
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. SEE LANDSCAPE PLAN FOR SEEDBED PREPARATION REQUIREMENTS;
   B. SEEDING:
      a. SEE LANDSCAPE PLAN FOR SEEDING REQUIREMENTS;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
   A. SEE LANDSCAPE PLAN FOR PERMANENT MEASURES AND PLANTINGS:
      a. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
      b. IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. 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:

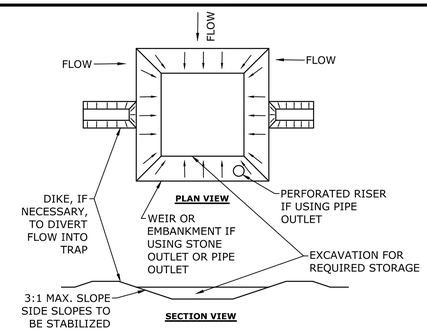
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
         i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
         ii. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
         iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
         iv. INSPECT FUEL STORAGE AREAS WEEKLY;
         v. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
         vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
         vii. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
         viii. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
            (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
            (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
            (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
            (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
            (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
         ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
         HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
      b. FERTILIZERS:
         i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
         ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
         iii. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      c. PAINTS:
         i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
         ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
         iii. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
   a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
   b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
   c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
   d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
   e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
   f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
   a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
   b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
   c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
   d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
   e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
   f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

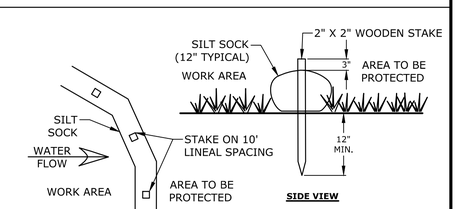
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

1. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
   A. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
   B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
   C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
   D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



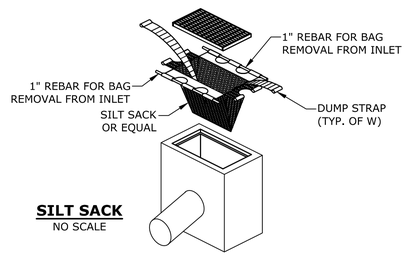
NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

SEDIMENT TRAP
NO SCALE

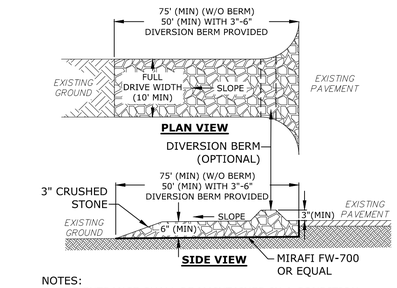


NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

SILT SOCK
NO SCALE



SILT SACK
NO SCALE



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE — BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12570 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

DETAILS SHEET

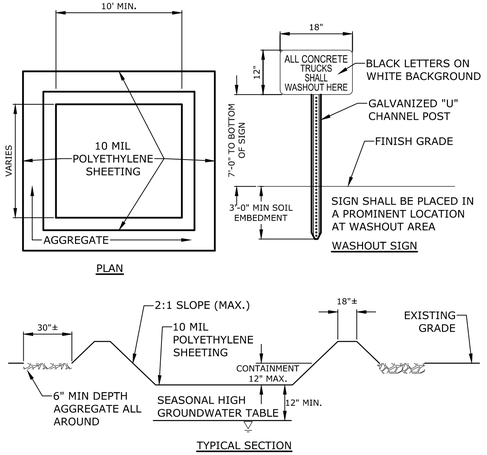
SCALE: AS SHOWN

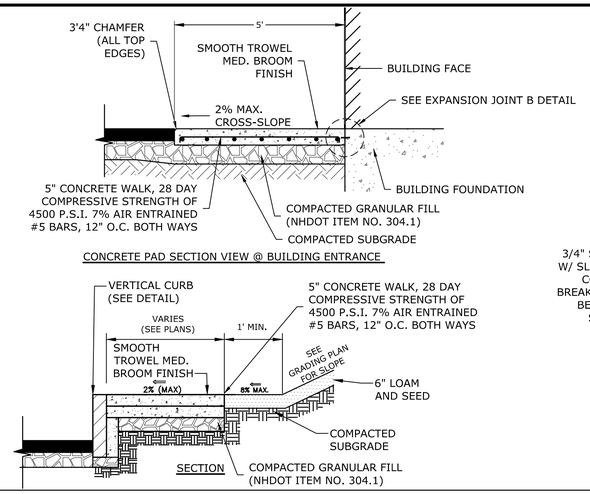
C-501

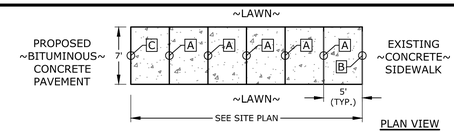
Last Saved: 5/20/2020
Printed: 05/20/2020, 12:43pm By: NAHanson
Tighe & Bond J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-DTLS.dwg

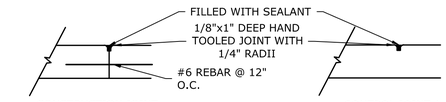
NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE







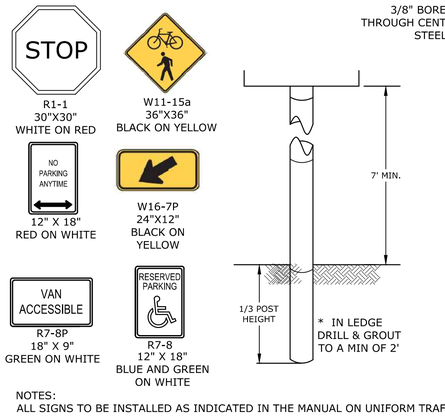


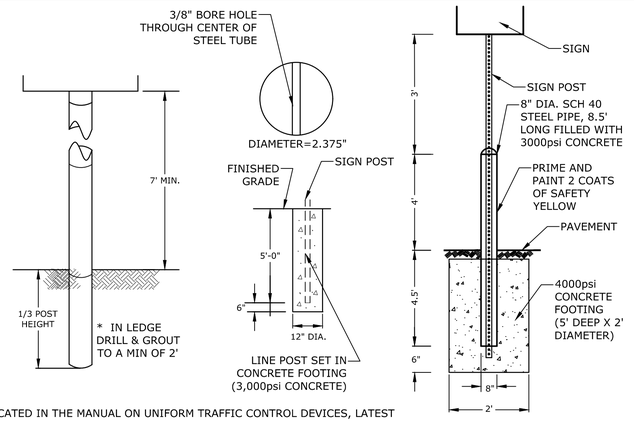
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

CONCRETE SIDEWALK
NO SCALE





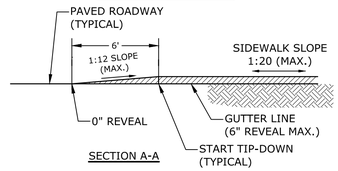
NOTES:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
POST: SCHEDULE 40 GALVANIZED STEEL PIPE (OUTSIDE DIA. = 2.375").
FINISH: POST TO BE POWDER COATED GLOSS BLACK
LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER (AS REQUIRED)
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080)

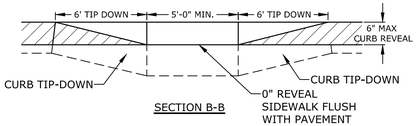
SIGN LEGEND & SIGN POST
NO SCALE

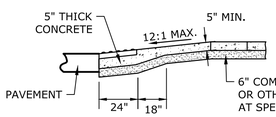
BOLLARD MOUNTED SIGN DETAIL
NO SCALE

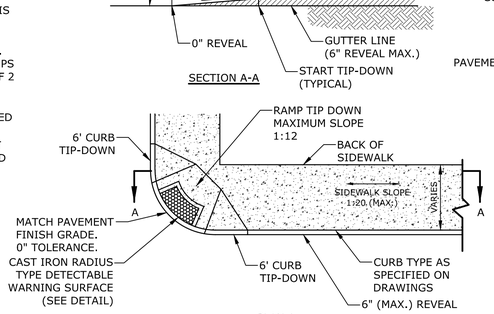
NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
4. PROVIDE DETECTABLE WARNING SURFACES ANYTIME THAT A CURB RAMP, BLENDED TRANSITION, OR LANDING CONNECTS TO A STREET.
5. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
6. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
7. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
8. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
9. DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
10. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12





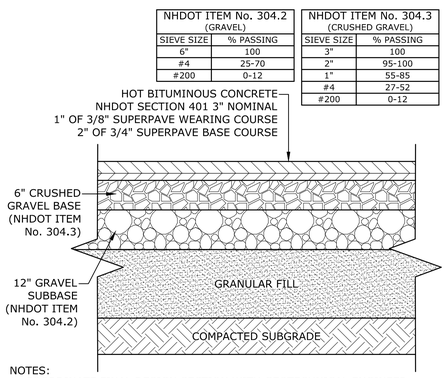




CONCRETE WHEELCHAIR ACCESSIBLE RAMP
NO SCALE

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

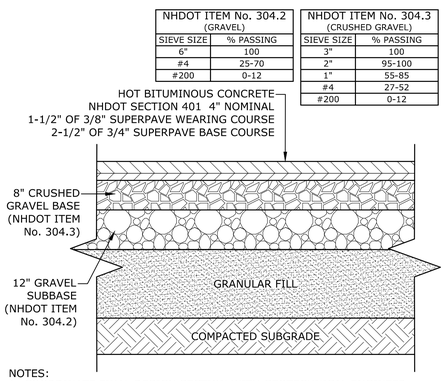


NOTES:
1. COORDINATE FINAL DESIGN SECTION WITH GEOTECHNICAL ENGINEER.
2. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
3. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
4. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
5. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

