REGULAR MEETING
CONSERVATION COMMISSION

1 JUNKINS AVENUE
PORTSMOUTH, NEW HAMPSHIRE
EILEEN DONDERO FOLEY COUNCIL CHAMBERS

*Members of the public also have the option to join the meeting over Zoom (See below for more details)**

3:30 P.M. **August 10, 2022**

AGENDA

I. APPROVAL OF MINUTES

1. July 13, 2022

II. WETLAND CONDITIONAL USE PERMITS (NEW BUSINESS)

1. 1465 Woodbury Avenue
   Bromley Portsmouth, LLC, Owner
   Map 216, Lot 3

III. STATE WETLAND BUREAU APPLICATIONS (OLD BUSINESS)

1. Minor Impact
   333 Borthwick Avenue (Site address: 444 Borthwick Avenue)
   (Portsmouth Regional Hospital)
   HCA Realty, Inc., Owner
   Map 234, Lot 7-4A

2. Standard, Dredge, and Fill
   99 Peirce Island Road (Pool House)
   City of Portsmouth, Owner
   Map 208, Lot 1

IV. OTHER BUSINESS

V. ADJOURNMENT

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

https://us06web.zoom.us/webinar/register/WN_JDpRED0ES5iLhrSREwBUXg

MINUTES
CONSERVATION COMMISSION

1 JUNKINS AVENUE
PORTSMOUTH, NEW HAMPSHIRE
EILEEN DONDERO FOLEY COUNCIL CHAMBERS

3:30 P.M. **July 13, 2022**

MEMBERS PRESENT: Chair Barbara McMillan; Vice Chair Samantha Collins; Members; Allison Tanner, Jessica Blasko; Lynn Vaccaro; and Abigail Gindele, Alternate

MEMBERS ABSENT: Thaddeus Jankowski; and Mika Court, Alternate

ALSO PRESENT: Peter Britz, Environmental Planner/Sustainability Coordinator

I. APPROVAL OF MINUTES

1. June 08, 2022

Ms. Tanner moved to approve the minutes from the June 8, 2022, Conservation Commission Meeting, as amended, seconded by Ms. Blasko.

Ms. Tanner commented that on page two it should say the pavement was 1 foot from the edge of the wetland not the wetland buffer.

Ms. Gindele noted that on page 4 it should say patio instead of deck in her question about whether to not it would be lit.

The motion passed by unanimously by a 5-0 vote.

II. WETLAND CONDITIONAL USE PERMITS (OLD BUSINESS)

A. 70 Pleasant Point Drive
Katara, LLC, Owner
Map 207, Lot 15
(LU-22-112)

Ms. Vaccaro arrived late to the meeting.

Corey Colwell from TF Moran and Eric Burke spoke to the application. Mr. Colwell noted that they have incorporated the feedback the Commission gave during the meeting last month. This

includes: incorporating eco grass, adding a note about the NOFA standards, adding more trees and shrubs to the buffer, and moving the patio 5 feet further from the water. They also removed the retaining wall and put in plantings instead. They have submitted a DES application for tidal buffer zone impact for the dock. They did a joint site walk with the Commission and the Planning Board. At the site walk they were asked to quantify the impact to the 50- and 100-foot buffers. They are moving the house back 20 feet. There is currently 313 sf of impact in the 50-foot buffer and this proposal will reduce that to 0 sf. Between the 50- and 100 foot there is currently 1,200 sf of impact. That is being increased to 2,100 sf because they are shifting the house.

Ms. Blasko questioned what type of material the silt socks would be made out of. Mr. Colwell responded that they typically specify an organic mesh.

Ms. Tanner commented that folding down the burlap can restrict the tree growth. It should be fully removed. Ms. Tanner questioned how well the live staking would work with the drought situation. Mr. Burke responded that the live staking is based on the timing of installation. All plant material will need to be watered during the establishment period and it will be part of the maintenance. If the burlap is removed properly, then they have not seen adverse conditions if a portion of the basket is left.

Chairman McMillan questioned if the stairs going down were going to be removed. Mr. Colwell responded that the stairs would remain. They received a variance and Conservation Commission and Planning Board approval in 2008. Chairman McMillan questioned if the grow socks would be biodegradable. Mr. Burk confirmed the grow socks and silt socks would be biodegradable.

Chairman McMillan commented that there was a note from the City about a living shoreline and requested clarification. Mr. Cowell responded that they were not proposing a new living shoreline. The site is not a good candidate because it is sitting on a ledge and heavily armored. They are planning to enhance the buffer with native plantings and invasive species management. It will be living in a sense because it will be vegetation from 0-20 feet. They are not proposing to change the slope. Mr. Britz commented that they added the comment to make sure they were aware of that section of the ordinance and addressing it when appropriate.

Ms. Vaccaro questioned what percentage of invasive plant cover there was now. Mr. Burke responded that it is all along the shoreline, but not an overgrown situation. Ms. Vaccaro questioned if the staghorn sumac and oaks would remain. Mr. Burke confirmed that was correct.

Ms. Gindele questioned if they would be removed by hand or with a cut and dab method. Mr. Burke responded that they would hand pull the majority and cut and dab anything over one inch. The cut and dab will be a very small percentage. Chairman McMillan questioned if they would agree to a 2-year monitoring plan with an 80% survival rate. Mr. Burke agreed.

Chairman McMillan questioned if a long-term maintenance plan could be included in the deed as well. Mr. Burke agreed and noted that DES has maintenance requirements for some of their approvals as well.

Ms. Tanner moved to recommend approval of the Wetland Conditional Use Permit to the Planning Board, seconded by Ms. Blasko with the following stipulations:

1. The applicant will plan for two years of planting monitoring to ensure the health and success of the buffer plantings. If after one year the plantings do not have at least an 80% success rate, replanting will be required.
2. Silt sock devices being used to protect the buffer area shall be made of organic materials, including the outer lining/mesh that holds the sock together in order to prevent plastic waste.

The motion passed unanimously by 6-0 vote.

III. WETLAND CONDITIONAL USE PERMITS (NEW BUSINESS)

1. 1169/1171 Sagamore Avenue
John & Colleen Herbert, Owners
Map 224, Lots 14 & 15
(LU-21-167)

Joe Coranati and Mike Garappey spoke to the application. Mr. Coranati commented that they had a site walk last week. The CUP is for impacts to the buffer for drainage intake and an outfall on Sagamore Ave. The requirements for the storm water were part of the TAC approval. The culvert and treatment will allow for overflow from the site to cross the street onto the City owned property. There are no direct wetland impacts. A lot of the drainage needs stemmed from putting in a sidewalk on Sagamore Ave. All of the site's storm water is treated before getting to the culvert. It includes a jellyfish filter and will treat water from the state road. There will be temporary buffer impact to put in a culvert and head wall. The area will be revegetated. They will be removing a small area of invasive plants. The CUP is only needed for the offsite work not the development itself.

Ms. Blasko questioned if the jellyfish filter would treat the storm water. Mr. Coranati confirmed this one was meant for storm water. Ms. Blasko questioned who would oversee the maintenance of it. Mr. Coranati responded that the developers will install it and the City will maintain it.

Ms. Tanner questioned if they were planning to replant the area where they remove the invasive plants with a conservation mix. Mr. Coranati confirmed that was correct.

Ms. Gindele commented that this development was introducing a lot of impervious and requested more detail on the storm water treatment going under the road. Mr. Coranati responded that the site itself has a complex drainage system with rain gardens and detention structures. They will treat the water and release the storm water before it goes to a low spot on the site. Ms. Gindele questioned if it was designed to handle larger storms. Mr. Coranati confirmed that it was designed to the City's requirements.

Ms. Vaccaro questioned if the treatment system followed the current natural flow of water. Mr. Coranati confirmed that it did. It is odd that a culvert did not already exist in that location. They will decrease runoff in every direction.

Vice Chairman Collins questioned if they would agree to a yearlong monitoring of the invasive species and plantings as well as following the NOFA standards. Mr. Coranati agreed. They can add the NOFA standards into the condo docs.

Ms. Vaccaro questioned what trees they were keeping. Mr. Coranati responded that they were keeping some in the corners. They will also be replanting trees along the property lines.

Chairman McMillan commented that they should consider that the storm water treatment will not treat the salt used in snow storage and clearing.

Ms. Blasko moved to recommend approval of the Wetland Conditional Use Permit to the Planning Board seconded by Ms. Gindele with the following stipulations:

1. For one year the applicant will monitor the site where invasive species are to be removed in order to determine the success of the removal and the health of the new wetland plantings. The new plantings shall have a greater than 80% success rate after one year. If not applicant shall replant.
2. The applicant will follow NOFA standards for land care and only use organic land management techniques within the wetland and wetland buffer areas.

The motion passed unanimously by a 6-0 vote.

2. 0 Patricia Drive
Hemlock Way Realty Investments, LLC, Owner
Map 283, Lot 11
(LU-20-190)

Mike Garappey spoke to application. Mr. Garappey commented that they were working with the City to satisfy the conditions of approval. This is a previously approved subdivision. The CUP expired, so they are reapplying for that CUP. The existing roadway infrastructure is in place. There is existing pavement and drainage. The area of impact is in the wetland buffer. There will be a reduction of structure in the buffer because they will be removing some of the existing pavement. The new road will be narrower. They will be paying into the ARM in lieu of onsite mitigation. Last time, the Conservation Commission voted favorably with some stipulations. Those stipulations were incorporated into the plan, and they will be carried forward with this new CUP.

Ms. Tanner requested clarification on the right of way transfer. Mr. Garappey responded that area is currently owned by the City but will be transferred back to private property. Ms. Tanner questioned why the road couldn't swing further away from the buffer. Mr. Garappey responded that they were mimicking the existing road. There is also a retaining wall along the edge of the roadway.

Ms. Tanner commented that the snow maintenance crew should be snow pro certified. Mr. Garappey agreed.

Ms. Tanner questioned if the storm water treatment plan was based on larger storm events. Mr. Garappey responded that it was designed in accordance with DPW requirements and vetted through TAC.

Ms. Tanner questioned if the signage about the prime wetland was still included. Mr. Garappey confirmed that it was installed already.

Vice Chairman Collins questioned if they would be willing to follow the NOFA standards. Mr. Garappey agreed.

Ms. Gindele requested information on the history of the property. Mr. Garappey responded that the subdivision was approved in the mid '60s. They build out part of Martha's Terrace and part of Patricia Drive. This lot was acquired by Hemlock Way Realty Investments in July of 2021.

Ms. Vaccaro questioned if this would open space down the road to build more than these two homes. Mr. Garappey responded it would not.

Ms. Gindele commented that the road was in bad condition but replacing it could cause a lot of impact too. Mr. Garappey responded that the new asphalt and treatment will be a benefit compared to what's there today.

Ms. Tanner moved to recommend approval of the Wetland Conditional Use Permit to the Planning Board, seconded by Vice Chairman Collins with the following stipulations:

1. The applicant shall require all winter maintenance personnel to have a Green Snow Pro certification.
2. The applicant will follow NOFA standards for land care.

Ms. Gindele commented that this was a prime wetland area, and the houses will take out some of the only tree line along that whole area. It's out of the buffer but there is still impact to be considered by adding two homes with yards. Ms. Tanner noted that they only have jurisdiction over the 100-foot buffer. The houses are out of the buffer. There is already pavement in the area, and they are redoing it. Ms. Gindele commented that if it was their directive to protect the wetlands, then they have to look at more than just 100 feet.

Vice Chairman Collins questioned if the road would have lighting. Mr. Garappey responded that it would not.

The motion passed by a 5-1-0 vote. Ms. Gindele opposed.

IV. WORK SESSIONS

1. 124 Kensington Road
Neal L. Ouellette Revocable Trust, Owner
Map 152, Lot 20
(LU-22-138)

Ms. Tanner moved to go past 5:30 p.m., seconded by Ms. Blasko. The motion passed unanimously by a 6-0 vote.

Eric Weinrieb spoke to the presentation. This is a 19,000 sf lot that was developed 75-100 years ago. In 2012 they acquired additional land to protect a valued wetland system. Most of the parcel is made up of the 100-foot buffer. The building envelope out of buffer meets the setbacks but it is a tiny part of the home and driveway. The owners have a detached garage and want to have an attached garage. They have to push the garage further away to make the grades work between the house and garage. They are moving the structure away from the wetland system and also proposing vegetation improvements in the area. They are only adding 800 sf of impervious on the lot. The patio in front will be permeable and everything drains away from the wetland. They are looking for some input before submitting an application.

Ms. Tanner questioned why the entire new development couldn't move forward on the lot. Mr. Weinrieb responded that it would disrupt the connection point with the existing house. They would have to significantly change the interior layout of the house to make that connection. Ms. Tanner commented that it should be further away from the buffer and the driveway should be porous. Mr. Weinrieb confirmed they could make the driveway porous. They are moving it further away. They are also treating the runoff and enhancing the buffer with plantings.

Chairman McMillan questioned if they had a picture of the layout of the house. Mr. Weinrieb responded that the proposed connection point is where the door is today. Moving it forward would run into the stairs to the second floor.

Vice Chairman Collins commented that when they came back it would be helpful to have pictures of the area to better visualize what is there now and what is proposed. Mr. Weinrieb confirmed that they could do that.

Chairman McMillan noted that a site walk could be helpful. Mr. Weinrieb confirmed they could set that up.

Ms. Blasko questioned what the hatched area on the plan was. Mr. Weinrieb responded that it's the full impact area.

Chairman McMillan commented that they were moving the structure back but also increasing the size. Mr. Weinrieb responded that the existing garage was nonfunctional because it can't fit two cars. It is important to have an attached 2 car garage as these homeowners plan to age in place.

Chairman McMillan questioned if they had picked buffer plantings. Mr. Weinrieb responded that they called out planting areas and have a list of plantings they are providing. They have not specifically placed them. Ms. Vaccaro questioned what was there now. Mr. Weinrieb responded that there was a dense raspberry bush behind the garage and a variety of mature plantings. They do not intend to have lawn in the back at all.

Chairman McMillan noted that they would schedule a site walk.

V. STATE WETLAND BUREAU APPLICATIONS (NEW BUSINESS)

1. Standard, Dredge, and Fill
70 Pleasant Point Drive
Katara, LLC, Owner
Map 207, Lot 15

Chairman McMillan recused herself from this application.

Corey Colwell from TF Moran commented that they have submitted an application for this site. The application is for 11,933 sf of impact. There will be 3,750 sf of temporary impact. All impacts are on previously developed upland except for the dock. The dock impact is 886 sf of impact. Because the site elevation has steep banks it has high tolerance for flood risk. The dock will have a gangway and float. They will be on the back channel.

Ms. Tanner questioned if the float and gangway would be pulled off site for storage. Mr. Colwell confirmed they would.

Mr. Colwell commented that the rocky beach and salt marsh determined the location of the dock. They screened for the location for priority resource areas. There are no eel grass beds close to the site. There is shellfish in the area, but this waterbody is closed to shell fishing. The property to the west has a prime wetland with a 100-foot buffer. That buffer does extend onto this site, but they are only proposing some plantings and invasive species management in that buffer. They will raise the dock to provide more light and float stops will protect the mud flats. The construction will take place in the off season. The temporary structures will be taken off site during the off season. The pier will be 6' by 72, the gangway will be 4' by 30' and the float will be 10' by 40'. It will be built at elevation 10. This dock is 100 feet long and the max length it could be is 200 feet. The overall allowed footprint is 1,500 sf and this is 886 sf. The float is maxed out at 400 sf. The Marsh Elder and sturgeon will not be impacted by this project.

Vice Chairman Collins questioned if the kayaks could be stored on the dock instead of the existing rack. Mr. Colwell responded they could look into it.

Ms. Tanner moved to recommend approval of the application to the State Wetlands Bureau seconded by Ms. Blakso with the following stipulations:

1. The applicant will ensure that gangway and float storage be off site.
2. Kayak storage should be moved to the float or pier to be away from the protected salt marsh habitat and to decrease foot traffic within that area.

Ms. Tanner commented that the salt marsh is impacted by the existing kayak rack. Ms. Vaccaro added that moving the storage to the dock helps compensate for the size of the dock.

The motion passed by a 5-0-1 vote. Chairman McMillan recused.

2. Standard, Dredge, and Fill
99 Peirce Island Road (Pool House)
City of Portsmouth, Owner
Map 208, Lot 1

Facilities Manager Joe Almeida and Wade Lippert from Oak Point spoke to the Portsmouth pool application.

Mr. Lippert commented that the design of the pool project is primarily complete. It includes renovation of the pool and pool systems. The liner will be replaced and the gutter around the pool. They will replace all associated piping and pool systems. The pool pump house will be replaced and moved out of the 100-foot buffer zone. They will restore that area to turf. They are submitting an NHDES application. The temporary disturbance in the 100-buffer zone will be removing the pool deck and replacing it in kind. The overall temporary disturbance in the buffer is 9,200 sf. There will be 1,443 sf of permanent disturbance. They currently drain the system around the pool in a shallow under drain. Right now, that system is clogged and not functioning well. They will replicate the drain system and provide a new outfall. They are proposing to pay into the ARM fund for mitigation.

Ms. Tanner questioned why the pool couldn't be moved to the Community Campus site. This could be turned back into a natural area. Mr. Lippert responded that would be a City policy decision. The project is in the tidal buffer zone, but this site has been disturbed since the 1940s. Mr. Almeida added that the pool in the island is an amazing amenity. It is a 900,000-gallon pool and has historic value. As of now their charge from City Council is to fix the pool.

Ms. Blasko questioned what they meant by turf. Mr. Lippert responded that it would be artificial lawn between the concrete pool deck and the fence. Ms. Blasko questioned if they considered going back to a saltwater pool. Mr. Lippert responded that was not something they considered in the design process.

Vice Chairman Collins questioned if there were any alternate energy sources looked at for powering the pump house and existing pool house. Mr. Lippert responded that was not anything they considered during the design process. Mr. Almeida added that Oak Point designed a completely new pool house. The existing pool house was built in the early 1950s. Structurally it is in rough condition. That would have been a good opportunity to add alternative energy. It is not moving forward at this point. The pump station requires too much energy for solar power.

Chairman McMillan questioned if there was any sustainable aspect of this plan. Mr. Almeida responded that the system will be more efficient. Mr. Lippert added that the new filters will use less water.

Chairman McMillan questioned if they were proposing to replace any trees. Mr. Lippert responded that they were not proposing that, but they were open to some additional plantings.

Chairman McMillan noted that this plan was in draft form and missing some sections. Mr. Lippert confirmed that they were still actively working on it and those sections required feedback from DES. Chairman McMillan noted that it would be nice to see the full picture.

Ms. Tanner commented that one page says they consulted with the Conservation Commission, and they did not identify any local mitigation projects that were available. That is not correct. Mr. Lippert confirmed that was a typo.

Ms. Vaccaro questioned if they looked at elevating the pool to combat sea level rise. Mr. Lippert responded that it was vulnerable to flooding, but it would be cost prohibitive to reconstruct it at a higher elevation. They are elevating the pump house. The mechanical systems should survive a flood event.

Mr. Britz commented that he told them to proceed with the draft to help get the DES process going. The Commission has recommended from a draft in the past. If there are specific questions, then they can try to address that.

Ms. Tanner commented that she would not recommend approval as it was. There are a lot things that could be addressed here. It would be good to see the information that is missing. Mr. Britz noted that some of the Commission's feedback has been more on policy decisions. They need to focus on the wetlands permit purview too. The Commission should review what's before them and determine whether it meets the State permit requirements or not.

Ms. Gindele requested clarification on the Commission's limitations. Mr. Britz responded that there was a difference between the City and the State. A City permit is restricted by what the ordinance allows. For a State permit the Commission interprets the State regulations in terms of how it will impact Portsmouth. Ultimately the State will decide based on their regulations. Discussing solar power are good policy discussions, but they are not part of the rules and regulations of a wetland permit. Chairman McMillan noted that they don't have to come here for a CUP. Mr. Britz confirmed that was correct.

Ms. Tanner commented that she would vote against a recommendation because the application was not complete. There is also misinformation about the Conservation Commission in the application that needs to be corrected. The plan should include more trees.

Elizabeth Oliver from Normandeau Associates was the wetland specialist on the project. There are some pieces missing because the certified wetland scientist working on the project with her was unavailable to close out some of the pieces. They are also awaiting some feedback from DES. The comment about mitigation with the Conservation Commission is a typo. Ms. Oliver questioned if there were any mitigation projects occurring in the municipality. Ms. Tanner responded that there might be.

Mr. Britz questioned what the timeframe for this project was. Mr. Almeida responded that they have committed to the community that they would not close the pool at all. It is a significant construction project. The work has to occur in winter conditions. The project is designed and ready to bid. They want to get it out to bid and contract to start as soon as the pool closes.

Chairman McMillan commented that in the past an application has been submitted to DES in tandem with it still being reviewed by the Conservation Commission. That maybe the best route forward for this.

Ms. Tanner moved to recommend postponement of the application to the State Wetlands Bureau, seconded by Vice Chairman Collins.

The motion passed unanimously by 6-0 vote.

3. 333 Borthwick Avenue (Site address 444 Borthwick Avenue)
(Portsmouth Regional Hospital)
HCA Realty, Inc., Owner
Map 234, Lot 7-4A

Ms. Tanner moved to recommend postponement of the application to the State Wetlands Bureau, seconded by Ms. Blasko.

The motion passed unanimously by 6-0 vote.

VI. OTHER BUSINESS

Chairman McMillan commented that the working group met and had a productive meeting. They will plan to focus on homeowners and landscaping companies. They will meet again on July 27th for anyone who wants to attend.

Vice Chairman Collins commented that they should write a letter to the City Council about the pool and more sustainable improvement options. Ms. Tanner noted that she would draft the letter.

VII. ADJOURNMENT

Ms. Tanner moved to adjourn the meeting at 6:20 p.m., seconded by Ms. Gindele. The motion passed unanimously by 6-0 vote.

Respectfully submitted,

Becky Frey,
Secretary for the Conservation Commission

Memo

TO: Conservation Commission Members
FROM: Kate Homet, Associate Environmental Planner
Peter Britz, Environmental Planner
DATE: August 3, 2022
SUBJ: August 10, 2022 Conservation Commission Meeting

Site Address
1465 Woodbury Avenue
Bromley Portsmouth LLC and RCQ Portsmouth LLC c/o Quincy & Co Inc., Owner
Map 215, Lot 3 (LU-22-149)

Description:

Applicant is proposing to demolish the existing schoolhouse restaurant building on this property along with its associated parking and utilities. The application indicates that the total wetland buffer area on the lot is 164,700 square feet and the total buffer area to be disturbed is 4,760 square feet. They are proposing to remove an unspecified amount of impervious surface and structures and will be replacing with lawn. The northern portion of this site is located within the 100' buffer. They are proposing hydro-seeding and regrading of certain sections of the site along with a small fence addition to close off the existing driveway from Commerce Way.

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

Applicant is proposing to remove existing impervious surfaces and buildings in and around the 100' buffer and will replace with pervious cover.

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

Applicant is proposing an overall net positive impact to the wetland buffer by removing existing impervious coverage of the buffer and replacing with pervious coverage.

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

While current impervious impacts are proposed to be replaced with pervious material, there is currently no evaluation of the wetland functions and values. However, overall the removal of impervious to be replaced with lawn should result in a net benefit. With the addition of buffer plantings including trees and/or shrubs, the site would be further enhanced. Additionally, the applicant should assure that stormwater will be contained on site.

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

Currently no natural vegetative state on the site plan that could be altered or disturbed. The buffer will be restored to lawn.

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

Applicant's plans show they are planning to remove all existing impervious surface on the site and will replace with pervious area. This should aid in stormwater and runoff control and if the proper plantings are used, will help restore a section of the wetland buffer.

6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.
Site plan appears to show no demolition and/or construction activity within the 25' buffer.

Recommendation: Staff recommends approval of the project with the following stipulations:

That the applicant shall provide details to describe where stormwater will go and include assurance that no stormwater flows off-site.

The applicant provide additional plantings to be show on a wetland buffer enhancement plan as per section 10.1017.25.

352 Turnpike Road
Southborough, MA 01772
508.480.9900

July 20, 2022

Town of Portsmouth
Planning Department and Conservation Commission
1 Junkins Avenue, 3rd Floor
Portsmouth, NH 03801

Attention: Rick Chellman, Planning Board Chair
Barbara McMillan, Conservation Commission Chair

RE: Proposed Site Demolition
Wetland Conditional Use Permit and Amended Site Plan Review Applications
1465 Woodbury Avenue, Portsmouth, NH 03801

Dear Mr. Chellman and Ms. McMillan:

Please find the following enclosed documents for the Wetland Conditional Use Permit and Amended Site Plan Review applications for the above listed project:

- One (1) full size (24"x36") set of the Proposed Site Plan Documents prepared by Bohler and dated July 20, 2022;
- One (1) copy of the owner's authorization letter

The subject site is located at 1465 Woodbury Avenue (Assessors Map 216, Lot 3). The proposed project involves the demolition of the existing former schoolhouse restaurant building and it's associated parking and utilities. The entirety of the disturbed area will be replaced with lawn. The proposed project will include erosion controls to help prevent the migration of soil erosion and sedimentation outside of the project area.

We look forward to discussing this project with you. Please do not hesitate to contact us at (508) 480-9900 should you have any questions or wish to discuss further.

Sincerely,

BOHLER

Nick Dewhurst

Randy Miron

CC: Tom Godfrey, Granite Development, LLC (via email)

PROPOSED SITE PLAN DOCUMENTS

FOR

PNHP REALTY, LLC

PROPOSED

SITE DEMOLITION

LOCATION OF SITE:

1465 WOODBURY AVENUE, CITY OF PORTSMOUTH

ROCKINGHAM COUNTY, NEW HAMPSHIRE

MAP #216, LOT #3

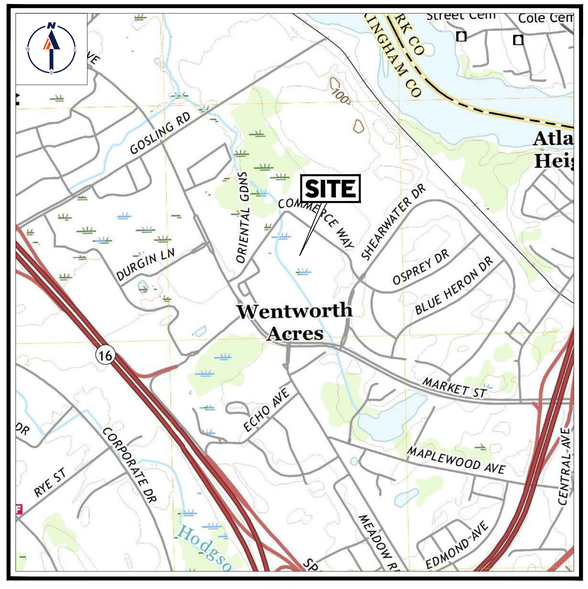
REFERENCES

EXISTING CONDITIONS PLAN:
MSC
1465 WOODBURY AVENUE
PORTSMOUTH, NH 03801
DATE: 01/17/2018
REVISED: 04/26/2018

* THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

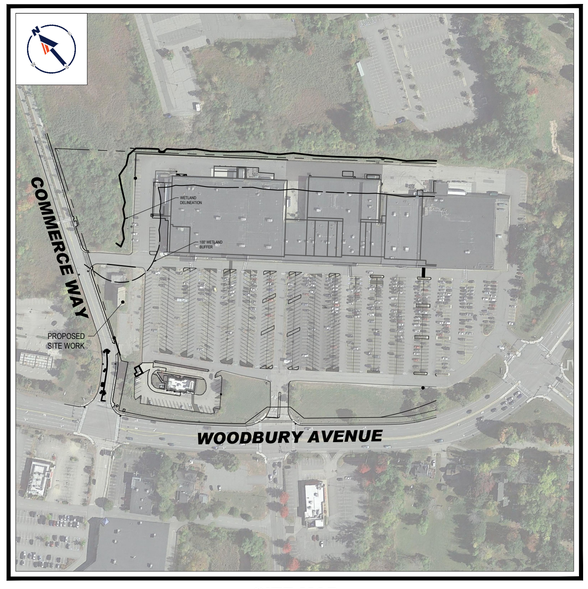
DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-101
GENERAL NOTES SHEET	C-102
DEMOLITION AND EROSION CONTROL PLAN	C-201
SITE LAYOUT AND DETAILS PLAN	C-301
EROSION AND SEDIMENT CONTROL NOTES & DETAILS	C-601
EXISTING CONDITIONS PLAN (BY OTHERS)	2 SHEETS



USGS MAP

SCALE: 1" = 1,000'
SOURCE: PORTSMOUTH NEW HAMPSHIRE USGS QUADRANGLE



SITE MAP

SCALE: 1" = 200'
SOURCE: GOOGLE AERIAL

PREPARED BY

BOHLER

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

811 Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

PERMIT SET

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	MAA220245
DRAWN BY:	CFD
CHECKED BY:	NPD/RMM
DATE:	07/20/2022
CAD I.D.:	MAA220245.00-SPPD-0A

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

PNHP REALTY, LLC

PROPOSED
SITE DEMOLITION

MAP: 216 LOT: 3
1465 WOODBURY AVENUE,
CITY OF PORTSMOUTH,
ROCKINGHAM COUNTY,
NEW HAMPSHIRE

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

STATE OF NEW HAMPSHIRE — JOHN R. SWERLING No. 14695 LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:

COVER SHEET

SHEET NUMBER:

C-101

ORG. DATE - 07/20/2022

GENERAL NOTES

1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING, (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE ENGINEER OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER , IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS, THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.

3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE ENGINEER OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS IS THE CONTRACTOR'S SOLE AND COMPLETE RESPONSIBILITY.

4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION IS TO BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.

5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS IN AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.

6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL, CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.

7. CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.

8. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE OR REPAIRED DUE TO DIMENSIONS, MEASUREMENTS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING ENGINEER OF RECORD AND BOHLER WRITTEN NOTIFICATION OF SAME AND (B) ENGINEER OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.

9. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION/ORDERING OF PARTS AND MATERIALS AND COMMENCEMENT OF SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.

10. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

11. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS; AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.

12. ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.

13. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTOR'S SOLE COST AND EXPENSE.

14. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.

15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.

16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.

17. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

18. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME. THE ENGINEER OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO PERFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER OF RECORD'S AND BOHLER SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.

19. THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING, TO THE ENGINEER OF RECORD AND BOHLER , ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE, IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.

20. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, AND CURRENT CODES, RULES, STATUTES AND THE LIKE. IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER HARMLESS FOR AND FROM ALL INJURIES, CLAIMS AND DAMAGES THAT ENGINEER AND BOHLER SUFFER AND ANY AND ALL COSTS THAT ENGINEER AND BOHLER INCUR AS RELATED TO SAME.

21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE SPECIFIED AND COMMERCIALLY REASONABLE STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER , AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION AND AFTER ALL PERMITS ARE ISSUED, WHICHEVER DATE IS LATER. IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.

22. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

23. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE (HEREIN "BOHLER PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ANY AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND, PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE, THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE.

24. WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER, BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT, DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE, MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

25. IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN ENGINEER'S SCOPE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, CLAIMS, INJURIES, PENALTIES AND THE LIKE RELATED TO SAME.

26. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILITY.

27. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN; AND, FURTHER, THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT ENGINEER OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE.

28. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.

29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. ENGINEER OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.

30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY, INDEPENDENTLY, SEPARATELY, COLLECTIVELY, AND SEVERALLY INDEMNIFY, DEFEND, PROTECT AND HOLD ENGINEER OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE AND FURTHER, THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SO.

32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE ENGINEER OF RECORD AND BOHLER, THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTE(S) AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE ENGINEER OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.

GENERAL DEMOLITION NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPLICABLE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.

3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY, THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.

4. THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN.
   - 4.1. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
   - 4.2. THIS PLAN IS NOT INTENDED TO AND DOES NOT PROVIDE DIRECTION REGARDING THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE CONTRACTOR AND THE PUBLIC.

5. THE CONTRACTOR MUST PROVIDE ALL "METHODS AND MEANS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR, AT THE CONTRACTOR'S SOLE COST, MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIRS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES REPAIRED TO THEIR PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.

6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY AND SAFETY TO ALL PROPERTY ON THE SITE OR ADJACENT OR NEAR TO THE SAME.

7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND/OR NECESSARY SAFETY FEATURES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM AREAS OF CONSTRUCTION AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF ALL UNAUTHORIZED PERSONS AT ANY TIME, TO OR NEAR THE DEMOLITION AREA.

8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE APPLICABLE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE ENGINEER OF RECORD AND BOHLER , IN WRITING AND MUST ADDRESS ALL ISSUES AND ITEMS RESPONDED TO, BY THE ENGINEER OF RECORD AND BY BOHLER, IN WRITING. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.

9. THE CONTRACTOR MUST BECOME FAMILIAR WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND/OR DISCONNECTION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED, REMOVED AND/OR ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

10. PRIOR TO COMMENCING ANY DEMOLITION, THE CONTRACTOR MUST:
    - 10.1. OBTAIN ALL REQUIRED PERMITS AND MAINTAIN THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND ALL PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK.
    - 10.2. NOTIFY, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION JURISDICTION, AT LEAST 72 BUSINESS HOURS PRIOR TO THE COMMENCEMENT OF WORK.
    - 10.3. INSTALL THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE, AND MAINTAIN SAID CONTROLS UNTIL SITE IS STABILIZED
    - 10.4. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT, IN ADVANCE OF ANY EXCAVATION.
    - 10.5. LOCATE AND PROTECT ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL UNDERGROUND UTILITIES.
    - 10.6. PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ANY DEMOLITION ACTIVITIES.
    - 10.7. ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS REGARDING THE METHODS AND MEANS TO CONSTRUCT SAME. THESE ARE NOT THE ENGINEER OF RECORD'S RESPONSIBILITY. IN THE EVENT OF ABANDONMENT, THE CONTRACTOR MUST PROVIDE THE UTILITY ENGINEER AND OWNER WITH IMMEDIATE WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.
    - 10.8. ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS NECESSARY OR AS REQUIRED TO MINIMIZE THE IMPACT ON, OF, AND TO THE AFFECTED PARTIES. WORK REQUIRED TO BE PERFORMED "OFF-PEAK" IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
    - 10.9. IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL, THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS AND SPECIFICATIONS OR THE CONTRACT WITH THE OWNER/DEVELOPER, THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK IN THE AREA OF DISCOVERY, AND IMMEDIATELY NOTIFY, IN WRITING AND VERBALLY, THE OWNER AND ENGINEER OF RECORD AND BOHLER, THE DISCOVERY OF SUCH MATERIALS TO PURSUE PROPER AND COMPLIANT REMOVAL OF SAME.

11. THE CONTRACTOR MUST NOT PERFORM ANY EARTH MOVEMENT ACTIVITIES, DEMOLITION OR REMOVAL OF FOUNDATION WALLS, FOOTINGS, OR OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE, UNLESS SAME IS IN STRICT ACCORDANCE AND CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, OR PURSUANT TO THE WRITTEN DIRECTION OF THE OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.

12. DEMOLITION ACTIVITIES AND EQUIPMENT MUST NOT USE OR INCLUDE AREAS OUTSIDE THE DEFINED PROJECT LIMIT LINE, WITHOUT SPECIFIC WRITTEN PERMISSION AND AUTHORITY OF AND FROM THE OWNER AND ALL GOVERNMENTAL AGENCIES WITH JURISDICTION.

13. THE CONTRACTOR MUST BACKFILL ALL EXCAVATION RESULTING FROM, OR INCIDENTAL TO, DEMOLITION ACTIVITIES. BACKFILL MUST BE ACCOMPLISHED WITH APPROVED BACKFILL MATERIALS AND MUST BE SUFFICIENTLY COMPACTED TO SUPPORT ALL NEW IMPROVEMENTS AND MUST BE PERFORMED IN COMPLIANCE WITH THE RECOMMENDATIONS AND GUIDANCE ARTICULATED IN THE GEOTECHNICAL REPORT. BACKFILLING MUST OCCUR IMMEDIATELY AFTER DEMOLITION ACTIVITIES AND MUST BE PERFORMED SO AS TO PREVENT WATER ENTERING THE EXCAVATION. FINISHED SURFACES MUST BE GRADED TO PROMOTE POSITIVE DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION TESTING AND MUST SUBMIT SUCH REPORTS AND RESULTS TO THE ENGINEER OF RECORD AND THE OWNER.

14. EXPLOSIVES MUST NOT BE USED WITHOUT PRIOR WRITTEN CONSENT FROM BOTH THE OWNER AND ALL APPLICABLE, NECESSARY AND REQUIRED GOVERNMENTAL AUTHORITIES. PRIOR TO COMMENCING ANY EXPLOSIVE PROGRAM AND/OR ANY DEMOLITION ACTIVITIES, THE CONTRACTOR MUST ENSURE AND OVERSEE THE INSTALLATION OF ALL OF THE REQUIRED PERMIT AND EXPLOSIVE CONTROL MEASURES THAT THE FEDERAL, STATE, AND LOCAL GOVERNMENTS REQUIRE. THE CONTRACTOR IS ALSO RESPONSIBLE TO CONDUCT AND PERFORM ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES AND THE LIKE.

15. IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS, THE CONTRACTOR MUST USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR. AFTER THE DEMOLITION IS COMPLETE, THE CONTRACTOR MUST CLEAN ALL ADJACENT STRUCTURES AND IMPROVEMENTS TO REMOVE ALL DUST AND DEBRIS WHICH THE DEMOLITION OPERATIONS CAUSE. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION AT CONTRACTOR'S SOLE COST.

16. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS OUTSIDE OF APPROVED AREAS WILL NOT BE PERMITTED, INCLUDING BUT NOT LIMITED TO, THE PUBLIC RIGHT-OF-WAY.

17. THE CONTRACTOR MUST MAINTAIN A RECORD SET OF PLANS WHICH INDICATES THE LOCATION OF EXISTING UTILITIES THAT ARE CAPPED, ABANDONED IN PLACE, OR RELOCATED DUE TO DEMOLITION ACTIVITIES. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE CONTRACTOR'S SOLE COST.

18. THE CONTRACTOR MUST EMPTY, CLEAN AND REMOVE FROM THE SITE ALL UNDERGROUND STORAGE TANKS, IF ENCOUNTERED, IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL REQUIREMENTS, PRIOR TO CONTINUING CONSTRUCTION IN THE AREA AROUND THE TANK WHICH EMPTYING, CLEANING AND REMOVAL ARE AT THE CONTRACTOR'S SOLE COST.

19. THE CONTRACTOR MUST LOCATE AND CLEARLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.

20. CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND IF REQUIRED, DIG EXPLORATORY TEST PITS TO CONFIRM EXACT LOCATION AND DEPTH OF UTILITIES. CONTRACTOR SHALL NOTIFY DESIGN ENGINEER WITH ANY CONFLICTS AS NEEDED TO COORDINATE FINAL LOCATION OF ALL PROPOSED IMPROVEMENTS.

21. CONTRACTOR SHALL INSPECT ALL EXISTING UTILITY STRUCTURES THAT ARE TO REMAIN FOR THE PROJECTS RE-USE TO VERIFY SUITABILITY FOR SAME. IF STRUCTURES CAN NOT BE REUSED THEN THE CONTRACTOR SHALL PROVIDE A NEW STRUCTURE. THE CONTRACTOR SHALL COORDINATE SUCH WORK WITH THE APPLICABLE UTILITY PROVIDER.

22. CONTRACTOR TO REMOVE ANY BUILDING FOUNDATION REMAINS OR ASSOCIATED IMPROVEMENTS, DELETERIOUS MATERIALS, AND/OR DEBRIS THAT IMPEDE THE WORK SHOWN ON THESE PLANS.

23. THE CONTRACTOR SHALL REVIEW THE PLANS VERSUS THE LOCATION OF EXISTING STRUCTURES, UTILITIES AND APPURTENANCES IN THE FIELD TO CONFIRM ACCURACY OF SAME AND VERIFY ITEMS TO BE REMOVED. THE CONTRACTOR SHALL CARRY COSTS FOR REMOVAL OF ANY EXISTING STRUCTURES, APPURTENANCES, AND UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO, DRAIN, WATER, SEWER, STEAM, IRRIGATION, GAS, TELECOM AND ELECTRIC.

24. THE CONTRACTOR SHALL MAINTAIN, ADJUST OR ABANDON EXISTING MONITORING WELLS IN ACCORDANCE WITH THE DIRECTION OF THE ENVIRONMENTAL CONSULTANT (TYP.)

25. WHERE THE LIMIT OF WORK COINCIDES WITH PROPERTY LINE, TREE LINE, PROPOSED SAWCUT OR COMBINATION THEREOF IT IS SHOWN ADJACENT TO THESE FEATURES FOR GRAPHICAL CLARITY.

26. EXISTING TREES TO REMAIN ARE TO BE PROTECTED DURING CONSTRUCTION UNLESS CLEARLY INDICATED OTHERWISE. REASONABLE CARE AND CAUTION SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT DAMAGE AND SELECTIVE PRUNING MAY BE REQUIRED TO ENSURE THAT TREES DO NOT CONFLICT WITH THE DEVELOPMENT.

27. CONTRACTOR SHALL REPAIR/REPLACE ANY TRAFFIC LOOP DETECTORS THAT ARE DAMAGED DURING CONSTRUCTION WITHIN EXISTING OR PROPOSED RIGHTS OF WAYS. ANY SUCH WORK SHALL BE PERFORMED BY A LICENSED / DOT APPROVED SIGNAL CONTRACTOR. ANY DAMAGED LOOPS OR OTHER SIGNAL EQUIPMENT SHALL BE REPAIRED IMMEDIATELY AFTER THE WORK IS COMPLETE. THE SIGNAL CONTRACTOR SHALL BE AVAILABLE TO MAKE ANY TEMPORARY SIGNAL CHANGES IF REQUESTED BY DOT AND/OR THE MUNICIPALITY.

28. THE CONTRACTOR MUST FIELD VERIFY THE LOCATIONS WHERE PROPOSED UTILITIES CROSS EXISTING UNDERGROUND UTILITIES BY USING A TEST PIT TO DETERMINE THE EXACT SIZE, DEPTH AND LOCATION, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

29. CONTRACTOR SHALL LOCATE ANY EXISTING UTILITY SERVICES THAT ARE TO BE TERMINATED AT THE EXISTING MAIN AND/OR PROPERTY LINE. THESE SERVICES ARE TO BE TERMINATED IN ACCORDANCE WITH MUNICIPAL / STATE TRANSPORTATION DEPARTMENT REQUIREMENTS.

GENERAL SITE NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

2. PRIOR TO THE COMMENCEMENT OF GENERAL CONSTRUCTION, THE CONTRACTOR MUST INSTALL SOIL EROSION CONTROL AND ANY STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MEASURES NECESSARY, AS INDICATED ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH APPLICABLE AND/OR APPROPRIATE AGENCIES' GUIDELINES TO PREVENT SEDIMENT AND/OR LOOSE DEBRIS FROM WASHING ONTO ADJACENT PROPERTIES OR THE RIGHT OF WAY.

3. ALL DIRECTIONAL/TRAFFIC SIGNING AND PAVEMENT STRIPING MUST CONFORM TO THE LATEST STANDARDS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE STATE OR LOCALLY APPROVED SUPPLEMENTS, GUIDELINES, RULES, REGULATIONS, STANDARDS AND THE LIKE.

4. THE LOCATIONS OF PROPOSED UTILITY POLES AND TRAFFIC SIGNS SHOWN ON THE PLANS ARE SCHEMATIC AND PRELIMINARY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD-VERIFYING THEIR LOCATION. THE CONTRACTOR MUST COORDINATE THE RELOCATION OF TRAFFIC SIGNS WITH THE ENTITY WITH JURISDICTION OVER THE PROJECT.

5. ALL DIMENSIONS SHOWN ARE TO BOTTOM FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, EXCEPT WHEN DIMENSION IS TO A PROPERTY LINE, STAKE OUT OF LOCATIONS OF INLETS, LIGHT POLES, ETC. MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE DETAILS, UNLESS NOTED CLEARLY OTHERWISE.

6. WHEN APPLICABLE, OWNER/ OPERATOR MUST FILE THE NOI FOR NPDES PERMITS AT APPROPRIATE AND/OR REQUIRED TIMEFRAMES BASED UPON THE DESIRED START OF CONSTRUCTION. LAND DISTURBING ACTIVITIES MUST NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED FROM GOVERNING AUTHORITIES (INCLUDING STORMWATER POLLUTION PREVENTION PLAN). THE CONTRACTOR MUST STRICTLY ADHERE TO THE APPROVED SWPPP PLAN DURING CONSTRUCTION OPERATIONS (IF PROVIDED).

7. ALL CONCRETE MUST BE AIR ENTRAINED AND INCLUDE THE MINIMUM COMPRESSIVE STRENGTH OF JURISDICTIONAL STANDARD PSI AT 28 DAYS (OR 4,000 PSI) UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

8. THE CONTRACTOR MUST FILE SITE SIGNAGE APPLICATION OR PERMIT UNDER SEPARATE APPLICATION UNLESS DONE SO AS PART OF JURISDICTIONAL PERMITTING PROCEDURES.

9. THE CONTRACTOR MUST REPAIR OR REPLACE, AT THE CONTRACTOR'S SOLE COST AND EXPENSE, ALL SIDEWALKS, CURBS, PAVEMENT MARKINGS, AND PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES WHETHER SPECIFIED ON THIS PLAN OR NOT.

10. WORK WITHIN THE RIGHT-OF-WAY MUST BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS AND STANDARDS OF THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DEPARTMENT, HIGHWAY DIVISION, AND/OR STATE DOT HIGHWAY DEPARTMENT.

11. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, TOP AND BOTTOM OF WALL WIDTHS DO NOT REPRESENT THE ACTUAL WIDTH OF THE PROPOSED WALL, RATHER THEY ARE AN ASSUMPTION BASED ON WALL TYPE AND WALL HEIGHT. WALL FOOTINGS AND /OR FOUNDATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR OR WALL DESIGNER, AND MUST BE SET BASED UPON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT AN APPROPRIATELY LICENSED PROFESSIONAL DESIGNS ALL WALLS SHOWN HEREON AND PRIOR TO CONSTRUCTION. REFER TO GRADING NOTES REGARDING RETAINING WALL DESIGN.

12. CONTRACTOR IS CAUTIONED OF EXISTING UTILITY SERVICES TO REMAIN IN PROXIMITY TO PROPOSED BOLLARDS AND SIGNS. CONTRACTOR SHALL PROVIDE FIELD MODIFICATION LOCATIONS OF BOLLARDS AND BOLLARDS WITH SIGNAGE AS NEEDED TO AVOID CONFLICTS WITH EXISTING UTILITY SERVICES TO REMAIN.

GENERAL GRADING NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

2. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED, THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS, WHICH HAVE JURISDICTION OVER THIS PROJECT.

3. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO THE CONTRACTOR COMMENCING ANY WORK.

4. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. SHOULD DISCREPANCIES BETWEEN THE PLANS AND INFORMATION OBTAINED THROUGH FIELD VERIFICATIONS BE IDENTIFIED OR EXIST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING.

5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR MUST COMPACT ALL EXCAVATED OR FILLED AREAS IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT'S GUIDANCE. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED. THIS REPORT MUST VERIFY THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES WHICH ARE IN EFFECT AND WHICH ARE APPLICABLE TO THE PROJECT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS THE GEOTECHNICAL REPORT DIRECTS. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.

6. IN THE EVENT OF A DISCREPANCY(IES) AND/OR A CONFLICT(S) BETWEEN PLANS, OR RELATIVE TO OTHER PLANS, THE GRADING PLAN TAKES PRECEDENCE AND CONTROLS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCY(IES) AND/OR CONFLICT(S).

7. THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO CONFORM TO THE PROPOSED GRADING, AND TO BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS.

8. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE PAVEMENT GRADE UNLESS OTHERWISE NOTED.

9. THE CONTRACTOR MUST CONFIRM AND ENSURE THAT AS CONSTRUCTED IMPROVEMENTS CREATE THE FOLLOWING MINIMUM SLOPES (EXCEPT WHERE ADA REQUIREMENTS LIMIT THEM): 1.0% ON ALL CONCRETE SURFACES, 1.5% ON ASPHALT SURFACES, 1.5% IN LANDSCAPED AREAS AND 0.75% SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS TO PROVIDE POSITIVE DRAINAGE.

10. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, TOP AND BOTTOM OF WALL ELEVATIONS (TW & BW) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF THE TOP AND BOTTOM OF THE WALL AND DO NOT REPRESENT THE ELEVATION OF THE PROPOSED WALL (INCLUDING THE CAP UNIT OR FOOTING). WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR OR WALL DESIGNER, AND MUST BE SET BASED UPON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT THERE ARE NO UTILITIES ON THE PASSIVE SIDE OF THE RETAINING WALL. NO EXCAVATION MAY BE PERFORMED ON THE PASSIVE SIDE OF THE RETAINING WALL WITHOUT APPROPRIATELY AND SAFELY SUPPORTING THE WALL IN ACCORDANCE WITH THE STANDARD OF CARE AND ALL APPLICABLE RULES, REGULATIONS, CODES, ORDINANCES, LAWS AND STATUTES.

11. MSE OR GRAVITY BLOCK WALLS SHALL BE CONSTRUCTED SUCH THAT UPON COMPLETION OF CONSTRUCTION THERE IS NO UNFINISHED SURFACE OR LIFTING RINGS VISIBLE (E.G. USE OF FINISHED TOP BLOCK OR CAP STONES)

12. STORMWATER RUNOFF WITHIN PROPERTY MUST BE COLLECTED ON-SITE WITH NO OVERLAND RUNOFF ONTO THE RIGHT-OF-WAY OR ADJACENT PROPERTIES TO THE MAXIMUM EXTENT POSSIBLE OR IN THE MANNER SHOWN ON THE CONSTRUCTION DRAWINGS. STORMWATER RUNOFF ONTO ADJACENT PROPERTIES SHALL BE CONTROLLED AS TO NOT ADVERSLY IMPACT SAID PROPERTIES.

13. BEFORE COMMENCING GRADING WORK, CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NATIVE AND IMPORTED MATERIALS WITH THEIR INTENDED FOR STRUCTURAL USES TO THE GEOTECHNICAL ENGINEER OF RECORD.

14. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL ADA GUIDELINES AND REQUIREMENTS.

15. FOR ALL RETAINING WALLS (CT USE 3, ALL OTHER OFFICES USE 4) FEET OR GREATER IN HEIGHT:
    - 15.1. THE OWNER OR THE OWNER'S CONTRACTOR IS TO PROVIDE A SITE-SPECIFIC RETAINING WALL DESIGN PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED (E.G. STRUCTURAL ENGINEER) IN THE STATE WHERE THE CONSTRUCTION OCCURS. SOIL TYPES, WATER TABLE ELEVATION, EXISTING & PROPOSED SURROUNDING IMPROVEMENTS/CONDITIONS (INCLUDING BUT NOT LIMITED TO SLOPES, DRIVE AISLES, ROADS, FENCING, GUIDERAILS, UTILITIES, DRAINAGE FACILITIES, STRUCTURES, FOUNDATIONS), LIVE LOADS AND OTHER SITE AMENITIES THAT COULD HAVE AN INFLUENCE OR IMPACT ON THE RETAINING WALL(S) CONSTRUCTABILITY AND/OR LONGEVITY SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN AS WELL AS THE GLOBAL STABILITY ANALYSIS.
    - 15.2. PEER REVIEW AND GLOBAL STABILITY ANALYSIS OF THE RETAINING WALL DESIGN MUST BE COMPLETED BY THE OWNER'S GEOTECHNICAL ENGINEER TO CERTIFY THE DESIGN MEETS INDUSTRY STANDARDS FOR FACTOR OF SAFETY. SOIL TYPES, WATER TABLE ELEVATION AND DESIGN PROPERTIES AS NOTED ABOVE SHALL BE FIELD CONFIRMED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO WALL CONSTRUCTION.

16. CONTRACTOR SHALL INSTALL CONCRETE CURB ALONG FACE OF BUILDING / WALL AS SHOWN TO PROVIDE CONSISTENT WIDTH ALONG LENGTH OF PROPOSED ACCESSIBLE RAMP AND RAMP LANDING TO MEET ADA/AAB REQUIREMENTS.

17. CONTRACTOR SHALL REVIEW RETAINING WALL LOCATIONS VERSUS APPLICABLE STATE AND LOCAL CODES AND PROVIDE FALL PROTECTION (E.G. FENCING OR RAILING) IN ACCORDANCE WITH SAID CODE.

18. CONTRACTOR SHALL COORDINATE WITH OWNER/OPERATOR TO REVIEW EXISTING DEPRESSIONS WITHIN EXISTING PAVEMENT AREAS TO REMAIN AND SHALL CONFIRM THAT THE SCOPE OF WORK SHALL PROVIDE POSITIVE DRAINAGE BY FIXING ANY EXISTING AREAS OF PONDING.

19. BEFORE COMMENCING GRADING WORK, CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NATIVE AND IMPORTED MATERIALS WITH THEIR INTENDED FOR STRUCTURAL USES TO THE GEOTECHNICAL ENGINEER OF RECORD.

GENERAL DRAINAGE & UTILITY NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

2. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE, AND THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM THOSE LOCATIONS AND SERVICES WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCING ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM ALL SANITARY CONNECTION POINTS AND ALL OTHER UTILITY SERVICE CONNECTION POINTS IN THE FIELD, PRIOR TO COMMENCING ANY CONSTRUCTION. THE CONTRACTOR MUST REPORT ALL DISCREPANCIES, ERRORS AND OMISSIONS IN WRITING, TO THE ENGINEER OF RECORD.

3. THE CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL OF THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES WHICH OCCUR DURING CONSTRUCTION, AT NO COST TO THE OWNER AND AT CONTRACTOR'S SOLE COST AND EXPENSE. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION.

4. THE CONTRACTOR MUST FIELD VERIFY THE PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES BY USING A TEST PIT TO CONFIRM EXACT DEPTH, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

5. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF SAME BASED UPON FINAL ARCHITECTURAL PLANS.

6. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SITE PLAN DOCUMENTS AND ARCHITECTURAL PLANS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS; GREASE TRAP REQUIREMENTS; AND DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITY SERVICES WITH THE INDIVIDUAL COMPANIES TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS OF THE APPLICABLE JURISDICTION AND REGULATORY AGENCIES AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE DOCUMENTS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, AND PRIOR TO CONSTRUCTION, MUST RESOLVE SAME.

7. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE EXACTLY AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND THE CONTRACTOR MUST COORDINATE SAME WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST COMPLY WITH APPLICABLE REQUIREMENTS AND SPECIFICATIONS. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR DESIGN OF TRENCH BACKFILL OR FOR COMPACTION REQUIREMENTS

8. DURING THE INSTALLATION OF SANITARY, STORM, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE, IN ANY RESPECT, FROM THE INFORMATION CONTAINED IN THESE PLANS. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE APPROPRIATE PLAN(S), WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER IMMEDIATELY UPON THE COMPLETION OF WORK.

9. THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SANITARY, WATER AND STORM SYSTEMS, ARE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND OR STATE DOT DETAILS AS APPLICABLE. THE CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME.

10. FINAL LOCATIONS OF PROPOSED UTILITY POLES, AND/ OR POLES TO BE RELOCATED ARE AT THE SOLE DISCRETION OF THE RESPECTIVE UTILITY COMPANY, REGARDLESS OF WHAT THIS PLAN DEPICTS.

11. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. THE CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.

12. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

13. THE CONTRACTOR'S PRICE FOR WATER AND SEWER SERVICE INSTALLATIONS MUST INCLUDE ALL FEES, COSTS, AND APPURTENANCES REQUIRED BY THE UTILITY PROVIDER (AND OTHER AGENCIES HAVING JURISDICTION OVER THE WORK) TO PROVIDE FULL AND COMPLETE WORKING SERVICE, INCLUDING (BUT NOT LIMITED TO) NECESSARY FEES, TESTING, DISINFECTING, INSPECTIONS, ROAD OPENING & BACKFILL REQUIREMENTS, TRAFFIC CONTROL AND SURETY BONDS AS DEFINED BY THE PROVIDER (AND OTHER AGENCIES HAVING JURISDICTION OVER THE WORK).

14. ALL WORK ASSOCIATED WITH UTILITY POLES, OVERHEAD WIRES AND ANY/ALL APPURTENANCES SHALL BE COORDINATED BY THE GC WITH THE LOCAL UTILITY COMPANIES PRIOR TO THE ORDERING OF ANY MATERIALS. THIS MAY INCLUDE BUT IS NOT LIMITED TO THE REMOVAL, INSTALLATION, RELOCATION OR PROTECTION OF ANY BRACING, GUY WIRES, OVERHEAD WIRES, ETC. AS MAY BE REQUIRED TO ACCOMMODATE THE PROJECT.

15. SEWERS CONVEYING SANITARY FLOW, OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST, AT A MINIMUM, BE IN SEPARATE TRENCHES WITH THE AT LEAST 18 INCHES OF VERTICAL SEPARATION FROM THE BOTTOM OF THE WATER MAIN TO THE TOP OF THE SEWER LINE. WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SANITARY SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SANITARY SEWER MUST BE PROVIDED. ALL CROSSINGS SHALL BE IN ACCORDANCE WITH JURISDICTIONAL PERMITTING/UTILITY AUTHORITIES REGULATIONS.

16. WHEN THESE PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL UTILITY SERVICES, INCLUDING BUT NOT LIMITED TO STORM, SANITARY, UTILITIES, AND IRRIGATION LINES, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. THE CONTRACTOR MUST CAP ENDS OF INSTALLED UTILITIES AS APPROPRIATE, MARK UTILITY ENDS WITH MAGENTIC TRACER TAPE, MARK TERMINOUS LOCATIONS WITH A 2X4 STAKE, AND MUST NOTE THE LOCATION OF ALL UTILITY STUBS ON A CLEAN COPY OF THE PLAN. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE CONTRACTOR'S SOLE COST.

17. STORM AND SANITARY PIPE LENGTHS INDICATED ARE NOMINAL AND ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS INDICATED ON THE PLANS OTHERWISE.

18. UNLESS INDICATED OTHERWISE, ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC., MUST BE INSTALLED UNDERGROUND. ALL NEW UTILITY SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.

19. SANITARY PIPE MUST BE POLYVINYL CHLORIDE (PVC) SDR 35 EXCEPT WHERE CLEARLY INDICATED OTHERWISE. SANITARY LATERAL(S) MUST BE PVC SDR 26 UNLESS CLEARLY INDICATED OTHERWISE.

20. UNLESS CLEARLY INDICATED OTHERWISE, ALL STORM PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILT/SOIL TIGHT JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHTO M252 FOR PIPES 4" TO 10" AND TO AASHTO M294 FOR PIPES 12" TO 60" AND TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SILT/SOIL TIGHT JOINT. PIPE FOR ROOF DRAIN CONNECTION MUST BE HDPE SDR 26 OR PVC SCHEDULE 40 UNLESS INDICATED OTHERWISE. HDPE PIPE JOINT GASKETS MUST BE PROVIDED AND CONFORM TO ASTM F477. DRAIN PIPE INSTALLED WITH OVER TEN (10) FEET OVER COVER AND/OR IN HIGH GROUNDWATER CONDITIONS SHALL BE SANITITE HP POLYPROPOPYLENE PIPE (PP), OR APPROVED EQUIVALENT.

21. UNLESS CLEARLY INDICATED OTHERWISE ALL SANITARY PIPE MUST BE:
    - 21.1. FOR PIPES LESS THAN 12 FEET DEEP: POLYVINYL CHLORIDE (PVC) SDR 35 PER ASTM D3034.
    - 21.2. FOR PIPES GREATER THAN 12 FEET DEEP: POLYVINYL CHLORIDE (PVC) SDR 26 PER ASTM D3034.
    - 21.3. UNLESS LOCAL OR STATE BUILDING / PLUMBING CODE CLEARLY SPECIFIES DIFFERENTLY, SANITARY LATERALS MUST BE PVC SDR 26.
    - 21.4. FOR ALL UTILITY PIPING (INCLUDING DRAIN) WITHIN 10 FT OF A BUILDING, PIPE MATERIAL SHALL COMPLY WITH APPLICABLE LOCAL OR STATE BUILDING AND PLUMBING CODES. CONTRACTOR SHALL REFER TO PLUMBING ENGINEERING PLANS AND VERIFY PIPE MATERIAL WITH LOCAL OFFICIAL PRIOR TO ORDERING OF MATERIALS.
    - 21.5. CONTRACTOR SHALL VERIFY THE CONNECTION OF EXTERIOR PIPING TO ANY FIXTURES (SUCH AS AN EXTERIOR GREASE INTERCEPTOR) OR OTHER DRAINAGE SYSTEMS WITH LOCAL OFFICIALS FOR COMPLIANCE WITH APPLICABLE LOCAL OR STATE BUILDING AND PLUMBING CODES PRIOR TO ORDERING OF MATERIALS.

22. WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER COMPANY. IN THE ABSENCE OF SUCH REQUIREMENTS, WATER MAIN PIPING MUST BE CEMENT-LINED DUCTILE IRON (DIP) MINIMUM CLASS 52 THICKNESS. ALL PIPE AND APPURTENANCES MUST COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.

23. GAS METERS MUST BE PROTECTED AS REQUIRED BY THE JURISDICTIONAL GAS PROVIDER.

ADA INSTRUCTIONS TO CONTRACTOR:

1. ALL ACCESSIBLE (A.K.A. ADA) COMPONENTS AND ACCESSIBLE ROUTES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF: (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.); AND (B) ANY APPLICABLE LOCAL AND STATE GUIDELINES, AND ANY AND ALL AMENDMENTS TO BOTH, WHICH ARE IN EFFECT WHEN THESE PLANS WERE COMPLETED.
2. THE CONTRACTOR MUST REVIEW ALL DOCUMENTS REFERENCED IN THESE NOTES FOR ACCURACY, COMPLIANCE AND CONSISTENCY WITH INDUSTRY GUIDELINES.
3. THE CONTRACTOR MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ACCESSIBLE (ADA) COMPONENTS AND ACCESSIBLE ROUTES FOR THE SITE. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACES, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, AND INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT, MUST COMPLY WITH THE ACCESSIBLE GUIDELINES AND REQUIREMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   - 3.1. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SLOPES MUST NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
   - 3.2. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE MUST PROVIDE A 36-INCHES MINIMUM WIDTH (48-INCHES PREFERRED), OR AS SPECIFIED BY THE GOVERNING AGENCY. UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS) MUST NOT REDUCE THIS MINIMUM WIDTH. THE SLOPE MUST NOT EXCEED 1:20 (5.0%) IN THE DIRECTION OF TRAVEL AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE ACCESSIBLE PATH OF TRAVEL IS GREATER THAN 1:20 (5.0%), AN ACCESSIBLE RAMP MUST BE PROVIDED. ALONG THE ACCESSIBLE PATH OF TRAVEL, OPENINGS MUST NOT EXCEED 1/2-INCH IN WIDTH. VERTICAL CHANGES OF UP TO 1/2-INCH ARE PERMITTED ONLY IF THEY INCLUDES A 1/4-INCH BEVEL AT A SLOPE NOT STEEPER THAN 1:2. NO VERTICAL CHANGES OVER 1/4-INCH ARE PERMITTED.
   - 3.3. ACCESSIBLE RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%) AND A RISE OF 30-INCHES. LEVEL LANDINGS MUST BE PROVIDED AT EACH END OF ACCESSIBLE RAMPS. LANDING MUST PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES, AND MUST NOT EXCEED 1:50 (2.0%) SLOPE IN ANY DIRECTION. RAMPS THAT CHANGE DIRECTION BETWEEN RUNS AT LANDINGS MUST HAVE A CLEAR LANDING OF A MINIMUM OF 60-INCHES BY 60-INCHES. HAND RAILS ON BOTH SIDES OF THE RAMP MUST BE PROVIDED ON AN ACCESSIBLE RAMP WITH A RISE GREATER THAN 6-INCHES.
   - 3.4. ACCESSIBLE CURB RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%). WHERE FLARED SIDES ARE PROVIDED, THEY MUST NOT EXCEED 1:10 (10%) SLOPE. LEVEL LANDING MUST BE PROVIDED AT RAMPS TOP AT A MINIMUM OF 36-INCHES LONG (48-INCHES PREFERRED). IN ALTERATIONS, WHEN THERE IS NO LANDING AT THE TOP, FLARE SIDES SLOPES MUST NOT EXCEED A SLOPE OF 1:12 (8.3%).
   - 3.5. DOORWAY LANDINGS AREAS MUST BE PROVIDED ON THE EXTERIOR SIDE OF ANY DOOR LEADING TO AN ACCESSIBLE PATH OF TRAVEL. THIS LANDING MUST BE SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO FEWER THAN 60-INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE CLEARLY PERMITTED BY ACCESSIBLE STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2009 AND OTHER REFERENCES INCORPORATED BY CODE).
   - 3.6. WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION, REVISION OR EXTENSION OF OR TO ACCESSIBLE COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, THE CONTRACTOR MUST VERIFY ALL EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES, IN RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR IN ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS BEFORE COMMENCING ANY WORK. CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ACCESSIBLE GUIDELINES.
   - 3.7. THE CONTRACTOR MUST VERIFY ALL OF THE SLOPES OF THE CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE EXISTS OR IS OBSERVED OR DISCOVERED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, PRIOR TO POURING CONCRETE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND/OR REPLACE NON-CONFORMING CONCRETE AND/OR PAVEMENT SURFACES.
4. IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION TO ENSURE SAME IS CONSISTENT WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCING CONSTRUCTION.

5. IN ADDITION TO THE ABOVE, THE CONTRACTOR MUST ALSO ENSURE THAT ALL ACCESSIBLE COMPONENTS AND ACCESSIBLE ROUTES ARE CONSTRUCTED IN STRICT ACCORDANCE WITH THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REGULATIONS 521 CMR. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCIES BETWEEN THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE AND STATE BUILDING CODE AS IT RELATES TO ANY ACCESSIBLE IMPROVEMENTS BEING CONSTRUCTED PRIOR TO COMMENCING THE WORK.

ABBREVIATIONS

KEY	DESCRIPTION
ARCH	ARCHITECT
BC	BACK OF CURB
BM	BENCHMARK
BOC	BOTTOM OF CURB
BW	BOTTOM OF WALL
BLDG	BUILDING
CONC.	CONCRETE
DEC	DECORATIVE
°	DEGREE
DEP	DEPRESSED
Ø / DIA	DIAMETER
DMH	DRAIN MANHOLE
DIP	DUCTILE IRON PIPE
EOP	EDGE OF PAVEMENT
ELEV	ELEVATION
EXIST.	EXISTING
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
GC	GENERAL CONTRACTOR
GRT	GRATE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INT	INTERSECTION
INV	INVERT
L.S.A.	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
LOW	LIMIT OF WORK
LF	LINEAR FOOT / FEET
LP	LOW POINT
MAX	MAXIMUM
MEP	MECHANICAL, ELECTRICAL, PLUMBING
ME	MEET OR MATCH EXISTING
MIN	MINIMUM
No. / #	NUMBER
±	PLUS OR MINUS
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
PVC	POLYVINYL CHLORIDE PIPE
PROP.	PROPOSED
R	RADIUS OR RADII
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT-OF-WAY
SAN	SANITARY
SMH	SEWER MANHOLE
S	SLOPE
SF	SQUARE FOOT
STA	STATION
STM	STORM
TBR	TO BE REMOVED
TBR/R	TO BE REMOVED AND REPLACED
TC	TOP OF CURB
TW	TOP OF WALL
TPF	TREE PROTECTION FENCE
TYP.	TYPICAL
UNG	UNDERGROUND
V.I.F.	VERIFY IN FIELD
W	WIDTH

TYPICAL LINE TYPE LEGEND

LINE TYPE	STATUS	LINE LABELS
PROPERTY LINE	EXISTING	
	PROPOSED	
ADJACENT PROPERTY LINE	EXISTING	
	PROPOSED	
RIGHT-OF-WAY LINE	EXISTING	
	PROPOSED	
SETBACK OR BUFFER	EXISTING	
	PROPOSED	
EASEMENT LINE	EXISTING	
	PROPOSED	
WETLAND BOUNDARY	EXISTING	
	PROPOSED	
WETLAND BUFFER	EXISTING	
	PROPOSED	
WATER WAY BOUNDARY	EXISTING	
	PROPOSED	
WATERWAY BUFFER	EXISTING	
	PROPOSED	
WETLAND OR WATERWAY FLAG	EXISTING	
	PROPOSED	
RIGHT-OF-WAY CENTER OR BASE LINE	EXISTING	
	PROPOSED	
APPROX. LIMIT OF WORK OR DISTURBANCE	EXISTING	
	PROPOSED	
APPROX. SAWCUT LINE	EXISTING	
	PROPOSED	
TREE LINE	EXISTING	
	PROPOSED	
SURFACE OR SUBSURFACE BASIN	EXISTING	
	PROPOSED	
OVERHEAD WIRES	EXISTING	OH OH OH OH
	PROPOSED	OH OH OH
CURBING	EXISTING	
	PROPOSED	CONC/BIT MONOLITHIC SLOPED / VERT GRAN TRANSITION CAPE COD
FENCE OR RAILING	EXISTING	
	PROPOSED	CHAIN LINK STOCKADE RAILING
RETAINING WALL	EXISTING	
	PROPOSED	
CONTOURS	EXISTING	
	PROPOSED	49 50
SWALE	EXISTING	
	PROPOSED	
BERM	EXISTING	
	PROPOSED	
RIDGE	EXISTING	
	PROPOSED	
DRAIN PIPE	EXISTING	D-Qa
	PROPOSED	
SEWER PIPE	EXISTING	S S S-Qa
	PROPOSED	S SL
SEWER FORCE MAIN	EXISTING	FM FM FM-Qa
	PROPOSED	FM FM FM
ELECTRIC	EXISTING	E E E-Qa
	PROPOSED	E E E
TELECOMMUNICATIONS	EXISTING	T T T-Qa
	PROPOSED	T T T
CABLE TV	EXISTING	C C C-Qa
	PROPOSED	C C C
GAS	EXISTING	G G G-Qa
	PROPOSED	G G G
WATER	EXISTING	W W W-Qa
	PROPOSED	W W W

REFER TO EROSION AND SEDIMENT CONTROL NOTES & DETAILS SHEET FOR TYPICAL EROSION NOTES AND DETAILS

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LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
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PROJECT No.:	MAA220245
DRAWN BY:	CFD
CHECKED BY:	NPD/RMM
DATE:	07/20/2022
CAD I.D.:	MAA220245.00-SPPD-0A

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

PNHP REALTY, LLC

PROPOSED SITE DEMOLITION

MAP: 216 LOT: 3
1465 WOODBURY AVENUE,
CITY OF PORTSMOUTH,
ROCKINGHAM COUNTY,
NEW HAMPSHIRE

BOHLER //
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
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STATE OF NEW HAMPSHIRE
JOSHUA G. SWERLING
No. 14695
LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:

GENERAL NOTES SHEET

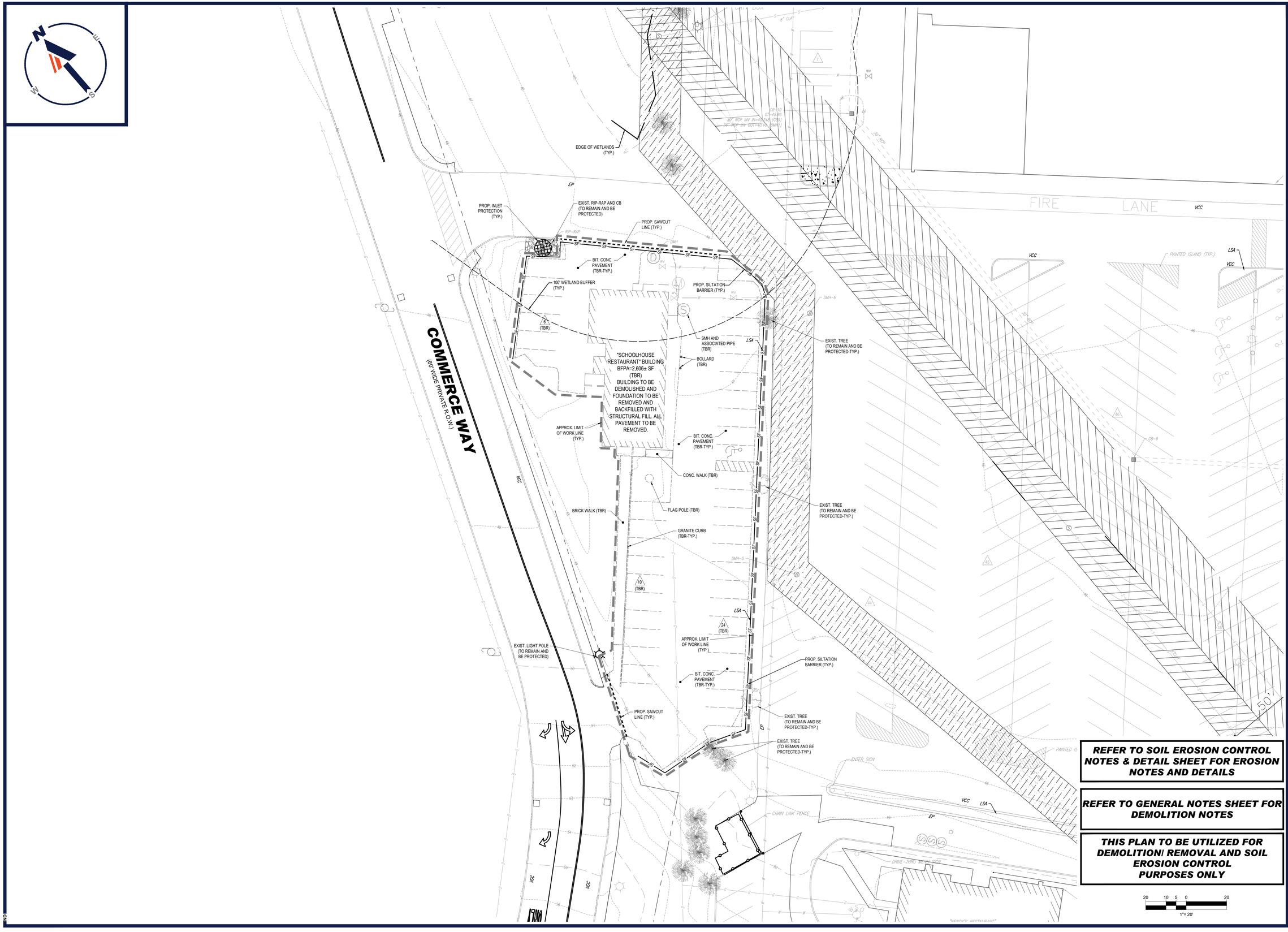
SHEET NUMBER:

C-102

ORG. DATE - 07/20/2022

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2022\MAA220245.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\MAA220245.00-SPPD-0A----->LAYOUT: C-102-NOTE

ND



REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS

REFER TO GENERAL NOTES SHEET FOR DEMOLITION NOTES

THIS PLAN TO BE UTILIZED FOR DEMOLITION/ REMOVAL AND SOIL EROSION CONTROL PURPOSES ONLY

20 10 5 0 20
1"= 20'

NOT FOR CONSTRUCTION

I:\BOHLERENG.NET\SHARES\MA-PROJECTS\2022\MAA220245.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\MAA220245.00-SPPD-0A-----1-LAYOUT C-201 DEMO

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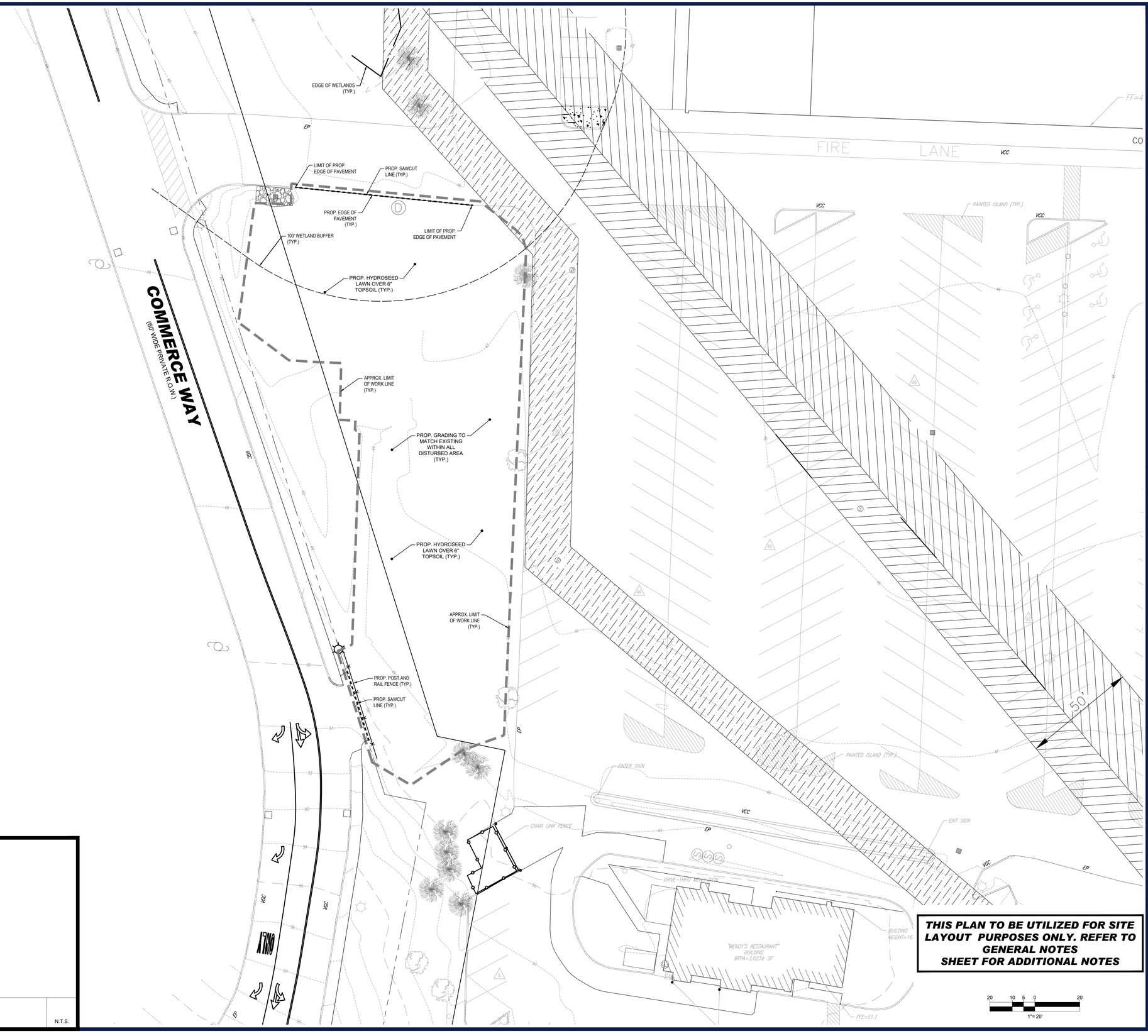
SHEET TITLE:
DEMOLITION AND EROSION CONTROL PLAN

SHEET NUMBER:
C-201

ORG. DATE - 07/20/2022



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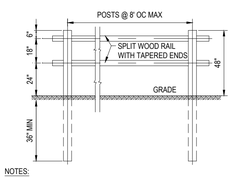
20 10 5 0 20
1"= 20'



NOTES:
1. POST AND RAILS TO BE UNTREATED CEDAR OR PRESSURE TREATED PINE OR EQUIVALENT.
2. BACKFILL TO BE PLACED IN MAX 8" LIFTS AND COMPACTED TO 95% OPTIMUM DENSITY.

POST AND RAIL FENCE N.T.S.

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STATE OF NEW HAMPSHIRE — JOHN R. SWERLING — No. 14695 — LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:

SITE LAYOUT AND DETAILS PLAN

SHEET NUMBER:

C-301

ORG. DATE - 07/20/2022

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.

2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. AT A MINIMUM, AREAS SHALL BE PERMANENTLY STABILIZED ACCORDING TO THE CURRENT EDITION OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), OR IN THE ABSENCE OF A SWPPP, THEY SHALL BE PERMANENTLY STABILIZED WITHIN 14 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).

3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 8%.

4. INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.

5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED. FOR SEDIMENT CONTROL DEVICES THAT ARE WITHIN AREAS SUBJECT TO CONSERVATION COMMISSION JURISDICTION, THE DEVICES SHALL REMAIN IN PLACE AND BE REMOVED IN ACCORDANCE WITH THE ORDER OF CONDITIONS.

6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1) UNLESS OTHERWISE INDICATED ON THE PLANS. SLOPE PROTECTION FOR SLOPES GREATER THAN 2:1 SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER.

7. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

8. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.

9. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL STANDARDS.

10. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
    - 10.1. SIX INCHES, OR DEPTH SPECIFIED ON THE LANDSCAPE PLAN, OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
    - 10.2. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER1,000 SF).
    - 10.3. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUE-GRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS: SEEDING RATE IS 1.03 LBS PER 1,000 SF LAWN. QUALITY SOD MAY BE SUBSTITUTED FOR SEED WHERE SLOPES DO NOT EXCEED 2:1, SOD ON SLOPES STEEPER THAN 3:1 SHOULD BE PEGGED.
    - 10.4. STRAW MULCH AT THE RATE OF 70-90 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE NON-TOXIC BINDER WILL BE USED ON STRAW MULCH FOR WIND CONTROL.

11. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS 70% STABILIZED. FOR EROSION CONTROL MEASURES THAT ARE WITHIN AREAS SUBJECT TO CONSERVATION COMMISSION JURISDICTION, THE MEASURES SHALL REMAIN IN PLACE AND BE REMOVED IN ACCORDANCE WITH THE ORDER OF CONDITIONS.

12. WETLANDS WILL BE PROTECTED WITH BARRIERS CONSISTING OF STRAW BALES, COMPOST TUBES, SILT FENCE OR A COMBINATION THEREOF.

13. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.

14. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED:

LOCATION	MULCH	MULCH RATE (1000 SF)
PROTECTED AREA	STRAW	100 POUNDS
WINDY AREA	SHREDDED OR CHOPPED CORNSTALKS STRAW (ANCHORED)*	185-275 POUNDS 100 POUNDS
MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1	JUTE MESH OR EXCELSIOR MAT	AS REQUIRED
GREATER THAN 3:1	(REFER TO GEOTECHNICAL REPORT FOR FINAL DESIGN REQUIREMENT)	

* A HYDRO-APPLICATION OF WOOD OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE NON-TOXIC BINDER SHALL BE USED TO ADDITIONAL WIND CONTROL.

* MULCH ANCHORING: ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD/BLOCK); MULCH NETTING (AS PER MANUFACTURER); WOOD CELLULOSE FIBER (750 LBS/ACRE); CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS); USE OF A SERRATED STRAIGHT DISK. WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

15. PROPOSED LOCATIONS OF SURFACE STORMWATER MANAGEMENT BASINS CAN BE UTILIZED AS A TEMPORARY SEDIMENT TRAP DURING CONSTRUCTION.SEDIMENT TRAPS SHALL BE SIZED AND CONSTRUCTED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
    - 15.1. TEMPORARY SEDIMENT TRAPS SHALL BE SIZED PER THE CURRENT EDITION OF THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" AND PROVIDE A MINIMUM OF 1,800 CF PER ACRE OF TRIBUTARY AREA WITH A MAXIMUM TRIBUTARY AREA OF 5 ACRES, MAINTAIN A 2:1 LENGTH TO WIDTH RATIO, AND NOT EXCEED 5 FT IN HEIGHT. UPON SITE STABILIZATION, ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE TEMPORARY SEDIMENT TRAP EXCAVATED TO 1 FOOT BELOW THE TRAP. THE AREA SHALL THEN BE SCARIFIED TO PREVENT COMPACTION AND PROMOTE INFILTRATION, AND GRADED AND STABILIZED IN ACCORDANCE WITH THE GRADING AND LANDSCAPE PLANS.

16. STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.

17. EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.

18. THE CONTRACTOR MUST PERFORM DEWATERING (IF REQUIRED), IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY FOR THE COSTS ASSOCIATED WITH ANY AND ALL NECESSARY DISCHARGE PERMITS ASSOCIATED WITH SAME.

19. THE CONTRACTOR MUST LOCATE CONSTRUCTION WASTE MATERIAL STORAGE AREAS TO MINIMIZE EXPOSURE TO STORMWATER. THE CONTRACTOR MUST IMMEDIATELY PLACE CONSTRUCTION WASTE IN ON-SITE STORAGE CONTAINERS UNTIL THAT CONSTRUCTION WASTE IS READY FOR OFF-SITE DISPOSAL. THE CONTRACTOR MUST MAINTAIN SPILL PREVENTION AND RESPONSE EQUIPMENT AND MAKE SAME CONTINUOUSLY AVAILABLE ON-SITE FOR USE BY THE CONTRACTOR'S EMPLOYEES WHO MUST BE PROPERLY TRAINED IN THE APPLICATION OF SPILL PREVENTION AND RESPONSE PROCEDURES.

20. EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

21. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.

22. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT THE AMOUNT OF AREA OPEN AT ONE TIME IS MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE AND IN CONFORMANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN SUCH THAT ADEQUATE PROVISIONS ARE EMPLOYED TO CONTROL STORMWATER RUNOFF.

23. CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.

24. AN AREA SHALL BE CONSIDERED TO HAVE BEEN TEMPORARILY STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.

25. FOR AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR A PERIOD EXCEEDING 14 DAYS BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED. IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 200-300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED AS APPLICABLE. SLOPES SHALL NOT BE LEFT UNSTABILIZED OVER THE WINTER OR IN AREAS WHERE WORK HAS CEASED FOR MORE THAN 14 DAYS UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF SEDIMENT BARRIERS OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.

26. MULCHING REQUIREMENTS:
    - 26.1. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.
    - 26.2. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
    - 26.3. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.

27. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE STORMWATER PREVENTION PLAN.

28. DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. EROSION CONTROL MEASURES MUST CONFORM TO THE STATE, LOCAL, AND FEDERAL GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL UNLESS OTHERWISE NOTED, OR UNLESS ENGINEER CLEARLY AND SPECIFICALLY, IN WRITING, DIRECTS OTHERWISE. INSTALLATION OF EROSION CONTROL, CLEARING, AND SITE WORK MUST BE PERFORMED EXACTLY AS INDICATED IN THE EROSION CONTROL CONSTRUCTION NOTES.
3. THE DISTURBED LAND AREA OF THIS SITE IS APPROXIMATELY XX.XXX ACRES.
4. THE FOLLOWING EROSION CONTROL MEASURES ARE PROPOSED FOR THIS SITE:
    - 4.1. STABILIZED CONSTRUCTION ENTRANCE/ EXIT - A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT IS TO BE INSTALLED AT THE DESIGNATED LOCATION SHOWN ON THE PLAN. THIS AREA MUST BE GRADED SO THAT RUNOFF WATER WILL BE RETAINED ON-SITE.
    - 4.2. SEDIMENT FENCE - INSTALL SILT FENCE(S) AND/OR SILT SOCK AROUND ALL OF THE DOWNSLOPE PERIMETERS OF THE SITE, TEMPORARY FILL AND SOIL STOCKPILES.
    - 4.3. INSTALL FILTER FABRIC DROP INLET PROTECTION AROUND EACH DRAINAGE INLET AS DRAINAGE STRUCTURES ARE INSTALLED TO REDUCE THE QUANTITY OF SEDIMENT. INSTALL TEMPORARY INLET PROTECTION ON INLETS DOWNSLOPE FROM DISTURBANCE, WHICH MAY BE BEYOND THE LIMITS OF DISTURBED AREA.
5. INSTALLATION OF EROSION CONTROL DEVICES MUST BE IN ACCORDANCE WITH ALL OF THE MANUFACTURER'S RECOMMENDATIONS.
6. THE CONTRACTOR MUST INSPECT EROSION CONTROL MEASURES WEEKLY. THE CONTRACTOR MUST REMOVE ANY SILT DEPOSITS GREATER THAN 6" OR HALF THE OF THE EROSION CONTROL BARRIER'S HEIGHT COLLECTED ON THE FILTER FABRIC AND/OR SILT SOCK BARRIERS AND EXCAVATE AND REMOVE ANY SILT FROM DROP INLET PROTECTION.
7. THE CONTRACTOR MUST APPLY TEMPORARY SEED AND MULCH TO ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINISHED GRADE AND VEGETATED WITHIN 7 DAYS. WHEN AREAS ARE DISTURBED AFTER THE GROWING SEASON, THE CONTRACTOR MUST STABILIZE SAME WITH GEOTEXTILE FABRIC AND MAINTAIN SAME IN STRICT ACCORDANCE WITH BEST MANAGEMENT PRACTICES.
8. THE CONTRACTOR MUST INSTALL ADDITIONAL EROSION CONTROL MEASURES IF ENGINEER SO REQUIRES, TO PREVENT ANY, INCLUDING THE INCIDENTAL, DISCHARGE OF SILT-LADEN RUNOFF FROM EXITING THE SITE.
9. THE CONTRACTOR MUST BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION CONTROL MEASURES ON THE SITE UNTIL PERMANENT PAVING AND TURF/LANDSCAPING IS ESTABLISHED. THE COSTS OF INSTALLING AND MAINTAINING THE EROSION CONTROL MEASURES MUST BE INCLUDED IN THE BID PRICE FOR THE SITE WORK AND THE CONTRACTOR IS RESPONSIBLE FOR ALL SUCH COSTS.
10. THE CONTRACTOR MUST CONTINUE TO MAINTAIN ALL EROSION CONTROL MEASURES UNTIL THE COMPLETION OF CONSTRUCTION AND THE ESTABLISHMENT OF VEGETATION.
11. THE CONTRACTOR MUST REMOVE EROSION CONTROL MEASURES, SILT AND DEBRIS AFTER ESTABLISHING PERMANENT VEGETATION COVER OR OTHER INSTALLING A DIFFERENT, SPECIFIED METHOD OF STABILIZATION.
12. THIS PLAN REPRESENTS THE MINIMUM LEVEL OF IMPLEMENTATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES, MEASURES AND STRUCTURES. ADDITIONAL FACILITIES, MEASURES AND STRUCTURES MUST BE INSTALLED WHERE NECESSARY TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS AND/OR TO PREVENT ANY, INCLUDING THE INCIDENTAL DISCHARGE OF SILT-LADEN RUNOFF FROM EXITING THE SITE.
13. THE CONTRACTOR MUST PROTECT ALL EXISTING TREES AND SHRUBS. THE CONTRACTOR MUST REFER TO THE LANDSCAPE AND/OR DEMOLITION PLAN(S) FOR TREE PROTECTION, FENCE LOCATIONS AND DETAILS.
14. THE CONTRACTOR MUST REFER TO GRADING PLANS FOR ADDITIONAL INFORMATION.
15. THE CONTRACTOR MUST CLEAN EXISTING AND PROPOSED DRAINAGE STRUCTURES AND INTERCONNECTING PIPES ON OR OFF-SITE AS THE JURISDICTIONAL AGENCY REQUIRES, BOTH AT THE TIME OF SITE STABILIZATION AND AT END OF PROJECT.
16. SOIL EROSION CONTROL MEASURES MUST BE ADJUSTED OR RELOCATED BY THE CONTRACTOR AS IDENTIFIED DURING SITE OBSERVATION IN ORDER TO MAINTAIN THE COMPLETE EFFECTIVENESS OF ALL CONTROL MEASURES.
17. THE CONTRACTOR MUST IDENTIFY, ON THE PLAN, THE LOCATION OF WASTE CONTAINERS, FUEL STORAGE TANKS, CONCRETE WASHOUT AREAS AND ANY OTHER LOCATIONS WHERE HAZARDOUS MATERIALS ARE STORED.

THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:

-INSTALLATION OF EROSION CONTROL BARRIER (STRAW BALES AND SILT FENCE) (AS SHOWN)

-DEMOLITION OF EXISTING SITE STRUCTURES (SEE DEMOLITION PLAN)

-DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)

-CLEARING AND GRUBBING

-EARTHWORK AND EXCAVATION/FILLING AS NECESSARY

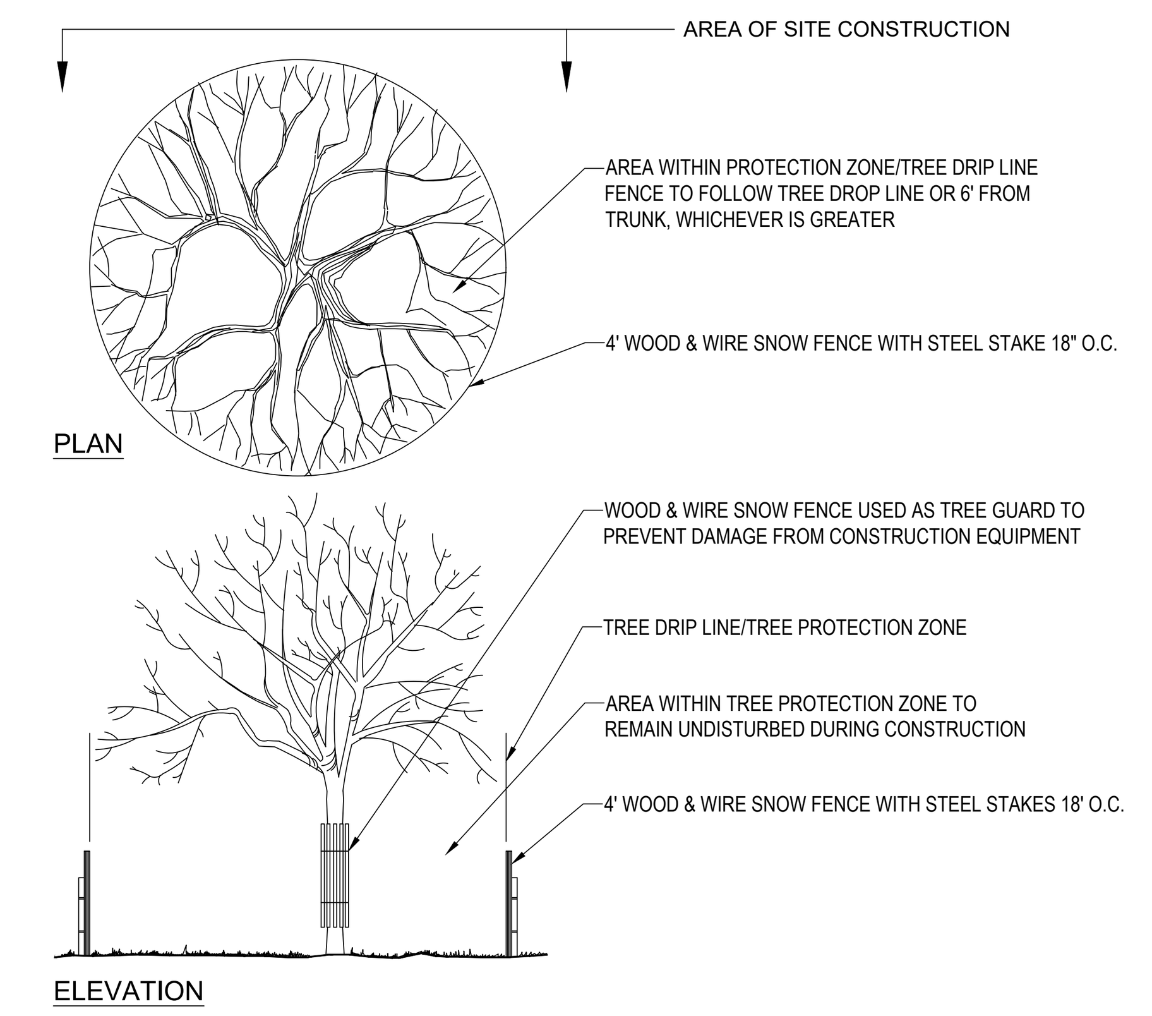
-STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING

-PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED AS REQUIRED.

-REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER

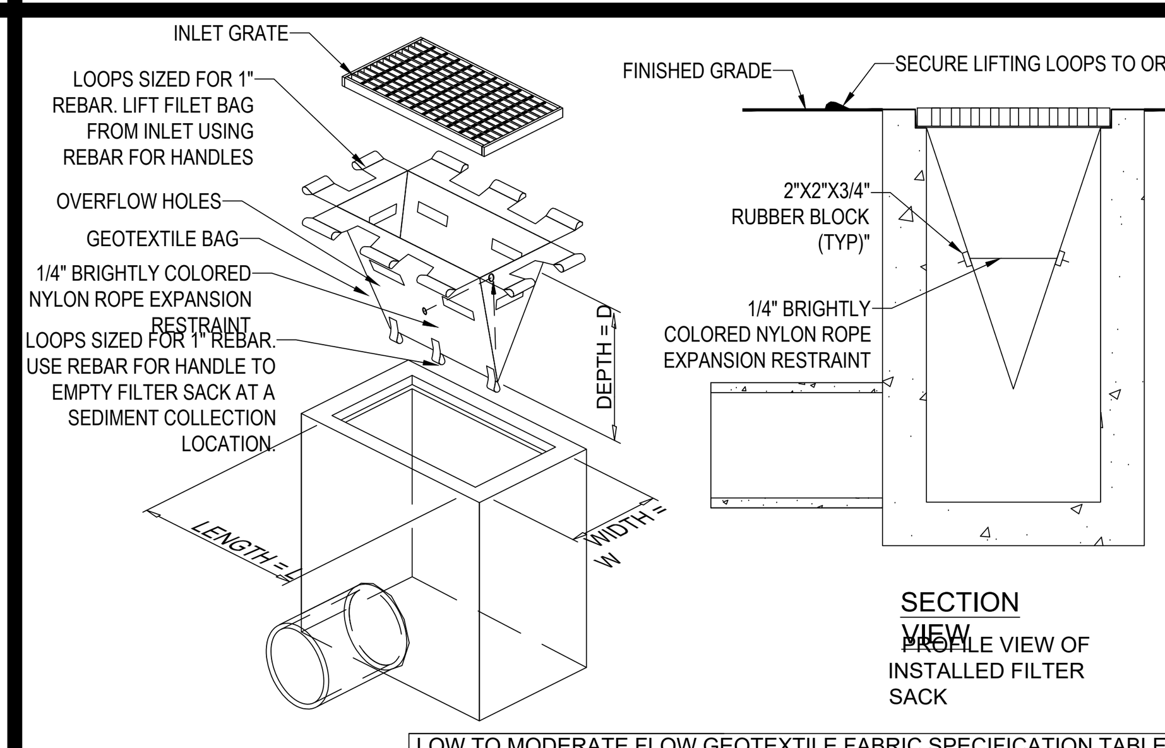
RECOMMENDED CONSTRUCTION SEQUENCE

N.T.S.



TREE PROTECTION DURING SITE CONSTRUCTION

N.T.S.



1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

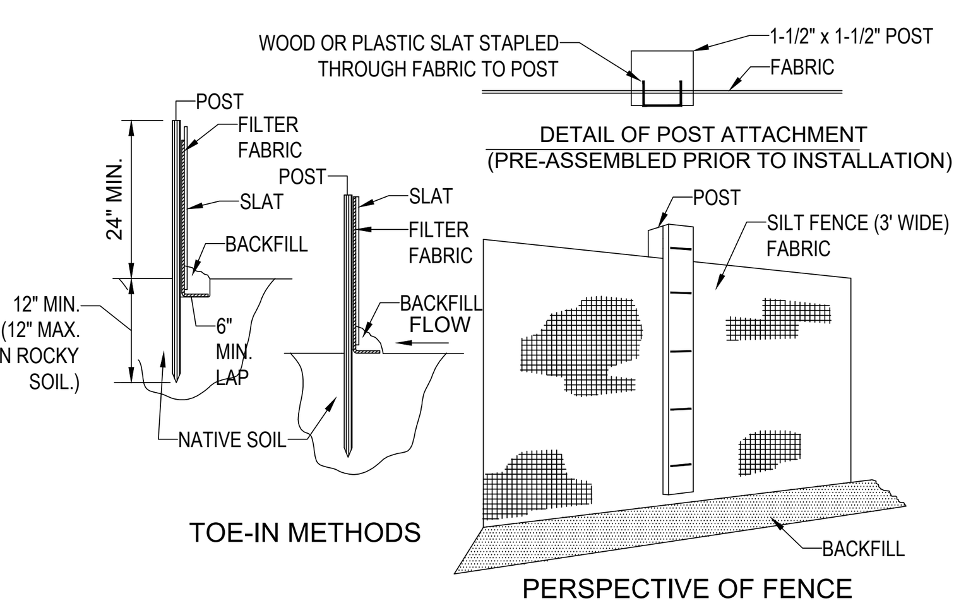
LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC^{-1}
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC^{-1}

NOTE:
DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

FILTER SACS (INLET PROTATECTION)

N.T.S.

NOTES:
1. EXCAVATE A 6"x6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMPING FILL AT THE BASE.



TYP. SILTATION FENCE

N.T.S.

N.T.S.

N.T.S.

N.T.S.

BOHLER//

SITE CIVIL AND CONSULTING ENGINEERING
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REVISIONS

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PROJECT No.:	MAA220245
DRAWN BY:	CFD
CHECKED BY:	NPD/RMM
DATE:	07/20/2022
CAD I.D.:	MAA220245.00-SPPD-0A

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

PNHP REALTY, LLC

PROPOSED SITE DEMOLITION

MAP: 216 LOT: 3
1465 WOODBURY AVENUE,
CITY OF PORTSMOUTH,
ROCKINGHAM COUNTY,
NEW HAMPSHIRE

BOHLER//

352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
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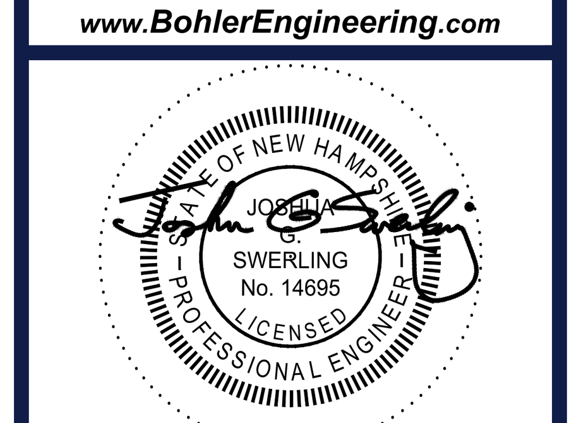


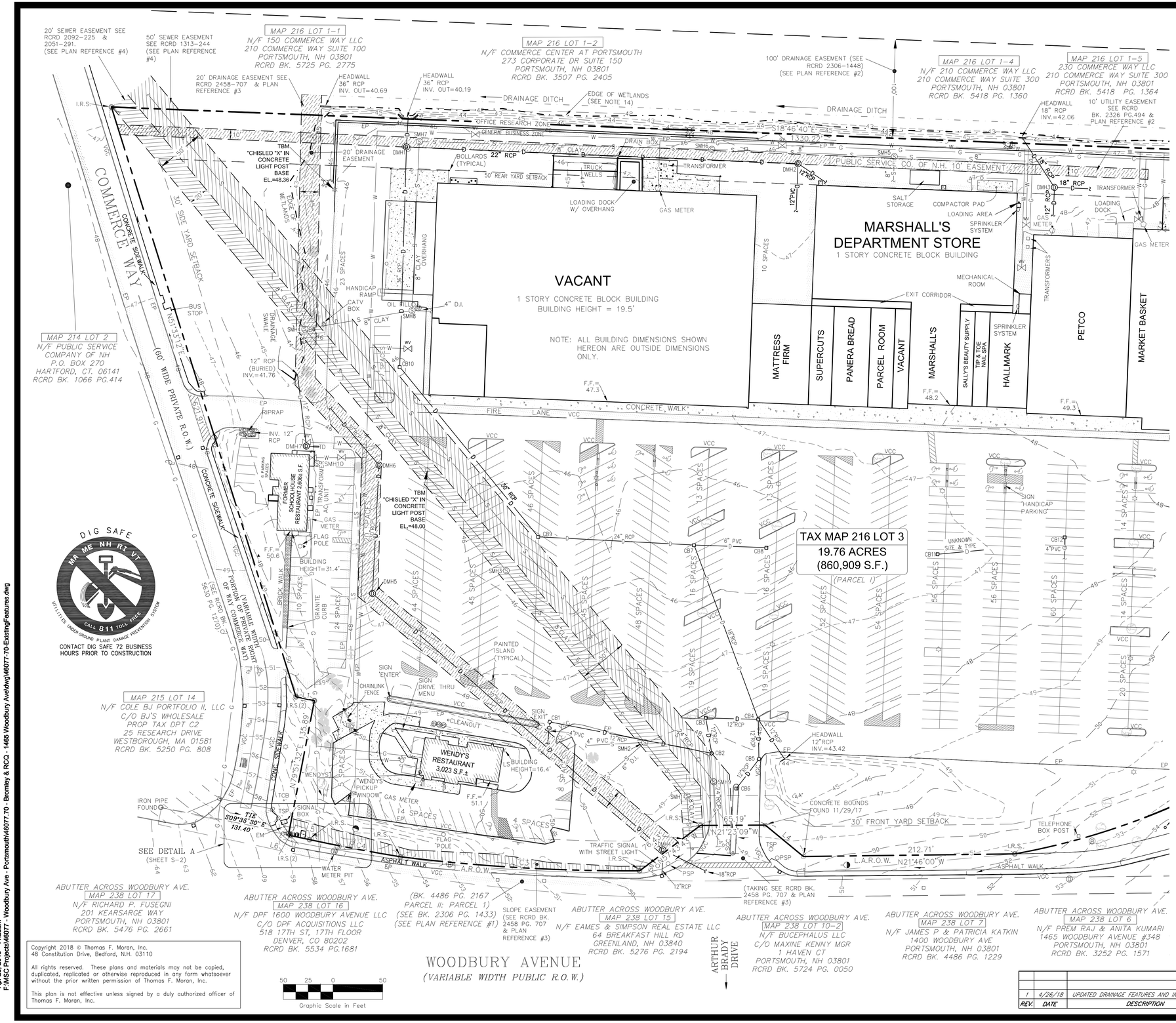
SHEET TITLE:

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

SHEET NUMBER:

C-601

ORG. DATE - 07/20/2022



LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE GENERAL BUSINESS (GB) ZONE.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH TAX MAP 216 AS LOT 3.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X (AREAS OF MINIMAL FLOODING) AS SHOWN ON FLOOD INSURANCE RATE MAP ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 260 OF 681, MAP NUMBER 33015C0260E WITH AN EFFECTIVE DATE OF MAY 17, 2005.
4. OWNER OF RECORD:
   BROMLEY-PORTSMOUTH LLC &
   RCQ-PORTSMOUTH LLC
   C/O QUINCY & CO., INC.
   144 GOULD ST. SUITE 152
   NEEDHAM, MA 02494
   RCRD. BK.4486 PG2167
5. UTILITIES SHOWN HEREON ARE A COMPILATION OF FIELD LOCATION AND RECORD PLANS. THEY ARE APPROXIMATE LOCATIONS ONLY. CONTACT DIGSAFE @ 1-888-DIG-SAFE TO VERIFY UTILITIES.
6. FIELD SURVEY WAS COMPLETED BY MSC IN NOVEMBER 2017, WITH A TOPCON DS103 AND TOPCON TESLA DATA COLLECTOR.
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. ZONING REQUIREMENTS:

	(GB)
MINIMUM LOT AREA:	43,560 S.F.
MINIMUM CONTINUOUS STREET FRONTAGE:	200'
MINIMUM DEPTH:	100'
MINIMUM SETBACKS:	
FRONT YARD:	30'
SIDE YARD:	30'
REAR YARD:	50'
MAXIMUM STRUCTURE HEIGHT:	60'
MAXIMUM ALLOWABLE ROOF APPURTENANCE HEIGHT:	10'
MAXIMUM BUILDING COVERAGE:	30%
MINIMUM OPEN SPACE:	20%

   PER THE CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.531.
9. TOTAL PARCEL AREA: 860,909 S.F.
   19.76 ACRES
10. THIS PARCEL HAS BEEN GRANTED A VARIANCE BY THE PORTSMOUTH ZONING BOARD OF ADJUSTMENT ON DECEMBER 18, 1990 PURSUANT TO SECTION 10-301 (9) (b) TO ALLOW A BUILDING ZONED GENERAL BUSINESS TO BE 70' FROM A RESIDENTIAL ZONE WHERE 100' IS REQUIRED.
11. THE PURPOSE OF THIS PLAN IS TO SHOW THE CURRENT SITE FEATURES OF TAX MAP 216 LOT 3.
12. PARKING:
    TOTAL REGULAR SPACES PROVIDED ON LOT=885
    TOTAL HANDICAP SPACES PROVIDED ON LOT=32
    PAVED PARKING AREA= 480,485 S.F.
13. BUILDING AREA:
    1. SHOPPING CENTER= 189,464 S.F.±
    2. WENDY'S RESTAURANT= 3,023 S.F.±
    3. FORMER SCHOOLHOUSE RESTAURANT= 2,606 S.F.±
    TOTAL BUILDING AREA ON SITE= 195,093 S.F.±
14. JURISDICTIONAL WETLANDS SHOWN ON THIS PLAN WERE DELINEATED ON NOVEMBER 15, 2017 BY CHRISTOPHER K. DANFORTH CWS #077 OF TFMORAN, INC. THE WETLANDS WERE DELINEATED ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2, JANUARY 2012. DOMINANT HYDRIC SOILS WITHIN THE WETLAND(S) WERE IDENTIFIED USING EITHER FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, (VERSION 3). NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION (NEIWPCC), APRIL 2004 OR FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 7.0, USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS, 2010.
    DOMINANCE OF HYDROPHYTIC VEGETATION WAS DETERMINED USING THE NORTHCENTRAL AND NORTHEAST 2013 REGIONAL WETLAND PLANT LIST, US ARMY CORPS OF ENGINEERS, 2013, (VER. 3.1).
15. THERE ARE NO OBSERVED ENCROACHMENTS OF IMPROVEMENTS ONTO ABUTTING PROPERTIES, NOR OBSERVED ENCROACHMENTS FROM ABUTTING PROPERTIES ONTO THIS SITE.
16. THIS PROPERTY IS SERVICED BY PUBLIC WATER AND SEWER AND PRIVATE ELECTRIC AND GAS SERVICES.
17. SEE SHEET S-2 FOR DRAINAGE AND SEWER INVERT TABLES, LINE TABLES, PLAN REFERENCES AND DETAIL.
18. FOR OVERALL BOUNDARY SEE PLAN REFERENCE #8. (SHEET S-2)

FOR REVIEW

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

50 25 0 50
Graphic Scale in Feet

REV.	DATE	DESCRIPTION	DR	CK
1	4/26/18	UPDATED DRAINAGE FEATURES AND INVERTS		

TAX MAP 216 LOT 3
EXISTING CONDITIONS PLAN
BROMLEY-PORTSMOUTH LLC & RCQ-PORTSMOUTH LLC
1465 WOODBURY AVENUE
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
BROMLEY PORTSMOUTH LLC
RCQ PORTSMOUTH LLC

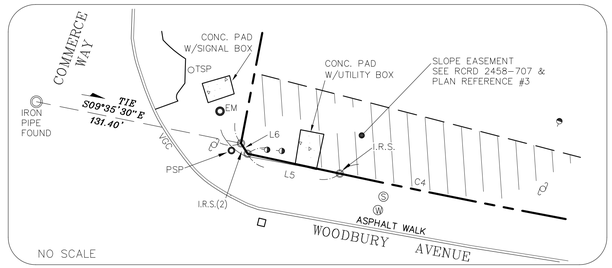
SCALE: 1" = 50'
1" = 100' (11x17) **JANUARY 17, 2018**

TFM / MSC
A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.mscengineers.com

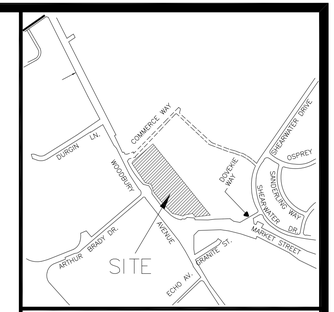
FILE	DR	FB		
46077.70	CK		CADFILE	S-1

Apr 26, 2018 - 11:23am
F:\MSC Projects\46077 - Woodbury Ave - Portsmouth\46077.70 - Bromley & RCQ - 1465 Woodbury Ave\dwg\46077-70-ExistingFeatures.dwg

DETAIL A



LOCATION PLAN



LEGEND

AC	AIR CONDITIONING UNIT
CONC.	CONCRETE
EP	EDGE OF PAVEMENT
L.A.R.O.W.	LIMITED ACCESS RIGHT OF WAY
LS	LANDSCAPED AREA
R.O.W.	RIGHT OF WAY
VGC	VERTICAL GRANITE CURB
VCC	VERTICAL CONCRETE CURB
D.I.	DUCTILE IRON
TCB	TRAFFIC CONTROL BOX
TSP	TRAFFIC SIGNAL POLE
EM	ELECTRIC METER
I.R.S.	IRON ROD W/CAP SET 11/29/17
SGC	SLOPED GRANITE CURB
RCP	REINFORCED CONCRETE PIPE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
PSP	PEDESTRIAN SIGNAL POLE
INV.	INVERT
CB	CATCH BASIN
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
PVC	POLY VINYL CHLORIDE
FF	FINISHED FLOOR
	UTILITY POLE
	GUY WIRE
	LIGHT POLE
	HYDRANT
	WATER VALVE
	WATER SHUTOFF
	CATCH BASIN
	DECIDUOUS TREE
	CONIFEROUS TREE
	SIGN
	CHAIN LINK FENCE
S	SEWER LINE
D	DRAIN LINE
	EDGE OF WETLANDS
	PROPERTY LINE
S	SEWER MANHOLE
D	DRAIN MANHOLE
	CONCRETE BOUND
	GROUND LIGHT
	HANDICAP PARKING SYMBOL
L1	SEE LINE TABLE
C1	SEE CURVE TABLE
M	MANHOLE
B	BELL MANHOLE
	BOLLARD
TD	TRENCH DRAIN (BURIED)
TBM	TEMPORARY BENCHMARK
	CONCRETE
	DRAINAGE EASEMENT
	SEWER EASEMENT
	SEWER EASEMENT
	PSNH EASEMENT
	SLOPE EASEMENT

LINE TABLE

NO.	BEARING	DISTANCE
L1	N09°22'14"W	18.86'
L2	N06°40'07"E	25.87'
L3	S62°37'11"W	21.45'
L4	N18°24'01"E	49.69'
L5	N08°55'45"W	19.90'
L6	N36°22'48"E	2.62'

CURVE TABLE

NO.	CENTRAL ANGLE	RADIUS	ARC LENGTH
C1	06°31'33"	722.00'	82.23'
C2	29°02'25"	722.00'	365.95'
C3	07°23'57"	1866.86'	241.08'
C4	02°52'14"	1860.00'	93.18'

DRAINAGE INVERT TABLE

CB1
RIM=47.70
INV. IN 4"PVC=45.26
INV. OUT 12"RCP=42.14

CB2
RIM=48.19
12"RCP INV. IN=43.97
12"RCP INV. OUT=44.19

CB3
RIM=47.51
12" RCP INV. IN=44.06
12" RCP INV. OUT=43.41

CB4
RIM=47.89
12" RCP INV. IN=43.19 FROM CB3
12" RCP INV. IN=43.55 FROM CB5
12" RCP INV. IN=43.15 FROM HEADWALL
18" RCP INV. OUT=42.89 TO CB7

CB5
RIM=48.09
12" RCP INV. IN=44.76 FROM CB6
12" RCP INV. OUT=44.63 TO CB4

CB6
RIM=48.99
12" RCP INV. OUT=45.62 TO CB5

CB7
RIM=45.04
18" RCP INV. IN=41.72 FROM CB4
6" PVC INV. IN=42.08 FROM CB8
24" RCP INV. OUT=41.57 TO CB9

CB8
RIM=45.40
6" PVC INV. OUT=43.73 TO CB7

CB9
RIM=45.29
24" RCP INV. IN=40.65 FROM CB7
30" RCP INV. OUT=40.43 TO CB10

CB10
RIM=45.86
30" RCP INV. IN=40.28 FROM CB9
36" RCP INV. OUT=40.40 TO DMH1

CB11
RIM=46.55
INV. OUT=43.0± BASIN FULL OF DEBRIS, UNKNOWN SIZE & TYPE OF PIPE INV. MEASUREMENT IS APPROXIMATE ONLY.

CB12
RIM=47.38
4"PVC INV.=45.90

DMH1
RIM=46.02
36" RCP INV. IN=39.62 FROM CB10
22" RCP INV. IN=40.67 FROM DMH2
36" RCP INV. OUT=39.51 TO HEADWALL

DMH2
RIM=46.62
12" PVC INV. IN=43.12
12" RCP INV. IN=43.12
22" RCP INV. OUT=43.02

DMH3
RIM=47.51
12" RCP INV. IN=42.71 SW
18" RCP INV. IN=42.68 SE
18" RCP INV. OUT=42.60 TO HEADWALL

DMH4
RIM=49.56
12" RCP INV. IN=42.96
18" RCP INV. IN=42.62
30" RCP INV. OUT=43.02 TO DMH5

DMH5
RIM=46.87
30" RCP INV. IN=41.67 FROM DMH4
30" RCP INV. OUT=41.62 TO DMH6

DMH6
RIM=46.57
30" RCP INV. IN=41.41 FROM DMH5
30" RCP INV. OUT=41.22

DMH7
RIM=46.17
12" CMP INV. IN=42.47 FROM(SE)
12" RCP INV. OUT=42.01 TO(NE)

SEWER INVERT TABLE

SMH1
RIM=49.26
8" INV. IN=36.25
8" INV. OUT=36.16

SMH2
RIM=47.84
8" INV. IN=36.00 FROM SMH1
6" D.I. INV. IN=44.34 SW
INV. IN=35.93 NW
8" INV. OUT=35.77 TO SMH3

SMH3
RIM=45.80
8" INV. IN=35.21 FROM SMH2
8" CLAY INV. OUT=35.14

SMH4
RIM=46.08
8" CLAY INV. IN=34.08
8" CLAY INV. IN=34.40
8" CLAY INV. OUT=33.98

SMH5
RIM=46.75
8" INV. IN=41.15 SW
8" INV. IN=41.15 SE
8" INV. OUT=40.79 TO SMH6

SMH6
RIM=46.19
8" INV. IN=39.88 FROM SMH5
8" CLAY INV. OUT=39.61 TO SMH7

SMH7
RIM=46.22
8" CLAY INV. IN=38.68 FROM SMH6
8" CLAY INV. OUT=38.65 TO SMH8

SMH8
RIM=46.57
8" CLAY INV. IN=38.06 FROM SMH7
4" D.I. INV. IN=43.17 SE
8" CLAY INV. OUT=37.74 TO SMH4

SMH9
RIM=48.40
24" RCP INV. IN=35.56 (NE)
24" RCP INV. OUT=35.52 (SW)

SMH10 (POSSIBLE HOLDING TANK)
RIM=46.69
TOP OF CHAMBER=43.99

PLAN REFERENCES:

1. "SUBDIVISION PLAN OF LAND ON WOODBURY AVENUE FOR MARION D. FRINK, WOODBURY AVENUE, PORTSMOUTH, N.H., COUNTY OF ROCKINGHAM" BY TOWN PLANNING AND ENGINEERING ASSOCIATES, INC. DATED JAN. 1977, REV.1 DATED 05/27/77 RCRD PLAN #D-7288.
2. "AMENDED SUBDIVISION PLAN OF LAND ON WOODBURY AVE. FOR MARION D. FRINK, WOODBURY AVENUE, PORTSMOUTH, N.H., COUNTY OF ROCKINGHAM" BY TOWN PLANNING AND ENGINEERING ASSOCIATES, INC. DATED JAN. 1977, REV.2 DATED 5-10-78 RCRD PLAN #D-7817.
3. "PROPERTY ACQUIRED BY STATE OF NEW HAMPSHIRE FROM PORTSMOUTH PARTNERS IN PORTSMOUTH, N.H. ROCKINGHAM COUNTY, PROJECT: PORTSMOUTH-NEWINGTON, C-3275" DATED AUG. 16, 1983 RCRD PLAN #D-11798.
4. "AS-BUILT PLAN FOR K-MART PLAZA, PORTSMOUTH PARTNERS, WOODBURY AVE. PORTSMOUTH, N.H." BY RICHARD P. MILLETTE AND ASSOCIATES DATED NOV. 28, 1985, REV DATE JUNE 19, 1986 RCRD PLAN #D-15343.
5. "SUBDIVISION PLAN OF LAND FOR MAGNA CORP. WOODBURY AVE, PORTSMOUTH N.H. COUNTY OF ROCKINGHAM" BY RICHARD P. MILLETTE AND ASSOCIATES DATED 8/1/84, REV 3 DATED 01/09/85 RCRD PLAN #D-13251.
6. "ALTA/ACSM LAND TITLE SURVEY FOR PORTSMOUTH ASSOCIATES, L.L.C. 1465 WOODBURY AVENUE COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." BY: MILLETTE, SPRAGUE & COLWELL, INC. DATED AUG 18, 1998, REV 1 DATED 02/04/99.
7. "ALTA/ACSM LAND TITLE SURVEY OF TAX MAP 216 LOT 3 FOR EDF PORTSMOUTH, L.L.C. 1465 WOODBURY AVENUE COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." BY: MILLETTE, SPRAGUE & COLWELL, INC. DATED FEBRUARY 24, 2004, REV 1 DATED 03/14/05.
8. "TAX MAP 216 LOT 3 ALTA/NSPS LAND TITLE SURVEY, BROMLEY-PORTSMOUTH LLC & RCQ-PORTSMOUTH LLC, 1465 WOODBURY AVENUE PORTSMOUTH, N.H. COUNTY OF ROCKINGHAM OWNED BY BROMLEY PORTSMOUTH LLC & RCQ PORTSMOUTH LLC" BY: MSC, A DIVISION OF TFMORAN, INC. DATED NOVEMBER 30, 2017.

FOR REVIEW

DIG SAFE
MA ME NH RI VT
UTILITIES UNDER GROUND PLANT DAMAGE PREVENTION SYSTEM
CALL 811 TOLL FREE

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

50 0 50
Graphic Scale in Feet

REV.	DATE	DESCRIPTION	DR	CK
1	4/26/18	UPDATED DRAINAGE FEATURES AND INVERTS		

TAX MAP 216 LOT 3
EXISTING CONDITIONS PLAN
BROMLEY-PORTSMOUTH LLC & RCQ-PORTSMOUTH LLC
1465 WOODBURY AVENUE
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
BROMLEY PORTSMOUTH LLC
RCQ PORTSMOUTH LLC

SCALE: 1" = 50'
1" = 100' (11x17)
JANUARY 17, 2018

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www.mscengineers.com

FILE	46077.70	DR		FB		S-2
		CK		CADFILE		

P-0616-005
July 27, 2022

NH Department of Environmental Services
Wetlands Bureau
Attn: Kristin Duclos
29 Hazen Drive
PO Box 95
Concord, NH 03302-0095

Re: **Amendment to Minor Impact Permit Application**
File Number 2022-01782
Portsmouth Regional Hospital Satellite Parking Lot
Borthwick Avenue
Portsmouth, New Hampshire

Dear Ms. Duclos:

Tighe & Bond is pleased to submit the following information to support an Amendment Request for the above referenced Minor Impact Permit Application:

- One (1) copy of the Amendment Request Form for a Wetlands Application or Permit;
- One (1) copy of the Standard Dredge and Fill Wetlands Permit Application, last revised July 27, 2022;
- One (1) copy of the check for the adjusted fee;
- One (1) copy of the Wetland 2 Functional Assessment, last revised July 27, 2022;
- One (1) copy of the Wetland 5 Functional Assessment, last revised July 27, 2022; and
- One (1) copy of the Site Plans, last revised July 21, 2022.

The proposed project is located at the northeast corner of the intersection of Borthwick Avenue and Eileen Dondero Foley Avenue in Portsmouth, New Hampshire. The parcel is identified as Tax Map 234, Lot 7-4A.

Project Updates

The proposed changes since the initial application submission were the result of comments received through the local review process and the Alteration of Terrain application review. The relevant changes to the project are highlighted below.

- The vehicular access aisle connecting the two parking lots shifted closer to the property line to lessen the permanent impacts to the existing wetland, identified as Wetland 2.
- The two proposed retaining walls along the northwest corner of the parcel have been removed, resulting in increased permanent impact to Wetland 5.
- Other changes include the completed design development of the multiuse path along Borthwick Avenue and drainage updates associated with the technical review comments previously referenced which result in no significance to this application.

Wetland Description and Functions

Two (2) of the five wetlands delineated within the property are being proposed to be partially impacted by this project (Wetlands 2 and 5).

Wetland 2 is a small (approximately 4,460 square feet) hydrologically isolated scrub-shrub wetland (PSS1E) located within a small clearing in an area with signs of significant past disturbances. This wetland exhibits low Ecological Integrity (New Hampshire Method average

score of 4.4), has a small watershed, and does not retain any standing water. While the low grade, hydric soils, and dense vegetation could potentially support some minimal flood storage, groundwater recharge, or nutrient trapping/retention, the low quality, invasive species, small size, and landscape position of Wetland 2 leave it providing no real function or value to the surrounding landscape.

Wetland 5 is a larger (approximately 9,200 square feet) hydrologically isolated scrub-shrub wetland (PSS1E) located within an electric utility right-of-way with signs of significant past disturbances. Wetland 5 exhibits low Ecological Integrity (New Hampshire Method average score of 3.6). The low grade, location, and hydric soils appear to support a minimal amount of flood storage during extremely heavy precipitation. However, the low quality, invasive species, small size, and lack of vegetative diversity of Wetland 5 leave it providing no substantial or principal function or value to the surrounding landscape.

Additional information is provided on the previously submitted Wetland Determination Data Forms and the updated Functional Assessment Worksheets enclosed herein.

Avoidance & Minimization Measures

The parking expansion will result in approximately 425 square feet of impact to Wetland 2 and approximately 9,210 square feet of impact to Wetland 5. However, given the location of existing facilities and available constructable area for expanding parking, and limited available land, this is the only practicable option for a parking expansion. Actual impacts to wetland functions will be negligible due to the overall lack of function or value, low quality, and presence of invasive species. What minimal function is present in the wetlands to be impacted (flood storage) will be offset with engineered solutions which will provide higher function and value than the existing conditions.

Other adjacent parcels to the Hospital facility are not practicable for this use as it would require larger impacts to wetland areas than what is proposed at this location.

We trust the enclosed information addresses the requirements for an Amended Wetland Application – Minor Impact. If you have any questions or require any additional information, please feel free to contact me at 603-433-8818 or asellar@tighebond.com.

Sincerely,
TIGHE & BOND, INC.

Alexander Sellar, PE
Project Engineer

Patrick M. Crimmins, PE
Vice President

Enclosures
Copy: Portsmouth Regional Hospital
Portsmouth City Clerk
Portsmouth Conservation Commission
Portsmouth Planning Board

J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Report_Evaluation\Applications\20220728_Wetland Application Amendment\Individual\Cover Letter-.docx

AMENDMENT REQUEST FORM FOR A WETLANDS APPLICATION OR PERMIT
Water Division/Land Resources Management
Wetlands Bureau

RSA/Rule: RSA 482-A:3, XIV(e)/ Env-Wt 311.13; Env-Wt 314.07

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

Any request for an amendment to a wetlands application or permit must be submitted to the Department on this form. An applicant may request an amendment to a pending permit application or an existing permit, provided the proposed change does not constitute a "**significant amendment**." A "**significant amendment**" means an amendment which changes the proposed or previously approved acreage of the permitted fill or dredge area by 20 percent or more, includes a prime wetland, or elevates the project's impact classification. This meaning of "significant amendment" shall not apply to an application amendment that is in response to a request from the Department (RSA 482-A:3, XIV(e)).

SECTION 1 - REQUESTED AMENDMENT TYPE AND AMENDMENT CRITERIA

Does the proposed change constitute a "significant amendment" as provided in RSA 482-A:3, XIV(e) and described above? ☐ Yes ☒ No

If you answered "yes" to the previous question, then you cannot request an amendment using this form and must file a new permit application.

☒ AMENDMENT TO PENDING PERMIT APPLICATION, NHDES FILE NUMBER: 2022-01782 (proceed to Section 2)

☐ AMENDMENT TO EXISTING PERMIT NUMBER: _____ (proceed to Section 3)

SECTION 2 - AMENDMENT TO A PENDING PERMIT APPLICATION

☐ Not applicable

To request an amendment to a pending permit application, the applicant must:

- Submit the information required by Env-Wt 311.03, showing the changes prior to the Department's issuance of a final decision on the application, including but not limited to, a revised set of plans and revised application fees for any additional square footage of impacts calculated pursuant to RSA 482-A:3, I(b) or (c) as applicable, and
- Provide notice to each person to whom notice of the original application was sent prior to filing the amended application with the Department (Env-Wt 311.13).

☒ By checking this box, you confirm that you have provided all information required pursuant to Env-Wt 311.03 to the Department and provided the required notice(s) as described above.

SECTION 3 - AMENDMENT TO AN EXISTING PERMIT

☐ Not applicable

To request an amendment to an existing permit, the permittee must:

- Submit the information required and filed with the original permit application, including but not limited to a revised set of plans, and revised application fees for any additional square footage of impacts calculated pursuant to RSA 482-A:3, I(b) or (c) as applicable, and
- Provide notice to all who received notice of the original application prior to filing the amended application with the Department (Env-Wt 314.07).

☐ By checking this box, you confirm that you have provided all necessary information to the Department and provided the required notice(s) as described above.

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: **Portsmouth Regional Hospital** **TOWN NAME:** Portsmouth

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the Waiver Request Form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2)) Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: priority resource areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☐ Yes ☒ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	☐ Yes ☒ No

• Protected species or habitat?
  ○ If yes, species or habitat name(s):
  ○ NHB Project ID #: NHB22-1544
	☐ Yes ☒ No

• Bog?	☐ Yes ☒ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	☐ Yes ☒ No
• Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☐ Yes ☒ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: Day: Year:	☐ Yes ☒ No

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	☐ Yes ☒ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☒ Yes ☐ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): n/a	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a **brief** description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.

The existing Portsmouth Regional Hospital building is operating with 783 parking spaces, which the facility has outgrown and is 32% less than the minimum required by local zoning. The proposed project includes the construction of a new 501 space satellite parking lot across the street from the existing hospital. This additional parking is necessary to support Portsmouth Regional Hospital's existing facility and to allow for future growth in patient care.

The project proposes 9,635 sf of permanent impacts to on site wetlands.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: TBD - Borthwick Avenue

TOWN/CITY: Portsmouth

TAX MAP/BLOCK/LOT/UNIT: Map 234 Lot 7-4A

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME:
☐ N/A

(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): ° North
° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a)) If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: Portsmouth Regional Hospital		
MAILING ADDRESS: 333 Borthwick Avenue		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: Matthew.Larkin@hcahealthcare.com		
FAX:	PHONE: 603 436 5110	
ELECTRONIC COMMUNICATION: By initialing here: , I hereby authorize NHDES to communicate all matters relative to this application electronically.		
SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c)) ☐ N/A		
LAST NAME, FIRST NAME, M.I.: Patrick M Crimmins		
COMPANY NAME: Tighe & Bond		
MAILING ADDRESS: 177 Corporate Drive		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: pmcrimmins@tighebond.com		
FAX:	PHONE: 603 433 8818	
ELECTRONIC COMMUNICATION: By initialing here PMC, I hereby authorize NHDES to communicate all matters relative to this application electronically.		
SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b)) If the owner is a trust or a company, then complete with the trust or company information. ☒ Same as applicant		
NAME: Portsmouth Regional Hospital is a subsidiary of HCA Healthcare Inc.		
MAILING ADDRESS:		
TOWN/CITY:	STATE:	ZIP CODE:
EMAIL ADDRESS:		
FAX:	PHONE:	
ELECTRONIC COMMUNICATION: By initialing here , I hereby authorize NHDES to communicate all matters relative to this application electronically.		

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

The resource-specific criteria in Env-Wt 600, 700, and 900 do not apply to this project as there will be no coastal or tidal impacts, no prime wetlands are present within the project area, and there will be no stream crossings associated with this project. This project does not qualify for a project-type exception under Env-Wt 407.04.

This project is not located within a Priority Resource Area and there will be no fill in public waters to make land.

Jeremy Degler, CWB, CWS, PWS, of Tighe & Bond delineated wetlands within the project parcel on September 17, 2021 utilizing the criteria specified in Env-Wt 406.01.

The wetland impact is necessary to accommodate the parking needed for the existing Hospital facility. Small pocket wetlands are impacted, though the project does not propose to impact the larger wetland complex and its 100 ft buffer. There is no practical alternative that would have less adverse impact of the area per Env-Wt 313.03.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

(☐ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☐ I confirm submittal.

(☐ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland	9635		☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL		9635					

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	9635 SF	× $0.40 =	$	3,854
Seasonal docking structure:	SF	× $2.00 =	$	
Permanent docking structure:	SF	× $4.00 =	$	
Projects proposing shoreline structures (including docks) add $400 =			$	
Total =			$	3,854

The application fee for minor or major impact is the above calculated total or $400, whichever is greater = $ 3,854

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05) Indicate the project classification.		
☐ Minimum Impact Project	☒ Minor Project	☐ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)	
Initial each box below to certify:	
Initials: PMC	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: PMC	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: PMC	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials: PMC	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)		
SIGNATURE (OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): PMC	PRINT NAME LEGIBLY: Patrick M Crimmins	DATE: 7/27/2022

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))	
As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.	
TOWN/CITY CLERK SIGNATURE:	PRINT NAME LEGIBLY:
TOWN/CITY:	DATE:

DIRECTIONS FOR TOWN/CITY CLERK:
Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to “Treasurer – State of NH”.

WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Portsmouth Regional Hospital c/o Matthew Larkin

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Avoidance and Minimization Written Narrative (NHDES-W-06-089) and the Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: Forested undeveloped, paved roadway (Borthwick Avenue), residential	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☐ Yes ☒ No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): Approximately 25	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Jeremy Degler (NH CWS #301)	
DATE(S) OF SITE VISIT(S): 9/17/2021, 11/22/2021	DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No
CONFIRM THAT THE EVALUATION IS BASED ON: ☒ Office and ☒ Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): ☒ USACE Highway Methodology. ☒ Other scientifically supported method (enter name/ title): NH Method (for Ecological Integrity)	

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: Wetland 2	LOCATION: (LAT/ LONG) 43.067359/-70.783336
WETLAND AREA: Approximately 4,460 square feet (SF)	DOMINANT WETLAND SYSTEMS PRESENT: Scrub-shrub
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? None	COWARDIN CLASS: PSS1E
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☒ Yes ☐ No if not, where does the wetland lie in the drainage basin?	IS THE WETLAND PART OF: ☒ A wildlife corridor or ☐ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☐ Yes ☒ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☐ Yes ☒ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☐ Yes ☒ No
PROPOSED WETLAND IMPACT TYPE: Parking lot	PROPOSED WETLAND IMPACT AREA: Approx. 425 SF

SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☒ No	Average Ecological Integrity Score = 4.4 (1, 5, 10, 1, 5, 1, 5, 1, 5, 10)	☐ Yes ☒ No	Ecological Integrity (from NHM)
2	☐ Yes ☒ No	9	☐ Yes ☒ No	Education Potential
3	☐ Yes ☒ No	1	☐ Yes ☒ No	Fish & Aquatic Life
4	☐ Yes ☒ No	3, 5, 7, 9, 18	☐ Yes ☒ No	Flood Storage
5	☐ Yes ☒ No	2, 4, 5, 15	☐ Yes ☒ No	Groundwater (Recharge Only)
6	☐ Yes ☒ No	Highest ranked habitat in NH & region plus supporting landscape. Priority habitat block, conservation land	☐ Yes ☒ No	Noteworthiness (RTE)
7	☐ Yes ☒ No	5, 6, 7, 8, 9	☐ Yes ☒ No	Nutrient Trapping/Retention
8	☐ Yes ☒ No	1, 2, 7, 12	☐ Yes ☒ No	Production Export
9	☐ Yes ☒ No	6, 9, 12	☐ Yes ☒ No	Scenic Quality
10	☐ Yes ☒ No	2 (road salt), 4, 7, 9	☐ Yes ☒ No	Sediment Trapping
11	☐ Yes ☒ No	N/A	☐ Yes ☒ No	Shoreline Anchoring
12	☐ Yes ☒ No	2, 8, 13, 17	☐ Yes ☒ No	Uniqueness/Heritage
13	☐ Yes ☒ No	10, 12	☐ Yes ☒ No	Wetland-Based Recreation
14	☐ Yes ☒ No	3, 7, 8, 13, 19	☐ Yes ☒ No	Wetland-Dependent Wildlife

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1	N/A	N/A	N/A	N/A	No vernal pools associated with this wetland.
2					
3					
4					
5					

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM: N/A	STREAM TYPE (ROSGEN): N/A
HAVE FISHERIES BEEN DOCUMENTED? ☐ Yes ☒ No	DOES THE STREAM SYSTEM APPEAR STABLE? ☐ Yes ☐ No
OTHER KEY ON-SITE FUNCTIONS OF NOTE: N/A	

The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☐ No	N/A	☐ Yes ☐ No	No streams associated with this wetland.
2	☐ Yes ☐ No		☐ Yes ☐ No	
3	☐ Yes ☐ No		☐ Yes ☐ No	
4	☐ Yes ☐ No		☐ Yes ☐ No	
5	☐ Yes ☐ No		☐ Yes ☐ No	
6	☐ Yes ☐ No		☐ Yes ☐ No	
7	☐ Yes ☐ No		☐ Yes ☐ No	
8	☐ Yes ☐ No		☐ Yes ☐ No	
9	☐ Yes ☐ No		☐ Yes ☐ No	
10	☐ Yes ☐ No		☐ Yes ☐ No	
11	☐ Yes ☐ No		☐ Yes ☐ No	
12	☐ Yes ☐ No		☐ Yes ☐ No	
13	☐ Yes ☐ No		☐ Yes ☐ No	
14	☐ Yes ☐ No		☐ Yes ☐ No	

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

☒ Wildlife and vegetation diversity/abundance list.

☒ Photograph of wetland.

☒ Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.

☐ For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Portsmouth Regional Hospital c/o Matthew Larkin

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Avoidance and Minimization Written Narrative (NHDES-W-06-089) and the Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: Forested undeveloped, paved roadway (Borthwick Avenue), commercial, electric substation	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☐ Yes ☒ No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): Approximately 15	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Jeremy Degler (NH CWS #301)	
DATE(S) OF SITE VISIT(S): 9/17/2021, 11/22/2021	DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No
CONFIRM THAT THE EVALUATION IS BASED ON: ☒ Office and ☒ Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): ☒ USACE Highway Methodology. ☒ Other scientifically supported method (enter name/ title): NH Method (for Ecological Integrity)	

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: Wetland 5	LOCATION: (LAT/ LONG) 43.066164/-70.785497
WETLAND AREA: Approximately 9,200 square feet (SF)	DOMINANT WETLAND SYSTEMS PRESENT: Scrub-shrub
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? None	COWARDIN CLASS: PSS1E
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☒ Yes ☐ No if not, where does the wetland lie in the drainage basin?	IS THE WETLAND PART OF: ☒ A wildlife corridor or ☐ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☐ Yes ☒ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☐ Yes ☒ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☐ Yes ☒ No
PROPOSED WETLAND IMPACT TYPE: Parking lot	PROPOSED WETLAND IMPACT AREA: Approx. 9,210 SF

SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☒ No	Average Ecological Integrity Score = 3.6 (1, 1, 10, 1, 1, 1, 5, 1, 5, 10)	☐ Yes ☒ No	Ecological Integrity (from NHM)
2	☐ Yes ☒ No	9	☐ Yes ☒ No	Education Potential
3	☐ Yes ☒ No	1	☐ Yes ☒ No	Fish & Aquatic Life
4	☒ Yes ☐ No	3, 5, 6, 7, 8, 9, 18	☐ Yes ☒ No	Flood Storage
5	☐ Yes ☒ No	2, 5, 15	☐ Yes ☒ No	Groundwater (Recharge Only)
6	☐ Yes ☒ No	Highest ranked habitat in NH & region plus supporting landscape. Priority habitat block, conservation land	☐ Yes ☒ No	Noteworthiness (RTE)
7	☐ Yes ☒ No	5, 6, 7, 8, 9	☐ Yes ☒ No	Nutrient Trapping/Retention
8	☐ Yes ☒ No	2, 7	☐ Yes ☒ No	Production Export
9	☐ Yes ☒ No	6, 9	☐ Yes ☒ No	Scenic Quality
10	☐ Yes ☒ No	2 (road salt), 4, 7, 9	☐ Yes ☒ No	Sediment Trapping
11	☐ Yes ☒ No	N/A	☐ Yes ☒ No	Shoreline Anchoring
12	☐ Yes ☒ No	2, 8, 13, 17	☐ Yes ☒ No	Uniqueness/Heritage
13	☐ Yes ☒ No	10, 12	☐ Yes ☒ No	Wetland-Based Recreation
14	☐ Yes ☒ No	3, 7, 8, 13, 19	☐ Yes ☒ No	Wetland-Dependent Wildlife

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1	N/A	N/A	N/A	N/A	No vernal pools associated with this wetland.
2					
3					
4					
5					

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM: N/A	STREAM TYPE (ROSGEN): N/A
HAVE FISHERIES BEEN DOCUMENTED? ☐ Yes ☒ No	DOES THE STREAM SYSTEM APPEAR STABLE? ☐ Yes ☐ No
OTHER KEY ON-SITE FUNCTIONS OF NOTE: N/A	

The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☐ No	N/A	☐ Yes ☐ No	No streams associated with this wetland.
2	☐ Yes ☐ No		☐ Yes ☐ No	
3	☐ Yes ☐ No		☐ Yes ☐ No	
4	☐ Yes ☐ No		☐ Yes ☐ No	
5	☐ Yes ☐ No		☐ Yes ☐ No	
6	☐ Yes ☐ No		☐ Yes ☐ No	
7	☐ Yes ☐ No		☐ Yes ☐ No	
8	☐ Yes ☐ No		☐ Yes ☐ No	
9	☐ Yes ☐ No		☐ Yes ☐ No	
10	☐ Yes ☐ No		☐ Yes ☐ No	
11	☐ Yes ☐ No		☐ Yes ☐ No	
12	☐ Yes ☐ No		☐ Yes ☐ No	
13	☐ Yes ☐ No		☐ Yes ☐ No	
14	☐ Yes ☐ No		☐ Yes ☐ No	

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

☒ Wildlife and vegetation diversity/abundance list.

☒ Photograph of wetland.

☒ Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.

☐ For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

PROPOSED SATELLITE PARKING LOT

PORTSMOUTH, NEW HAMPSHIRE

444 BORTHWICK AVENUE

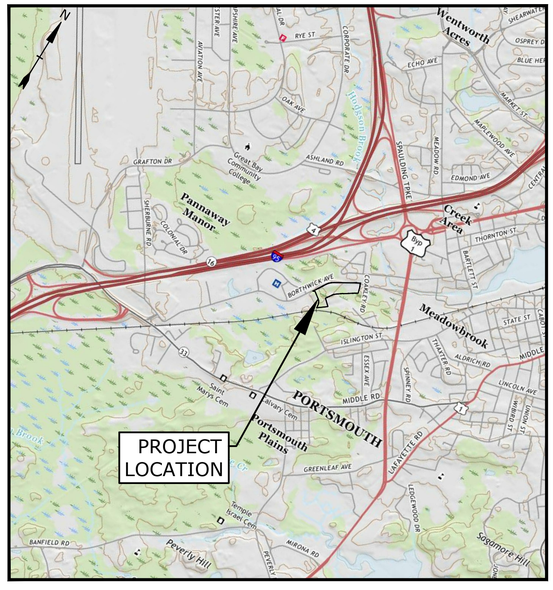
PERMIT DRAWINGS

MARCH 22, 2022

LAST REVISED JULY 21, 2022

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	07/21/2022
1 OF 2	EXISTING CONDITIONS PLAN	07/13/2022
2 OF 2	EXISTING CONDITIONS PLAN	07/13/2022
G-101	GENERAL NOTES, ABBREVIATIONS, & LEGEND SHEET	07/21/2022
C-101	DEMOLITION PLAN	07/21/2022
C-102	OVERALL PARKING PLAN	07/21/2022
C-102.1	SITE PLAN	07/21/2022
C-103	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	07/21/2022
C-104	UTILITY PLAN	07/21/2022
C-105	LANDSCAPE PLAN	07/21/2022
C-106	PHOTOMETRICS PLAN	07/21/2022
C-501	EROSION CONTROL NOTES & DETAILS SHEET	07/21/2022
C-502	DETAILS SHEET	07/21/2022
C-503	DETAILS SHEET	07/21/2022
C-504	DETAILS SHEET	07/21/2022
C-505	DETAILS SHEET	07/21/2022
C-506	DETAILS SHEET	07/21/2022
C-507	DETAILS SHEET	07/21/2022
C-508	DETAILS SHEET	07/21/2022
C-509	DETAILS SHEET	07/21/2022
C-510	DETAILS SHEET	07/21/2022

LIST OF PERMITS		
FEDERAL	STATUS	DATE
CONSTRUCTION GENERAL PERMIT (CGP) & NOI		
LOCAL		
SITE PLAN REVIEW PERMIT		
ZONING BOARD OF ADJUSTMENT - SPECIAL EXCEPTION & VARIANCE	APPROVED	2/23/2022
STATE		
NHDES STANDARD DREDGE AND FILL WETLAND IMPACT PERMIT	PENDING	
NHDES ALTERATION OF TERRAIN	PENDING	



LOCATION MAP
SCALE: 1" = 2,000'

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.
3. TIGHE & BOND. ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

PREPARED BY:
Tighe&Bond
177 Corporate Drive
Portsmouth, NH 03801
(603) 433-8818

BRADLEE MEZQUITA, PE
STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – BRADLEE MEZQUITA No. 08830 LICENSED
7.21.22

PATRICK M. CRIMMINS, PE
STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – PATRICK CRIMMINS No. 12378 LICENSED
07-21-2022

APPLICANT:
Portsmouth Regional Hospital
333 Borthwick Avenue
Portsmouth, NH 03801

SURVEY CONSULTANT:
DOUCET SURVEY LLC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

OWNER:
HCA Realty Inc.
c/o Ducharme Mcmillen & Assoc - HCA NH
PO Box 80610
Indianapolis, IN 46280

WILDLIFE PROTECTION NOTES:
1. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB22-1544, PRH SATELLITE PARKING LOT, WILDLIFE SPECIES OBSERVATION.
2. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE;
3. IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04
4. THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

F

COMPLETE SET 21 SHEETS

811 DigSafe MA-ME-NH-RI-VT

Last Save Date: July 21, 2022 12:50 PM By: ASELLAR
Plot Date: Thursday, July 21, 2022 By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_CS.dwg Layout Tab: CS

NOTES:

1. REFERENCE: TAX MAP 234, LOT 7–4A
BORTHWICK AVENUE EXTENSION
PORTSMOUTH, NEW HAMPSHIRE
D.S. PROJECT NO. 2826

2. TOTAL PARCEL AREA: 395,745 SQ. FT. OR 9.09 AC.

3. OWNER OF RECORD: HCA REALTY INC.
C/O DUCHARME MCMILLEN & ASSOC. – HCA NH
PO BOX 80610
INDIANAPOLIS, IN 46280
R.C.R.D BOOK 4400 PAGE 2048, BOOK 4639 PAGE 2128.