PARKING LOT PAVEMENT SECTION
NO SCALE

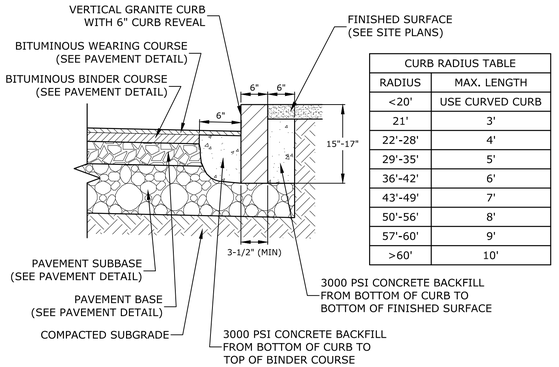
NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



NOTES:
1. COORDINATE FINAL DESIGN SECTION WITH GEOTECHNICAL ENGINEER.
2. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
3. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
4. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
5. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

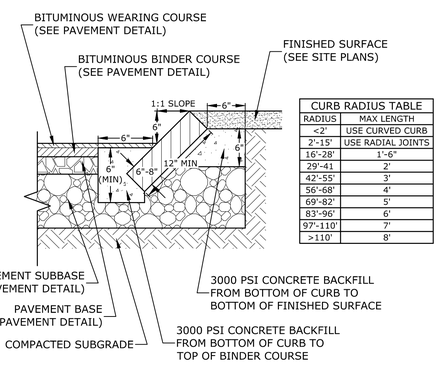
ROADWAY PAVEMENT SECTION
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
	USE CURVED CURB
<20'	3'
21'	4'
22'-28'	5'
29'-35'	6'
36'-42'	7'
43'-49'	8'
50'-56'	9'
57'-60'	10'
>60'	

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

SLOPED GRANITE CURB
NO SCALE

Tighe&Bond

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
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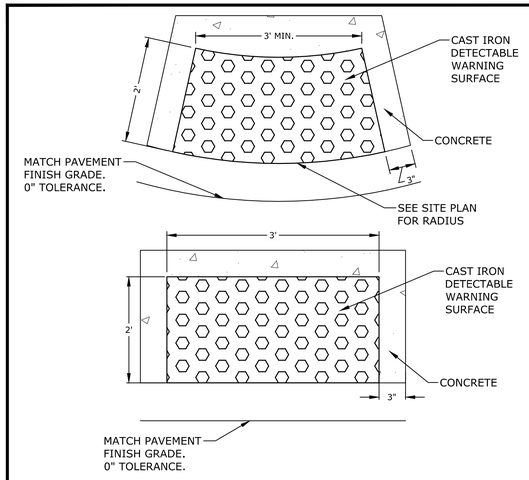
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

DETAILS SHEET

SCALE: AS SHOWN

C-502

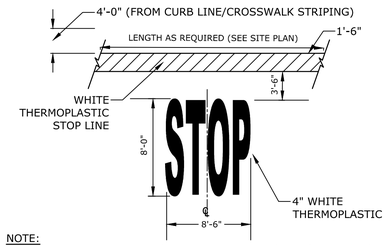
Last Saved: 5/20/2020
Printed: May 20, 2020 - 12:43pm By: NAHansen
Tighe & Bond: J:\C\C0960 Catharines\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-DTLS.dwg



NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

RADIUS TYPE CAST IRON DETECTABLE WARNING SURFACE

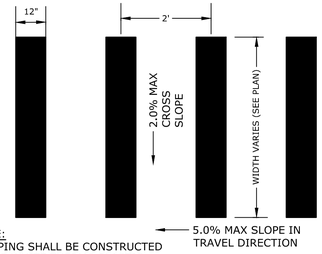
NO SCALE



NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR AND LEGEND

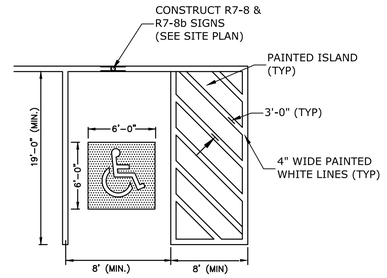
NO SCALE



NOTE:
STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING

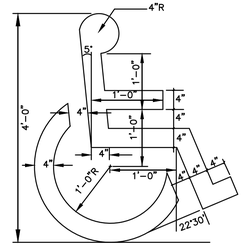
NO SCALE



NOTES:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN W/DISABILITIES ACT.

ACCESSIBLE PARKING STALL

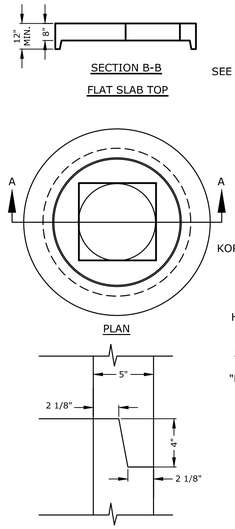
NO SCALE

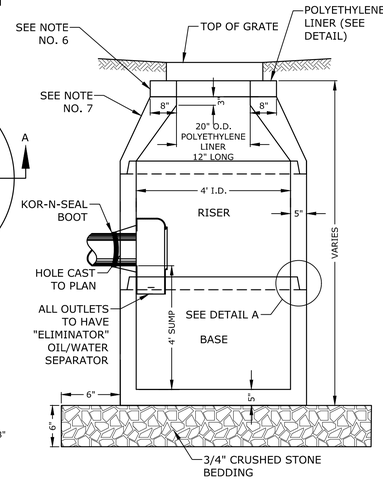


NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING WHITE THERMOPLASTIC, REFLECTORIZED PAVEMENT PARKING MATERAL MEETING THE REQUIREMENTS OF ASTM D 4505.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL

NO SCALE



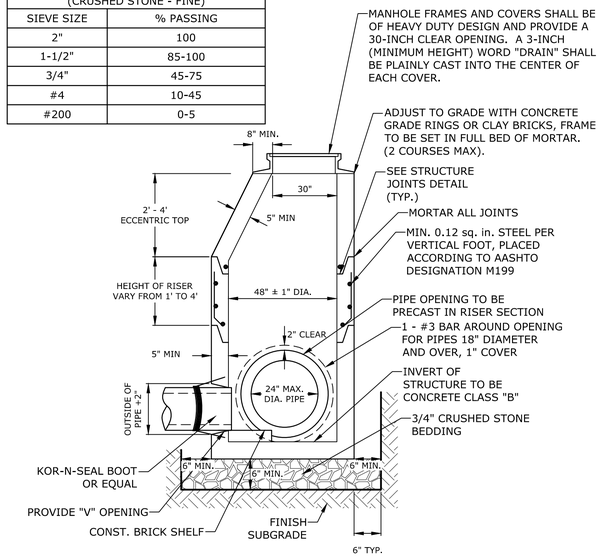


NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCHBASIN

NO SCALE

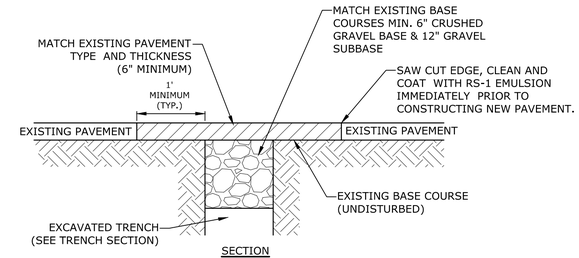
NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



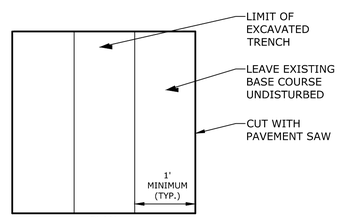
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4' DIAMETER DRAIN MANHOLE

NO SCALE



SECTION



PLAN

NOTE:
COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH

NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE — BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER — 5/20/2020

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 13076 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

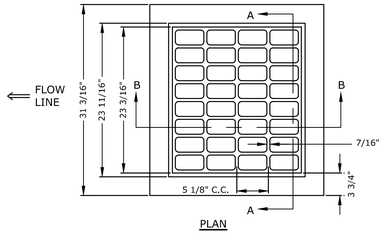
MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