4. TOPOGRAPHY SHOWN HEREON IS BASED ON A COMBINATION OF AERIAL MAPPING BY EASTERN TOPOGRAPHICS IN 5/03 AND CONVENTIONAL SURVEY BY DOUCET SURVEY, SEE NOTE 5. EXCEPT FOR THE NOTED AREA, NO ADDITIONAL UPDATES WERE DONE TO THE AERIAL TOPOGRAPHY FROM 2003.

5. FIELD SURVEY PERFORMED BY DOUCET SURVEY AT VARIOUS TIMES BETWEEN 2003 & 2022.

6. JURISDICTIONAL WETLANDS DELINEATED BY JEREMY DEGLER (CWS #301, PWS #2809) OF TIGHE & BOND, ON SEPTEMBER 17, 2021 IN ACCORDANCE WITH 1987 US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y–87–1 AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (JANUARY 2012).

7. FLOOD HAZARD ZONE: "x", PER FIRM MAP #33015C0260F, DATED 1/29/2021.

8. HORIZONTAL DATUM IS BASED ON NH STATE PLANE COORDINATE SYSTEM. AS ESTABLISHED BY JAMES VERRA & ASSOCIATES IN MAY 2003.

9. VERTICAL DATUM IS BASED ON NGVD 29.

10. THE PARCEL IS SUBJECT TO, AND/OR IN BENEFIT OF THE FOLLOWING EASEMENTS, RESTRICTIONS, ETC.
    A. SUBJECT TO AN ELECTRIC EASEMENT GRANTED BY SAN ANTONIO ET AL TO NH ELECTRIC CO, SEE R.C.R.D. BOOK 1230, PAGE 222.
    B. SUBJECT TO A GAS LINE EASEMENT RESERVED BY NORTHERN UTILITIES, INC., SEE R.C.R.D. BK. 4392 PG. 110
    C. SUBJECT TO AN ACCESS AND UTILITY EASEMENT RESERVED BY ISLINGTON WOODS, LLC, SEE R.C.R.D. BOOK 4639 PAGE 2128.
    D. SUBJECT TO THE RIGHTS OF THE CITY OF PORTSMOUTH TO CONSTRUCT & MAINTAIN A SEWER LINE, SEE R.C.R.D. BOOK 4685, PAGE 553.
    E. SUBJECT TO AN "AGREEMENT REGARDING PROHIBITED USES", SEE R.C.R.D. BOK. 4400 PG. 2051.
    F. ALL OTHER RIGHTS OR EASEMENTS OF RECORD OR OTHERWISE. THIS PLAN DOES NOT REPRESENT A TITLE EXAMINATION, AND NONE WAS PROVIDED.

11. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.

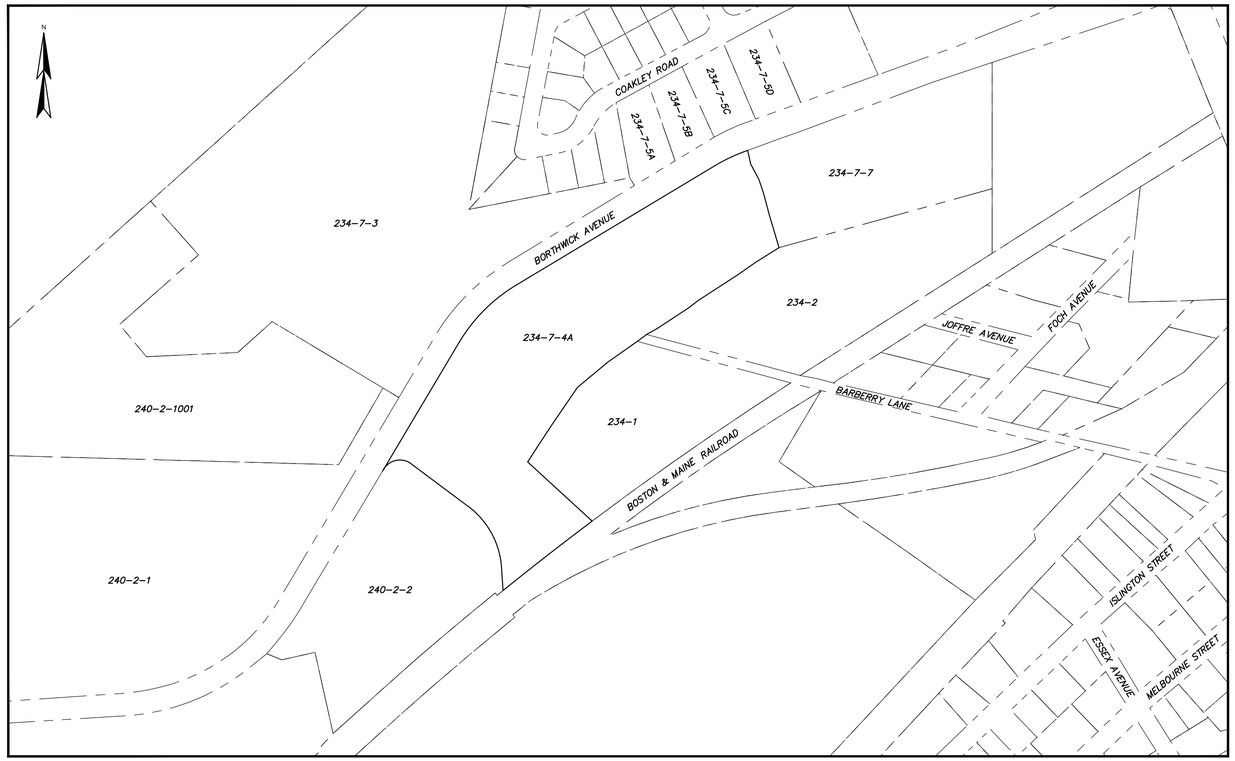
12. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVED PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON–SITE.

13. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.

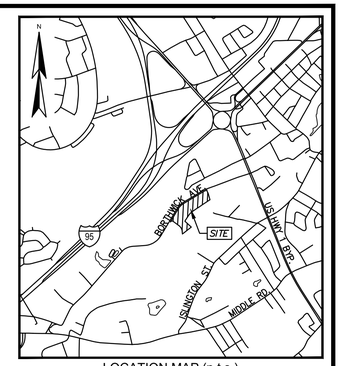
14. ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG–SAFE AT 1–888–DIG–SAFE.

REFERENCE PLANS:

1. "LOT LINE REVISION PLAN FOR PORTSMOUTH HOSPITAL OFFICE BUILDING ASSOCIATION, ISLINGTON WOODS, LLC AND HCA REALTY, INC. (TAX MAP 234, LOTS 7–4A & 7–4B) (TAX MAP 240, LOT 2–2) BORTHWICK AVENUE EXTENSION PORTSMOUTH, NEW HAMPSHIRE" DATED 1/13/06 BY DOUCET SURVEY, INC., R.C.R.D. PLAN D–33642.
2. "SUBDIVISION & LOT LINE REVISION PLAN BETWEEN NORTHERN UTILITIES, INC. AND ISLINGTON WOODS, LLC," BY DOUCET SURVEY, INC., DATED FEBRUARY 25, 2004, R.C.R.D. PLAN D–31871.
3. "GAS LINE AS–BUILT EASEMENT AND CONSERVATION EASEMENT PLAN," BY KIMBALL CHASE COMPANY, INC. DATED 10/31/85, R.C.R.D. PLAN D–15830.
4. "PLAT OF PROPERTY AND IMPROVEMENTS FOR HCA REALTY, INC.," BY CESP, INC. DATED DECEMBER 12, 1986, R.C.R.D. PLAN D–15831.
5. "EASEMENT PLAN FOR ISLINGTON WOODS, LLC AND BOSTON & MAINE CORPORATION BETWEEN ISLINGTON ST. & BORTHWICK AVE. EXT. (TAX MAP 223 LOT 113 & TAX MAP 234 LOT 7–4B) PORTSMOUTH, NEW HAMPSHIRE" DATED 10/20/2005 BY DOUCET SURVEY, INC., R.C.R.D. PLAN D–33500.
6. "LOT LINE REVISION PLAN LAND OF SEARAY REALTY, LLC TAX AMP 234 LOTS 2, 3, & 7–7 US ROUTE 1 BY–PASS & BARBERRY LANE PORTSMOUTH, NEW HAMPSHIRE. DATED 3/12/2014 BY DOUCET SURVEY, INC., R.C.R.D. PLAN D–38435.
7. "SUBDIVISION & EASEMENT PLAN LAND OF BORTHWICK FOREST, LLC (TAX MAP 241, LOT 25) AND SHOWING LAND OF HCA REALTY, INC. (TAX MAP 234, LOT 7–4A) (TAX MAP 240 LOT 2–2102) BORTHWICK AVE. & ISLINGTON ST. PORTSMOUTH, NH" DATED 11/12/2019 BY DOUCET SURVEY, INC., R.C.R.D. PLAN D–42049



KEY MAP



LOCATION MAP (n.t.s.)

200 0 200 400
SCALE: 1 INCH = 200 FT.

LEGEND: AERIAL DATA

BUILDINGS		U.P.?	UTILITY POLE
STRUCTURE		U.P.?	UTILITY POLE OBSCURED
TREELINE			HYDRANT
TRAIL/WALK			MEDIUM LONE TREE
DRIVEWAY			SMALL LONE TREE
DRIVEWAY OBSCURED			SIGN
CURBING			POST
PAVED ROAD			SIGN
PAVED ROAD OBSCURED			
GRAVEL ROAD			
DRAINAGE OBSCURED			
FENCE OBSCURED			
FENCE			
PIPELINE			
PILE LIMIT			
STONE WALL			
DITCH			
TRAIL/WALK OBSCURED			
HEADWALL			
CONCRETE			
RAILROAD			
RAILROAD OBSCURED			

LEGEND

LOT LINE			SIGN
APPROXIMATE ABUTTERS LOT LINE			SIGN (TWO POSTS)
EXISTING EASEMENT LINE			DRILL HOLE FOUND
STONE WALL			IRON PIPE/ROD FOUND
REMNANT STONE WALL			FIRE HYDRANT
OHW	OVERHEAD WIRE	WV	WATER GATE VALVE
SS	SEWER LINE	IV	IRRIGATION CONTROL VALVE
SD	DRAIN LINE	GV	GAS GATE VALVE
	CULVERT	CB	CATCH BASIN
G	GAS LINE		DRAIN MANHOLE
100	MAJOR CONTOUR LINE (SEE NOTE 5)	F.E.S	FLARED END SECTION
98	MINOR CONTOUR LINE (SEE NOTE 5)	S	SEWER MANHOLE
	TREE LINE	HH	HAND HOLE
	EDGE OF WETLAND (SEE NOTE 6)		DECIDUOUS TREE
	EDGE OF WETLAND AS PROVIDED BY CLIENT (NOT SURVEY LOCATED)		MAST ARM
	WETLAND AREA		RAIL ROAD SIGNAL
	CONCRETE	D.H.F.	DRILL HOLE FOUND
	RIP RAP	EP	EDGE OF PAVEMENT
	LANDSCAPED AREA	EOG	EDGE OF GRAVEL
	LEDGE OUTCROP	VGC	VERTICAL GRANITE CURB
		SWL	SINGLE WHITE LINE
		DYL	DOUBLE YELLOW LINE
XW	REFERENCED WATER LINE	EM	ELECTRIC METER
	UTILITY POLE		
	UTILITY POLE & GUY WIRE		
	UTILITY POLE W/LIGHT		

STATE OF NEW HAMPSHIRE — LAND SURVEYOR — No. 916 — STEVEN V. MICHAUD — SIGNATURE

STATE OF NEW HAMPSHIRE — JEREMY M. DEGLER — NO. 301 — CERTIFIED WETLAND SCIENTIST

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND
OF
TAX MAP 234 LOT 7-4A
BORTHWICK AVENUE EXTENSION
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	3/22/22	UPDATE WETLANDS PER CLIENT	SVM

DRAWN BY:	W.D.C.	DATE:	OCTOBER 2021
CHECKED BY:	S.V.M.	DRAWING NO.	2826B
JOB NO.	2826	SHEET	1 OF 2

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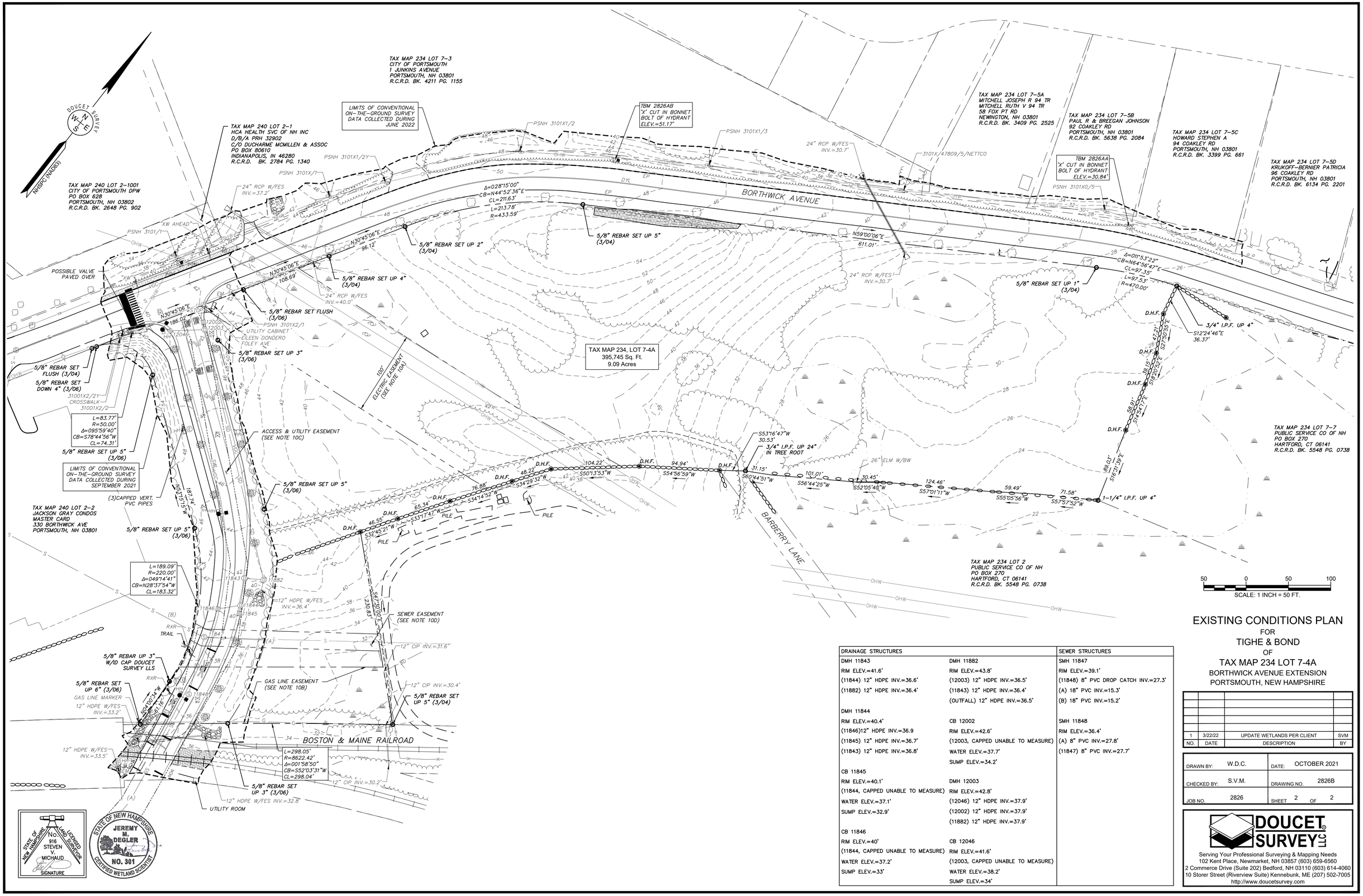

DRAINAGE STRUCTURES		SEWER STRUCTURES
DMH 11843	DMH 11882	SMH 11847
RIM ELEV.=41.6'	RIM ELEV.=43.8'	RIM ELEV.=39.1'
(11844) 12" HDPE INV.=36.6'	(12003) 12" HDPE INV.=36.5'	(11848) 8" PVC DROP CATCH INV.=27.3'
(11882) 12" HDPE INV.=36.4'	(11843) 12" HDPE INV.=36.4'	(A) 18" PVC INV.=15.3'
	(OUTFALL) 12" HDPE INV.=36.5'	(B) 18" PVC INV.=15.2'
DMH 11844		
RIM ELEV.=40.4'	CB 12002	SMH 11848
(11846)12" HDPE INV.=36.9	RIM ELEV.=42.6'	RIM ELEV.=36.4'
(11845) 12" HDPE INV.=36.7'	(12003, CAPPED UNABLE TO MEASURE)	(A) 8" PVC INV.=27.8'
(11843) 12" HDPE INV.=36.8'	WATER ELEV.=37.7'	(11847) 8" PVC INV.=27.7'
	SUMP ELEV.=34.2'	
CB 11845		
RIM ELEV.=40.1'	DMH 12003	
(11844, CAPPED UNABLE TO MEASURE)	RIM ELEV.=42.8'	
WATER ELEV.=37.1'	(12046) 12" HDPE INV.=37.9'	
SUMP ELEV.=32.9'	(12002) 12" HDPE INV.=37.9'	
	(11882) 12" HDPE INV.=37.9'	
CB 11846		
RIM ELEV.=40'	CB 12046	
(11844, CAPPED UNABLE TO MEASURE)	RIM ELEV.=41.6'	
WATER ELEV.=37.2'	(12003, CAPPED UNABLE TO MEASURE)	
SUMP ELEV.=33'	WATER ELEV.=38.2'	
	SUMP ELEV.=34'	

STATE OF NEW HAMPSHIRE
No. 916
STEVEN V. MICHAUD
LICENSED LAND SURVEYOR
SIGNATURE

STATE OF NEW HAMPSHIRE
JEREMY M. DEGLER
NO. 301
CERTIFIED WETLAND SCIENTIST

EXISTING CONDITIONS PLAN

FOR

TIGHE & BOND

OF

TAX MAP 234 LOT 7-4A

BORTHWICK AVENUE EXTENSION

PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	3/22/22	UPDATE WETLANDS PER CLIENT	SVM

DRAWN BY:	W.D.C.	DATE:	OCTOBER 2021
CHECKED BY:	S.V.M.	DRAWING NO.	2826B
JOB NO.	2826	SHEET	2 OF 2

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2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

GENERAL 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. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES AND COMPLY WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR AND COMPLY WITH 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.
7. 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.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. 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.
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. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
12. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. 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.
3. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
4. 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.
5. 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.
6. 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.
7. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER THE UTILITY COMPANY AND CITY OF PORTSMOUTH STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK UNLESS OTHERWISE NOTED.
8. 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.
9. 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.
10. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.

SITE NOTES:

1. PAVEMENT MARKINGS SHALL BE INSTALLED AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, FIRE LANES, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES. ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE PAVEMENT MARKINGS. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING LEGENDS, ARROWS, CROSSWALKS AND STOP BARS SHALL MEET THE REQUIREMENTS OF AASHTO M249. ALL PAINTED PAVEMENT MARKINGS INCLUDING CENTERLINES, LANE LINES AND PAINTED MEDIANS 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 PAVEMENT MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE, WHITE THERMOPLASTIC AND CONFORM TO CURRENT MUTCD STANDARDS.
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 WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY IS SUBJECT TO REVIEW AND APPROVAL BY THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
10. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
11. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
12. 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 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.
13. ALL TREES PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
14. THE APPLICANT SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.

SITE RECORDING NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESSED APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
3. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

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) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
4. 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.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
6. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS AND NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
7. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.

EROSION CONTROL NOTES:

1. SEE SHEET C-501 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

UTILITY NOTES:

1. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH
   - SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - FAIRPOINT AND COMCAST
2. 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.
3. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
4. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANIES.
5. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
6. 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.
7. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
8. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
9. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 6" OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
9. THREE INCHES (3") OF NON-COMBUSTIBLE MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE MULCH IS TO BE USED IN A CURBED ISLAND THE MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE 6" INCHES OF LOAM AND SEED.
10. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
11. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
12. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
13. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
14. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
15. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
16. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
17. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
19. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY DOUCET SURVEY, DATED OCTOBER 2021.
2. WETLAND DELINEATION BY TIGHE & BOND, ON SEPTEMBER 17, 2021, AND FIELD LOCATED BY DOUCET SURVEY.

REFERENCE PLANS:

1. SEE EXISTING CONDITIONS PLAN, BY DOUCET SURVEY.

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AC	ACRES
ADA	AMERICANS WITH DISABILITIES ACT
AGGR	AGGREGATE
AOT	ALTERATION OF TERRIAN
BLDG	BUILDING
BMP(S)	BEST MANAGEMENT PRACTICE(S)
BOC	BOTTOM OF CURB
BOW	BOTTOM OF WALL
CB	CATCH BASIN
CCB	CAPE COD BERM
CMP	CORRUGATED METAL PIPE
CONST	CONSTRUCT
COORD	COORDINATE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
DH	DOGHOUSE
DWG	DRAWING
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HMP	HOT MIX PAVEMENT
HW	HEADWALL
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
L	LENGTH
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
NCSS	NATIONAL COOPERATIVE SURVEY
NHDES	NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
NRCC	NORTHEAST REGIONAL CLIMATE CENTER
NRCS	NATURAL RESOURCES CONSERVATION SERVICE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PAD	PROPOSED AREA DRAIN
PC	POINT OF CURVATURE
PCB	PROPOSED CATCH BASIN
PDMH	PROPOSED DRAINAGE MANHOLE
PI	POINT OF INTERSECTION
POS	PROPOSED OUTLET STRUCTURE
PROP	PROPOSED
PSMH	PROPOSED SEWER MANHOLE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PYD	PROPOSED YARD DRAIN
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RL	ROOF LEADER
ROW	RIGHT OF WAY
SF	SQUARE FEET
SSSNNE	SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND
STD	STANDARD
TBR	TO BE REMOVED
TOC	TOP OF CURB
TOW	TOP OF WALL
TYP	TYPICAL
UD	UNDERDRAIN
USCS	UNIFIED SOIL CLASSIFICATION SYSTEM
USDA	UNITED STATES DEPARTMENT OF AGRICULTURE
W	WIDTH
W/	WITH
YD	YARD DARIN

LEGEND

- EXISTING LOT LINE
- PROPOSED LEASE LINE
- APPROXIMATE LIMIT OF WORK
- APPROXIMATE LIMIT OF SAWCUT
- EXISTING RIGHT-OF-WAY LINE
- EXISTING CHAIN LINK FENCE
- OHW — OHW — EXISTING OVERHEAD WIRE
- EXISTING SEWER LINE
- PROPOSED SEWER LINE
- EXISTING DRAIN LINE
- PROPOSED DRAIN LINE
- PROPOSED DRAIN LINE
- G — G — G — EXISTING GAS LINE
- PROPOSED GAS LINE
- T — T — T — EXISTING TELEPHONE LINE
- PC — PC — PROPOSED COMMUNICATIONS LINE
- PE — PE — PROPOSED ELECTRIC LINE
- APPROXIMATE LIMITS OF UTILITY LINE REMOVAL
- W — W — W — EXISTING WATER LINE
- PROPOSED WATER LINE
- 100 — EXISTING MAJOR CONTOUR LINE
- 98 — EXISTING MINOR CONTOUR LINE
- 45 — PROPOSED CONTOUR LINE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING EDGE OF WETLAND
- EXISTING WETLAND AREA
- WETLAND BUFFER
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING CRUSHED STONE
- APPROXIMATE LIMIT OF TREE CLEARING
- EXISTING PAVEMENT/CONCRETE TO BE REMOVED
- PROPOSED STANDARD DUTY PAVEMENT SECTION
- PROPOSED HEAVY DUTY PAVEMENT SECTION
- PROPOSED BITUMINOUS SIDEWALK
- PROPOSED SNOW STORAGE AREA
- PROPOSED BUFFER ENHANCEMENT AREA
- APPROXIMATE LIMIT OF WORK
- APPROXIMATE LIMIT OF SAWCUT
- PROPOSED SILT SOCK
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE & GUY WIRE
- EXISTING UTILITY POLE W/LIGHT
- EXISTING UTILITY POLE STUMP
- PROPOSED LIGHT POLE BASE
- EXISTING SIGN
- PROPOSED SIGN
- EXISTING IRON PIPE/ROD FOUND
- EXISTING POST
- EXISTING BOLLARD
- PROPOSED BOLLARD
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- WATER GATE VALVE
- PROPOSED WATER GATE VALVE
- EXISTING GAS GATE VALVE
- EXISTING GAS REGULATOR
- EXISTING VENT PIPE
- EXISTING TELEPHONE BOX
- EXISTING UTILITY BOX
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING DRAIN MANHOLE
- PROPOSED DRAIN MANHOLE
- EXISTING ELECTRIC MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING DECIDUOUS TREE
- PROPOSED LANDSCAPING
- B–XX — BORING LOCATION
- TP–XX — TEST PIT LOCATION
- ×100.0 — EXISTING SURVEYED SPOT GRADE
- ±44.45 — APPROX EXISTING SPOT GRADE
- 44.45 — PROPOSED SPOT GRADE
- CONC. — CONCRETE
- APPROXIMATE CUT AND CAP LOCATION OF EXISTING UTILITY
- VGC — VERTICAL GRANITE CURB
- VBB — SLOPED BITUMINOUS BERM
- SWL — SINGLE WHITE LINE
- DYL — DOUBLE YELLOW LINE

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
7-21-22

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
07-21-2022

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

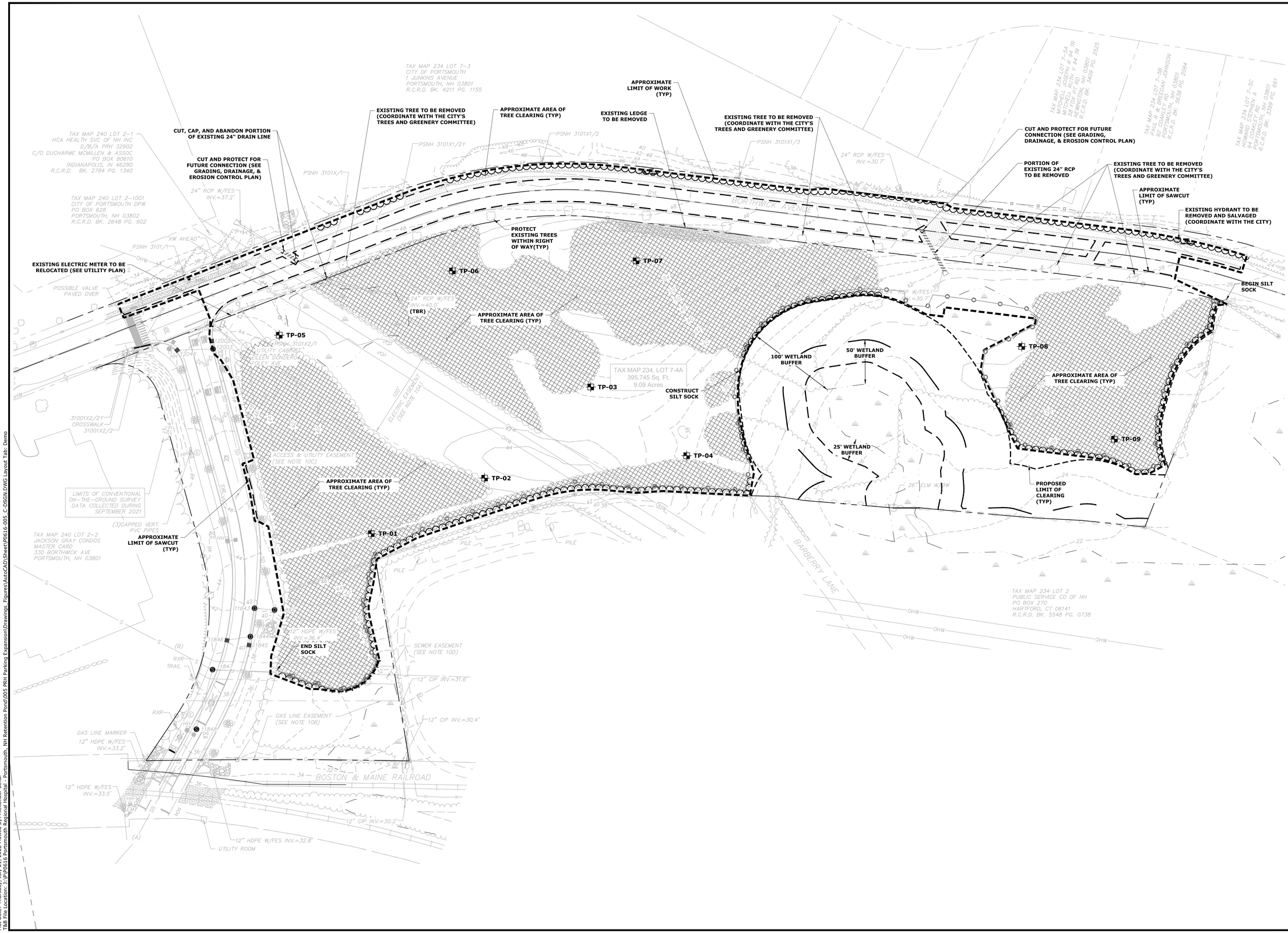
PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DSGN.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

GENERAL NOTES, ABBREVIATIONS, AND LEGEND SHEET

SCALE: AS SHOWN

G-101

Last Save Date: July 21, 2022 - 11:13 AM By: ASELLAR
Plot Date: Thursday, July 21, 2022 - 11:13 AM By: Andrew Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_C-DSGN.DWG Layout Tab: G-101



Tighe&Bond

BRADLEE MEZQUITA
No. 08830
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
07-21-22

PATRICK CRIMMINS
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STATE OF NEW HAMPSHIRE
07-21-2022

N

SCALE IN FEET
0 50' 100'
GRAPHIC SCALE

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

PROJECT NO:	P0616-001
DATE:	3/22/22
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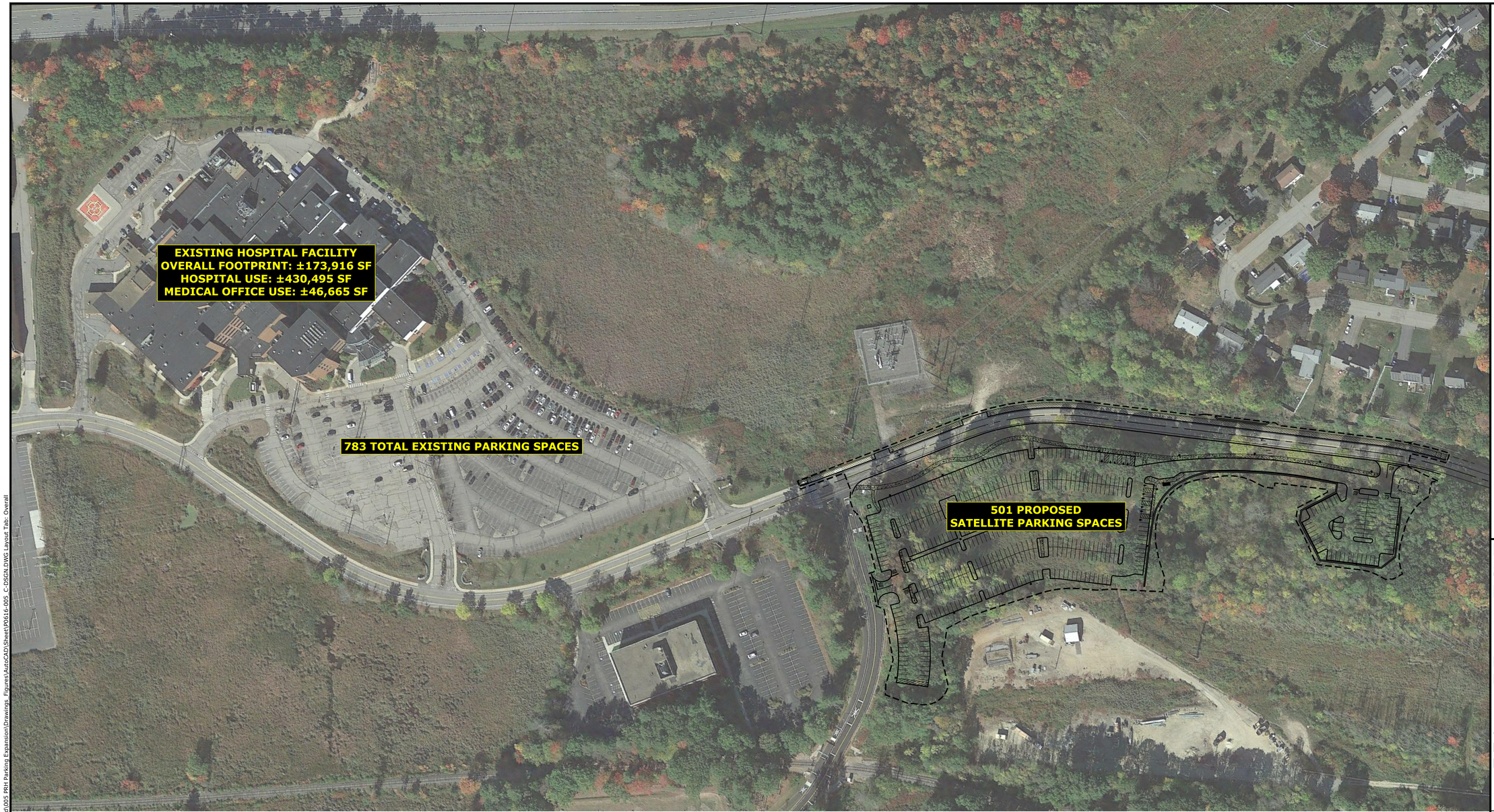
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DEMOLITION PLAN

SCALE: AS SHOWN

C-101

Last Save Date: July 21, 2022 11:13 AM By: ASELLAR
Plot Date: Thursday, July 21, 2022 Plotted By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_C-DSGN.DWG Layout Tab: Demo



PARKING REQUIREMENTS:	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	8.5' X 19'	8.5' X 19'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
MINIMUM SETBACKS:		
• FRONT:	50 FT	35.4 FT (1)
PARKING SPACE REQUIREMENTS:		
MEDICAL OFFICE:		
1 SPACE / 250 GFA		
= ±46,665 SF / 250 SF/SPACE =	187 SPACES	
HOSPITAL:		
PER PARKING DEMAND ANALYSIS(2)	965 SPACES	
MINIMUM PARKING:	1,152 SPACES	
		783 EXISTING SPACES
MAXIMUM PARKING(3):	1,382 SPACES	501 PROPOSED SPACES(4)
		1,284 TOTAL SPACES
ACCESSIBLE PARKING REQUIREMENTS:		
PROPOSED SATELLITE PARKING LOT	11 SPACES	11 SPACES

(1) - A VARIANCE WAS GRANTED BY THE ZONING BOARD OF ADJUSTMENT ON FEBRUARY 23, 2022 FROM SECTION 10.113.41 TO ALLOW A 35 FOOT FRONT SETBACK FOR A PARKING LOT WHERE 50 FEET IS REQUIRED
(2) - PARKING DEMAND BASED ON GFA OF THE EXISTING HOSPITAL (±430,495 SF)
(3) - MAXIMUM PARKING EQUALS 120% OF MINIMUM
(4) - INCLUDING 11 ADA SPACES IN THE SATELLITE PARKING LOT PER ADA STANDARDS SECTION 208

Tighe&Bond

STATE OF NEW HAMPSHIRE
BRADLEE MEZQUITA
No. 08830
LICENSED PROFESSIONAL ENGINEER
07-21-22

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
07-21-2022

N

SCALE IN FEET
0 100' 200'
GRAPHIC SCALE

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DSGN.DWG
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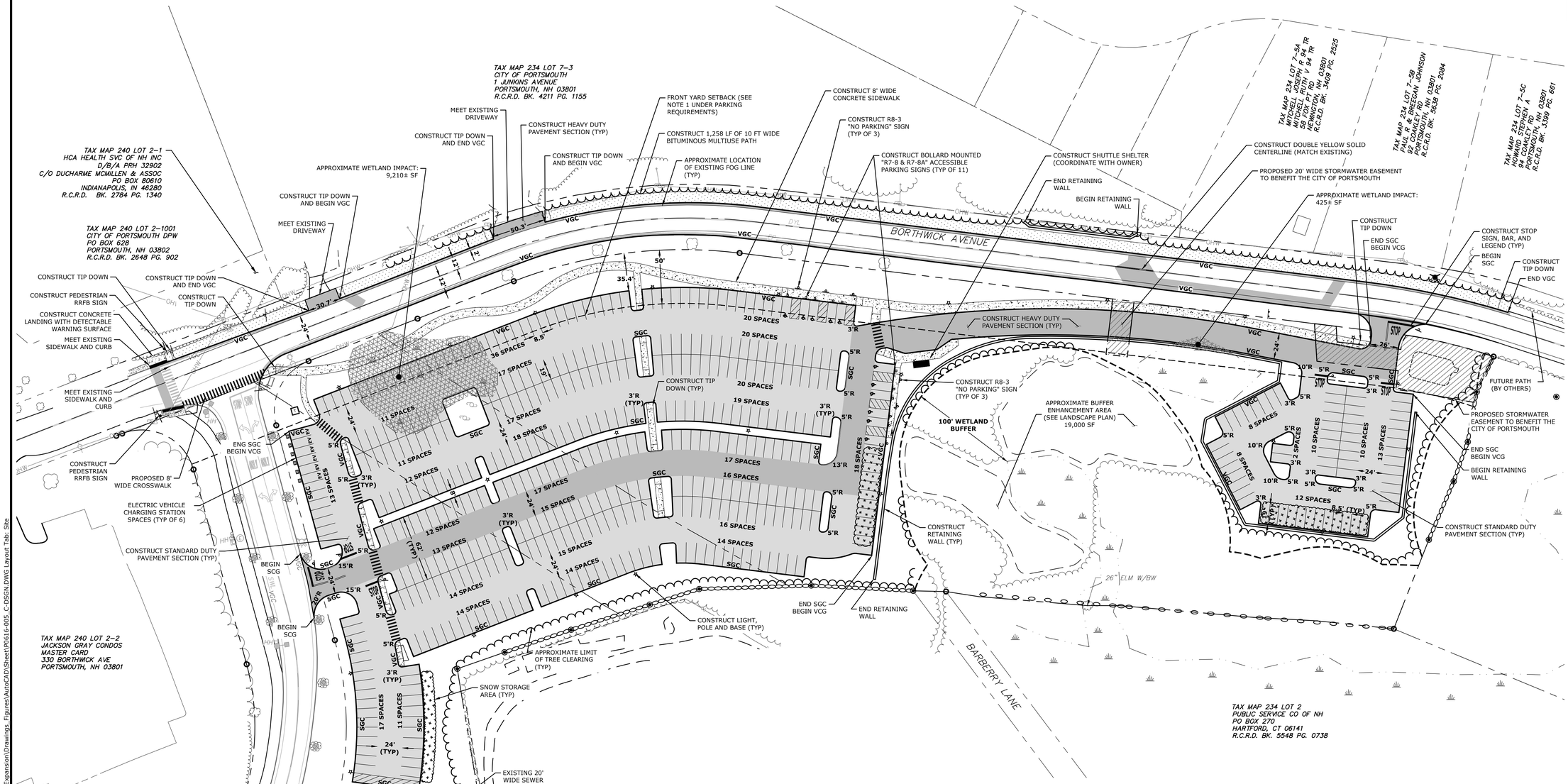
APPROVED:	BLM

OVERALL PARKING PLAN

SCALE: AS SHOWN

C-102

Last Save Date: July 21, 2022 11:13 AM By: ASELLAR
Plot Date: Thursday, July 21, 2022 Plotted By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_C-DSGN.DWG Layout Tab: Overall



PARKING REQUIREMENTS:

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	8.5' X 19'	8.5' X 19'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
MINIMUM SETBACKS:		
• FRONT:	50 FT	35.4 FT (1)
PARKING SPACE REQUIREMENTS:		
MEDICAL OFFICE:		
1 SPACE / 250 GFA		
= ±46,665 SF / 250 SF/SPACE =	187 SPACES	
HOSPITAL:		
PER PARKING DEMAND ANALYSIS(2)	965 SPACES	
MINIMUM PARKING:	1,152 SPACES	783 EXISTING SPACES
		501 PROPOSED SPACES(4)
		1,284 TOTAL SPACES
MAXIMUM PARKING(3):	1,382 SPACES	
ACCESSIBLE PARKING REQUIREMENTS:		
PROPOSED SATELLITE PARKING LOT	11 SPACES	11 SPACES

(1) - A VARIANCE WAS GRANTED BY THE ZONING BOARD OF ADJUSTMENT ON FEBRUARY 23, 2022 FROM SECTION 10.113.41 TO ALLOW A 35 FOOT FRONT SETBACK FOR A PARKING LOT WHERE 50 FEET IS REQUIRED
(2) - PARKING DEMAND BASED ON GFA OF THE EXISTING HOSPITAL (±430,495 SF)
(3) - MAXIMUM PARKING EQUALS 120% OF MINIMUM
(4) - INCLUDING 11 ADA SPACES IN THE SATELLITE PARKING LOT PER ADA STANDARDS SECTION 208

SITE DATA:
LOCATION:TAX MAP 0234, LOT 0007-004A
444 BORTHWICK AVENUE & EILEEN DONDERO FOLEY AVENUE
PORTSMOUTH, NH 03801

ZONING DISTRICTS:OFFICE RESEARCH
WETLAND

ALLOWED USE: SATELLITE PARKING LOT (1)

(1) - A SPECIAL EXCEPTION WAS GRANTED BY THE ZONING BOARD OF ADJUSTMENT ON FEBRUARY 23, 2022 FROM SECTION 10.1113.112 TO ALLOW A PARKING LOT ON ANOTHER LOT IN THE SAME OWNERSHIP

DIMENSIONAL REQUIREMENTS:	REQUIRED	PROPOSED
MINIMUM LOT AREA:	3 ACRES	±9.09 ACRES
MINIMUM STREET FRONTAGE:	300 FT	±1,313 FT
MINIMUM SETBACKS:		
• FRONT:	50 FT	N/A
• SIDE:	75 FT	N/A
• REAR:	50 FT	N/A
MAXIMUM BUILDING HEIGHT:	30 FT	N/A
MAXIMUM BUILDING COVERAGE:	30%	0 %
MINIMUM OPEN SPACE:	25%	±56.5%

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
7/21/22

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
07-21-2022

Proposed Satellite Parking Lot

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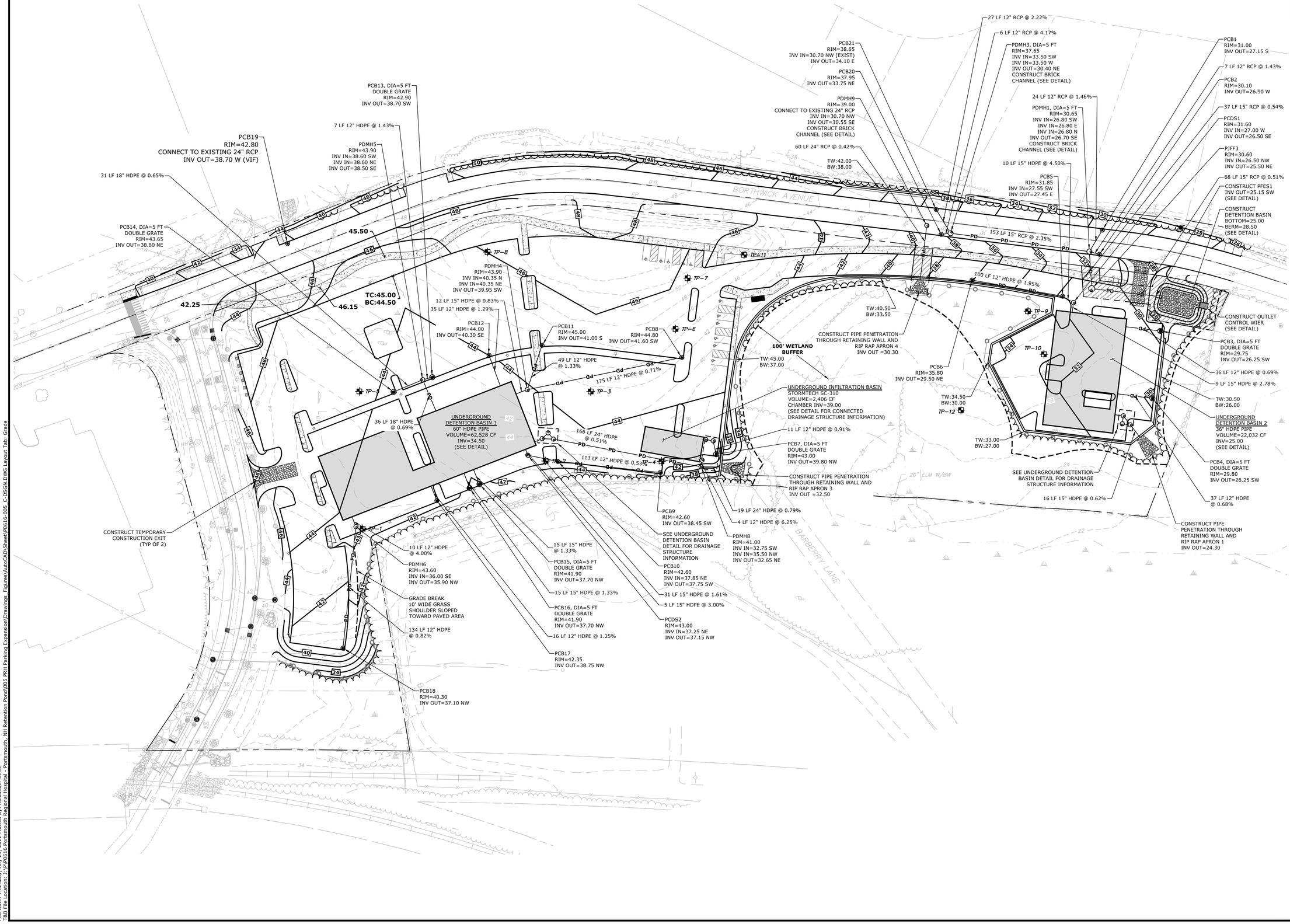
APPROVED:	BLM

SITE PLAN

SCALE: AS SHOWN

C-102.1

Last Save Date: July 21, 2022 11:12 AM By: ASELLAR
Plot Date: Thursday, July 21, 2022 11:13 AM By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings_Figures\AutoCAD\Sheet\P0616-005_C-DSGN.DWG Layout Tab: Site



Tighe&Bond

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GRADING, DRAINAGE, & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

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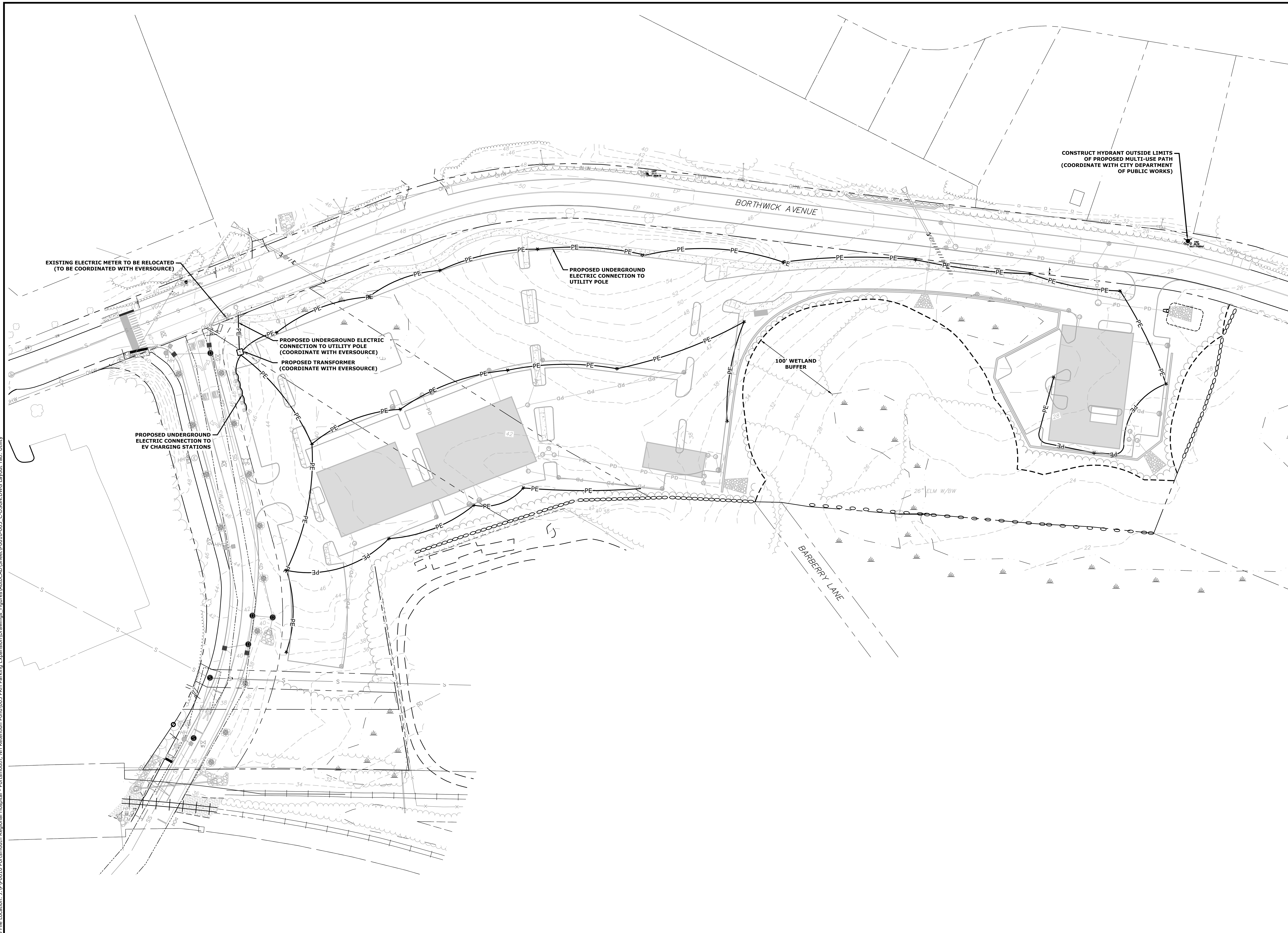

Tighe&Bond

STATE OF NEW HAMPSHIRE
BRADLEE MEZQUITA
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STATE OF NEW HAMPSHIRE
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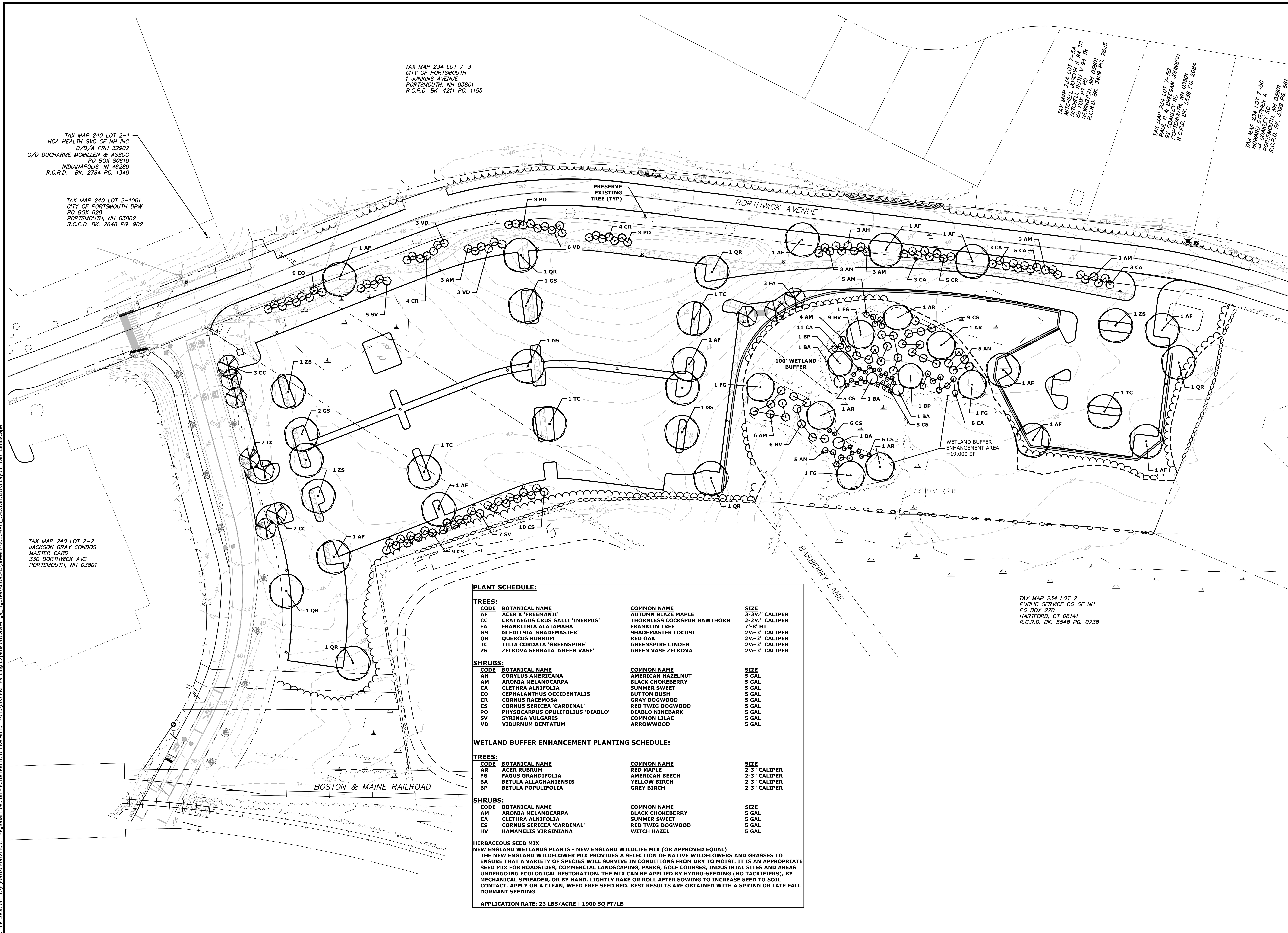
UTILITY PLAN

SCALE: AS SHOWN

C-104

Last Save Date: July 21, 2022 11:13 AM By: ASELLAR
Plot Date: Thursday, July 21, 2022 Plotted By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings_Figures\AutoCAD\Sheet\P0616-005_C-DSGN.DWG Layout Tab: Utility



PLANT SCHEDULE:

TREES:

CODE	BOTANICAL NAME	COMMON NAME	SIZE
AF	ACER X 'FREEMANII'	AUTUMN BLAZE MAPLE	3-3½" CALIPER
CC	CRATAEGUS CRUS GALLI 'INERMIS'	THORNLESS COCKSPUR HAWTHORN	2-2½" CALIPER
FA	FRANKLINIA ALATAMAHA	FRANKLIN TREE	7'-8' HT
GS	GLEDITSIA 'SHADEMASTER'	SHADEMASTER LOCUST	2½-3" CALIPER
QR	QUERCUS RUBRUM	RED OAK	2½-3" CALIPER
TC	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LINDEN	2½-3" CALIPER
ZS	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	2½-3" CALIPER

SHRUBS:

CODE	BOTANICAL NAME	COMMON NAME	SIZE
AH	CORYLUS AMERICANA	AMERICAN HAZELNUT	5 GAL
AM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	5 GAL
CA	CLETHRA ALNIFOLIA	SUMMER SWEET	5 GAL
CO	CEPHALANTHUS OCCIDENTALIS	BUTTON BUSH	5 GAL
CR	CORNUS RACEMOSA	GRAY DOGWOOD	5 GAL
CS	CORNUS SERICEA 'CARDINAL'	RED TWIG DOGWOOD	5 GAL
PO	PHYSOCARPUS OPULIFOLIUS 'DIABLO'	DIABLO NINEBARK	5 GAL
SV	SYRINGA VULGARIS	COMMON LILAC	5 GAL
VD	VIBURNUM DENTATUM	ARROWWOOD	5 GAL

WETLAND BUFFER ENHANCEMENT PLANTING SCHEDULE:

TREES:

CODE	BOTANICAL NAME	COMMON NAME	SIZE
AR	ACER RUBRUM	RED MAPLE	2-3" CALIPER
FG	FAGUS GRANDIFOLIA	AMERICAN BEECH	2-3" CALIPER
BA	BETULA ALLAGHANIENSIS	YELLOW BIRCH	2-3" CALIPER
BP	BETULA POPULIFOLIA	GREY BIRCH	2-3" CALIPER

SHRUBS:

CODE	BOTANICAL NAME	COMMON NAME	SIZE
AM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	5 GAL
CA	CLETHRA ALNIFOLIA	SUMMER SWEET	5 GAL
CS	CORNUS SERICEA 'CARDINAL'	RED TWIG DOGWOOD	5 GAL
HV	HAMAMELIS VIRGINIANA	WITCH HAZEL	5 GAL

HERBACEOUS SEED MIX
NEW ENGLAND WETLANDS PLANTS - NEW ENGLAND WILDLIFE MIX (OR APPROVED EQUAL)

THE NEW ENGLAND WILDFLOWER MIX PROVIDES A SELECTION OF NATIVE WILDFLOWERS AND GRASSES TO ENSURE THAT A VARIETY OF SPECIES WILL SURVIVE IN CONDITIONS FROM DRY TO MOIST. IT IS AN APPROPRIATE SEED MIX FOR ROADSIDES, COMMERCIAL LANDSCAPING, PARKS, GOLF COURSES, INDUSTRIAL SITES AND AREAS UNDERGOING ECOLOGICAL RESTORATION. THE MIX CAN BE APPLIED BY HYDRO-SEEDING (NO TACKIFIERS), BY MECHANICAL SPREADER, OR BY HAND. LIGHTLY RAKE OR ROLL AFTER SOWING TO INCREASE SEED TO SOIL CONTACT. APPLY ON A CLEAN, WEED FREE SEED BED. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE FALL DORMANT SEEDING.

APPLICATION RATE: 23 LBS/ACRE | 1900 SQ FT/LB

Tighe&Bond

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LANDSCAPE PLAN

SCALE: AS SHOWN

C-105

PROPOSED LIGHT POLE BASE AND FIXTURE (TYP)

BORTHWICK AVENUE

BARBERRY LANE

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	4	P3-S	Single	GLEON-SA1C-740-U-SL3-HSS / SSS4A17SFN1 MTD ON 2.5' BASE BY OTHERS (19.5' AFG)
	14	P4-S	Single	GLEON-SA2C-740-U-SL4-HSS / SSS4A17SFN1 MTD ON 2.5' BASE BY OTHERS (19.5' AFG)
	6	P5-2	Back-Back	GLEON-SA2C-740-U-5WQ / SSS4A17SFN2 MTD ON 2.5; BASE BY OTHERS (19.5' OAH AFG)

SCALE IN FEET
0 50' 100'
GRAPHIC SCALE

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PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_PHOTO.DWG
DRAWN BY:	MKF
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APPROVED:	BLM

PHOTOMETRICS PLAN

SCALE: AS SHOWN

C-106

Last Save Date: July 20, 2022 5:23 AM By: ASELLAR
Plotted Date: Thursday, July 21, 2022 Plotted By: Alexander Sellar
T&B File Location: J:\PV\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_PHOTO.DWG Layout Tab: PHOTO

Last Save Date: July 20, 2022 5:23 AM By: ASELLAR
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GENERAL PROJECT INFORMATION

PROJECT OWNER: PORTSMOUTH REGIONAL HOSPITAL
333 BORTHWICK AVENUE
PORTSMOUTH, NH
PROJECT NAME: PROPOSED SATELLITE PARKING LOT
PROJECT ADDRESS: BORTHWICK AVENUE
PORTSMOUTH, NH
PROJECT MAP / LOT: MAP 234 / LOT 7-4A
PROJECT LATITUDE: 43°-03'-56.5"N
PROJECT LONGITUDE: 70°-47'-07.21"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE CONSTRUCTION OF A 520 SPOT SATELLITE PARKING LOT TO SERVICE THE EXISTING PORTSMOUTH REGIONAL HOSPITAL. THE WORK IS ANTICIPATED TO START IN FALL 2022, AND BE COMPLETED BY FALL 2023.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 6.24 ACRES.

SOIL CHARACTERISTICS

USCS SITE SPECIFIC SOIL SURVEY CONDUCTED BY TIGHE & BOND INC., ON NOVEMBER 18 & 19, 2021 THE SOILS ON SITE CONSIST OF WOODBRIDGE, BOXFROD,SCITICO, PAXTON, HOLLIS, CHATFIELD AND SCIO SOILS WHICH RANGE FROM WELL DRAINED TO POORLY DRAINED SOILS WITH HYDROLOGIC SOIL GROUP RATING(S) OF B & C.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA OVERLAND FLOW TO AN UNNAMED WETLAND AND ULTIMATELY FLOWS TO THE PISCATAQUA RIVER.

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
   - DEVELOPMENT OF BORROW PIT AREAS
   - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE
   - FLOOD PLAIN EXCAVATION WORK
   - STREAM CHANNEL MODIFICATIONS
   - CONTROL OF DUST
   - CONSTRUCTION OF ACCESS AND HAUL ROAD
   - 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 INCLUDING BUT NOT LIMITED TO BORTHWICK AVENUE AND ELLEN DONDERO FOLEY AVENUE.

STOCKPILES:

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

OFF SITE VEHICLE TRACKING:

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

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. PERMANENT MEASURES AND PLANTINGS:
   A. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
   B. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
   C. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
   D. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
   E. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
   F. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
   G. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
   H. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 LBS/ACRE

   IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

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.

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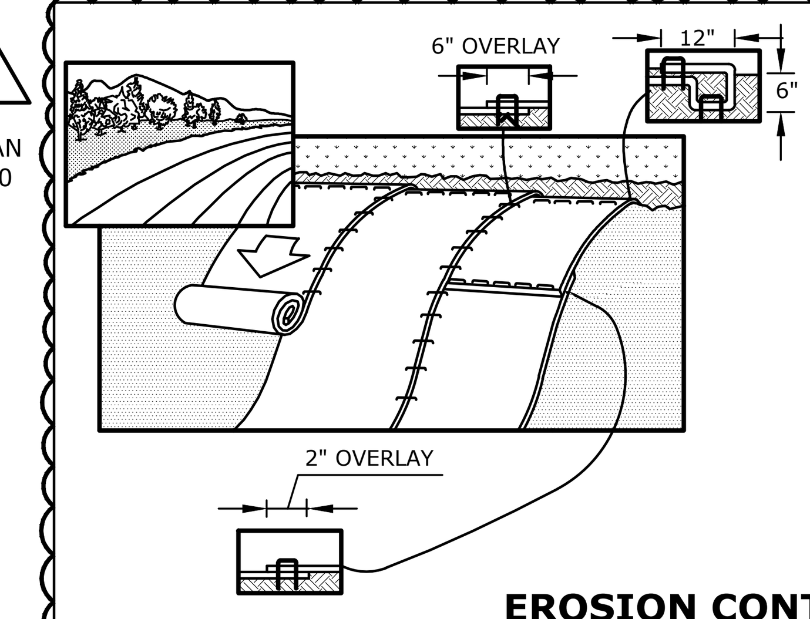
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

1. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE ENGINEER. 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 ENGINEER 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.

BLASTING NOTES:

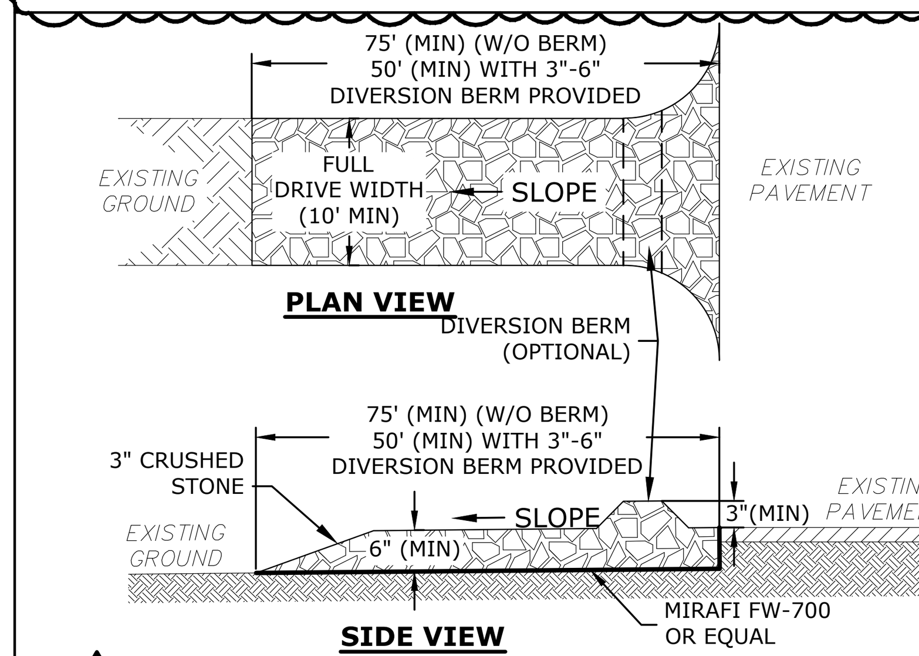
1. CONTRACTOR SHALL CONTACT THE NHDES PRIOR TO COMMENCING ANY BLASTING ACTIVITIES
2. FOR ANY PROJECT FOR WHICH BLASTING OF BEDROCK IS ANTICIPATED, THE APPLICANT SHALL SUBMIT:
   A. A BLASTING PLAN THAT IDENTIFIES:
      a. WHERE THE BLASTING ACTIVITIES ARE ANTICIPATED TO OCCUR;
      b. THE ESTIMATED QUANTITY OF BLAST ROCK IN CUBIC YARDS; AND
      c. SITE-SPECIFIC BLASTING BEST MANAGEMENT PRACTICES.
3. IF MORE THAN 5000 CUBIC YARDS OF BLAST ROCK WILL BE GENERATED AND THERE ARE ONE OR MORE PUBLIC DRINKING WATER WELLS WITHIN 2000 FEET OF THE BLASTING ACTIVITIES, A PLAN TO MONITOR GROUNDWATER TO DETECT ANY CONTAMINATION IN SUFFICIENT TIME TO PROTECT THE WATER SUPPLY WELLS SHALL BE PROVIDED TO THE NHDES. THE GROUNDWATER MONITORING PLAN SHALL INCLUDE:
   A. MONITORING FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA:
      a. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY THE NHDES.
   B. THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
      a. LOADING PRACTICES - THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      i. DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS;
      ii. EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL;
      iii. SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL;
      iv. LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED;
      v. LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT;
      vi. EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
      b. EXPLOSIVE SELECTION - THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
      i. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION;
      ii. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER
      c. PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
      d. MUCK PILES MANAGEMENT - MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
      i. REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE;
      ii. MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
   C. SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT DURING BLASTING OPERATIONS. THE MEASURES TO PREVENT SUCH RELEASES SHALL BE DETAILED IN THE GROUNDWATER MONITORING REPORT AND COMPLY WITH THE MEASURES AND BEST MANAGEMENT PRACTICES LISTED ON THIS SHEET.



NOTES:
1. EROSION CONTROL BLANKET SHALL BE AN ALL NATURAL PRODUCT WITH NO PHOTO DEGRADABLE COMPONENTS, NORTH AMERICAN GREEN SC150BN OR APPROVED EQUAL.
2. STAKES SHALL BE BIODEGRADABLE BIOSTAKES OR ALL NATURAL WOOD ECOSTAKES OR APPROVED EQUAL. THE LENGTH OF STAKES SHALL BE BASED OFF OF THE MANUFACTURERS RECOMMENDATION.
3. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, COMPOST AND SEED.
4. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTION.

EROSION CONTROL BLANKET

NO SCALE

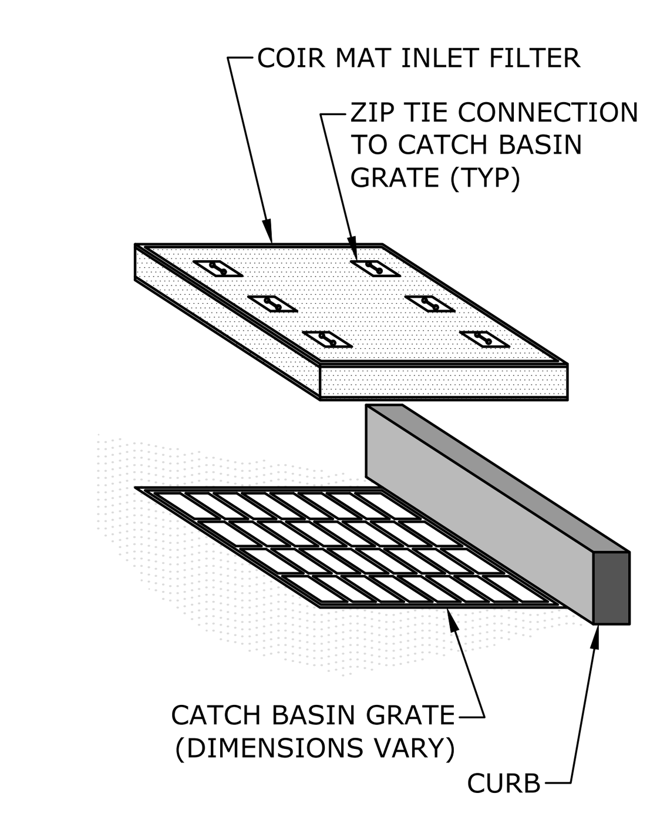


NOTES:
1. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

F

STABILIZED CONSTRUCTION EXIT

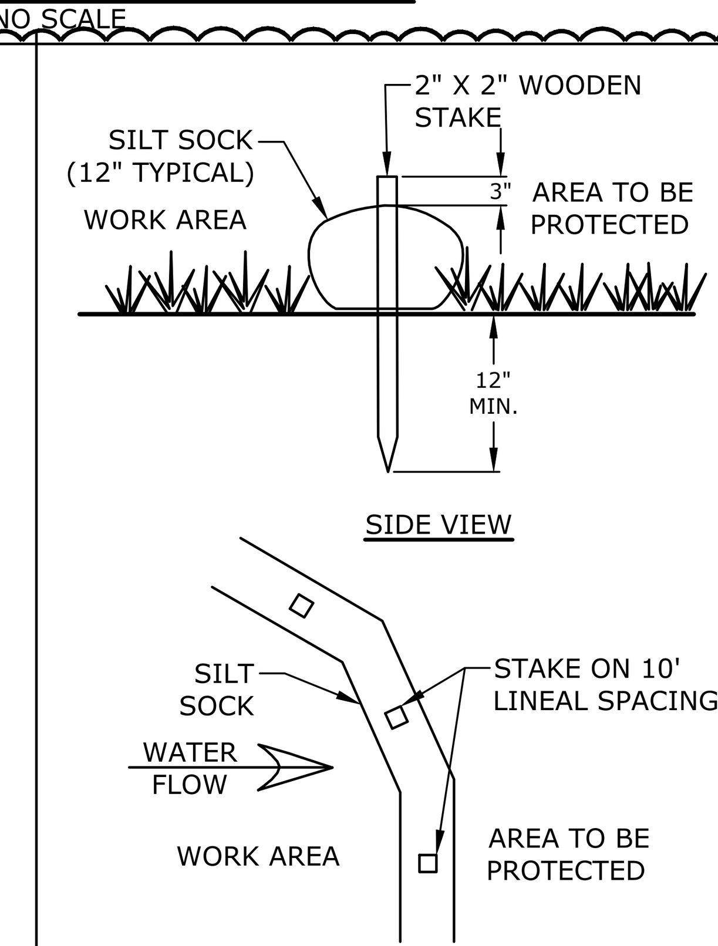
NO SCALE



NOTES:
1. COIR MAT INLET FILTER SHALL BE STORM WATER INLET FILTER BY BLOCKSOM & CO. OR APPROVED EQUAL.
2. INSTALL AND MAINTAIN INLET PROTECTION IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

INLET PROTECTION

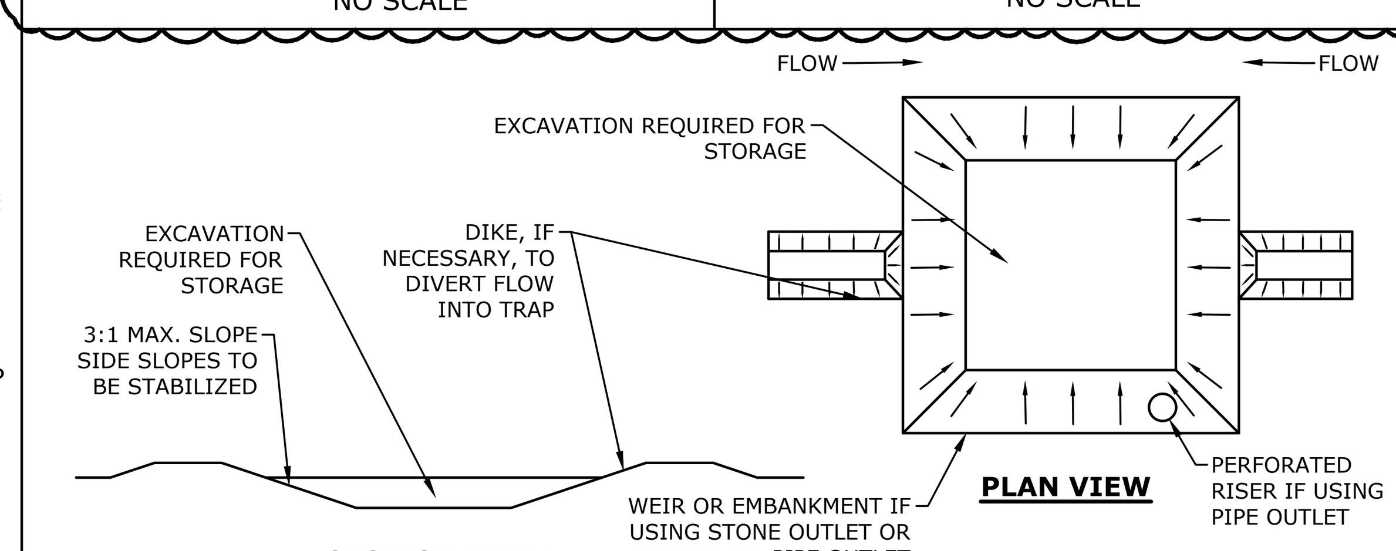
NO SCALE



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

SILT SOCK

NO SCALE



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

SEDIMENT TRAP

NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE
BRADLEE MEZQUITA
No. 08830
LICENSED
PROFESSIONAL ENGINEER
7-21-22

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
07-21-2022

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

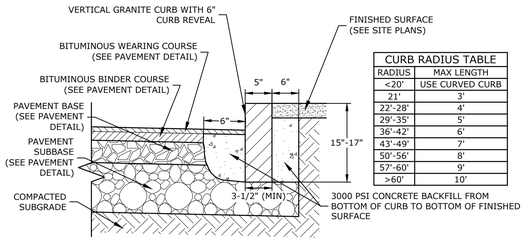
PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

EROSION CONTROL NOTES & DETAILS SHEET

SCALE: AS SHOWN

C-501

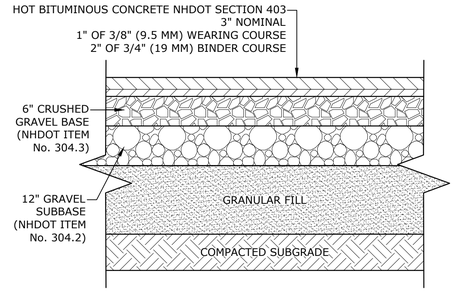
Last Save Date: July 20, 2022 1:06 PM By: ASELLAR
Plot Date: Thursday, July 21, 2022 Plotted By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings_Figures\AutoCAD\Sheet\P0616-005_C-Details.DWG Layout Tab: C-501



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

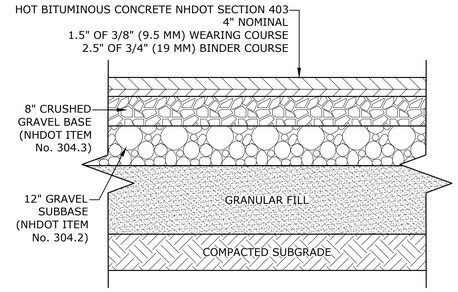
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE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

VERTICAL GRANITE CURB
NO SCALE



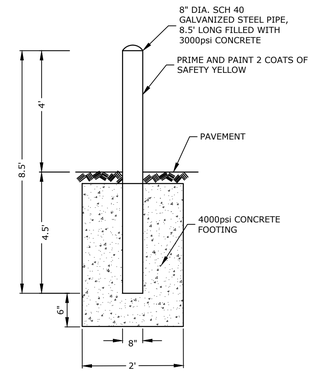
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.
5. CONTRACTOR SHALL CONFIRM THIS PAVEMENT SECTION WITH THE PROJECT'S GEOTECHINCAL ENGINEEER PRIOR TO CONSTRUCTION.

STANDARD DUTY PARKING LOT PAVEMENT SECTION
NO SCALE

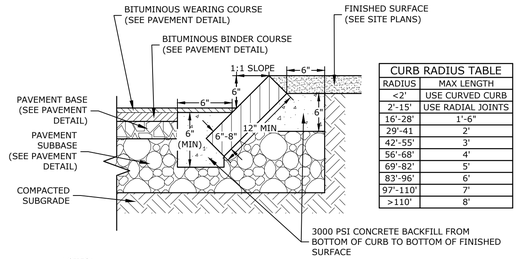


NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.
5. CONTRACTOR SHALL CONFIRM THIS PAVEMENT SECTION WITH THE PROJECT'S GEOTECHINCAL ENGINEEER PRIOR TO CONSTRUCTION.

HEAVY DUTY PARKING LOT PAVEMENT SECTION
NO SCALE



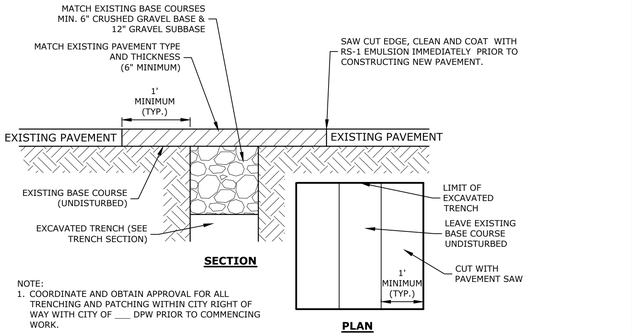
TYPICAL BOLLARD
NO SCALE



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.

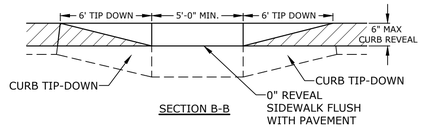
SLOPED GRANITE CURB
NO SCALE



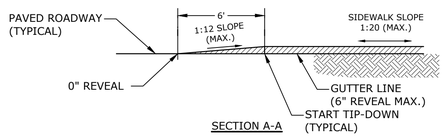
NOTE:
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF ___ DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE

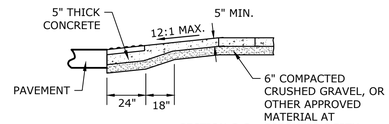
NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



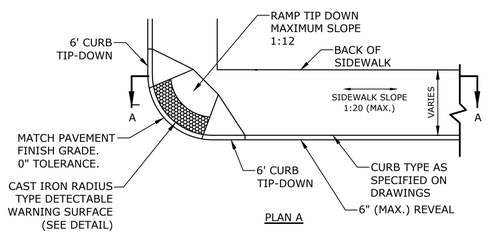
SECTION B-B



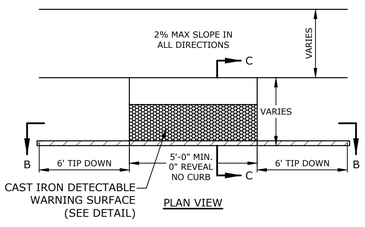
SECTION A-A



SECTION C-C



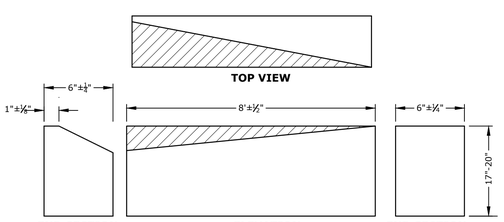
PLAN A



PLAN VIEW

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).

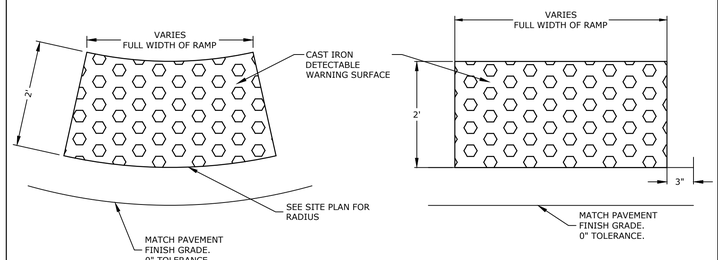
TIP DOWN RAMP
NO SCALE



TRANSITION SECTION
GRANITE SLOPE CURB TO VERTICAL GRANITE CURB

NOTES:
1. THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN STRAIGHT GRANITE CURB AND SLOPE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE SLOPE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

CURB TRANSITION
NO SCALE



NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE

Tighe&Bond

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

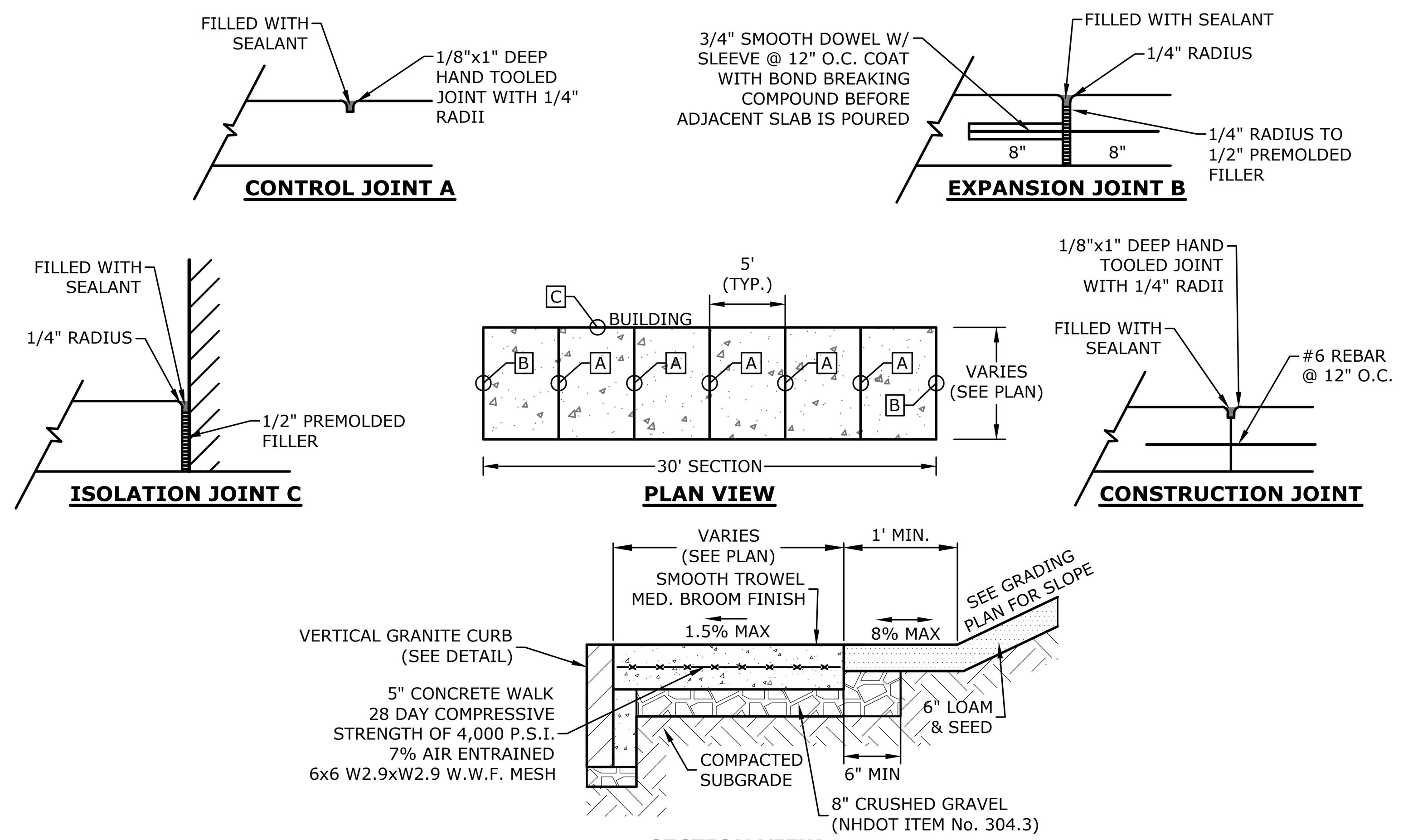
PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-502

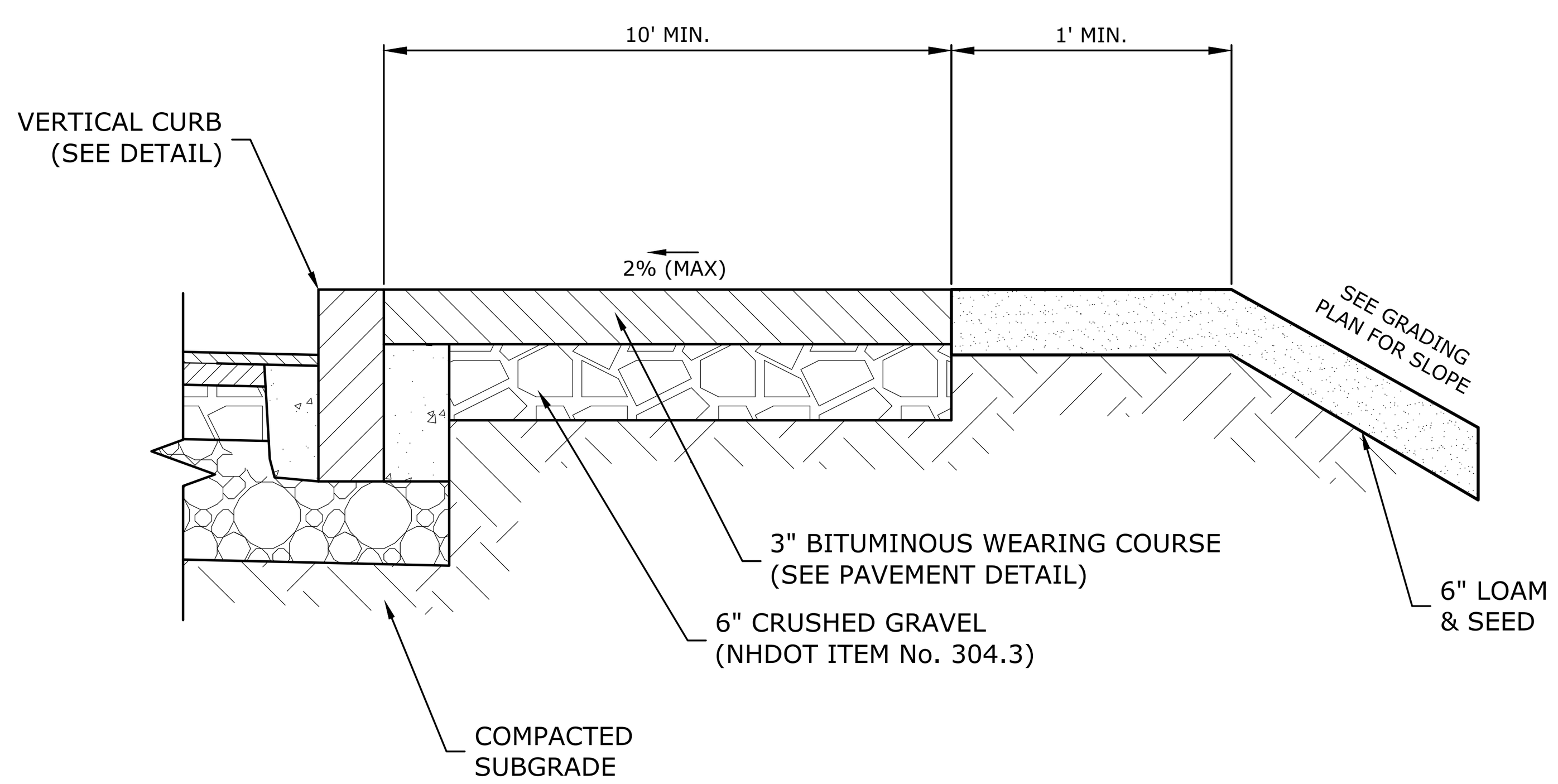
Last Save Date: July 20, 2022 1:06 PM By: ASELLAR
Plot Date: July 20, 2022 1:08 PM By: Alexander Seller
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_C-Details.DWG Layout Tab: C-502



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.