DETAILS SHEET

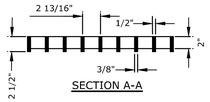
SCALE: AS SHOWN

C-503

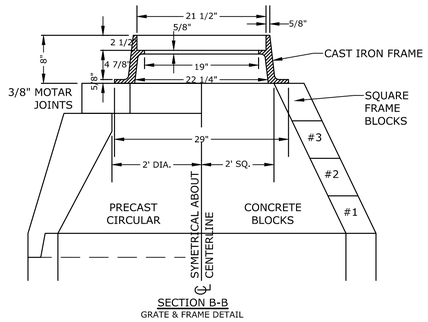


PLAN

NOTE:
1. GRATE TO BE CAST IRON (NHDOT TYPE B ALTERNATE 1)
2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

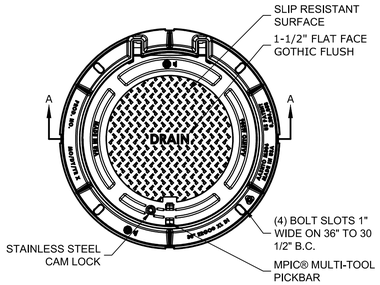


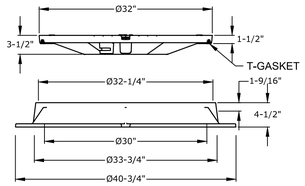
SECTION A-A



SECTION B-B
GRATE & FRAME DETAIL

CATCH BASIN FRAME & GRATE
NO SCALE

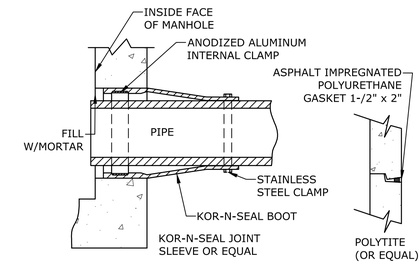




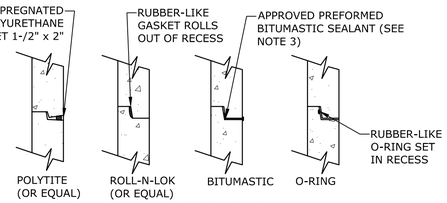
SECTION A-A

NOTES:
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.
2. ALL DIMENSIONS ARE NOMINAL.
3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN HE CENTER OF THE COVER.

DRAIN MANHOLE FRAME & COVER
NO SCALE



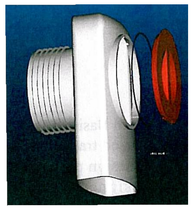
PIPE TO MANHOLE JOINTS



HORIZONTAL JOINTS

NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

MANHOLE JOINTS
NO SCALE

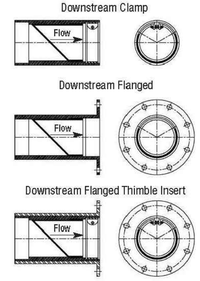


NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

"ELIMINATOR" OIL FLOATING DEBRIS TRAP
NO SCALE

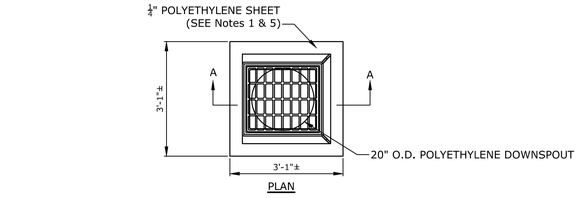
NOMINAL PIPE SIZE I.D.*		OVERALL LENGTH**		NUMBER OF CLAMPS	CUFF DEPTH		BACK PRESSURE RATING	
Inches	Millimeters	Inches	Millimeters		Inches	Millimeters	Feet	Meters
12	300	23	584	1	2	51	40	12

Mounting Styles and Configurations

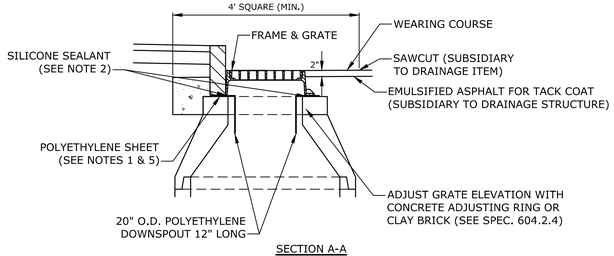


Flange shape and bolt pattern can be customized.
Flangeless thimble inserts are available.

TYPICAL BACK FLOW PREVENTER
NO SCALE



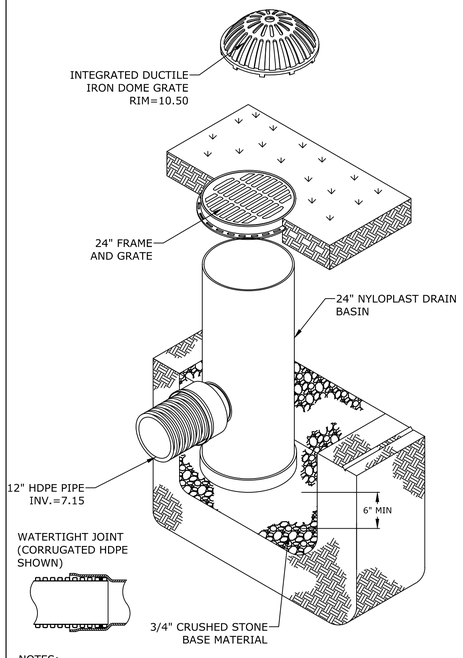
PLAN



SECTION A-A

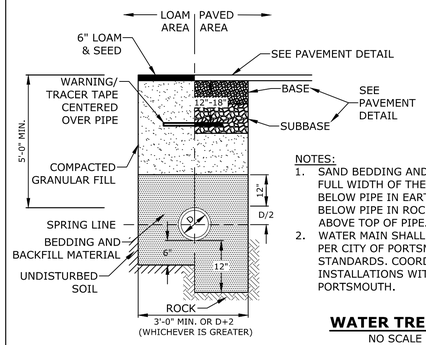
NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

POLYETHYLENE LINER
NO SCALE



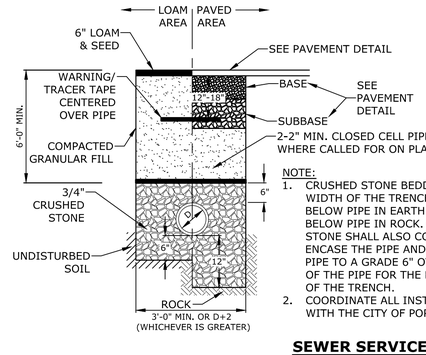
NOTES:
1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. SEE GRADING, DRAINAGE, AND EROSION CONTROL PLAN FOR LOCATIONS.

YARD DRAIN
NO SCALE



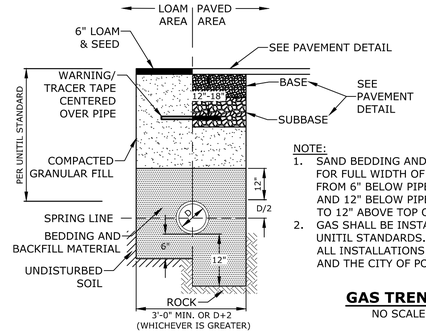
NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE



NOTE:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER SERVICE TRENCH
NO SCALE



NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

GAS TRENCH
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE — BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 13376 LICENSED PROFESSIONAL ENGINEER — 5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
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A	1/2/2020	ZBA Submission

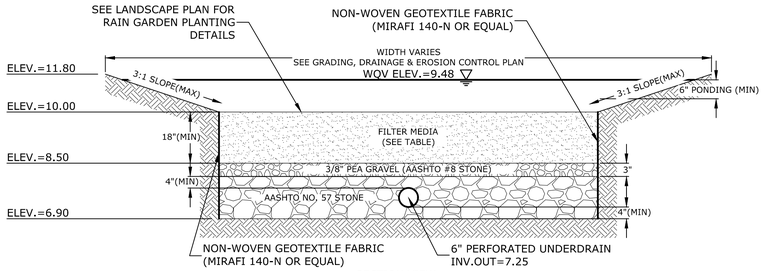
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

DETAILS SHEET

SCALE: AS SHOWN

C-504

Last Saved: 5/20/2020
Plotted: May 20, 2020 - 12:44pm By: NAHansen
Tighe & Bond J:\C\C0960 Catharten\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-DTLS.dwg



SECTION VIEW

FILTER MEDIA COMPOSITION:

COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

NOTES:
1. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
3. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
4. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

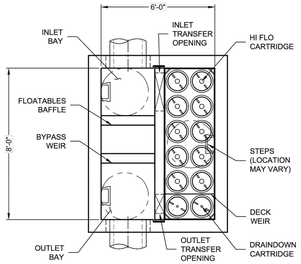
AASHTO #8 STONE (#8 to 3/8")

SIEVE SIZE	% PASSING
1/2"	100
3/8"	85-100
#4	10-30
#8	0-10
#16	0-5

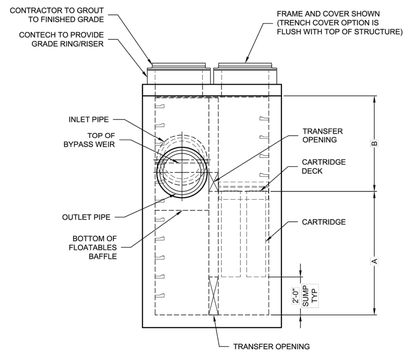
AASHTO #57 STONE (#4 to 1")

SIEVE SIZE	% PASSING
1-1/2"	100
1"	95-100
1/2"	25-60
#4	0-10
#8	0-5

RAIN GARDEN
NO SCALE



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

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 AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

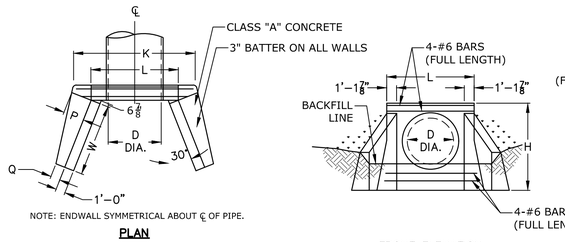
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

SYSTEM	JF-1	JF-2	JF-3	JF-4
WQF (CFS)	2.940	0.614	1.021	0.869
PEAK FLOW (CFS)	30.26	5.11	15.82	9.16
MODEL SIZE	JFPD0811-15-4	JFPD0806-3-1	JFPD0806-9-2	JFPD0806-5-1

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, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. 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-916, 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 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.