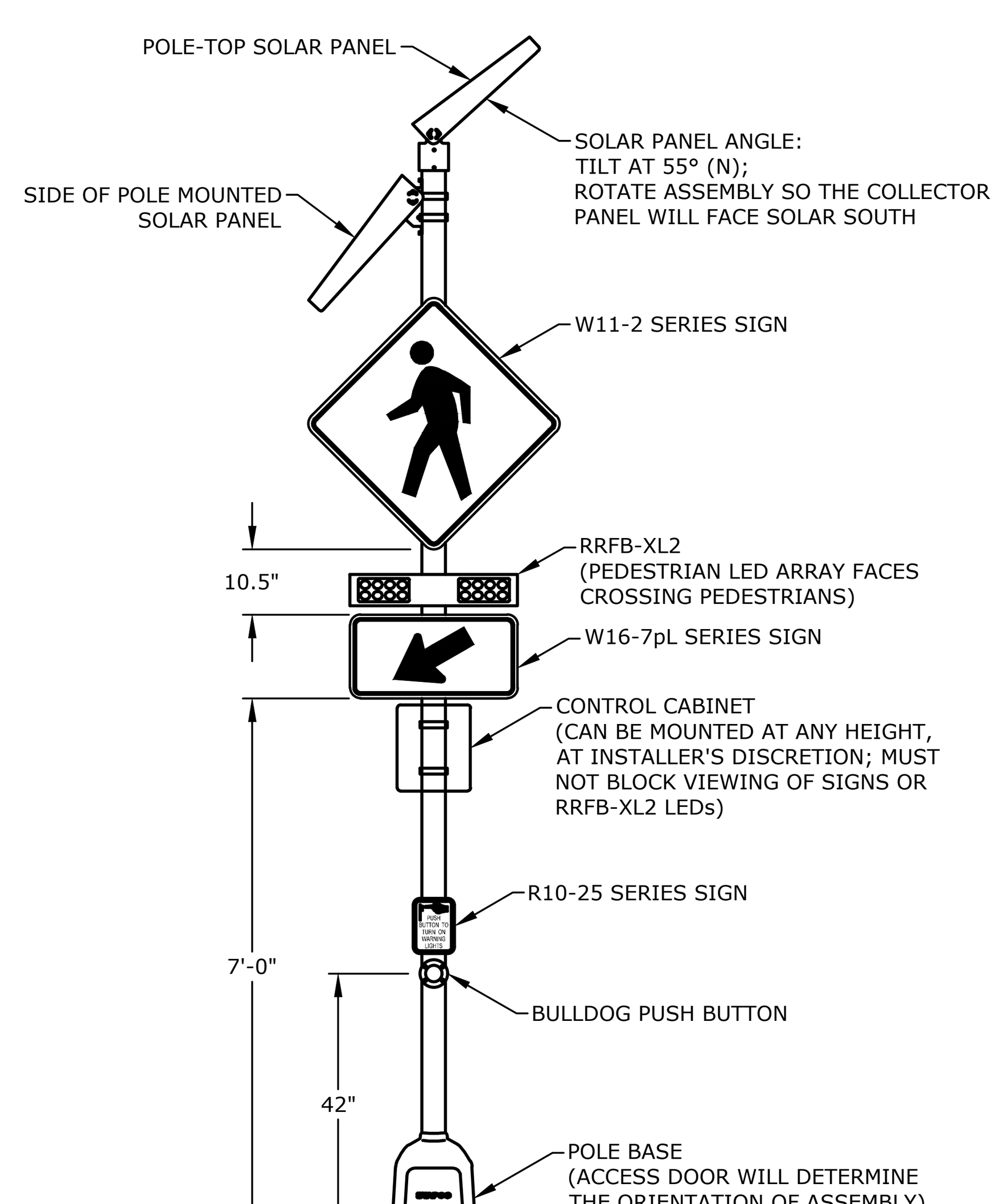
CONCRETE SIDEWALK WITH GRANITE CURB

NO SCALE



MULTI-USE PATH

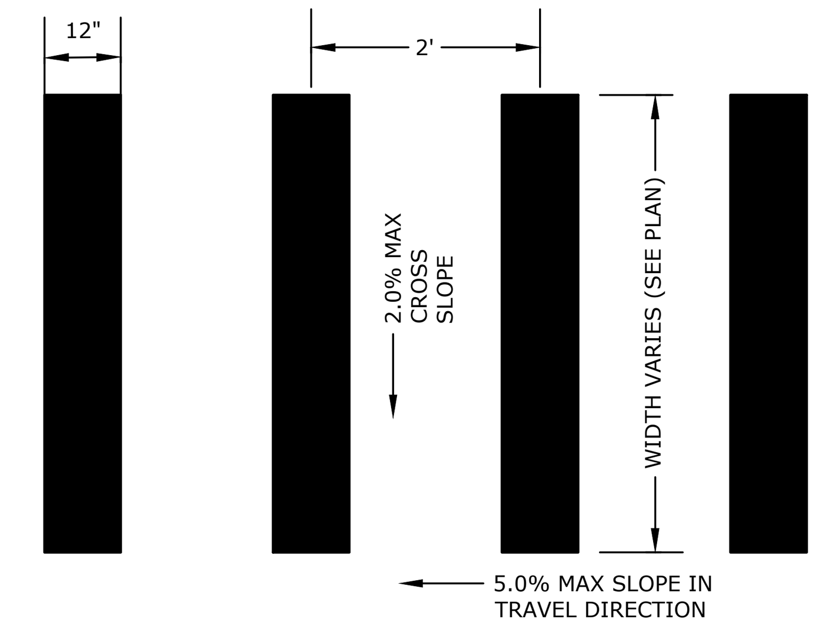
NO SCALE



NOTES:
1. THE POLE AND HOUSING EQUIPMENT SHALL BE THE COLOR BLACK
2. THE POLE DIAMETER SHALL BE 3.5 INCHES

RECTANGULAR RAPID FLASHING BEACON (RRFB)

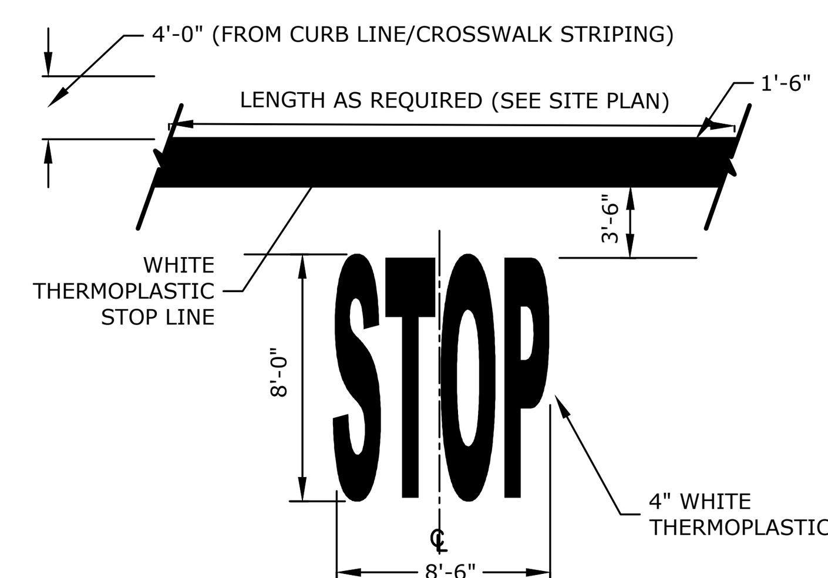
NO SCALE



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

CROSS WALK STRIPING

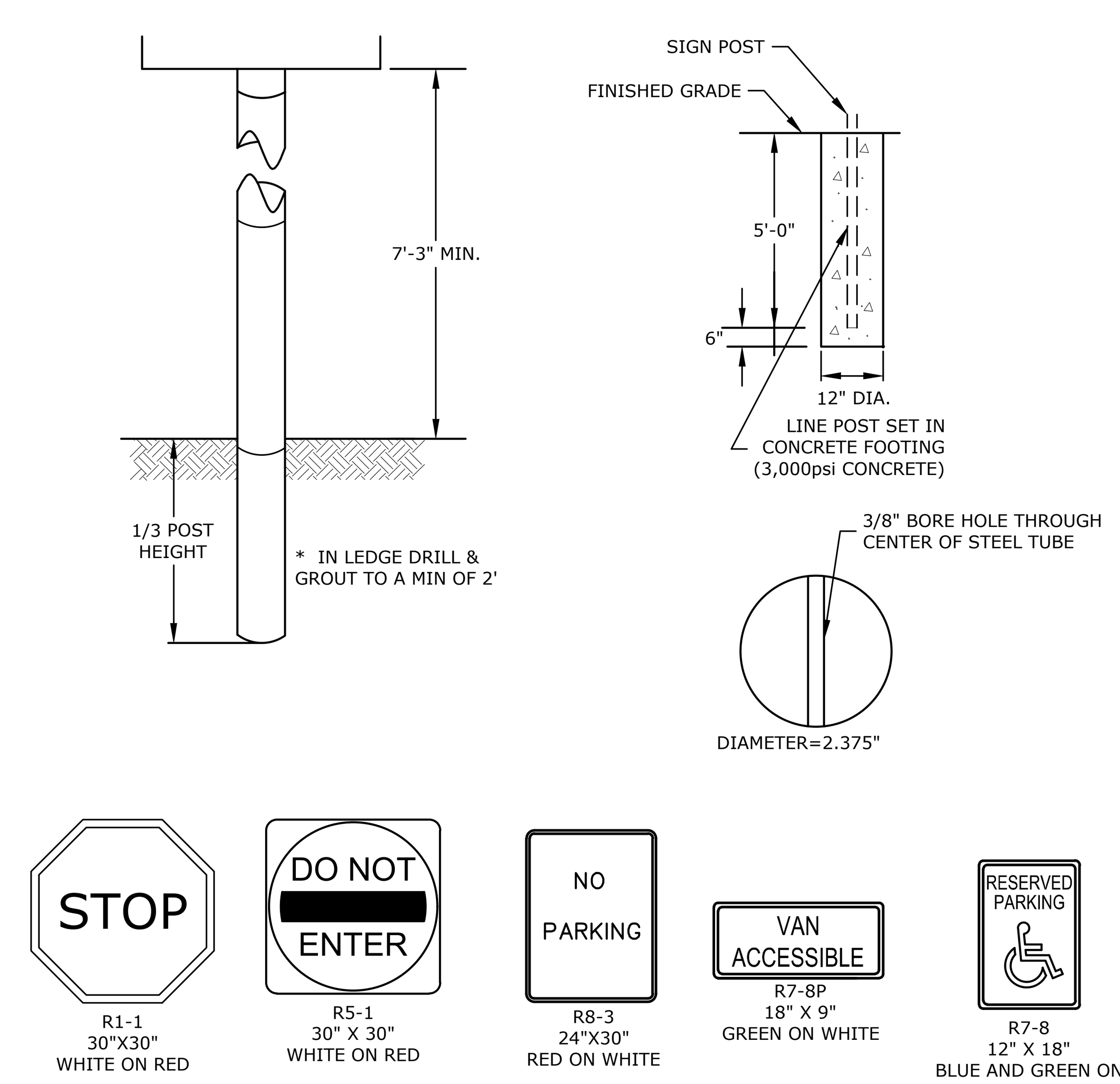
NO SCALE



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

STOP BAR & LEGEND

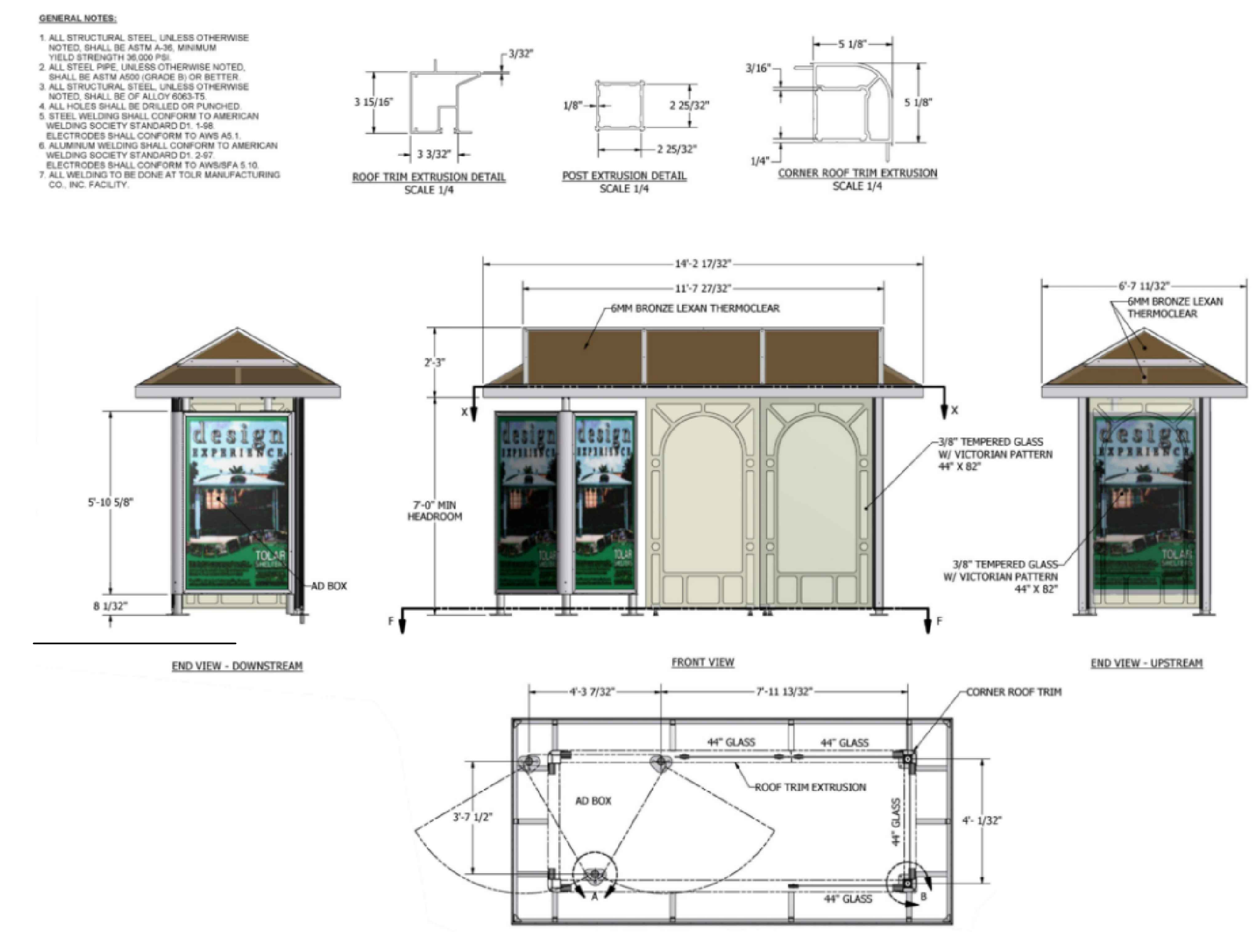
NO SCALE



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 & POST

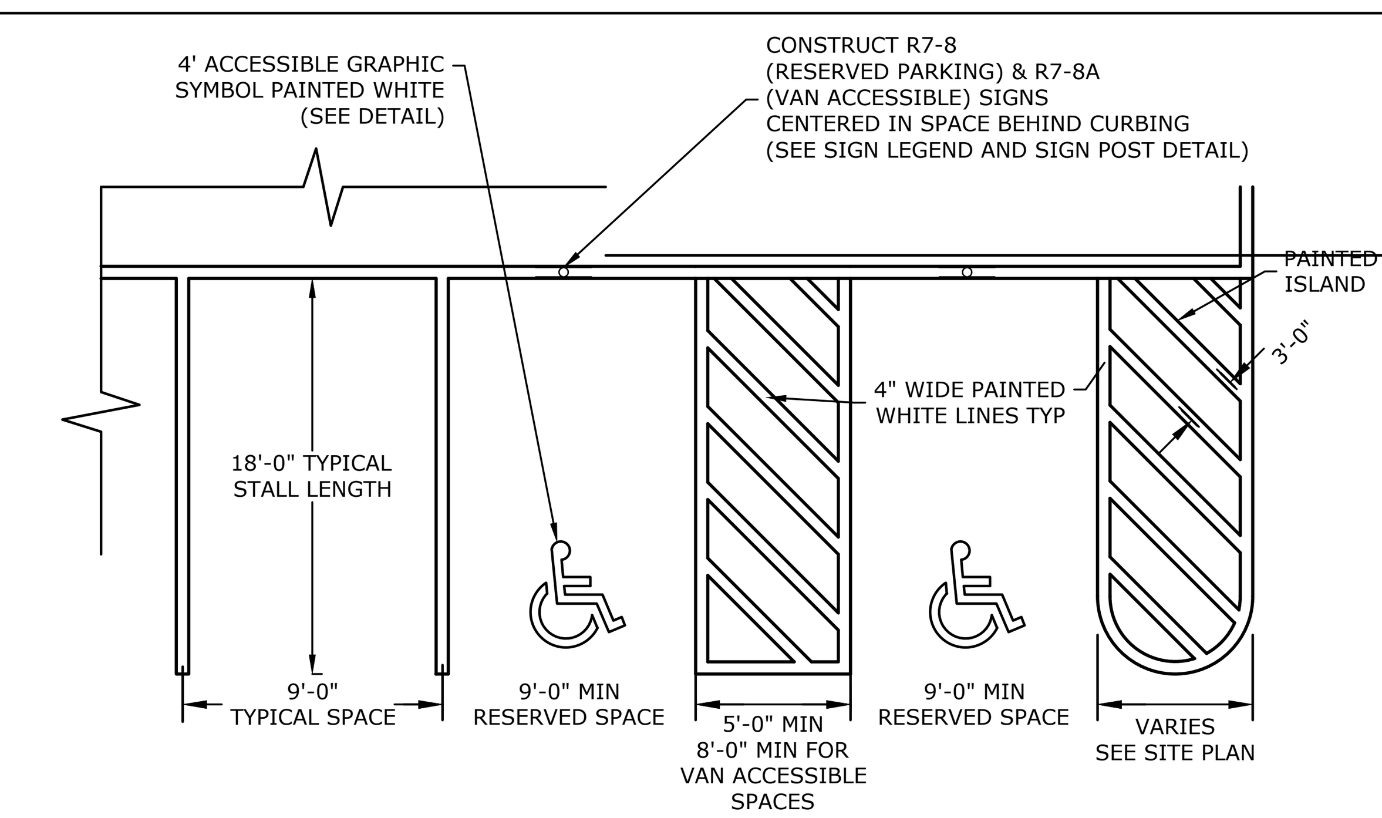
NO SCALE



NOTE:
1. DETAIL SHOWN HEREIN IS ATYPICAL FOR PERMITTING PURPOSED.
2. FINAL BUSH SHELTER TO BE SELECTED BY OWNER PRIOR TO CONSTRUCTION.

TYPICAL BUS SHELTER

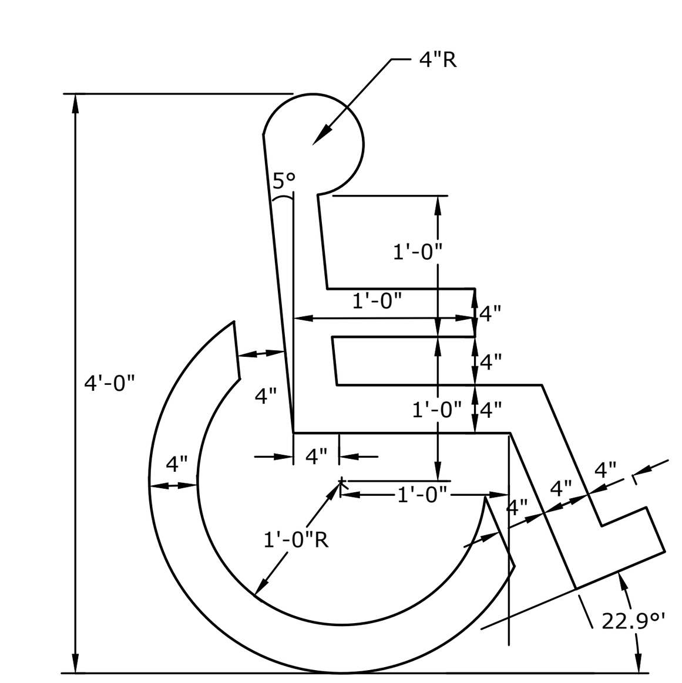
NO SCALE



NOTE:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING SPACE STRIPING

NO SCALE



NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL

NO SCALE

Tighe&Bond

Proposed Satellite Parking Lot

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DETAILS SHEET

SCALE: AS SHOWN

C-503

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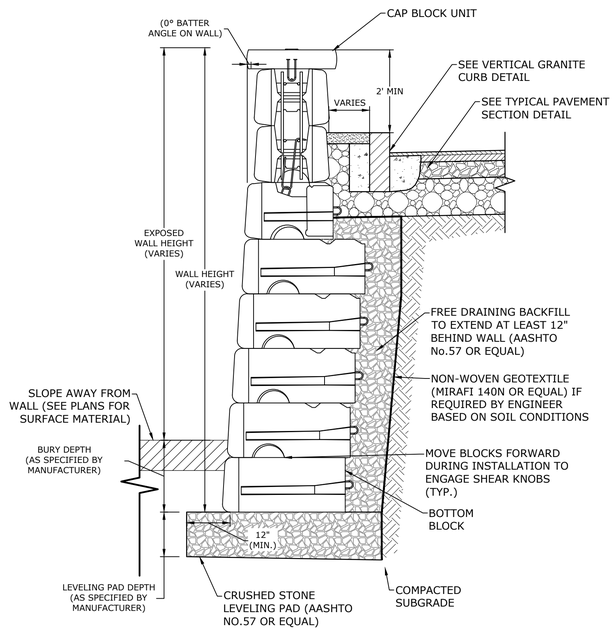
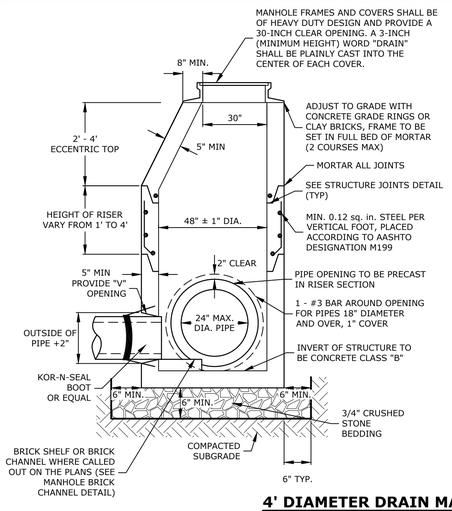


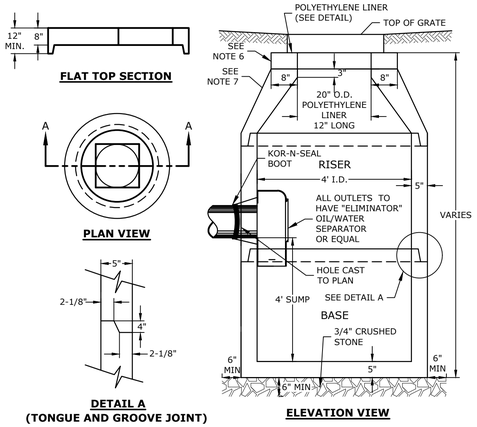
NOTES:
1. RETAINING WALL SHALL BE BY REDI ROCK LEDGESTONE OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL SUBMIT DESIGN AND CALCULATIONS FOR THE RETAINING WALL THAT SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. CALCULATIONS SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
3. MINIMUM DESIGN PARARMETERS:
   - GLOBAL STABILITY FACTOR OF SAFETY = 1.3
   - OVERTURNING FACTOR OF SAFETY = 2.0
   - SLIDING FACTOR OF SAFETY = 1.5
   - GEOGRID PULLOUT FACTOR OF SAFETY = 1.5
   - SEISMIC FACTOR OF SAFETY = 1.1
4. WALL DESIGNS SHALL CONSIDER EFFECTS OF SLOPE, TRAFFIC LOADS, BUILDING LOADS, GUARDRAIL AND/OR FENCING AS REQUIRED.
5. WALL DESIGN ENGINEER SHALL CONSIDER HEIGHT AND SPECIFY GUARDRAIL WHERE REQUIRED
6. ALL INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION MANUAL AND THE WALL DESIGN ENGINEER'S DESIGN PLANS AND SPECIFICATIONS.
7. THE WALL DESIGN ENGINEER SHALL COMPLETE SUFFICIENT INSPECTIONS DURING CONSTRUCTION TO CERTIFY WORK IS COMPLETED IN ACCORDANCE WITH DESIGN.
8. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS OF WALL WITH WALL DESIGNER'S CERTIFICATION TO OWNER.
9. CONTRACTOR SHALL DIRECT SURFACE RUNOFF AWAY FROM THE WALL DURING CONSTRUCTION.
10. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT OR OTHER SURFACE TREATMENT SHALL BE INSTALLED IN THE AREA OF THE WALL IMMEDIATELY AFTER THE WALL IS COMPLETE OR OTHER MEASURES SHALL BE TAKEN TO PROTECT THE WALL FROM RUNOFF.
11. CONTRACTOR SHALL SUPPLY SAMPLE TO THE OWNER FOR APPROVAL PRIOR TO WALL CONSTRUCTION.

TYPICAL EXTENDED BLOCK RETAINING WALL SECTION
NO SCALE



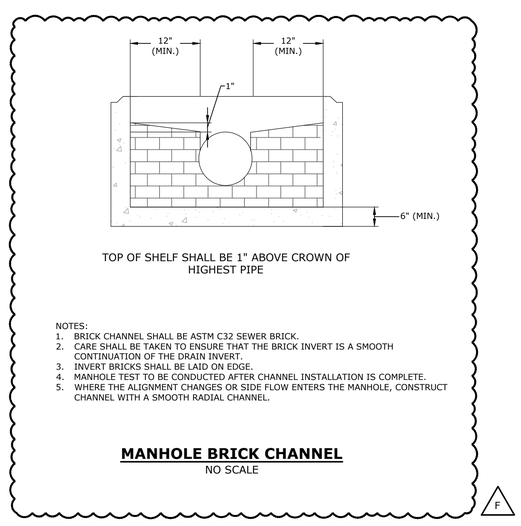
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL 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



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 CATCH BASIN
NO SCALE



TOP OF SHELF SHALL BE 1" ABOVE CROWN OF HIGHEST PIPE

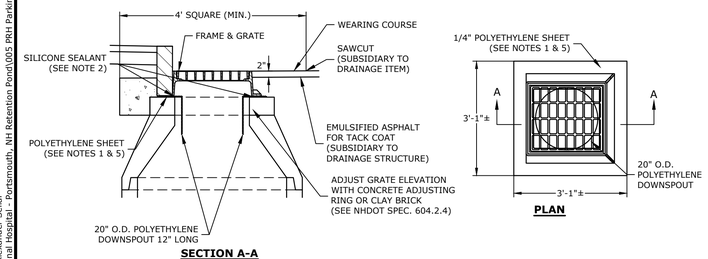
NOTES:
1. BRICK CHANNEL SHALL BE ASTM C32 SEWER BRICK.
2. CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE DRAIN INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. MANHOLE TEST TO BE CONDUCTED AFTER CHANNEL INSTALLATION IS COMPLETE.
5. WHERE THE ALIGNMENT CHANGES OR SIDE FLOW ENTERS THE MANHOLE, CONSTRUCT CHANNEL WITH A SMOOTH RADIAL CHANNEL.

MANHOLE BRICK CHANNEL
NO SCALE

F

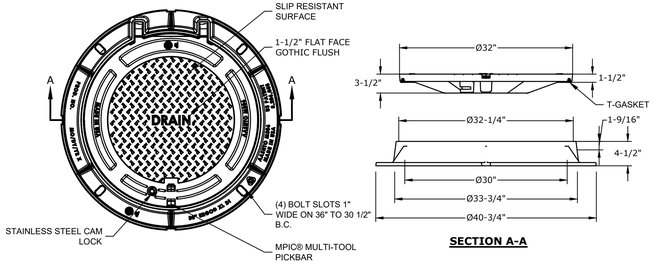
NOTES:
1. ALL DIMENSIONS ARE NOMINAL
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   2.1. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   2.2. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   2.3. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. FRAME AVAILABLE IN 4" OR 8" HEIGHTS
4. FREE OPEN AREA = 2.55 SQ. FT.
5. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.

CATCH BASIN FRAME & GRATE
NO SCALE



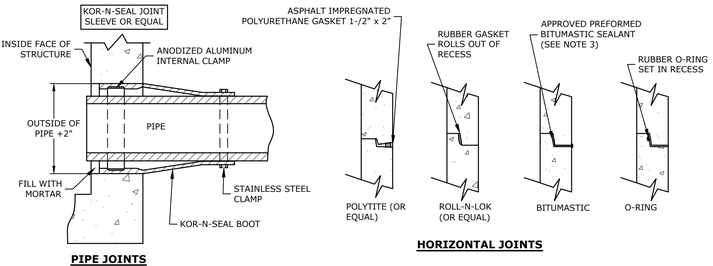
NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE 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. 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



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.

STRUCTURE JOINTS
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – BRADLEE MEZQUITA No. 08830 – LICENSED PROFESSIONAL ENGINEER
7-21-22

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 – LICENSED PROFESSIONAL ENGINEER
07-21-2022

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-504

Last Save Date: July 20, 2022 1:06 PM By: ASELLAR
Plot Date: July 21, 2022 2:47 PM By: Alexander Sellar
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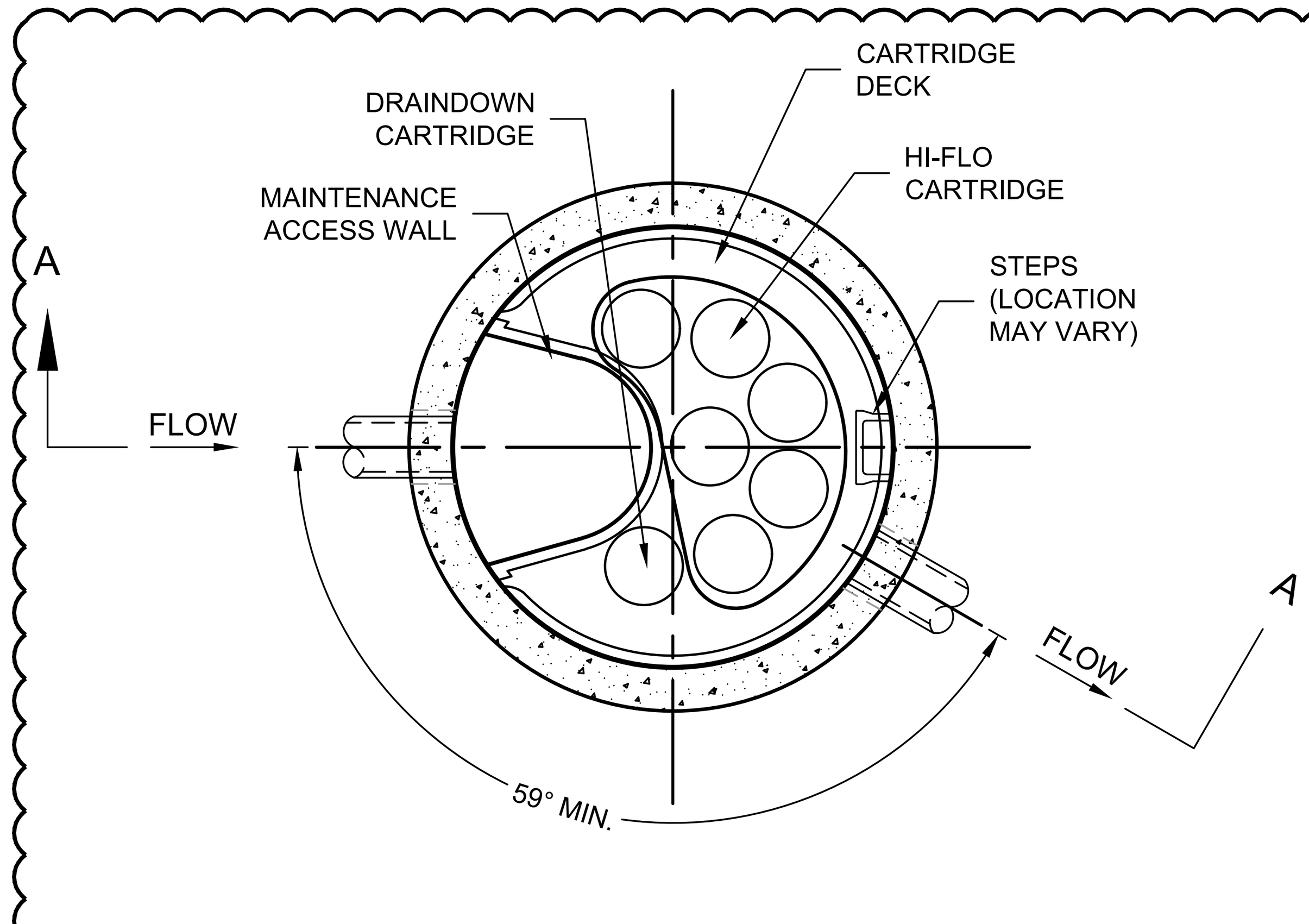
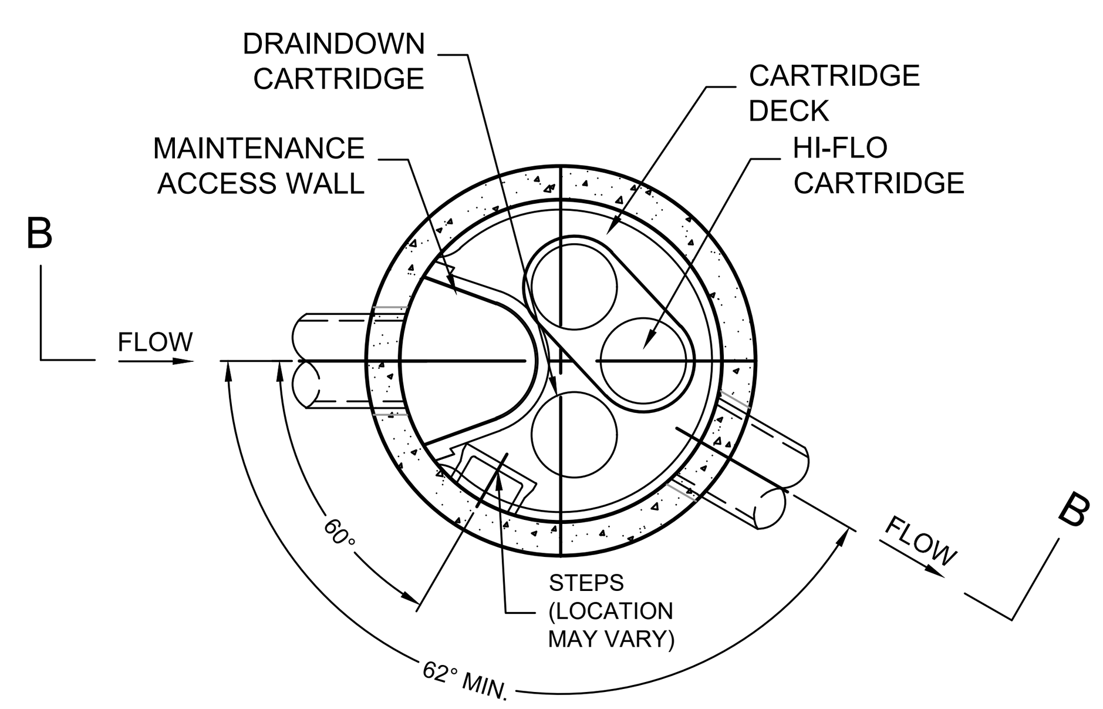
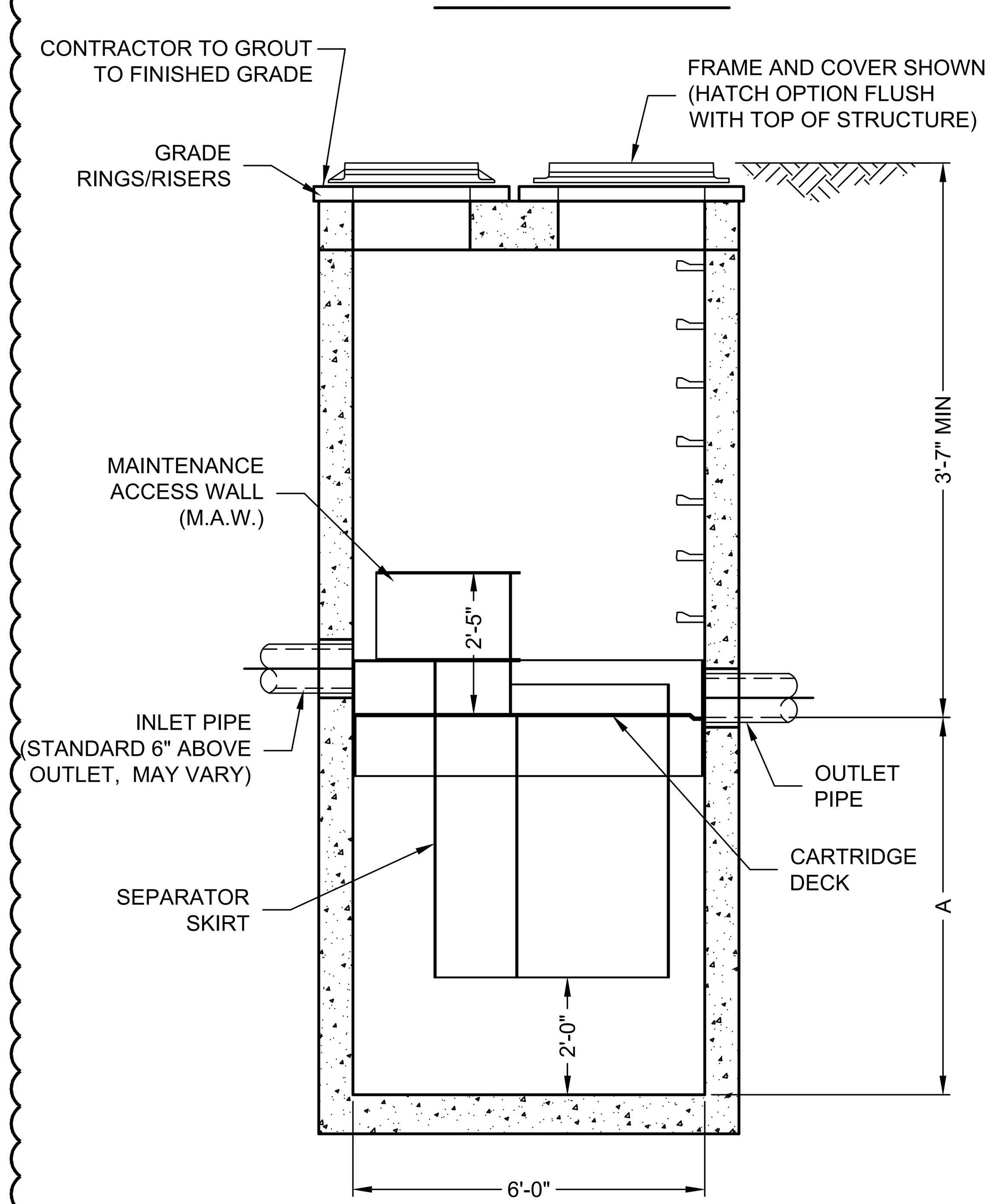


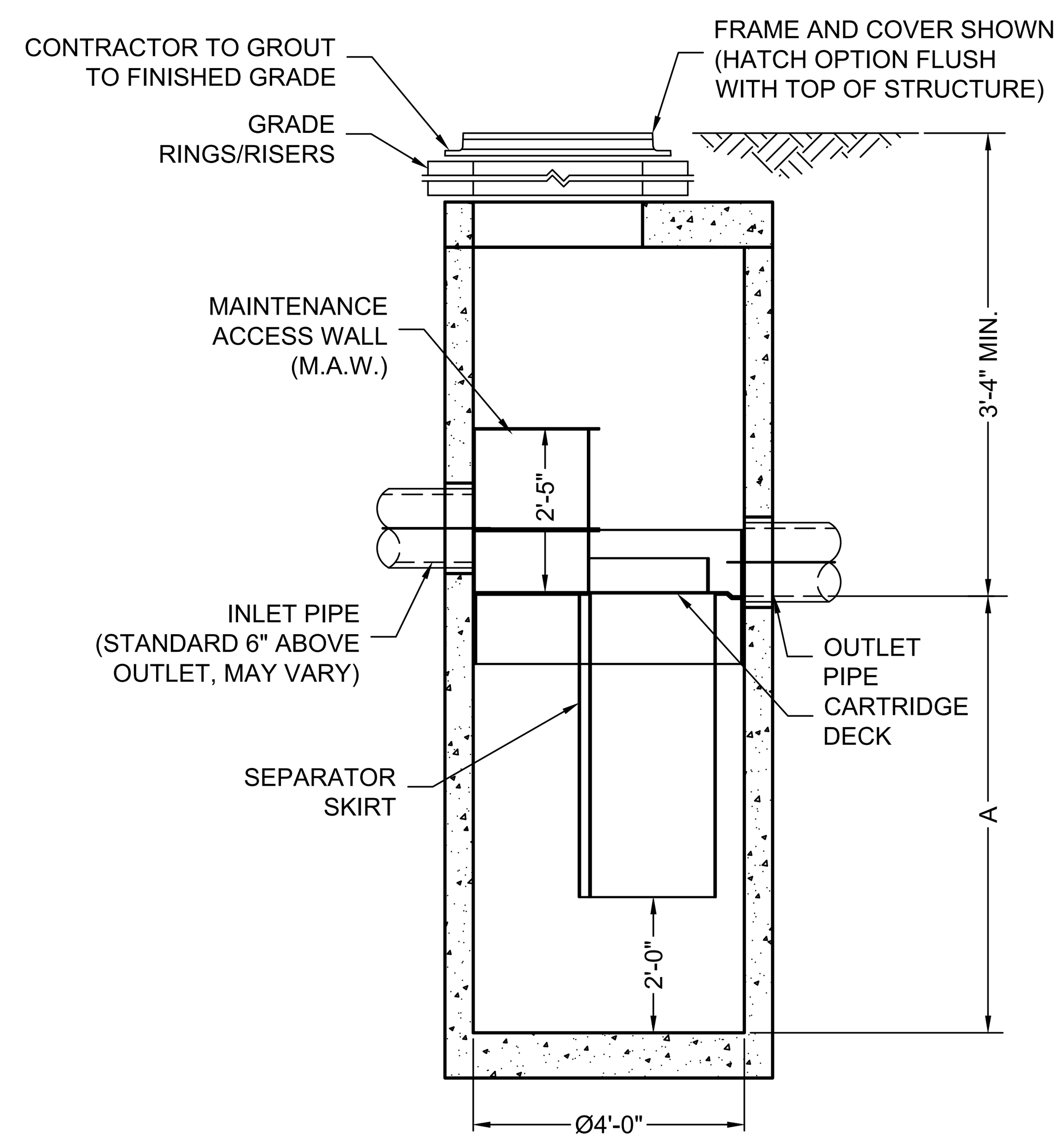
JF 6 PLAN VIEW



JF 4 PLAN VIEW

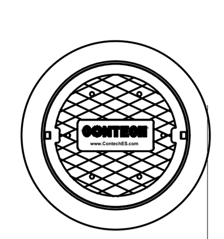


SECTION A-A



SECTION B-B

Contech Jellyfish Filter System Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Inspect vault for sediment build up, static water, plugged media and bypass condition	One (1) time annually and after any rainfall event exceeding 2.5” in a 24-hr period	Maintenance required for any of the following: - >4” of sediment on the vault floor - >1/4” of sediment on top of the cartridge - .4” of static water above the cartridge bottom more than 24 hours after a rain event - If pore space between media is absent. - If vault is in bypass condition during an average rainfall event.
Replace Cartridges	As required by inspection, 1–5 years.	- Remove filter cartridges per manufacturer methods. - Vacuum sediment from vault. - Install new cartridges per manufacturer methods



FRAME AND COVER
(DIAMETER VARIES)
NO SCALE

UNIT MODEL SCHEDULE	
PJFF1	4-2-1
PJFF2	4-1-1
PJFF3	6-5-1
PJFF4	4-1-1

GENERAL NOTES:
1. TREATMENT UNIT SHALL BE CONTECH JELLYFISH FILTER UNIT OR APPROVED EQUAL.
2. CONTECH TO PROVIDE FINAL DIMENSIONS BASED ON APPROVED FLOWS AND ALL MATERIALS UNLESS NOTED OTHERWISE.
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 LOADING REQUIREMENTS. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. CONTRACTOR SHALL PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
B. CONTRACTOR SHALL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
C. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
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 AT (866) 740-3318.

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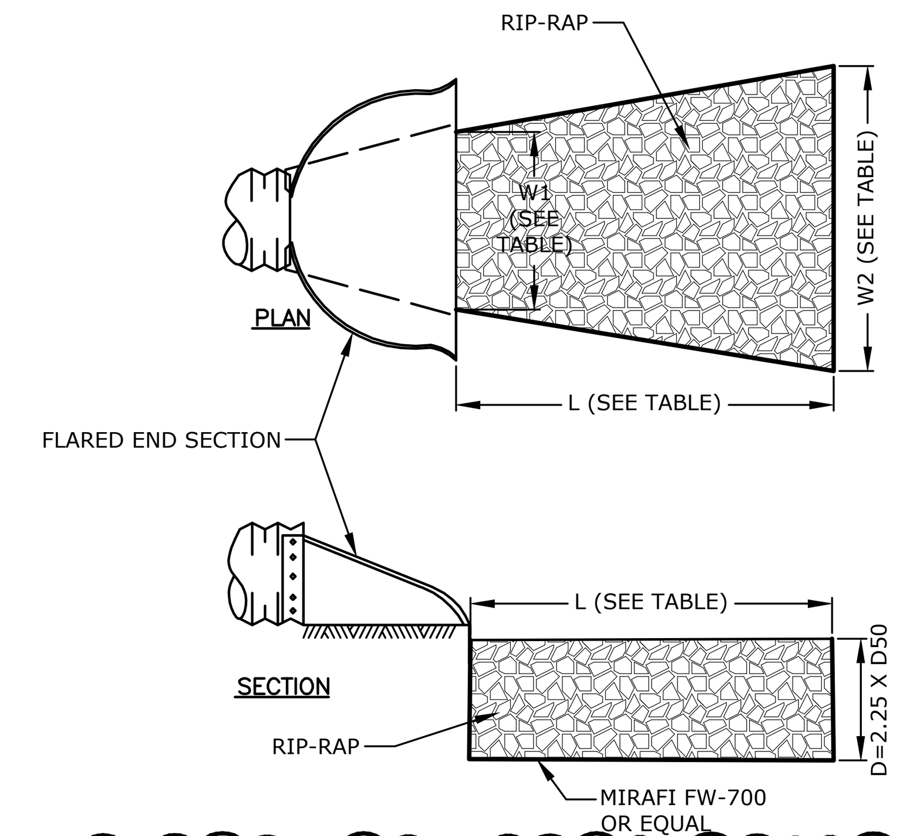
PROPOSED CIRCULAR JELLYFISH FILTER (JFF) UNIT
NO SCALE

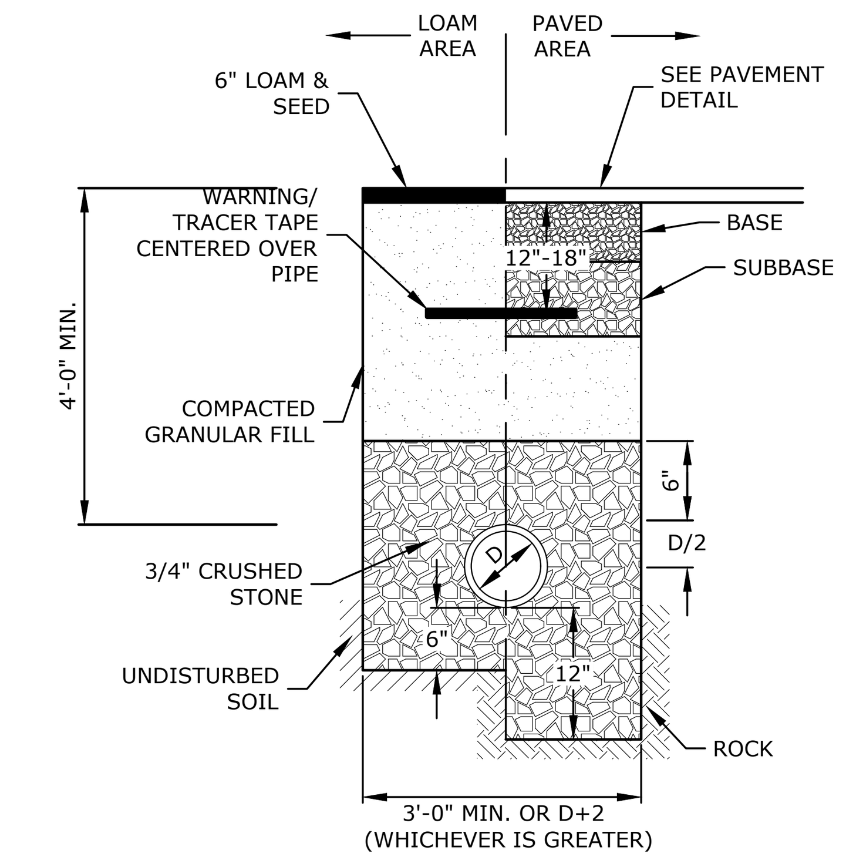


FIELD ELEVATIONS					
	WIDTH OF APRON (W_1, FT)	WIDTH OF APRON (W_2, FT)	LENGTH OF APRON (L, FT)	MEDIAN DIAMETER (FT)	MINIMUM DEPTH (FT)
RRA 1	4	13	9	0.50	1.13
RRA 2	6	23	17	0.50	1.13
RRA 3	6	23	17	0.50	1.13
RRA 4	6	23	17	0.50	1.13

F

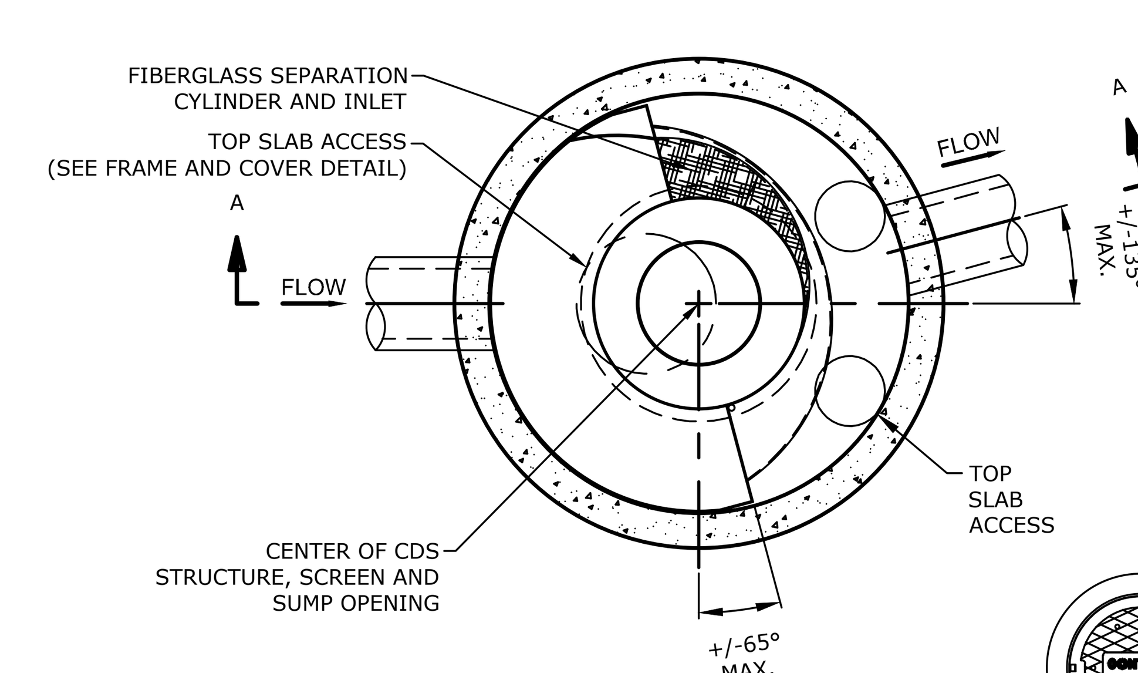
NOTES:
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.