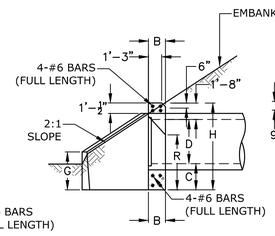
CONTECH JELLYFISH STORMWATER FILTER
NO SCALE



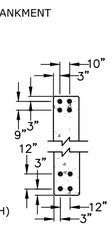
NOTE: ENDWALL SYMMETRICAL ABOUT ℄ OF PIPE.

PLAN

FRONT ELEVATION



SIDE ELEVATION



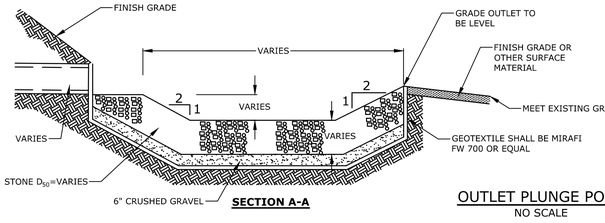
DETAIL OF BAR SPACING

DIMENSIONS AND QUANTITIES FOR ONE WING TYPE ENDWALL

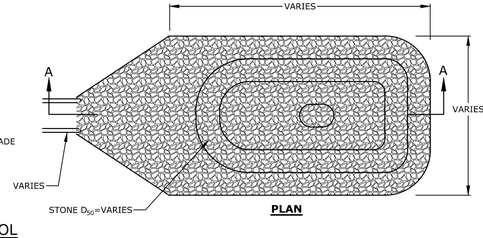
D	B	C	G	H	K	L	P	Q	R	W	VOL.
IN.*	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	CY
24	1'-6"	2'-0"	3'-3"	6'-9"	9'-1 1/2"	7'-3 3/8"	1'-4 5/8"	0'-9 3/8"	3'-4 5/8"	5'-5 3/8"	5.87
36	1'-6"	2'-0"	3'-3"	6'-8"	9'-1 1/2"	7'-3 3/8"	1'-4 5/8"	0'-9 3/8"	3'-4 5/8"	5'-5 3/8"	5.87
42	1'-6"	2'-0"	3'-3"	7'-2"	9'-10 1/2"	7'-9 3/4"	1'-6 1/8"	0'-9 3/8"	3'-10 1/8"	6'-7 3/8"	6.67
48	1'-7"	2'-6"	3'-9"	8'-2"	10'-10"	8'-3 3/8"	1'-5 3/8"	0'-11 1/4"	4'-9"	7'-9 3/8"	9.11
60	1'-7"	2'-6"	3'-9"	9'-2"	12'-4 1/2"	9'-3 3/8"	2'-0 3/8"	0'-11 1/4"	5'-9"	10'-1 3/8"	12.43
72	1'-7"	2'-6"	3'-9"	10'-2"	13'-10 1/2"	10'-3 3/8"	2'-3 3/8"	0'-11 1/4"	6'-9"	12'-5"	16.30

* FOR D<36" USE DIMENSIONS LISTED FOR D=36"

HEADWALL WITH WINGWALLS
NO SCALE

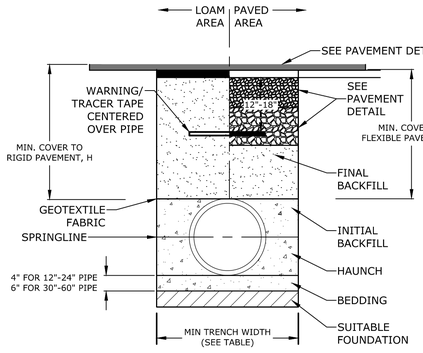


SECTION A-A



PLAN

OUTLET PLUNGE POOL
NO SCALE



PIPE DIAM.	MIN. TRENCH WIDTH
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION H-25	SURFACE LIVE LOADING CONDITION HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
60"	24"	60"

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITION
* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

	CLASS I	CLASS II		CLASS III		CLASS IV
PIPE DIA.	COMPACTED	95%	90%	85%	95%	90%	95%
12"	41'	28'	21'	16'	20'	16'	16'
15"	42'	29'	21'	16'	21'	16'	16'
18"	44'	30'	21'	16'	22'	17'	16'
24"	37'	26'	18'	14'	19'	14'	14'

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE
FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE
UNIT WEIGHT OF SOIL (γs) = 120 PCF

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE AS JUDGED BY THE ENGINEER, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL. REFER TO SPECIFICATION 310000 EARTHWORK - SITE.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
6. MINIMUM COVER: FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

HP STORM TRENCH INSTALLATION DETAIL
NO SCALE

Tighe&Bond

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

DETAILS SHEET

SCALE: AS SHOWN

C-505

Last Saved: 5/20/2020 10:00:12 AM By: NAHansen
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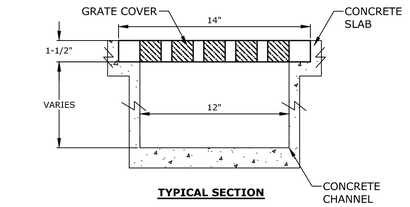
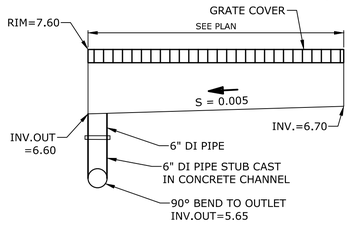


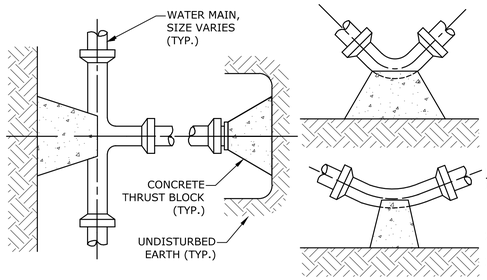
TYPICAL SECTION



TRENCH DRAIN PROFILE

NOTES:
1. TRENCH DRAIN FRAME AND GRATE SHALL BE MULTIDRAIN ECONODRAIN SERIES #12 OR EQUAL.

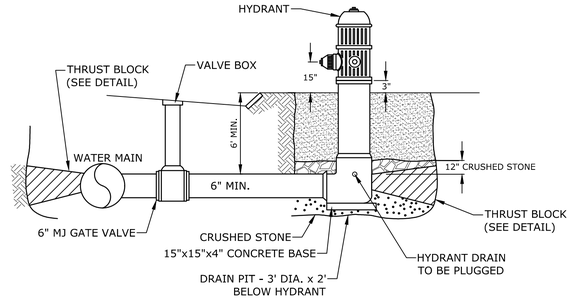
TRENCH DRAIN DETAIL
NO SCALE



TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL				
REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

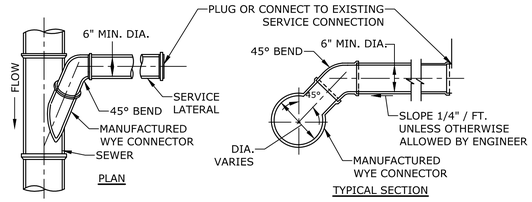
NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE

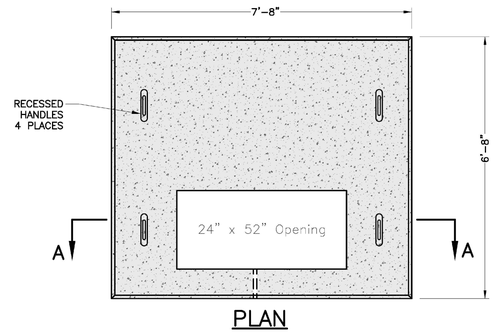


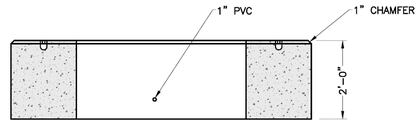
NOTE:
1. HYDRANT TO BE KENNEDY TYPE K-81, RIGHT OPEN (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER DEPARTMENT AND CITY OF PORTSMOUTH FIRE DEPARTMENT.
2. PAINT HYDRANT IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AFTER INSTALLATION AND TESTING.