RIP-RAP APRON DETAIL
NO SCALE

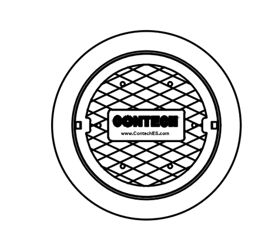


NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

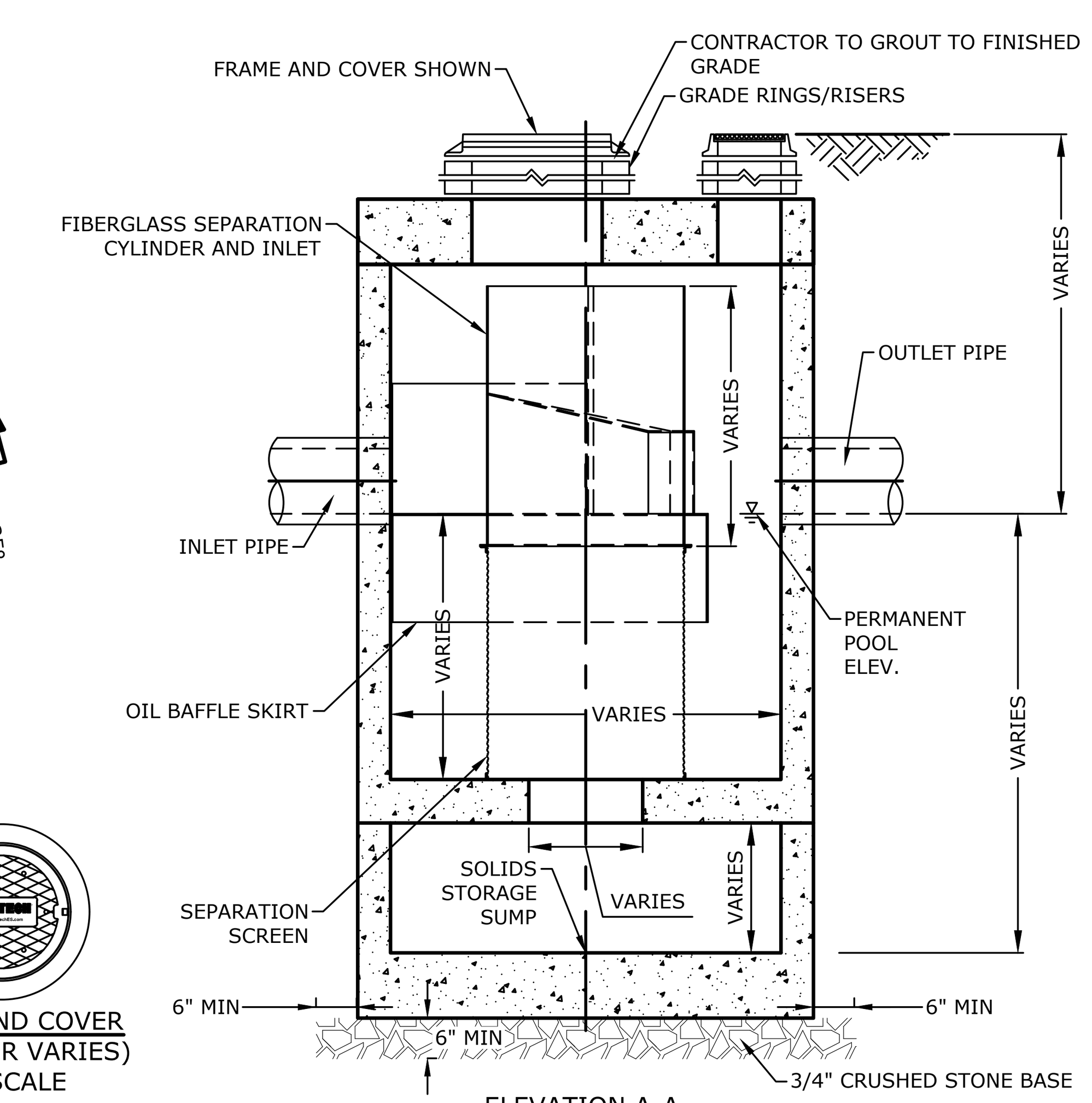
STORM DRAIN TRENCH
NO SCALE



PLAN VIEW



FRAME AND COVER
(DIAMETER VARIES)
NO SCALE



ELEVATION A-A

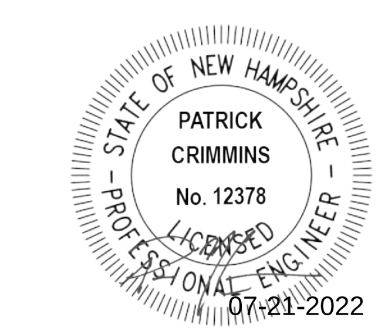
GENERAL NOTES:
1. PRE-TREATMENT UNIT SHALL BE CONTECH CONTINUOUS DEFLECTIVE SEPARATION (CDS) UNIT OR APPROVED EQUAL.
2. CONTECH TO PROVIDE FINAL DIMENSIONS BASED ON APPROVED FLOWS AND ALL MATERIALS UNLESS NOTED OTHERWISE.
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING.
5. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES:
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE CONSIDERED BY THE CONTRACTOR PRIOR TO INSTALLATION.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN ON GRADING PLAN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

UNIT MODEL SCHEDULE	
PCDS1	1515-3
PCDS2	1515-3

PROPOSED CONTINUOUS DEFLECTIVE SEPARATION (CDS) UNIT
NO SCALE

Tighe&Bond



Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

PROJECT NO:	P0616-001
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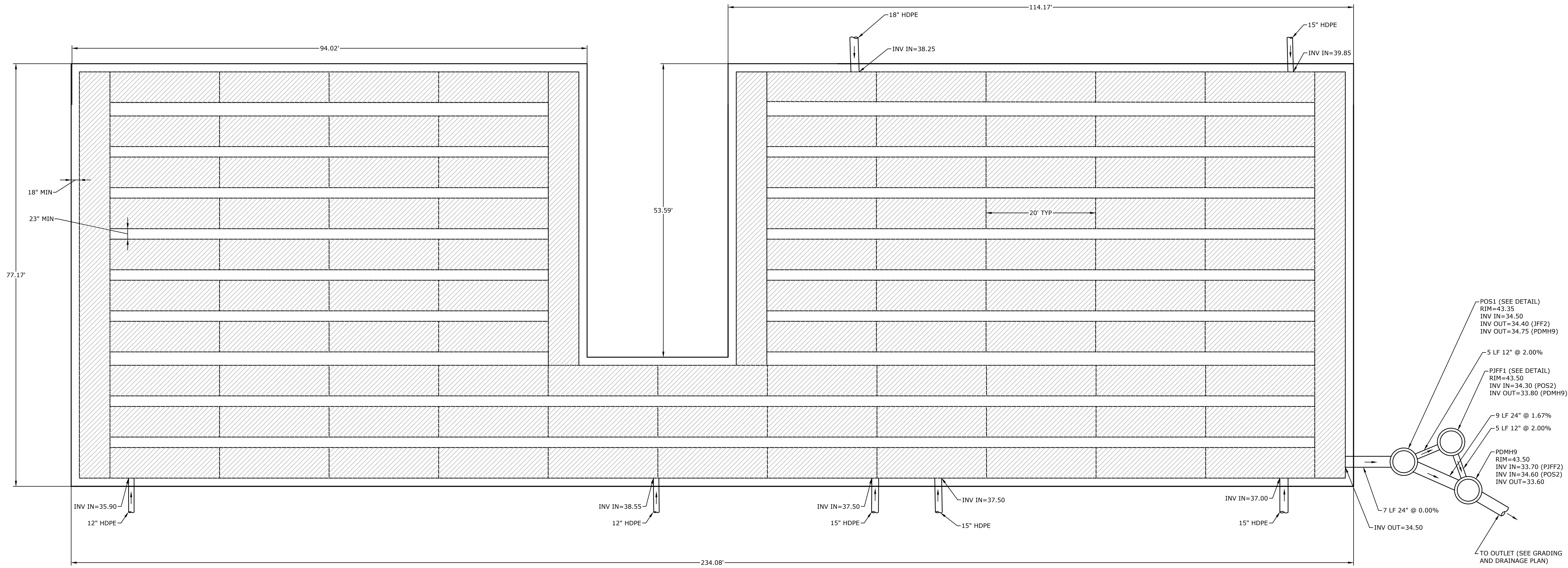
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

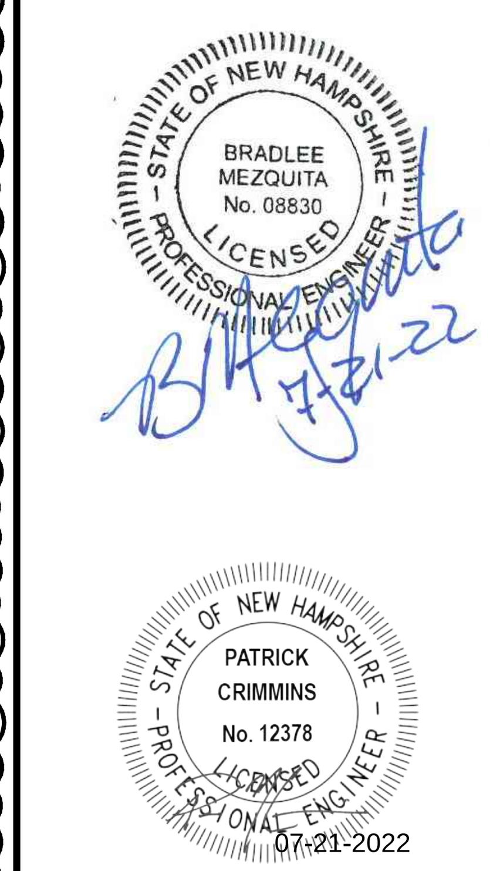
DETAILS SHEET

SCALE: AS SHOWN

C-505

Tighe&Bond





Proposed Satellite Parking Lot

Portsmouth Regional Hospital

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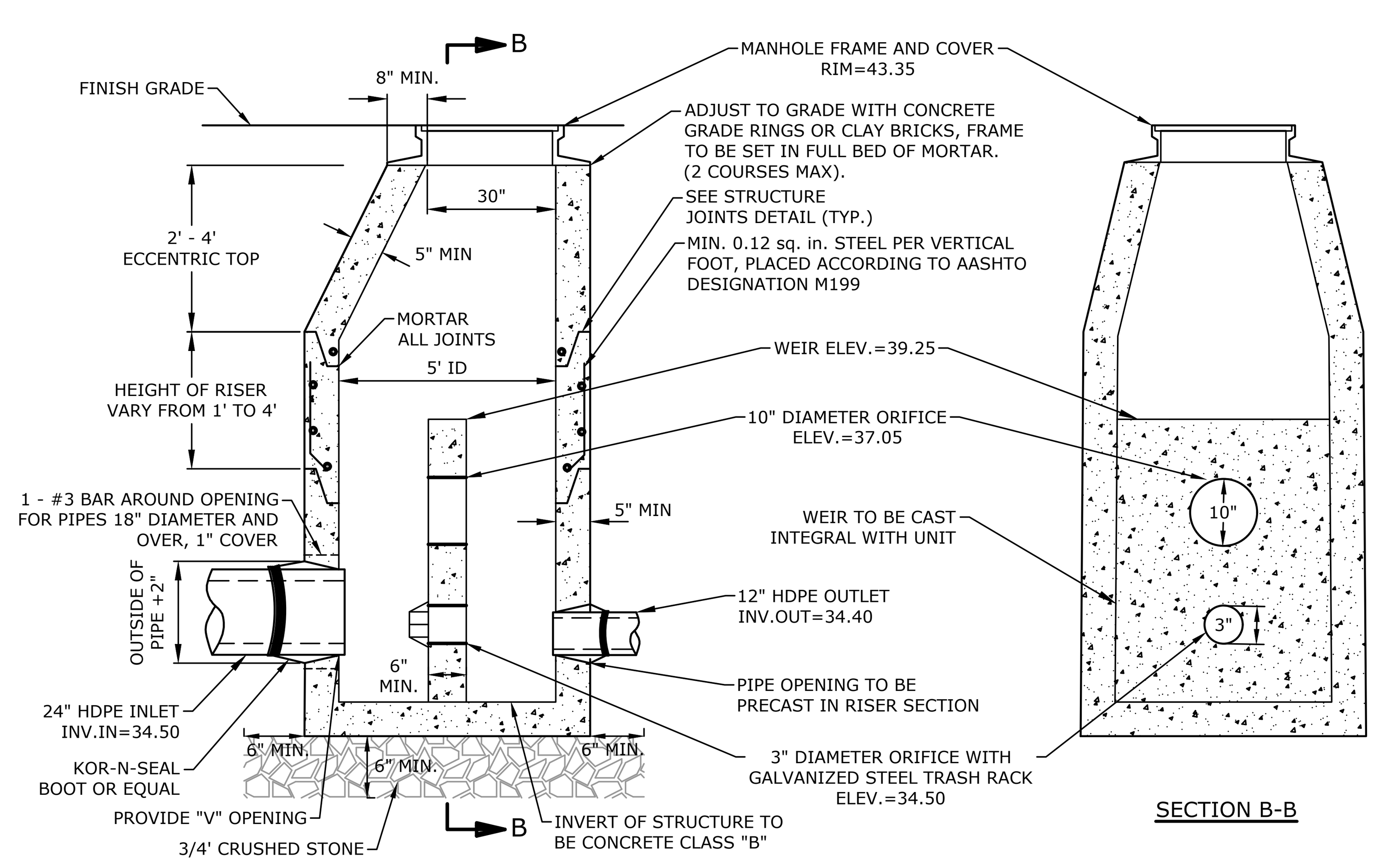
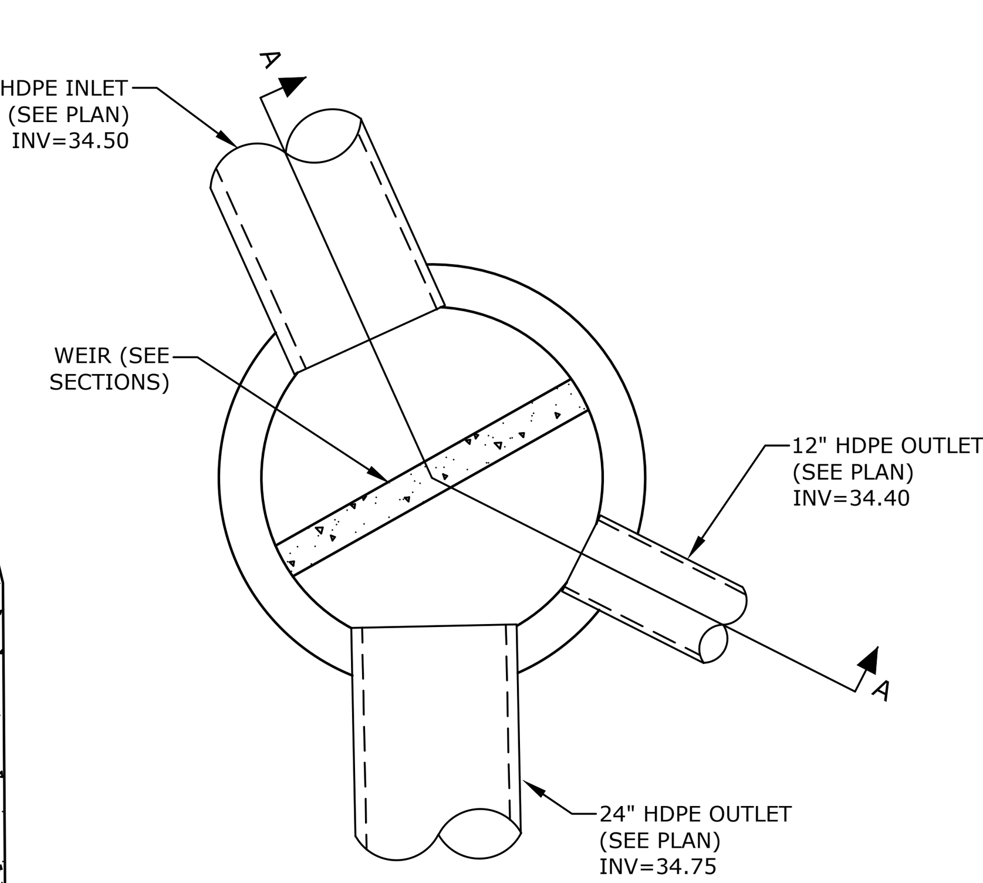


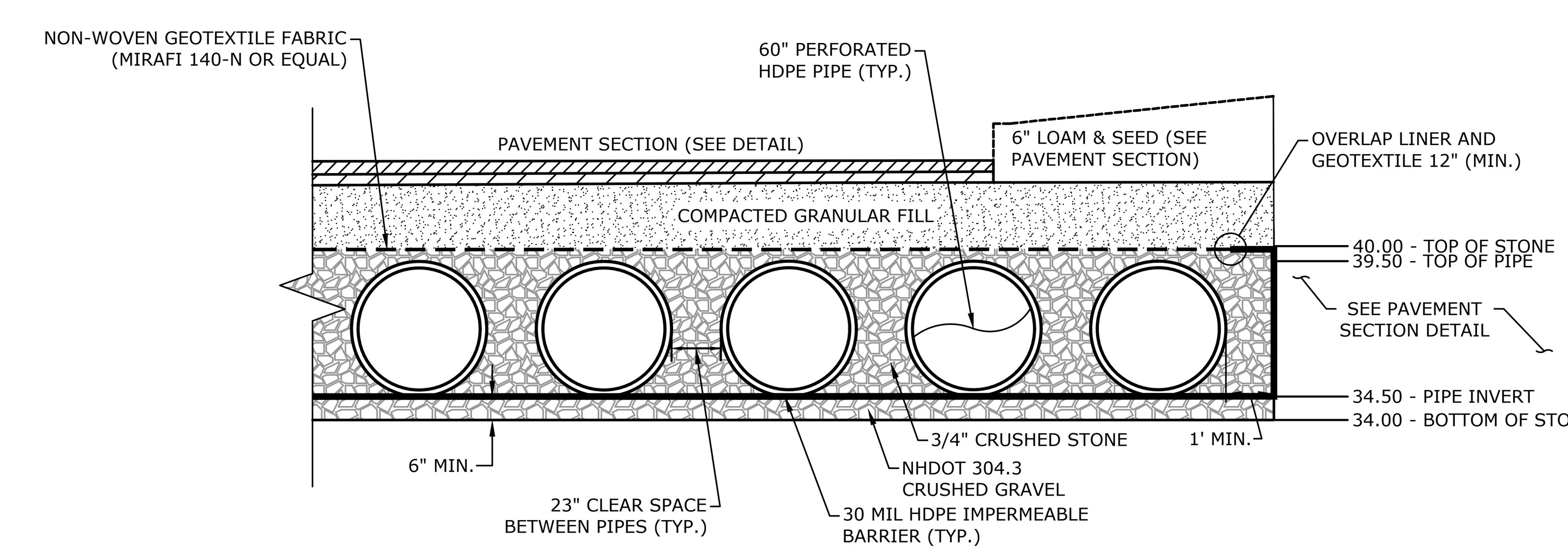


NOTES:

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.
11. SEE DRAINAGE MANHOLE DETAIL FOR MORE INFORMATION (CORE HOLE SIZE, MINIMUM FLOOR AND WALL THICKNESS, ETC.)

OUTLET STRUCTURE (POS1)

NO SCALE



SECTION VIEW

Inspection & Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor inlet and outlet structures for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed
Deep Sump Catchbasins	Two (2) times annually	- Removal of sediment as warranted by inspection - No less than once annually
Monitor detention system for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed

NOTE:

1. THE UNDERGROUND INFILTRATION BASIN (UIB) SYSTEM SHALL BE HIGH DENSITY POLYETHYLENE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR REVIEW AND APPROVAL.
2. THE CONTRACTOR SHALL SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
4. THE SURFACE COVER MATERIALS, INCLUDING TOPSOIL/SUBSOIL SHALL BE REMOVED TO THE TOP OF THE EXISTING NATURALLY DEPOSITED SAND. CARE SHALL BE TAKEN TO AVOID MIXING OF THESE MATERIALS WITH OTHER EXCAVATED SOILS. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO REVIEW THE SUBSURFACE MATERIAL PRIOR TO INSTALLATION.
5. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE PROPOSED DESIGN PLAN.
6. THE DESIGN SHALL REQUIRE INSPECTION PORTS/COVERS SUCH THAT SYSTEM CAN BE CLEANED BY VACUUM TRUCK WITH A MINIMUM OF ONE IN EACH CORNER. (FINAL LOCATIONS TO BE COORDINATED PRIOR TO CONSTRUCTION)

60" HDPE UNDERGROUND DETENTION BASIN (UDB-1) DETAIL

NO SCALE

F

F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
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DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-506

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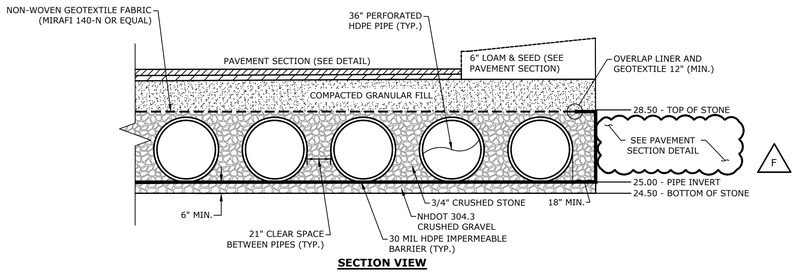
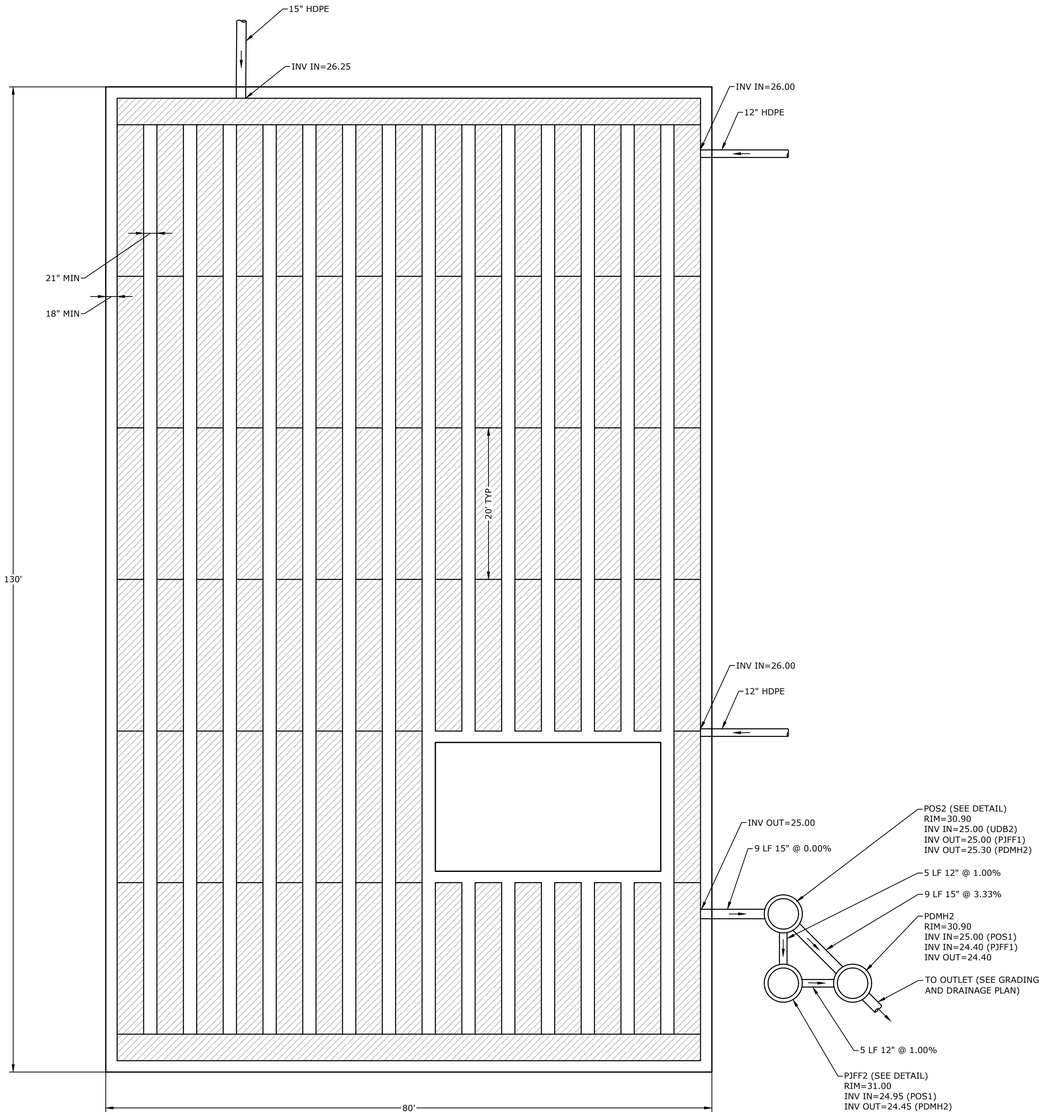


SECTION VIEW

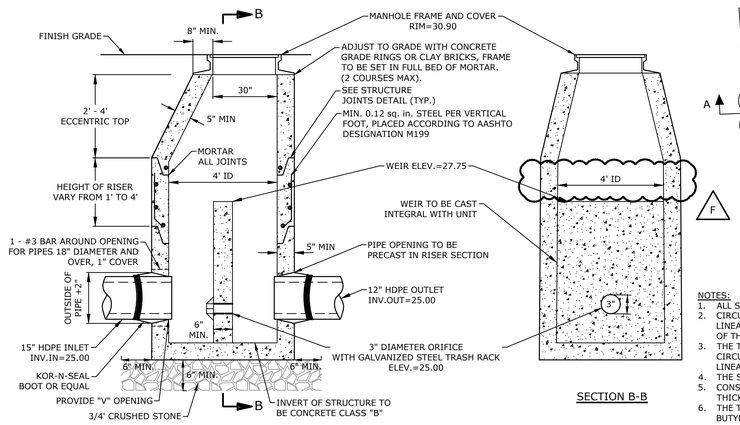
Inspection & Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor inlet and outlet structures for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed
Deep Sump Catchbasins	Two (2) times annually	- Removal of sediment as warranted by inspection - No less than once annually
Monitor detention system for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed

NOTE:
1. THE UNDERGROUND INFILTRATION BASIN (UIB) SYSTEM SHALL BE HIGH DENSITY POLYETHYLENE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR REVIEW AND APPROVAL.
2. THE CONTRACTOR SHALL SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
4. THE SURFACE COVER MATERIALS, INCLUDING TOPSOIL/SUBSOIL SHALL BE REMOVED TO THE TOP OF THE EXISTING NATURALLY DEPOSITED SAND. CARE SHALL BE TAKEN TO AVOID MIXING OF THESE MATERIALS WITH OTHER EXCAVATED SOILS. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO REVIEW THE SUBSURFACE MATERIAL PRIOR TO INSTALLATION.
5. THE DESIGN ENGINEER SHALL PROVIDE SUPERVISION/INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE PROPOSED DESIGN PLAN.
6. THE DESIGN SHALL REQUIRE INSPECTION PORTS/COVERS SUCH THAT SYSTEM CAN BE CLEANED BY VACUUM TRUCK WITH A MINIMUM OF ONE IN EACH CORNER. (FINAL LOCATIONS TO BE COORDINATED PRIOR TO CONSTRUCTION)

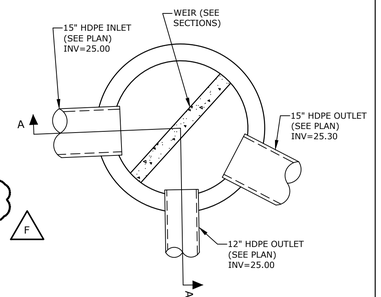
F



36" HDPE UNDERGROUND DETENTION BASIN 2 (UDB-2) DETAIL
NO SCALE



SECTION A-A



SECTION B-B

PLAN VIEW

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 HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
11. SEE DRAINAGE MANHOLE DETAIL FOR MORE INFORMATION (CORE HOLE SIZE, MINIMUM FLOOR AND WALL THICKNESS, ETC.)

OUTLET STRUCTURE (POS2)
NO SCALE

Tighe&Bond

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-507

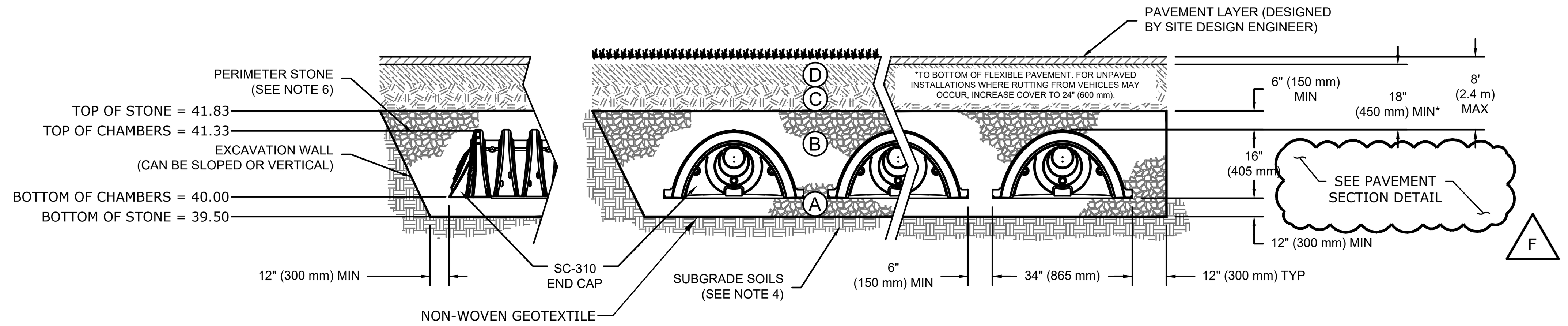
Last Save Date: July 20, 2022 1:05 PM By: ASELLAR
Plot Date: Thursday, July 21, 2022 8:28 AM By: Alexander Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_C-Details.DWG Layout Tab: C-507

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	A FLAT SURFACE SHALL BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT.

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".

F



NOTES:

1. SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SURFACE COVER MATERIALS, INCLUDING TOPSOIL/SUBSOIL SHALL BE REMOVED TO THE TOP OF THE EXISTING NATURALLY DEPOSITED SAND. CARE SHALL BE TAKEN TO AVOID MIXING OF THESE MATERIALS WITH OTHER EXCAVATED SOILS. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO APPROVE THE SUBSURFACE MATERIAL PRIOR TO INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR DEWATERING AND PROTECTION OF SUBGRADE THROUGHOUT CONSTRUCTION PER MANUFACTURER'S RECOMMENDATIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

F

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.^J
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".^J
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:

   7.1. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.

   7.2. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.

   7.3. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.

8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

NOTES FOR CONSTRUCTION EQUIPMENT^J

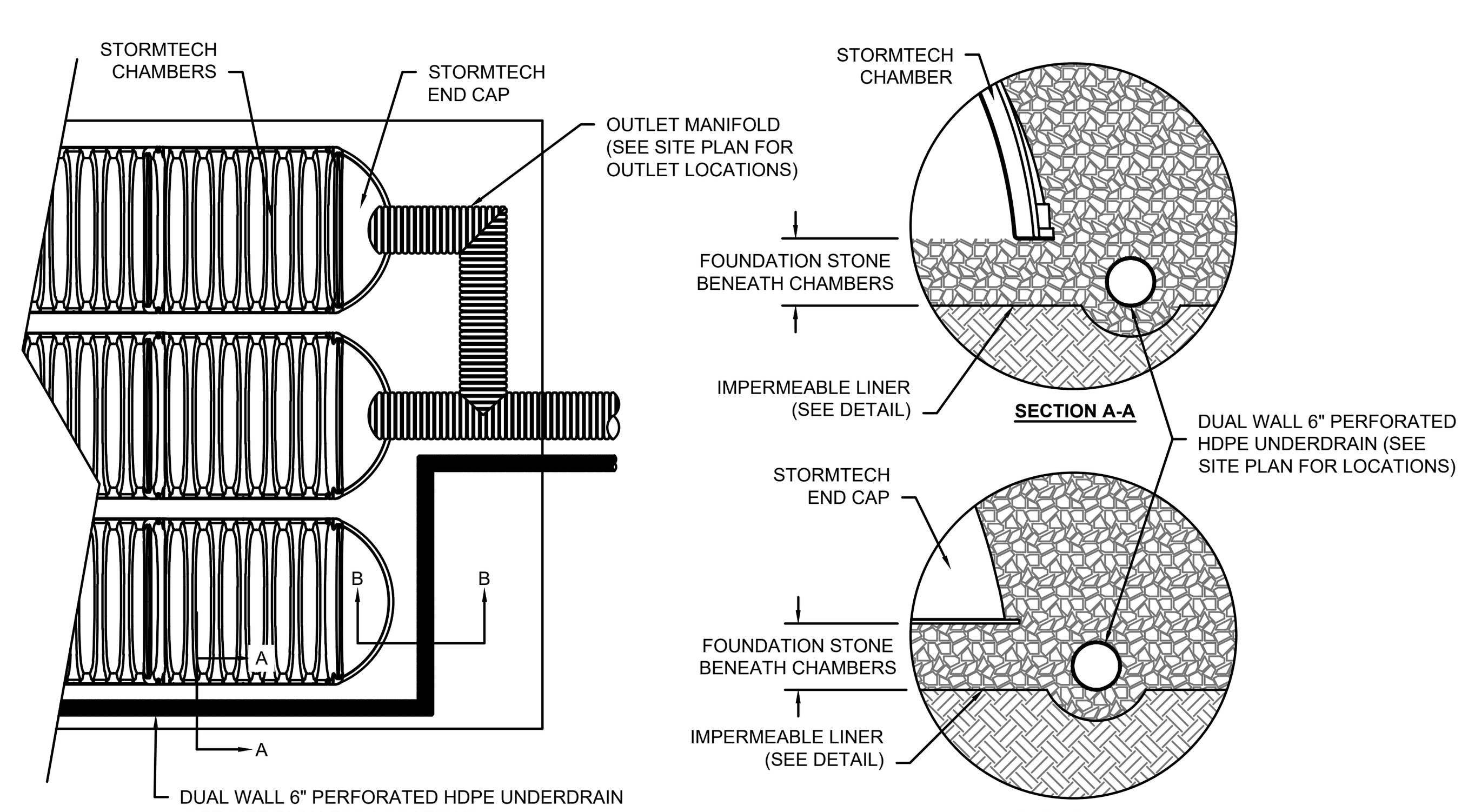
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".^J
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".^J
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

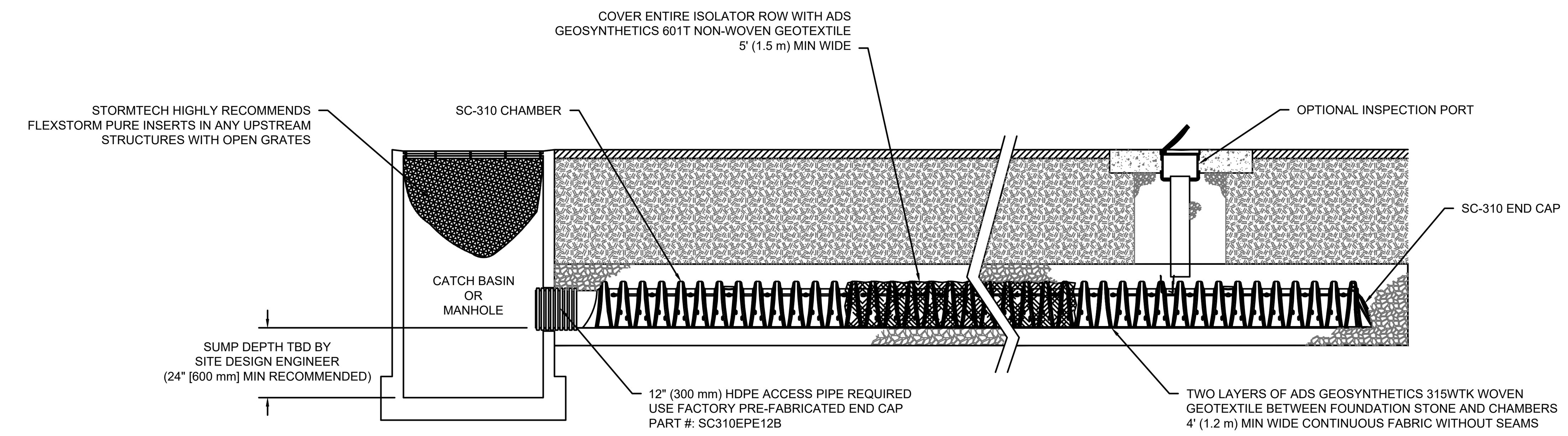
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.^J
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".^J
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.^J STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.^J
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.^J
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.^J
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.^J
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).^J
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.^J
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.



UNDERDRAIN DETAIL
NTS



SC-310 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

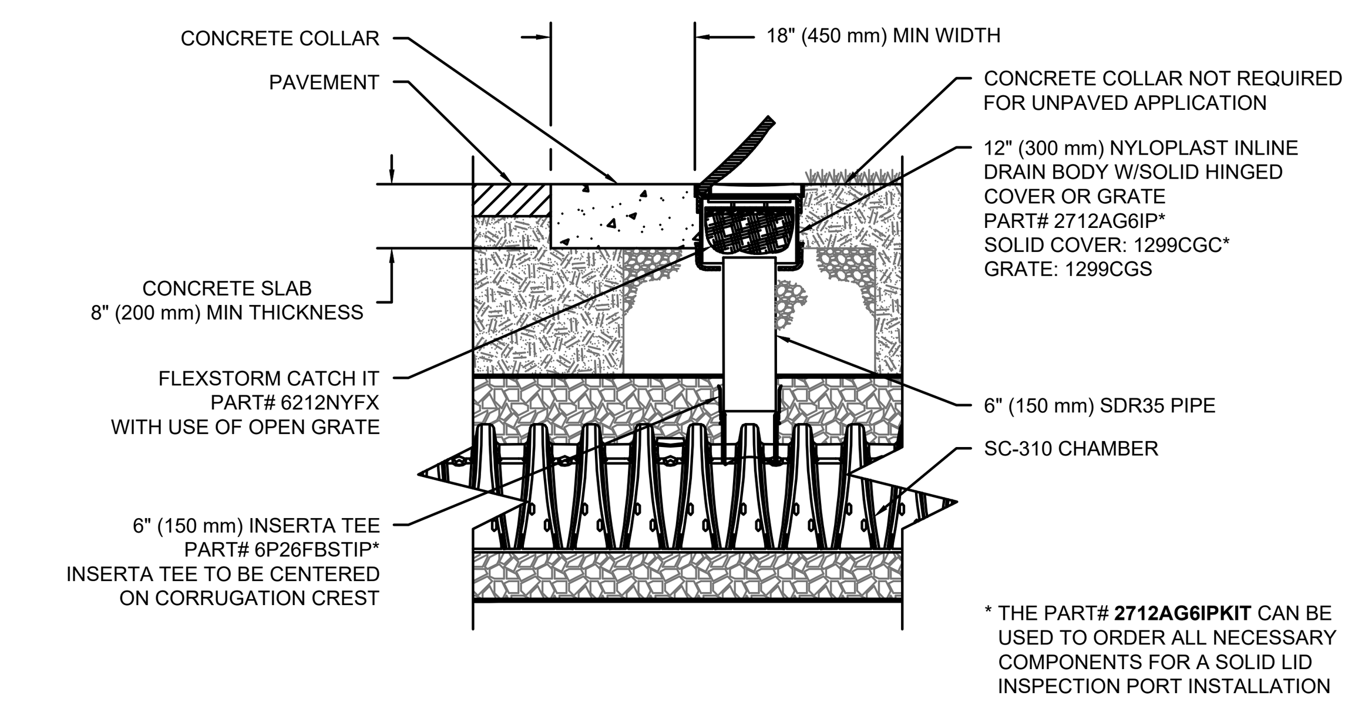
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

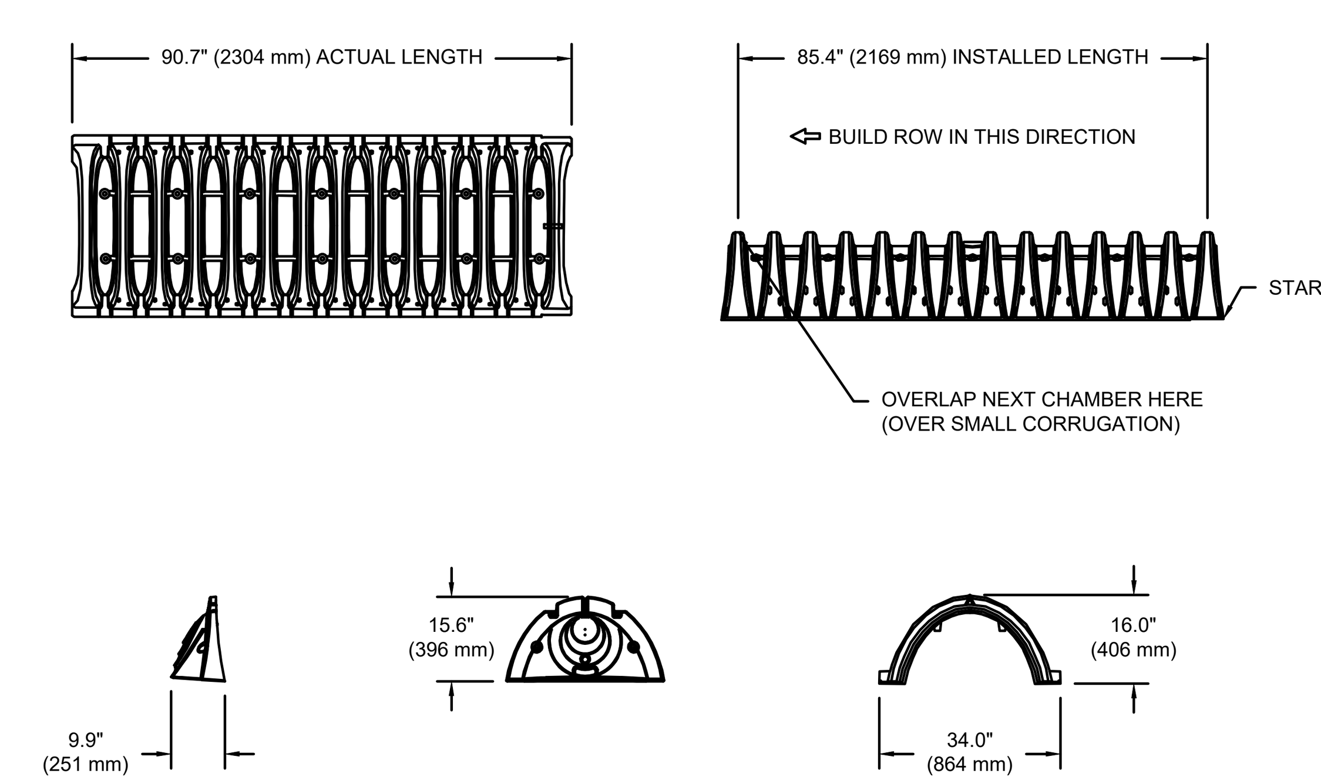
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

SC-310 6" INSPECTION PORT DETAIL
NTS

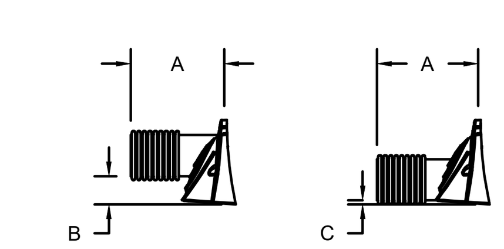
SC-310 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE CORED END CAPS END WITH "PC"

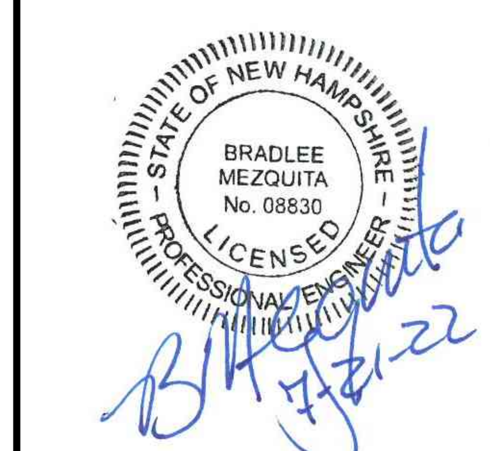
PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC			---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC			---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC			---	0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

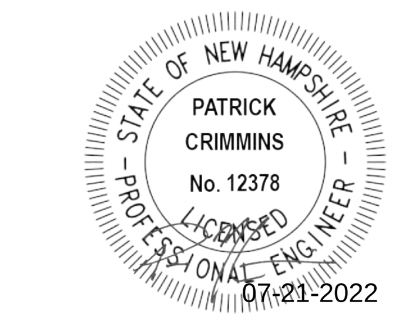
ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

Tighe&Bond





07-21-2022

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
E	06/29/2022	PB SUBMISSION
D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-508

Last Save Date: July 20, 2022 1:06 PM By: ASELLAR
Plot Date: Thursday, July 21, 2022 Plotted By: Alexander Sellar
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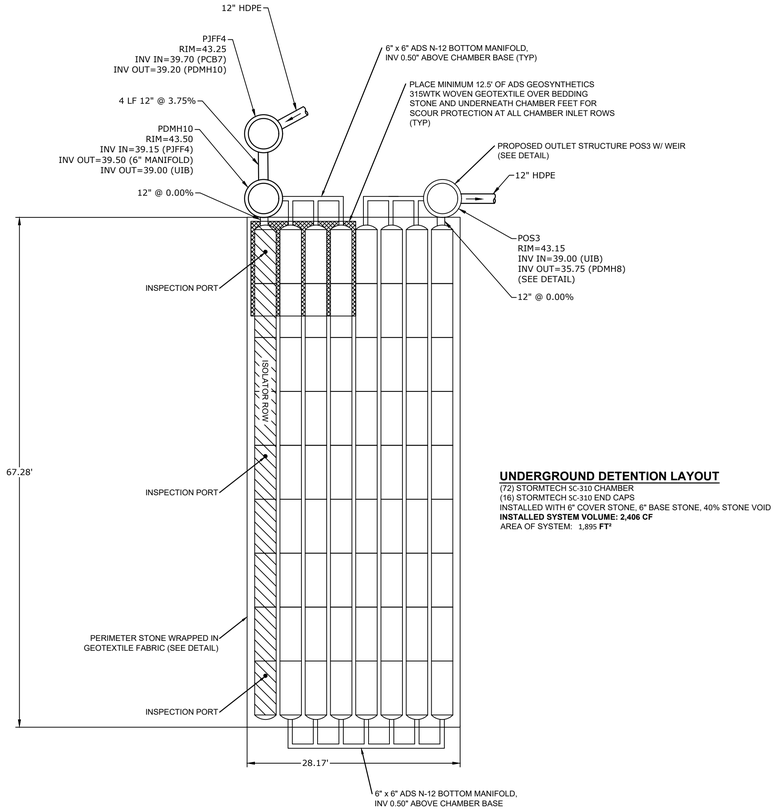
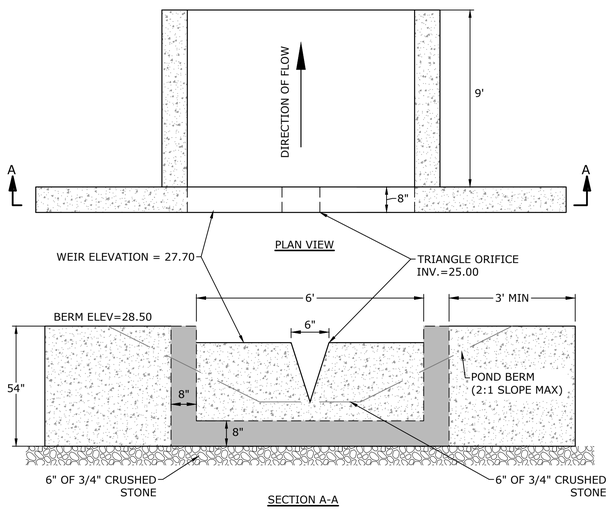


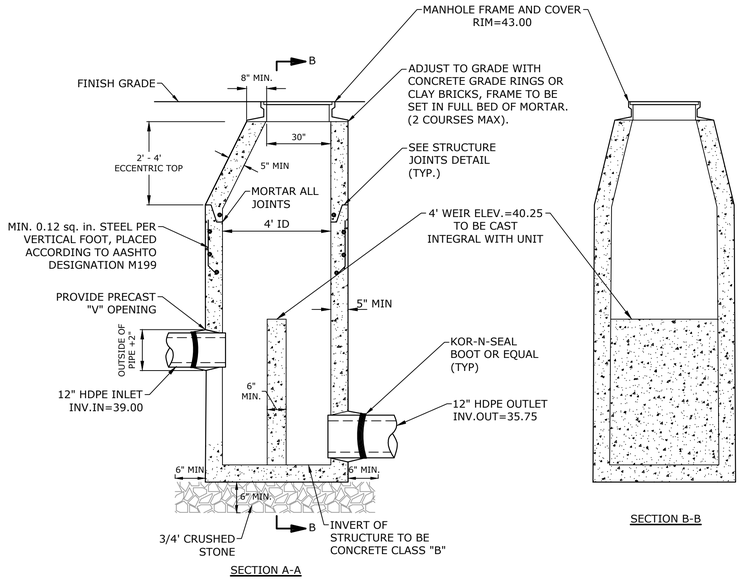
UNDERGROUND DETENTION LAYOUT
(72) STORMTECH SC-310 CHAMBER
(16) STORMTECH SC-310 END CAPS
INSTALLED WITH 6" COVER STONE, 6" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 2,406 CF
AREA OF SYSTEM: 1,895 **FT²**

UNDERGROUND INFILTRATION BASIN
STORMTECH SC-310 CHAMBER LAYOUT
NO SCALE

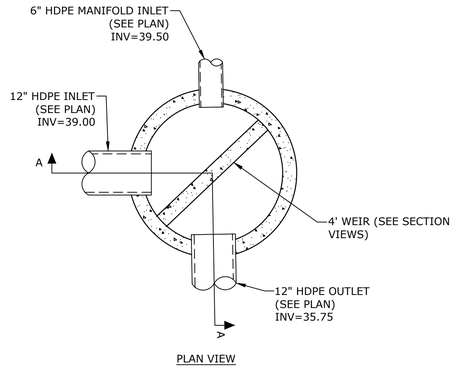


NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.