FIRE HYDRANT
NO SCALE



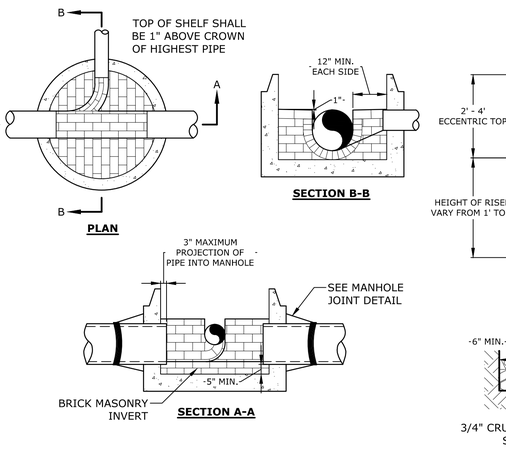
STANDARD SERVICE LATERAL CONNECTION
NO SCALE

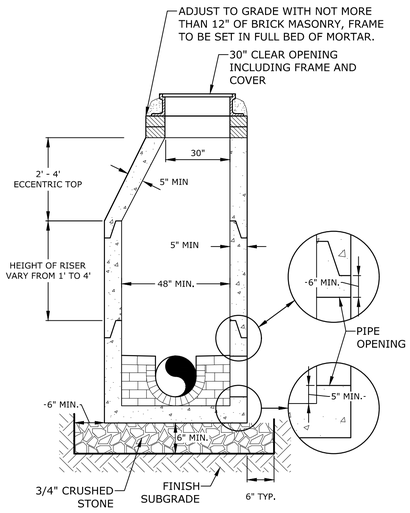




NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

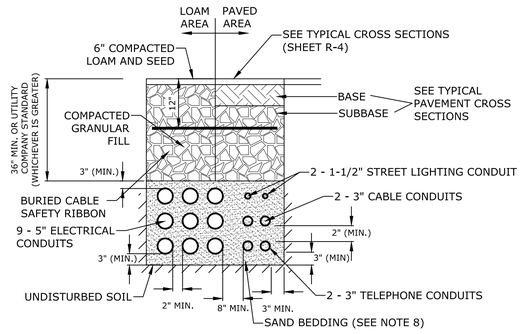
3-PHASE TRANSFORMER PAD
NO SCALE





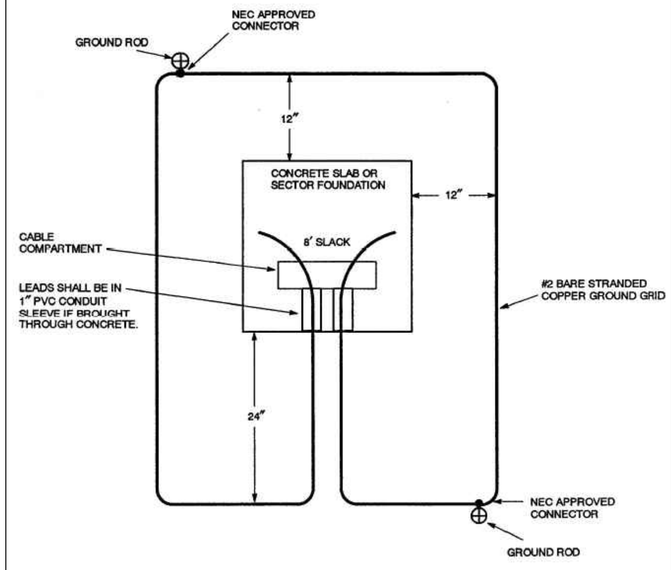
NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. BITUMINOUS WATERPROOF COATING TO BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



NOTES:
THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES 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 TRANSFORMER. THE TWO 8-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.

PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER – 5-20-2020

STATE OF NEW HAMPSHIRE – PATRICK M. CROSKUNS No. 15273 LICENSED PROFESSIONAL ENGINEER – 5-20-2020

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

DETAILS SHEET

SCALE: AS SHOWN

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Last Saved: 5/20/2020
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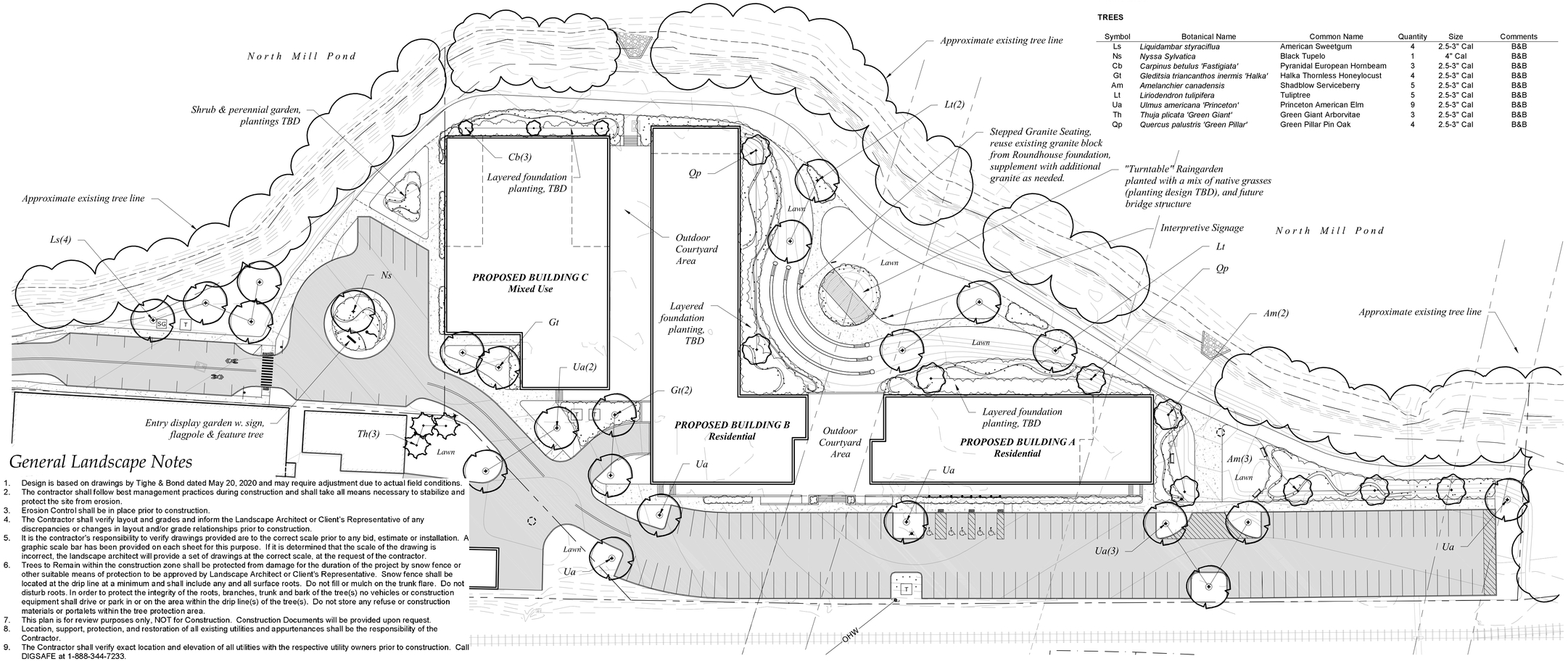


General Landscape Notes

1. Design is based on drawings by Tighe & Bond dated May 20, 2020 and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
5. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
6. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
7. This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
8. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
9. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
10. The Contractor shall procure any required permits prior to construction.
11. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
12. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
13. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
14. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
15. All plants shall be legibly tagged with proper botanical name.
16. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with the following:
    a. Outside hose attachments spaced a maximum of 150 feet apart, and
    b. An underground irrigation system, or
    c. A temporary irrigation system designed for a two-year period of plant establishment.
20. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
21. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
22. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
23. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
24. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
25. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicle intersections the canopies shall be raised to 8' min.
26. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
27. Landscape Architect is not responsible for the means and methods of the contractor.

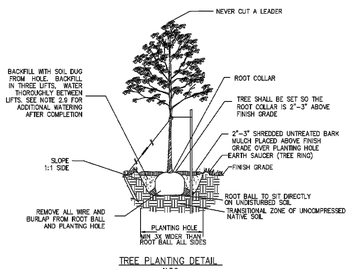
Plant List

TREES

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ls	*Liquidambar styraciflua*	American Sweetgum	4	2.5-3" Cal	B&B
Ns	*Nyssa Sylvatica*	Black Tupelo	1	4" Cal	B&B
Cb	*Carpinus betulus 'Fastigiata'*	Pyranidal European Hornbeam	3	2.5-3" Cal	B&B
Gt	*Gleditsia triancanthos inermis 'Halka'*	Halka Thornless Honeylocust	4	2.5-3" Cal	B&B
Am	*Amelanchier canadensis*	Shadblow Serviceberry	5	2.5-3" Cal	B&B
Lt	*Liriodendron tulipifera*	Tuliptree	5	2.5-3" Cal	B&B
Ua	*Ulmus americana 'Princeton'*	Princeton American Elm	9	2.5-3" Cal	B&B
Th	*Thuja plicata 'Green Giant'*	Green Giant Arborvitae	3	2.5-3" Cal	B&B
Qp	*Quercus palustris 'Green Pillar'*	Green Pillar Pin Oak	4	2.5-3" Cal	B&B

City of Portsmouth Landscape Notes

1. The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
2. All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
3. The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.



TREE PLANTING DETAIL
N.T.S.

City of Portsmouth Tree Planting Detail

PART 1 – GENERAL:

1.1 THE BASE OF THE CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS IS THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPLANTING. ANSI A300 PART 6 LAYS OUT TERMS AND BASIC STANDARDS AS SET FORTH BY INDUSTRY BUT IT IS NOT THE "END ALL" FOR THE CITY OF PORTSMOUTH. THE FOLLOWING ARE THE CITY OF PORTSMOUTH, NH TREE PLANTING REQUIREMENTS THAT ARE IN ADDITION TO OR THAT GO BEYOND THE ANSI A300 PART 6.

PART 2 – EXECUTION:

2.1 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.

2.2 ALL WIRE AND BURLAP SHALL BE REMOVED FROM THE ROOT BALL AND PLANTING HOLE.

2.3 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.

2.4 THE ROOT COLLAR OF THE TREE SHALL BE 2"–3" ABOVE GRADE OF PLANTING HOLE FOR FINISHING DEPTH.

2.5 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.

2.6 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.

2.7 AN EARTH BERM SHALL BE PLACED AROUND THE PERIMETER OF THE PLANTING HOLE EXCEPT WHERE CURBED PLANTING BEDS OR PITS ARE BEING USED.

2.8 2"–3" OF MULCH SHALL BE PLACED OVER THE PLANTING AREA.

2.9 AT THE TIME OF PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

2.10 STAKES AND GUYS SHALL BE USED WHERE APPROPRIATE AND/OR NECESSARY. GUY MATERIAL SHALL BE NON-DAMAGING TO THE TREE.

2.11 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 TRANSPORTATION AND/OR THE CITY OF PORTSMOUTH, NH PLANTING REQUIREMENTS.

0 10 20 40 80

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Proposed Multi-Family Development

LANDSCAPE PLAN

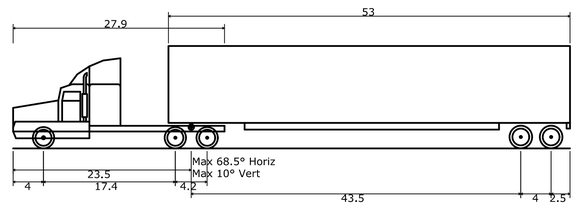
105 Bartlett Street Portsmouth, New Hampshire

Drawn By:	VM
Checked By:	RW
Scale:	1" = 40' - 0"
Date:	May 20, 2020
Revisions:	

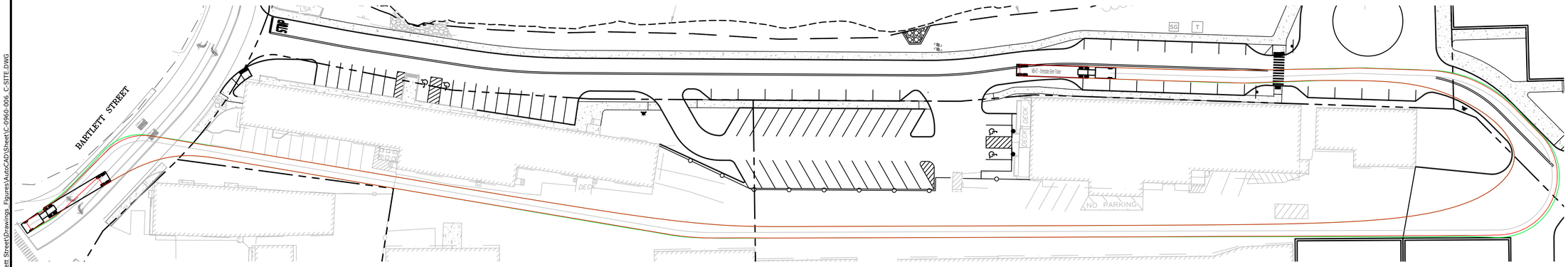
L-1

Sheet 1 of 1

WB-67 ENTERING



WB-67 - Interstate Semi-Trailer	
Overall Length	73.501ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°



WB-67 EXITING

Tighe&Bond

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

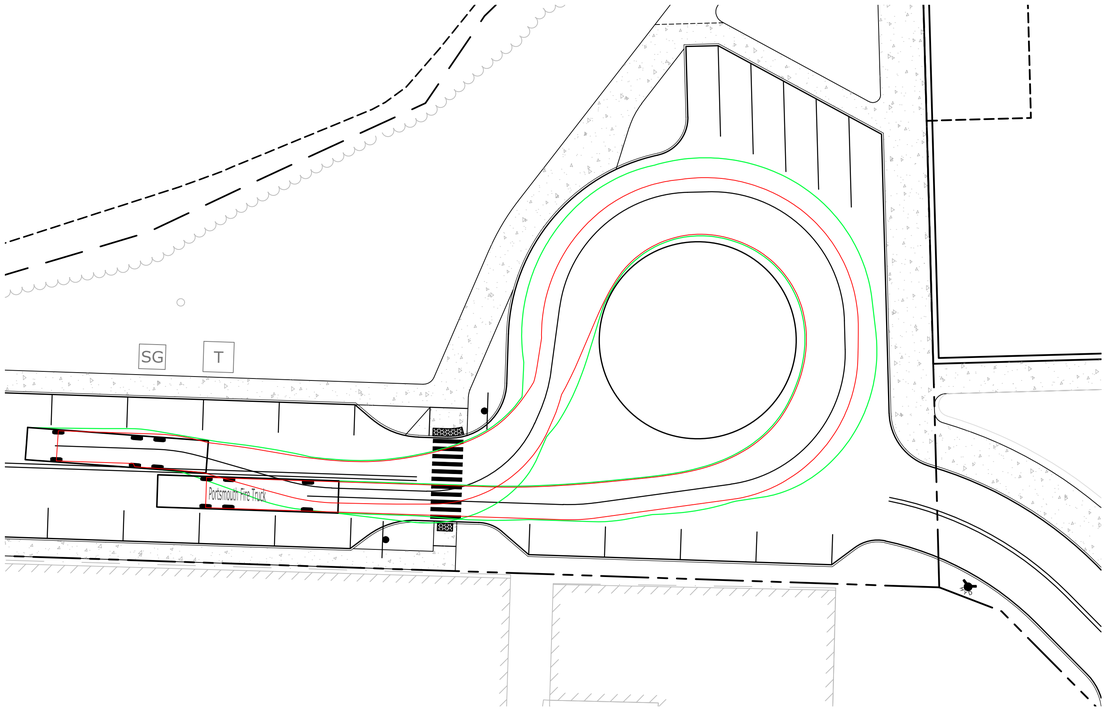
MARK	DATE	DESCRIPTION
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

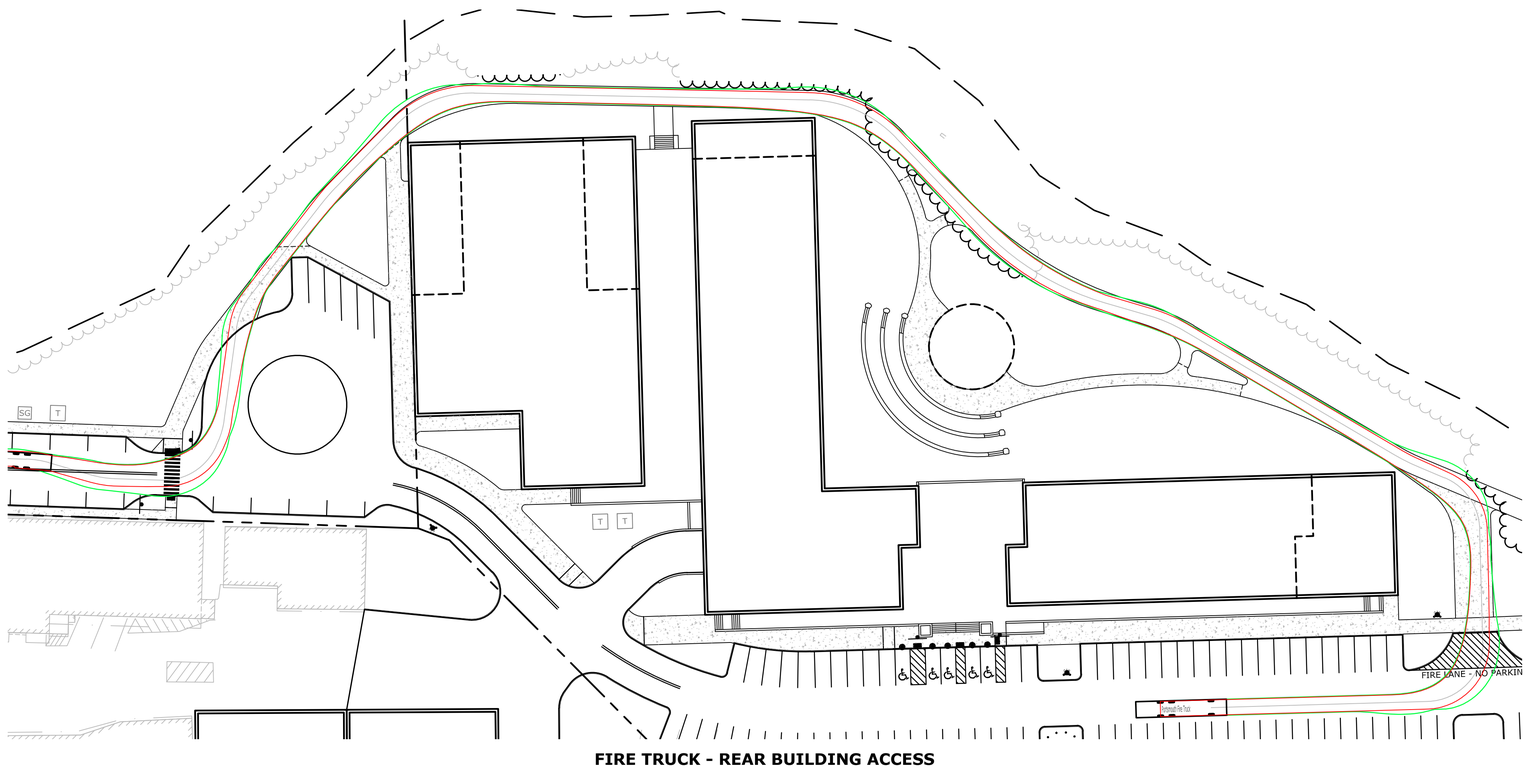
Last Saved: 5/19/2020
Plotted: Tuesday, May 19, 2020 - 4:36pm By: NAHanson
Tighe & Bond: J:\C\C0960 Catharines\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG



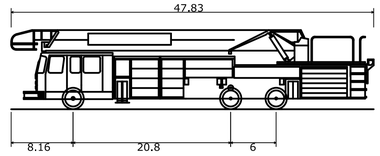
FIRE TRUCK CUL-DE-SAC

FIRE TRUCK TURN AROUND

0 20' 40'
GRAPHIC SCALE



FIRE TRUCK - REAR BUILDING ACCESS



Portsmouth Fire Truck	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	38.00°

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

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APPROVED:	BML

TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

2 OF 2

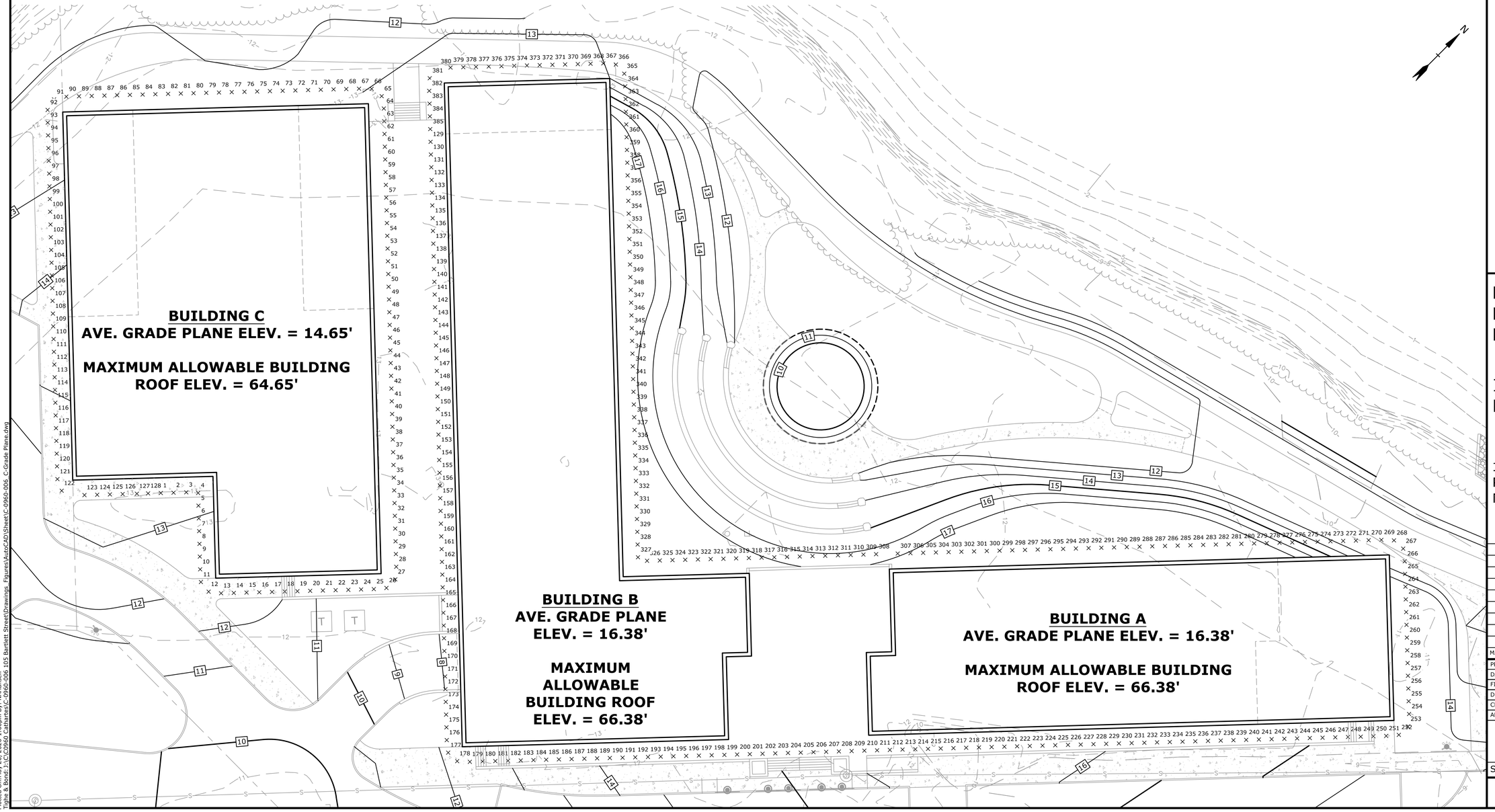
Last Saved: 5/19/2020
Plotted: May 19, 2020 @ 8:47pm By: NAHanson
Tighe & Bond: J:\C\C0960 Catharine\C-0960-006 105 Bartlett Street\Drawings_Figures\AutoCAD\Sheet\C-0960-006_C-SITE.DWG

BUILDING C GRADE PLANE ELEVATIONS

POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV
1	13.20	18	13.35	35	17.50	52	17.50	69	12.95	86	12.85	103	13.75	120	13.45
2	13.20	19	15.35	36	17.50	53	17.50	70	12.95	87	12.75	104	13.85	121	13.35
3	13.20	20	17.50	37	17.50	54	17.50	71	12.95	88	12.65	105	13.95	122	13.25
4	13.20	21	17.50	38	17.50	55	17.50	72	12.95	89	12.55	106	14.05	123	13.20
5	13.05	22	17.50	39	17.50	56	17.50	73	12.95	90	12.45	107	14.15	124	13.20
6	12.95	23	17.50	40	17.50	57	17.50	74	12.95	91	12.40	108	14.25	125	13.20
7	12.85	24	17.50	41	17.50	58	17.50	75	12.95	92	12.45	109	14.25	126	13.20
8	12.75	25	17.50	42	17.50	59	17.50	76	12.95	93	12.50	110	14.25	127	13.20
9	12.65	26	17.50	43	17.50	60	17.50	77	12.95	94	12.55	111	14.25	128	13.20
10	12.55	27	17.50	44	17.50	61	17.50	78	12.95	95	12.65	112	14.25	AVERAGE GRADE PLANE	14.65
11	12.45	28	17.50	45	17.50	62	17.50	79	12.95	96	12.75	113	14.15		
12	12.35	29	17.50	46	17.50	63	17.50	80	12.95	97	12.85	114	14.05		
13	12.35	30	17.50	47	17.50	64	13.50	81	12.95	98	12.95	115	13.95		
14	12.35	31	17.50	48	17.50	65	13.25	82	12.95	99	13.05	116	13.85		
15	12.35	32	17.50	49	17.50	66	13.05	83	12.95	100	13.20	117	13.75		
16	12.35	33	17.50	50	17.50	67	12.95	84	12.95	101	13.35	118	13.65		
17	12.35	34	17.50	51	17.50	68	12.95	85	12.95	102	13.65	119	13.55		

BUILDING A & B GRADE PLANE ELEVATIONS

POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV	POINT #	ELEV
129	17.50	146	17.50	163	17.50	180	14.00	197	17.50	214	17.50	231	17.50	248	17.50	265	13.00	282	17.50	299	17.50	316	17.50	333	17.50	350	17.50	367	13.00	384	14.25
130	17.50	147	17.50	164	17.50	181	15.00	198	17.50	215	17.50	232	17.50	249	16.25	266	12.50	283	17.50	300	17.50	317	17.50	334	17.50	351	17.50	368	13.10	385	17.50
131	17.50	148	17.50	165	17.50	182	17.00	199	17.50	216	17.50	233	17.50	250	15.25	267	12.25	284	17.50	301	17.50	318	17.50	335	17.50	352	17.50	369	13.20	AVERAGE GRADE PLANE	16.38
132	17.50	149	17.50	166	17.50	183	17.50	200	17.50	217	17.50	234	17.50	251	14.75	268	12.25	285	17.50	302	17.50	319	17.50	336	17.50	353	17.50	370	13.30		
133	17.50	150	17.50	167	17.50	184	17.50	201	17.50	218	17.50	235	17.50	252	14.75	269	12.30	286	17.50	303	17.50	320	17.50	337	17.50	354	17.50	371	13.30		
134	17.50	151	17.50	168	8.00	185	17.50	202	17.50	219	17.50	236	17.50	253	14.75	270	12.40	287	17.50	304	17.50	321	17.50	338	17.50	355	17.50	372	13.30		
135	17.50	152	17.50	169	8.00	186	17.50	203	17.50	220	17.50	237	17.50	254	14.75	271	12.50	288	17.50	305	17.50	322	17.50	339	17.50	356	17.50	373	13.30		
136	17.50	153	17.50	170	8.00	187	17.50	204	17.50	221	17.50	238	17.50	255	14.75	272	12.75	289	17.50	306	17.50	323	17.50	340	17.50	357	17.50	374	13.30		
137	17.50	154	17.50	171	8.00	188	17.50	205	17.50	222	17.50	239	17.50	256	14.75	273	13.10	290	17.50	307	17.50	324	17.50	341	17.50	358	17.20	375	13.30		
138	17.50	155	17.50	172	8.00	189	17.50	206	17.50	223	17.50	240	17.50	257	14.75	274	14.00	291	17.50	308	17.50	325	17.50	342	17.50	359	16.70	376	13.30		
139	17.50	156	17.50	173	12.25	190	17.50	207	17.50	224	17.50	241	17.50	258	14.75	275	14.75	292	17.50	309	17.50	326	17.50	343	17.50	360	15.90	377	13.30		
140	17.50	157	17.50	174	12.25	191	17.50	208	17.50	225	17.50	242	17.50	259	14.75	276	15.50	293	17.50	310	17.50	327	17.50	344	17.50	361	15.10	378	13.30		
141	17.50	158	17.50	175	12.25	192	17.50	209	17.50	226	17.50	243	17.50	260	14.75	277	16.10	294	17.50	311	17.50	328	17.50	345	17.50	362	14.50	379	13.30		
142	17.50	159	17.50	176	12.25	193	17.50	210	17.50	227	17.50	244	17.50	261	14.75	278	17.00	295	17.50	312	17.50	329	17.50	346	17.50	363	13.75	380	13.35		
143	17.50	160	17.50	177	12.15	194	17.50	211	17.50	228	17.50	245	17.50	262	14.75	279	17.50	296	17.50	313	17.50	330	17.50	347	17.50	364	13.00	381	13.50		
144	17.50	161	17.50	178	12.20	195	17.50	212	17.50	229	17.50	246	17.50	263	14.75	280	17.50	297	17.50	314	17.50	331	17.50	348	17.50	365	12.95	382	13.75		
145	17.50	162	17.50	179	12.30	196	17.50	213	17.50	230	17.50	247	17.50	264	14.10	281	17.50	298	17.50	315	17.50	332	17.50	349	17.50	366	12.95	383	14.00		



Tighe&Bond

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	C-0960-006
DATE:	
FILE:	C-0960-006_C-GRADE PLANE.DWG
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BML

GRADE PLANE EXHIBIT

SCALE: AS SHOWN

1 OF 1

Last Saved: 5/19/2020
Plotted: 05/19/2020 - 1:06pm By: NAHansen
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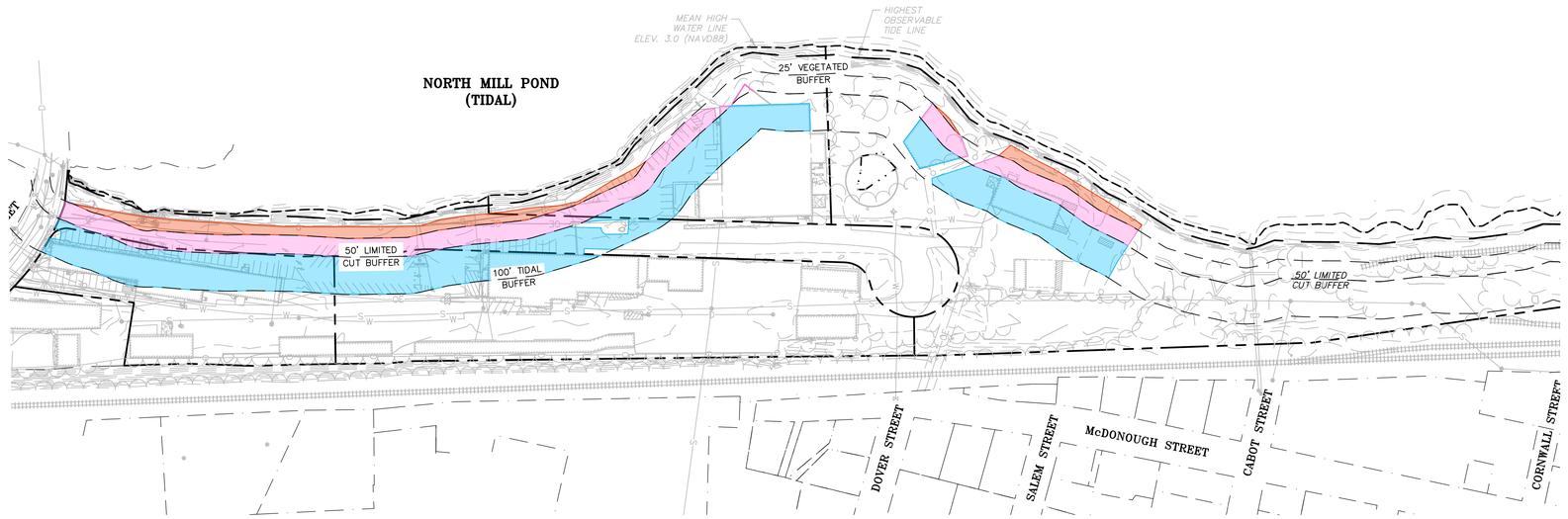


EXISTING WETLAND BUFFER IMPACTS

LEGEND

IMPACTS WITHIN 25 FT VEGETATED BUFFER = 12,788 SF

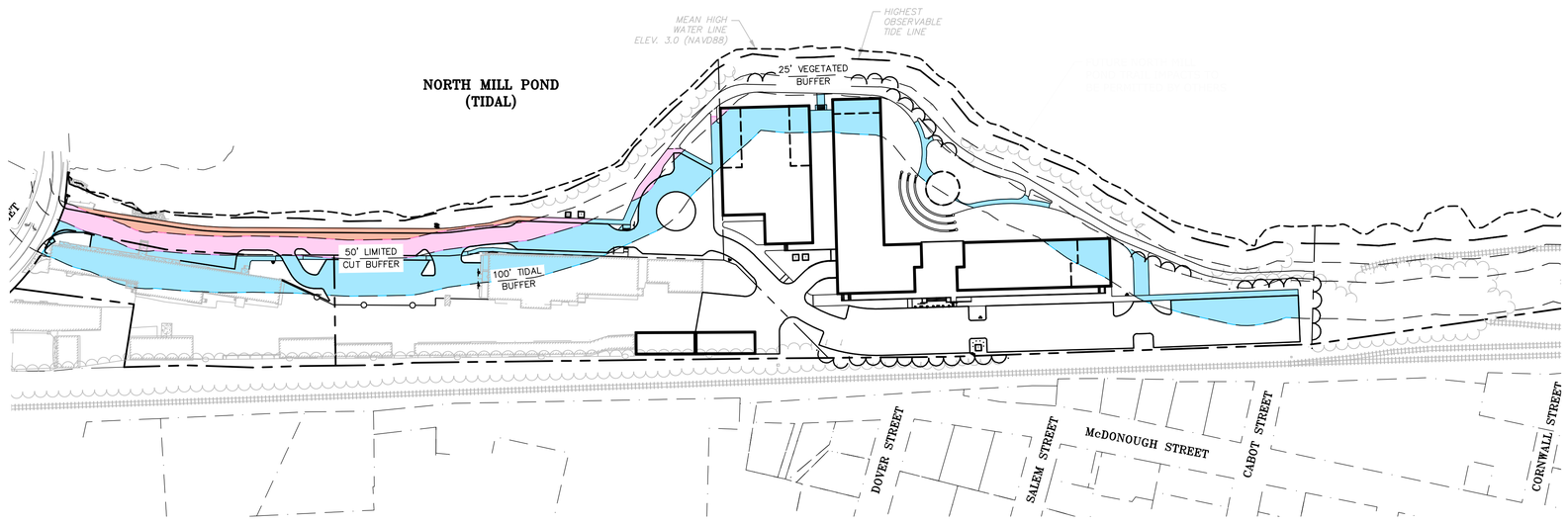
IMPACTS WITHIN 25 FT TO 50 FT LIMITED CUT AREA = 30,479 SF

IMPACTS WITHIN 50 FT TO 100 FT TIDAL BUFFER = 66,812 SF

Tighe&Bond

0 100' 200'

GRAPHIC SCALE



PROPOSED WETLAND BUFFER IMPACTS

LEGEND

IMPACTS WITHIN 25 FT VEGETATED BUFFER = 6,664 SF

IMPACTS WITHIN 25 FT TO 50 FT LIMITED CUT AREA = 17,972 SF

IMPACTS WITHIN 50 FT TO 100 FT TIDAL BUFFER = 62,145 SF

Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street
Portsmouth,
New Hampshire

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WETLAND BUFFER IMPACTS EXHIBIT

SCALE: AS SHOWN

1 OF 1

Last Saved: 5/19/2020
Printed: Tuesday, May 19, 2020 8:52am By: NAHanson
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