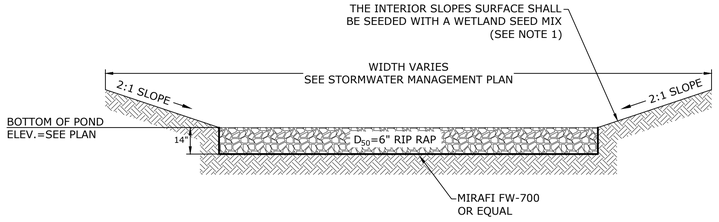
OUTLET CONTROL WEIR
NO SCALE



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.
11. SEE DRAINAGE MANHOLE DETAIL FOR MORE INFORMATION (CORE HOLE SIZE, MINIMUM FLOOR AND WALL THICKNESS, ETC.)



OUTLET STRUCTURE DETAIL (POS3)
NO SCALE



DETENTION BASIN SECTION
NO SCALE

NOTES:
1. WETLAND SEED MIX SHALL BE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES", BY NEW ENGLAND WETLAND PLANTS, INC. OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATIONS.
2. SEE PLANS FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
3. RIP RAP STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
4. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D_{50} SIZE.

F

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
7/21/22

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
07-21-2022

Proposed Satellite Parking Lot

Portsmouth Regional Hospital

444 Borthwick Avenue
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	07/21/2022	REV PER AOT & PEER REVIEW
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D	05/23/2022	AOT SUBMISSION
C	05/12/2022	TAC RESUBMISSION 2
B	04/21/2022	TAC RESUBMISSION
A	03/22/2022	TAC SUBMISSION

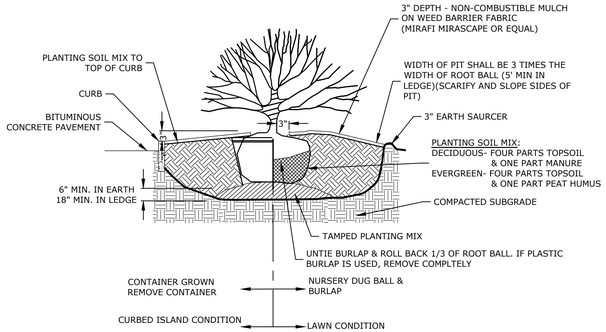
PROJECT NO:	P0616-001
DATE:	3/22/22
FILE:	P0616-005_C-DETAILS.DWG
DRAWN BY:	AFS
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

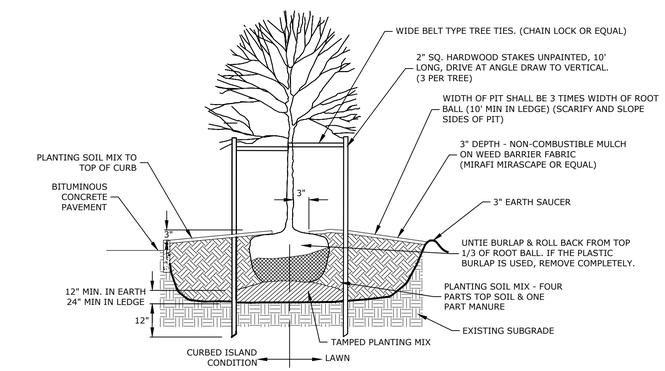
C-509

Last Save Date: July 21, 2022 12:38 PM By: ASELLAR
Plot Date: July 21, 2022 12:39 PM By: Andrew Sellar
T&B File Location: J:\P\P0616 Portsmouth Regional Hospital - Portsmouth, NH Retention Pond\005 PRH Parking Expansion\Drawings, Figures\AutoCAD\Sheet\P0616-005_C-Details.DWG Layout Tab: C-509



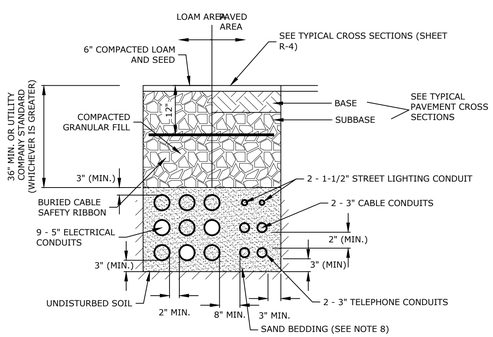
NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

SHRUB PLANTING
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

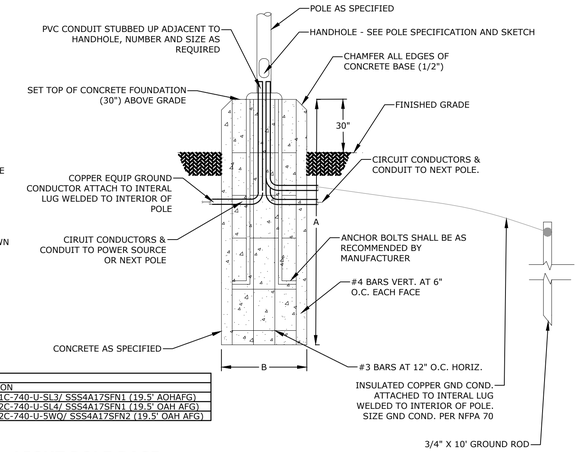
DECIDUOUS TREE PLANTING
NO SCALE



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.

TYPICAL ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

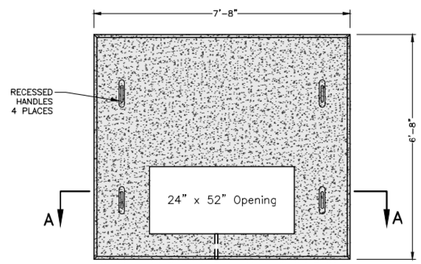
NOTES:
1. ALL LIGHT POLES, LUMINAIRES, AND WIRE TO BE FURNISHED AND INSTALLED BY THE POWER COMPANY. UNLESS OTHERWISE DIRECTED.
2. ANCHOR BOLTS, GROUND ROD & GROUND WIRE TO BE FURNISHED BY THE POWER COMPANY AND INSTALLED BY THE CONTRACTOR, UNLESS OTHERWISE DIRECTED.
3. BOLT CIRCLE DIAMETER SHALL BE VERIFIED WITH THE POWER COMPANY.
4. ALL BASES SHALL BE LOCATED 10'-0" (TO CENTER) FROM FACE OF CURB OR EDGE OF PAVED SHOULDER, UNLESS OTHERWISE NOTED.
5. REINFORCEMENT SHALL CONFORM TO SECTION 544 OF THE STANDARD SPECIFICATIONS.
6. ANY ANCHOR BOLTS DAMAGED DURING INSTALLATION SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER.
7. UPON INSTALLATION, ANCHOR BOLT THREADS SHALL BE CLEANED WITH A WIRE BRUSH.
8. TERRAIN SURROUNDING BASE MUST BE GRADED AS SHOWN IN DETAIL "A" TO PREVENT IMPACTING VEHICLES FORM SNAGGING ON BASE.



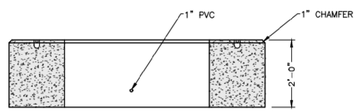
LUMINAIRE SCHEDULE

SYMBOL	QTY	LABEL	ARRANGEMENT	DESCRIPTION
■	3	P3	SINGLE	GLEON-SA1C-740-U-SL3/ SSS4A17SFN1 (19.5' AOHAFG)
■■	15	P4	SINGLE	GLEON-SA2C-740-U-SL4/ SSS4A17SFN1 (19.5' OAH AFG)
■■	5	P5-2	BACK-BACK	GLEON-SA2C-740-U-SWQ/ SSS4A17SFN2 (19.5' OAH AFG)

LIGHT POLE BASE
NO SCALE



PLAN



SECTION A–A

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

Tighe&Bond

BRADLEE MEZQUITA No. 08830 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
7-21-22

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DETAILS SHEET

SCALE: AS SHOWN

C-510

Last Save Date: July 20, 2022 1:06 PM By: ASELLAR
Plot Date/Time: Wednesday, July 20, 2022 1:06 PM By: Alexander Sellar
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Wetland Permit Application for:
Peirce Island Pool Renovations

City of Portsmouth, NH

Prepared For:
City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth, NH 03801

and **Oak Point Associates, Inc.**
85 Middle Street
Portsmouth, NH 03801

Date:
July 26, 2022

Prepared By: **Normandeau Associates, Inc.**
25 Nashua Road
Bedford, NH 03110

Table of Contents

EXHIBIT 25 - COASTAL RESOURCE WORKSHEET

EXHIBIT 26 - PRIME WETLANDS

EXHIBIT 27 - ATTACHMENT A - MINOR AND MAJOR PROJECTS EXHIBIT 28 - FUNCTIONAL ASSESSMENT WORKSHEET

EXHIBIT 28 - FUNCTIONAL ASSESSMENT WORKSHEET

*Exhibit 3 and 6 - Planning actions and materials required by Env-Wt 311.01(a)-(c), Env-Wt 311.03(b)(3), and 311.06 are provided in various other portions of this application.

+Exhibit 24 - After-the-fact application is not applicable

EXHIBIT 1

STANDARD DREDGE AND FILL WETLAND PERMIT APPLICATION FORM

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: **Terry Desmarais, PE, City Engineer** **TOWN NAME:** Portsmouth

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the Waiver Request Form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))

Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: priority resource areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.

Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☒ Yes ☐ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	☐ Yes ☒ No
• Protected species or habitat? ○ If yes, species or habitat name(s): Iva frutescens ○ NHB Project ID #: NHB21-1136	☒ Yes ☐ No
• Bog?	☐ Yes ☒ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	☐ Yes ☒ No
• Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☒ Yes ☐ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: Day: Year:	☐ Yes ☒ No

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	☐ Yes ☒ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☒ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): N/A	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a **brief** description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.

The City of Portsmouth is proposing a renovation of the Peirce Island swimming pool and associated pump house on Peirce Island Road to bring a highly utilized, but deteriorated public facility up to current health and safety requirements. These renovations include replacement of the pool's existing vinyl liner, pool gutter, underground surge tank, concrete pool deck, pump house, and existing stormwater drainage system on the east side of the pool. The pump house will be relocated to a position outside of the Tidal Buffer Zone and its doorways and other exterior building wall penetrations will be elevated 2 feet above the Piscataqua River flood level to protect the building systems from potential flood events. A new stormwater drainage system will also constructed to collect runoff from the new pump house roof, adjacent walkway, and lawn area and will outlet to the Piscataqua River on the north side of the pool. The stormwater drainage system outlet will be located above the mean high water elevation and stone rip rap apron will be constructed for erosion protection at the outlet. Approximately a third of the total proposed impacts by the project will occur within the Tidal Buffer Zone (TBZ), two-thirds within the 100 to 250-foot portion of the Protected Shoreland, and a small portion of the rocky shore.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: 99 Peirce Island Road

TOWN/CITY: Portsmouth

TAX MAP/BLOCK/LOT/UNIT: 208/1

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Piscataqua River
☐ N/A

(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): 43.07435° North
-70.74551° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: Terry Desmarais, P.E., City Engineer		
MAILING ADDRESS: 680 Peverly Hill Road		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: tldesmarais@cityofportsmouth.com		
FAX: N/A	PHONE: (603) 766-1421	

ELECTRONIC COMMUNICATION: By initialing here: _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))

☐ N/A

LAST NAME, FIRST NAME, M.I.: Wade Lippert, PE		
COMPANY NAME: Oak Point Associates		
MAILING ADDRESS: 85 Middle Street		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: wlippert@oakpoint.com		
FAX:	PHONE: 207-283-0193	

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME: City of Portsmouth		
MAILING ADDRESS: 97 Junkins Avenue		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: N/A		
FAX: N/A	PHONE: N/A	

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):
Peirce Island is located in the City of Portsmouth on the Piscataqua River. It is owned by the City and the State of NH, and provides multiple public services, including the waste water treatment facility (WWTF), the State Fish Pier, and a public outdoor pool, boat ramp, park, and numerous walking trails. The Project Area occupies the existing public outdoor pool footprint and immediate adjacent areas including previously developed lawn, public walking trail, and parking area and a portion of the rocky shore north of the pool. The Project Area is bordered by estuarine habitats, including rocky shore (E2RS1/2) and salt marsh (E2EM1). The work will occur primarily within the 100-foot TBZ and protected shoreline, although a new stormwater drainage outlet installation lies within the rocky shore off the north side of the public outdoor pool. There is a small freshwater wetland off the northwest corner of the Project Area but no impact to this wetland is anticipated. A protected plant, Iva frutescens, occurs on Peirce Island but none is present within the vicinity of the Project Area. Please see Exhibit 25 - Coastal Resource Worksheet attached to this application for futher discussion of the areas coastal resources. Please see Exhibit 8 - Permittee Responsible Mitigation Project worksheet attached to this application for the proposed mitigation for the planned permanent impacts to the rocky shore.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

(☐ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☐ I confirm submittal.

(☐ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland	0		☐	0		☐
	Scrub-shrub Wetland	0		☐	0		☐
	Emergent Wetland	0		☐	0		☐
	Wet Meadow	0		☐	0		☐
	Vernal Pool	0		☐	0		☐
	Designated Prime Wetland	0		☐	0		☐
	Duly-established 100-foot Prime Wetland Buffer	0		☐	0		☐
Surface Water	Intermittent / Ephemeral Stream	0	0	☐	0	0	☐
	Perennial Stream or River	0	0	☐	0	0	☐
	Lake / Pond	0	0	☐	0	0	☐
	Docking - Lake / Pond	0	0	☐	0	0	☐
	Docking - River	0	0	☐	0	0	☐
Banks	Bank - Intermittent Stream	0	0	☐	0	0	☐
	Bank - Perennial Stream / River	0	0	☐	0	0	☐
	Bank / Shoreline - Lake / Pond	0	0	☐	0	0	☐
Tidal	Tidal Waters	125	0	☐	0	0	☐
	Tidal Marsh	0	0	☐	0	0	☐
	Sand Dune	0		☐	0		☐
	Undeveloped Tidal Buffer Zone (TBZ)	0		☐	0		☐
	Previously-developed TBZ	1,443		☐	9,200		☐
	Docking - Tidal Water	0		☐	0		☐
TOTAL		1,568	0		**9,200**	**0**	

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	10,768 SF	×	$0.40 =	$ 4307.20
Seasonal docking structure:	0 SF	×	$2.00 =	$ 0
Permanent docking structure:	0 SF	×	$4.00 =	$ 0
Projects proposing shoreline structures (including docks) add $400 =				$ 0
			Total =	$ 4307.20

The application fee for minor or major impact is the above calculated total or $400, whichever is greater =	$ 4307.20

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☐ Minimum Impact Project	☐ Minor Project	☒ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials:	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials:	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials:	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials:	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY:	DATE:

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE:	PRINT NAME LEGIBLY:

TOWN/CITY:	DATE:

DIRECTIONS FOR TOWN/CITY CLERK:
Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to “Treasurer – State of NH”.

EXHIBIT 2

FEES/CHECK

EXHIBIT 3

Required Planning Actions
required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3)

Required Planning Actions

All Required Planning actions required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3) have been done. See results in Exhibits 4 and 19.

EXHIBIT 4

USACE APPENDIX B – NH GENERAL PERMITS REQUIRED INFORMATION AND CORPS SECONDARY IMPACTS CHECKLIST

US Army Corps of Engineers®
New England District

Appendix B

New Hampshire General Permits (GPs)
Required Information and Corps Secondary Impacts Checklist

In order for the Corps of Engineers to properly evaluate your application, applicants must submit the following information along with the New Hampshire DES Wetlands Bureau application or permit notification forms. Some projects may require more information. For a more comprehensive checklist, go to https://www.nae.usace.army.mil/Missions/Regulatory/ "Useful Documents, Forms and Publications" and then "Corps Application Form and Guidance." Check with the Corps at (978) 318-8832 for project-specific requirements. For your convenience, this Appendix B is also attached to the State of New Hampshire DES Wetlands Bureau application and Permit by Notification forms.

All Projects:

- New Hampshire Department of Environmental Services (DES) Wetlands Permit Application.
- Request for Project Review Form by the New Hampshire Division of Historical Resources (DHR) https://www.nh.gov/nhdhr/review/rpr.htm.
- Photographs of wetland/waterway to be impacted.
- Purpose of the project.
- Legible, reproducible plans no larger than 11"x17" with bar scale. Provide locus map and plan views of the entire property.
- Typical cross-section views of all wetland and waterway fill areas and wetland replication areas.
- In navigable waters, show mean low water (MLW) and mean high water (MHW) elevations. Show the high tide line (HTL) elevations when fill is involved. In other waters, show ordinary high water (OHW) elevation.
- On each plan, show the following for the project:
    - Vertical datum and the NAVD 1988 equivalent with the vertical units as U.S. feet. In coastal waters this may be mean higher high water (MHHW), mean high water (MHW), mean low water (MLW), mean lower low water (MLLW) or other tidal datum with the vertical units as U.S. feet. MLLW and MHHW are preferred. Provide the correction factor detailing how the vertical datum (e.g., MLLW) was derived using the latest National Tidal Datum Epoch for that area, typically 1983-2001.
    - Horizontal state plane coordinates in U.S. survey feet based on the Traverse Mercator Grid system for the State of New Hampshire (Zone 2800) NAD 83.
    - Project limits with existing and proposed conditions.
    - Limits of any Federal Navigation Project in the vicinity of the project area and horizontal State Plane Coordinates in U.S. survey feet for the limits of the proposed work closest to the Federal Navigation Project;
    - Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below the OHW in inland waters and below the HTL in coastal waters.
    - Delineation of all waterways and wetlands on the project site,:
- Use Federal delineation methods and include Corps wetland delineation data sheets (GC 2).
- For activities involving discharges of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized, and either a statement describing how impacts to waters of the U.S. are to be compensated for (or a conceptual or detailed mitigation plan) or a statement explaining why compensatory mitigation should not be required for the proposed impacts. Please contact the Corps for guidance.

US Army Corps of Engineers ®
New England District

New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/. The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?		N/A
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	0	
2.7 What is the area of the proposed fill in wetlands?	0	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	0	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	X	

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?		N/A
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.
** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

Section 1.1

Peirce Island lies in the Lower Piscataqua River –South water quality assessment unit (AUID: NHEST600031001-02-02). It is listed as Severe for Aquatic Life and Swimming, and Poor for Boating and Fish Consumption. The constituents of concern are mercury, fecal coliform, enterococcus, dioxins and PCBs. While the project will result in a 1,394 sf increase of impervious service within the overall project area due to the larger size of new pump house infrastructure, a stormwater drainage system is being installed to manage runoff from the building roof, adjacent walkways and lawn area.

Section 2.1

This project is located within 200 feet of the tidal Piscataqua River. All areas to be impacted in association with replacement and upgrading of the pools systems have been previously disturbed. The shoreline directly off the north side of the pool where the new storm drainage system outlet is proposed has also been previously disturbed and may not be the original shoreline. This area may have been filled during the original 1937 +/- construction of the Peirce Island pool. The pool deck formerly extended to the top of the slope, but this portion of the deck was removed in approximately 2000 when the now existing walking trail was constructed. The shore off the north side of the pool was also disturbed to install two 30-inch intake pipes out into the river, which are now abandoned. Several trees ranging in diameter from 4 to 26 inches will be removed to construct the proposed pump house and underground surge tank, but there will be a net benefit to the river on the northern side of the pool due to the conversion of 1,222 sf of impervious surface in the tidal buffer zone to pervious grass lawn.

Section 3.1

The state listed intertidal shrub, *Iva frutescens* is present on Peirce Island. However, a survey of the project area revealed no presence of *Iva frutescens* within 100 ft of the project.

Section 3.2

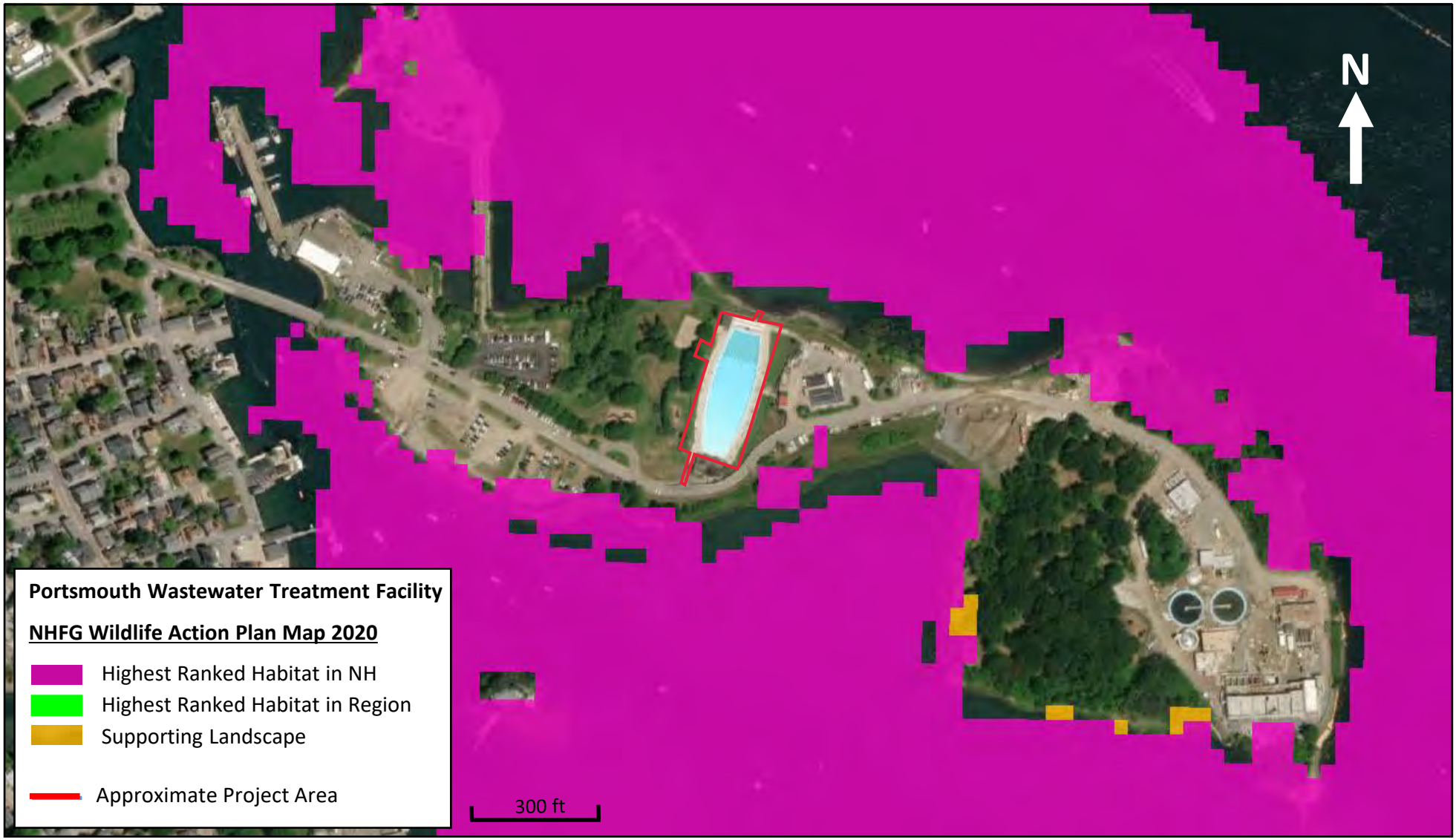
The 2020 Wildlife Action Plan map designates portions of Peirce Island and the tidal waters surrounding it as Highest Ranked Habitat in N.H., but those areas proposed to be impacted are not ranked (See attached map).

Section 4.1

While the project area is within the mapped 100-year FEMA floodplain, no net loss of flood storage is anticipated as existing elevations will be maintained.

Section 5

A Request for Project Review by the NH Division of Historical Resources (NHDHR) rhas been submitted and a response is pending. This response will be attached at the end of this Exhibit. Based on previous project work on Peirce Island, it is anticipated the review will determine no historical properties will be affected by the proposed project.


N
Portsmouth Wastewater Treatment Facility
NHFG Wildlife Action Plan Map 2020
Highest Ranked Habitat in NH
Highest Ranked Habitat in Region
Supporting Landscape
Approximate Project Area
300 ft

A Request for Project Review has been submitted to NH Department of Historical Resources as required per Section 5 of the New Hampshire General Permits (GPs) Appendix B - Corps Secondary Impacts Checklist above.

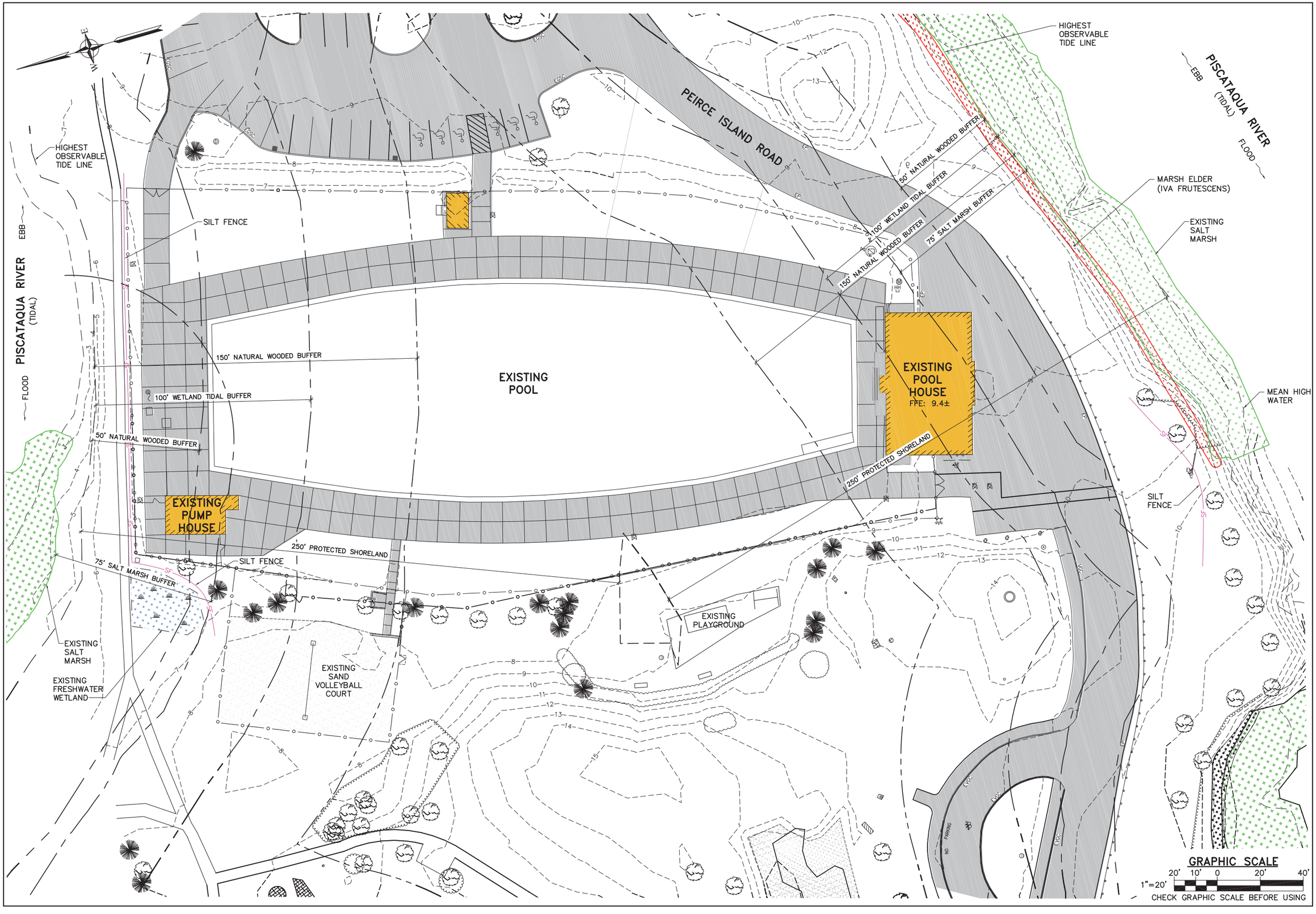
A response from the NHDHR is pending and will be inserted here when received.

EXHIBIT 5

PROJECT PLANS

Project Plans

The following submittal is for renovations to the Peirce Island Outdoor Public Pool. The following drawings are included to illustrate this project:



OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
85 Middle Street, Portsmouth, NH 03801 (T) 603.431.4849 (F) 603.431.1870
www.oakpointnh.com

DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: WFG

PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

OVERALL SITE PLAN

SCALE: AS NOTED

DATE: 06/17/2022

DWG.:

SHEET: . OF .

CIVIL LEGEND

- EXISTING BUILDING
- EXISTING CHAIN LINK FENCE
- 62 EXISTING GRADE CONTOUR LINE
- ESD(12") EXISTING STORM DRAIN LINE (SIZE AND TYPE)
- ESS(8") EXISTING SANITARY SEWER LINE (SIZE AND TYPE)
- EUG EXISTING UNDERGROUND NATURAL GAS LINE
- EOU EXISTING OVERHEAD UTILITIES
- EOE EXISTING OVERHEAD ELECTRIC
- EUT EXISTING UNDERGROUND TELEPHONE LINE
- EW(12") EXISTING WATER LINE (SIZE AND TYPE)
- EUE EXISTING UNDERGROUND ELECTRIC LINE
- EFM EXISTING SEWER FORCE MAIN
- EXISTING UTILITY POLE WITH GUY
- EXISTING LIGHT POLE
- EXISTING CATCH BASIN
- EXISTING LANDSCAPE DRAIN
- EXISTING TREE
- B-3 EXISTING SOIL BORING LOCATION
- EXISTING SURVEY CONTROL POINT
- WV EXISTING WATER VALVE
- EXISTING WATER SHUTOFF
- EXISTING FIRE HYDRANT
- GV EXISTING GAS VALVE
- S EXISTING SEWER MANHOLE
- E EXISTING ELECTRIC MANHOLE
- EXISTING SIGN
- BUILDING LINE
- EGSC EXISTING GRANITE SLOPE CURB
- EVGC EXISTING GRANITE CURB
- EP EXISTING EDGE OF PAVEMENT
- SF SILT FENCE
- SD(12") DRAIN LINE (PIPE SIZE AS NOTED)
- UD(4") UNDERDRAIN LINE (PIPE SIZE AS NOTED)
- RD(4") ROOF DRAIN (PIPE SIZE AS NOTED)
- FM(4") SANITARY SEWER FORCE MAIN LINE (PIPE SIZE AS NOTED)
- UE(1") UNDERGROUND ELECTRIC LINE (CONDUIT SIZE AS NOTED)
- W(6") WATER LINE (PIPE SIZE AS NOTED)
- SAWCUT PAVEMENT
- 32 FINISH GRADE CONTOUR LINE
- 35.70 FINISH GRADE SPOT ELEVATION
- E ELECTRIC HANDHOLE
- SIGN
- JOINT RESTRAINT
- WV WATER VALVE
- DRAINAGE FLOW DIRECTION

CIVIL NOTES

1. VERIFY EXISTING CONDITIONS AND DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE OWNER. PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCY(IES) HAS(HAVE) BEEN RESOLVED BY THE OWNER.
2. THE DEPICTED LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED ON RECORD DRAWINGS AND/OR FIELD SURVEY AND ARE APPROXIMATE. DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. CONTACT "DIG SAFE" AT 1-888-344-7233 AND OBTAIN A "DIG SAFE" PERMIT PRIOR TO COMMENCING EXCAVATION OPERATIONS ON THE SITE.
3. PROTECT EXISTING SYSTEMS AND SURFACES TO REMAIN. DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS MUST BE REPAIRED OR REPLACED AS APPROVED BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
4. PROVIDE A MINIMUM OF 6 INCHES OF PLANTING SOIL, SEED, AND MULCH FOR DISTURBED AREAS NOT OTHERWISE SPECIFIED.
5. PROVIDE A PAVEMENT SURFACE THAT IS FREE OF LOW SPOTS AND PONDING AREAS.
6. EXISTING CONDITIONS ARE BASED ON A TOPOGRAPHIC SURVEY COMPLETED BY OAK POINT ASSOCIATES DECEMBER 2018 AND JUNE 2021, CITY OF PORTMOUTH GIS MAPS, AND TOPOGRAPHIC SURVEY BY DOUCET SURVEY JULY 2013.
7. HORIZONTAL CONTROL IS BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM, NAD83. VERTICAL CONTROL IS BASED ON NAVD88.
8. GIVEN DIMENSIONS ARE FROM FACE OF CURB, FACE OF WALL, FACE OF BUILDING AND CENTERLINE OF MARKINGS UNLESS INDICATED OR NOTED OTHERWISE.
9. GROUNDWATER CONDITIONS ARE AFFECTED BY TIDAL CONDITIONS AND FLUCTUATE. FOR DEWATERING WORK, EXCAVATION, AND OTHER ASPECTS OF THIS PROJECT, PLAN UNDER THE ASSUMPTION THAT GROUNDWATER WILL BE ENCOUNTERED AT ELEVATION 3.0 FEET. HIGHER ELEVATIONS MAY BE ENCOUNTERED DUE TO TIDAL FLUCTUATIONS AND WEATHER EVENTS. OBTAIN APPROVAL AND DRAINAGE PERMIT FROM THE OWNER FOR DEWATERING DISCHARGES TO CITY DRAINAGE SYSTEMS.
10. COORDINATE WORK ASSOCIATED WITH ELECTRIC SERVICE WITH EVERSOURCE. PROVIDE UTILITY SERVICES IN ACCORDANCE WITH UTILITY COMPANY STANDARDS AND REQUIREMENTS. PAY UTILITY FEES FOR SERVICE CONNECTION.
11. ESTABLISH AND MAINTAIN SURVEY CONTROL AND LAYOUT BY A SURVEYOR OR ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
12. THE FOLLOWING PERMITS WILL BE OBTAINED BY THE OWNER TO ALLOW FOR THE COMPLETION OF WORK. ALL KNOWN CONDITIONS THAT WILL AFFECT THE CONTRACT HAVE BEEN INCLUDED IN THE SCOPE OF WORK IDENTIFIED ON THE DRAWINGS AND SPECIFICATIONS. ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF EACH PERMIT.
    A. NHDES STANDARD WETLANDS PERMIT.
    B. NHDES SHORELAND PERMIT BY NOTIFICATION (PBN).
    C. CITY OF PORTSMOUTH CONSERVATION COMMISSION REVIEW.
13. MEET THE REQUIREMENTS AND INTENT OF NEW HAMPSHIRE INVASIVE SPECIES REGULATIONS (RSA 430:53 AND AGR 3800).
14. WETLAND BOUNDARIES WERE DELINEATED BY NORMANDEAU ASSOCIATES, INC. ON JUNE 25, 2021, AND WERE DETERMINED USING THE US ARMY CORPS OF ENGINEERS NORTHCENTRAL/NORTHEAST REGIONAL SUPPLEMENT (VERSION 2, JANUARY 2013) TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (1987) AND NHDES WETLAND RULES ENV-WT 101.48.
15. UTILITY PROVIDERS:
    WATER: CITY OF PORTSMOUTH
    SEWER: CITY OF PORTSMOUTH
    POWER: EVERSOURCE
    COMMUNICATIONS: BAYRING COMMUNICATIONS
16. SUBSURFACE CONDITIONS BASED ON A REPORT OF GEOTECHNICAL EVALUATION PREPARED BY R.W. GILLESPIE & ASSOCIATES, DATED MAY 5, 2022.

CIVIL ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
ABAN	ABANDONED
AC	ASBESTOS CEMENT
ADA	AMERICANS WITH DISABILITIES ACT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GUAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BOTTOM OF CURB (AT PAVEMENT SURFACE)
BLDG	BUILDING
BMPs	BEST MANAGEMENT PRACTICES
℄	CENTERLINE
CJ	CONTROL JOINT
CONC	CONCRETE
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
E	EASTING
EJ	EXPANSION JOINT
ELEV	ELEVATION
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
FD	FOUNDATION DRAIN
FFE	FINISH FLOOR ELEVATION
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FT	FEET
GAL	GALLON
GALV	GALVANIZED
HORIZ	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
ID	IDENTIFICATION
INV	INVERT
L	LENGTH
LB/LBS	POUND/POUNDS
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM OR MINUTE
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTHING
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NHDES	NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
NHDOT	NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
NOI	NOTICE OF INTENT
NPDES	NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	POINT OF CURVATURE
PE	POLYETHYLENE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REINF	REINFORCED
RGS	RIGID GALVANIZED STEEL
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FOOT
SIM	SIMILAR
SY	SQUARE YARDS
T	THICKNESS
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB
TYP	TYPICAL
USDOT	UNITED STATES DEPARTMENT OF TRANSPORTATION
VERT	VERTICAL
W/	WITH
WWF	WELDED WIRE FABRIC

PARCEL INFORMATION

OWNER OF RECORD:
CITY OF PORTSMOUTH
PO BOX 628
PORTSMOUTH, NH 03802

PARCEL SIZE: 38.0 ACRES

CITY OF PORTSMOUTH MAP-LOT: 208-1

ZONE: MUNICIPAL (M)

DIMENSIONAL REQUIREMENTS: LOTS AND BUILDINGS IN THE MUNICIPAL DISTRICT ARE EXEMPT FROM ALL DIMENSIONAL AND INTENSITY REGULATIONS.

SUBJECT PARCEL IS LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA ZONE AE (COMMUNITY PANEL NUMBER 330139 0278 F, EFFECTIVE DATE: JANUARY 29, 2021)

ABUTTERS:

PEASE DEVELOPMENT AUTHORITY
C/O PORTS FISH CO OP
ONE PIERCE ISLAND RD
PORTSMOUTH, NH 03801
LOT: 208-1A
ZONE: WATERFRONT BUSINESS (WB)

CITY OF PORTSMOUTH
PO BOX 628
PORTSMOUTH, NH 03802
LOT: 208-2
ZONE: MUNICIPAL (M)

PLAN REFERENCES

SWIMMING FACILITIES RESTORATION, JUNE 1978, BY WHITMAN AND HOWARD, INC.

PEIRCE ISLAND POOL GUTTER IMPROVEMENTS, FEBRUARY 10, 1996, BY KIMBALL CHASE.

PARKING IMPROVEMENTS PEIRCE ISLAND, NOVEMBER 4, 2000, BY OAK POINT ASSOCIATES.

EXISTING CONDITIONS SURVEY BY DOUCET SURVEY, LLC, JULY 2003.

PEIRCE ISLAND WWTF UPGRADE, NOVEMBER 2015, BY AECOM.

CITY OF PORTSMOUTH PUBLIC WORKS EXISTING CONDITIONS GIS MAP

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

17 Jun, 2022 - 11:54am
C:\dfile\21904.14-C001.dwg

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
85 Middle Street, Portsmouth, NH 03801 (T) 603.431.4849 (F) 603.431.1870
www.oakpoint.com

STATE OF NEW HAMPSHIRE
WADE ALLEN LIPPERT
No. 13331
PROFESSIONAL ENGINEER
6/17/22

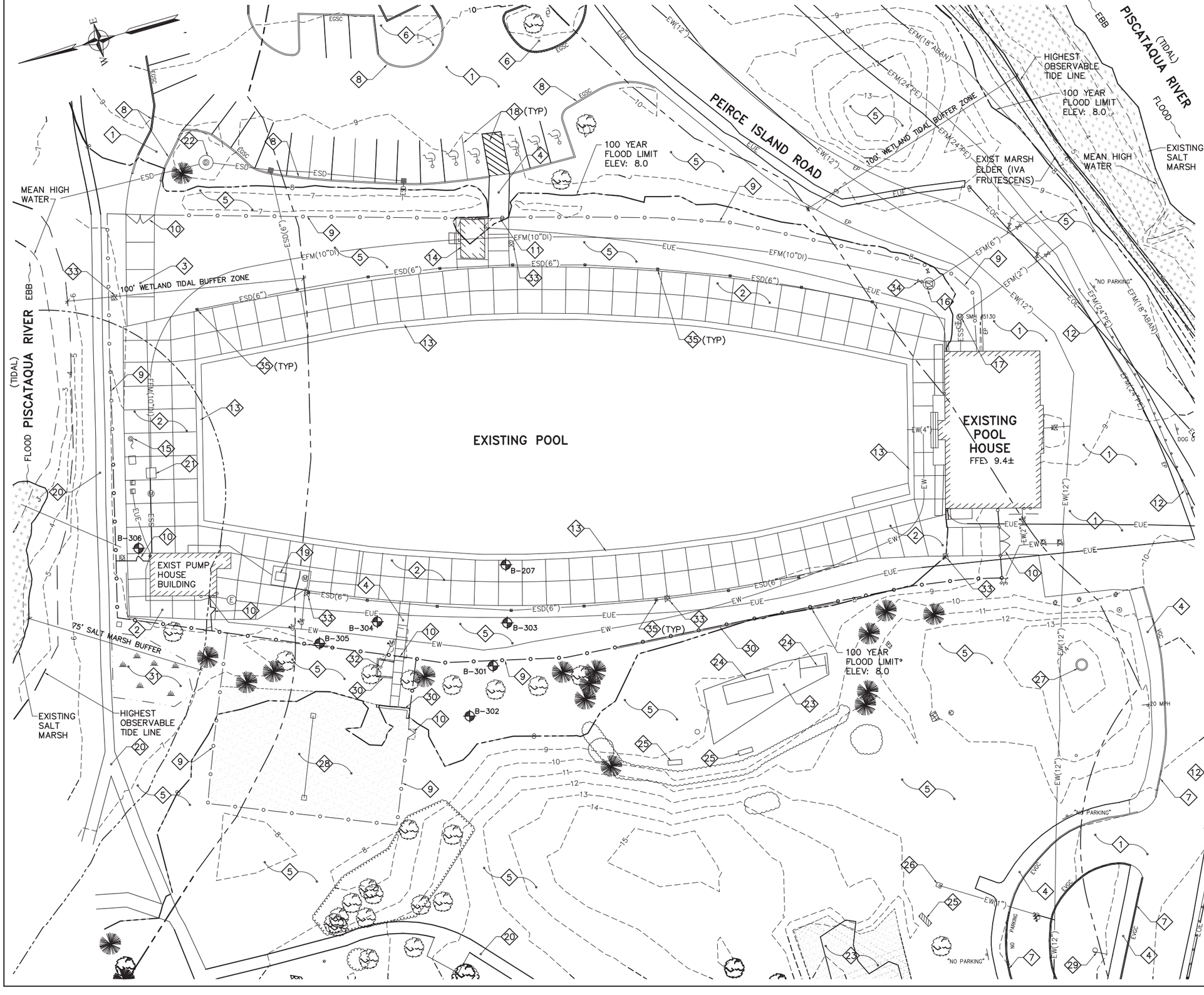
DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

CIVIL LEGEND, NOTES, AND ABBREVIATIONS

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-001
SHEET: 5 OF 72



KEYNOTES (THIS SHEET ONLY)

1. EXISTING ASPHALT CONCRETE PAVEMENT.
2. EXISTING CONCRETE POOL DECK.
3. EXISTING CONCRETE PAVEMENT (4"± THICK).
4. EXISTING CONCRETE WALK (4"± THICK).
5. EXISTING TURF.
6. EXISTING MULCH LANDSCAPE AREA.
7. EXISTING VERTICAL GRANITE CURB.
8. EXISTING GRANITE SLOPE CURB.
9. EXISTING 6'± HIGH CHAIN LINK FENCE.
10. EXISTING 6'± HIGH CHAIN LINK SWING GATE.
11. EXISTING 6'± HIGH CHAIN LINK SLIDING GATE.
12. EXISTING WOOD GUARD RAIL.
13. EXISTING POOL GUTTER AND 2'± WIDE CONCRETE CAP.
14. EXISTING 16'x10'± PORTABLE WOOD FRAME TICKET BOOTH BUILDING.
15. EXISTING FLAG POLE.
16. EXISTING CHECK VALVE VAULT.
17. EXISTING SUBMERSIBLE SEWER GRINDER PUMP STATION.
18. EXISTING PAVEMENT MARKING.
19. EXISTING SURGE TANK.
20. EXISTING STONE DUST PATH.
21. EXISTING POOL FILTER BACKWASH PUMP VAULT.
22. EXISTING STORMWATER TREATMENT SYSTEM MANHOLE.
23. EXISTING MULCH PLAYGROUND SURFACE.
24. EXISTING PLAYGROUND EQUIPMENT.
25. EXISTING BENCH.
26. EXISTING WATER FOUNTAIN.
27. EXISTING CONCRETE PLANTER.
28. EXISTING SAND VOLLEYBALL COURT.
29. EXISTING PEIRCE ISLAND PLAYGROUND AND MUNICIPAL POOL SIGN.
30. EXISTING LANDSCAPE TIMBER.
31. EXISTING WETLAND.
32. EXISTING OUTDOOR SHOWER.
33. EXISTING IRRIGATION VALVE PIT.
34. EXISTING FORCE MAIN VALVE.
35. EXISTING LANDSCAPE DRAIN.

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
85 Middle Street, Portsmouth, NH 03801 (T) 603.431.4849 (F) 603.431.1870
www.oakpointllc.com

WADE ALLEN LIPPERT No. 16334 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 6/17/22

DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

EXISTING CONDITIONS SITE PLAN

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: CX101
SHEET: 6 OF 72

GENERAL NOTE

1. REFER TO DRAWING CG101 FOR EROSION AND SEDIMENT CONTROLS.

KEYNOTES (THIS SHEET ONLY)

1. SAWCUT 4"± THICK ASPHALT CONCRETE PAVEMENT.
2. REMOVE 4"± THICK ASPHALT CONCRETE PAVEMENT.
3. SAWCUT CONCRETE POOL DECK FULL DEPTH AT EXISTING JOINT.
4. REMOVE 4"± THICK CONCRETE POOL DECK. (6"± THICK AT NORTH END OF POOL)
5. REMOVE BUILDING AND FOUNDATION. REFER TO DETAIL 1/SD101.
6. REMOVE TREE. (DIA GIVEN WITH KEYNOTE)
7. STRIP AND STOCKPILE TOPSOIL.
8. REMOVE WOOD GUARD RAIL.
9. REMOVE ABOVE GROUND POOL FILL PIPING, VALVE AND CONCRETE BERM. CAP AND ABANDON EXISTING WATER LINE. REFER TO DRAWING D101.
10. REMOVE 6'± HIGH CHAIN LINK FENCE.
11. REMOVE ALUMINUM RAMP AND STORE FOR REINSTALLATION.
12. REMOVE ELECTRICAL MANHOLE.
13. REMOVE WATER VALVE.
14. REMOVE POOL PIPING.
15. REMOVE 6"x6"x10" DEEP LANDSCAPE DRAIN.
16. REMOVE DRAIN PIPE.
17. REMOVE SEWER PIPE.
18. REMOVE FORCE MAIN PIPE.
19. REMOVE SANITARY SEWER PUMPS, PIPING, AND ASSOCIATED EQUIPMENT. CAP EXISTING PIPE PENETRATIONS.
20. CAP AND ABANDON WATER LINE.
21. REMOVE EXISTING IRRIGATION SYSTEM.
22. CAP AND ABANDON UNDERGROUND ELECTRIC CONDUITS.
23. REMOVE OUTDOOR SHOWER AND FOUNDATION. STORE FOR REINSTALLATION.
24. REMOVE LANDSCAPE TIMBER.
25. REMOVE WATER LINE.

KEYNOTES (CONTINUED)

26. REMOVE UNDERGROUND ELECTRICAL CONDUIT AND CABLES.
27. REMOVE SURGE TANK PIPING, ALUMINUM HATCH, DUCTILE IRON MANHOLE FRAME/COVER, CONCRETE TOP SLAB, AND TOP 3' OF CONCRETE VAULT. BREAK CONCRETE VAULT BOTTOM AND FILL WITH COMPACTED STRUCTURAL FILL.
28. REMOVE EXISTING POOL GUTTER AND CONCRETE APRON, REFER TO DRAWING D101.
29. CAP AND ABANDON EXISTING CONDUITS.
30. REMOVE ALUMINUM HATCH AND TOP 3' OF 4'x4'x10'± DEEP CONCRETE VAULT. FILL WITH COMPACTED STRUCTURAL FILL.
31. CAP AND ABANDON EXISTING DISCHARGE PIPE.
32. REMOVE EXISTING ELECTRIC HANDHOLE.

PISCATAQUA RIVER

PEIRCE ISLAND ROAD

EXISTING POOL

EXISTING POOL HOUSE

REMOVE PUMP HOUSE BUILDING

GRAPHIC SCALE
1"=20'
20' 10' 0 20' 40'
CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

OAK POINT ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
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www.oakpointllc.com

WADE ALLEN LIPPERT No. 16334 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
6/17/22

DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM

PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

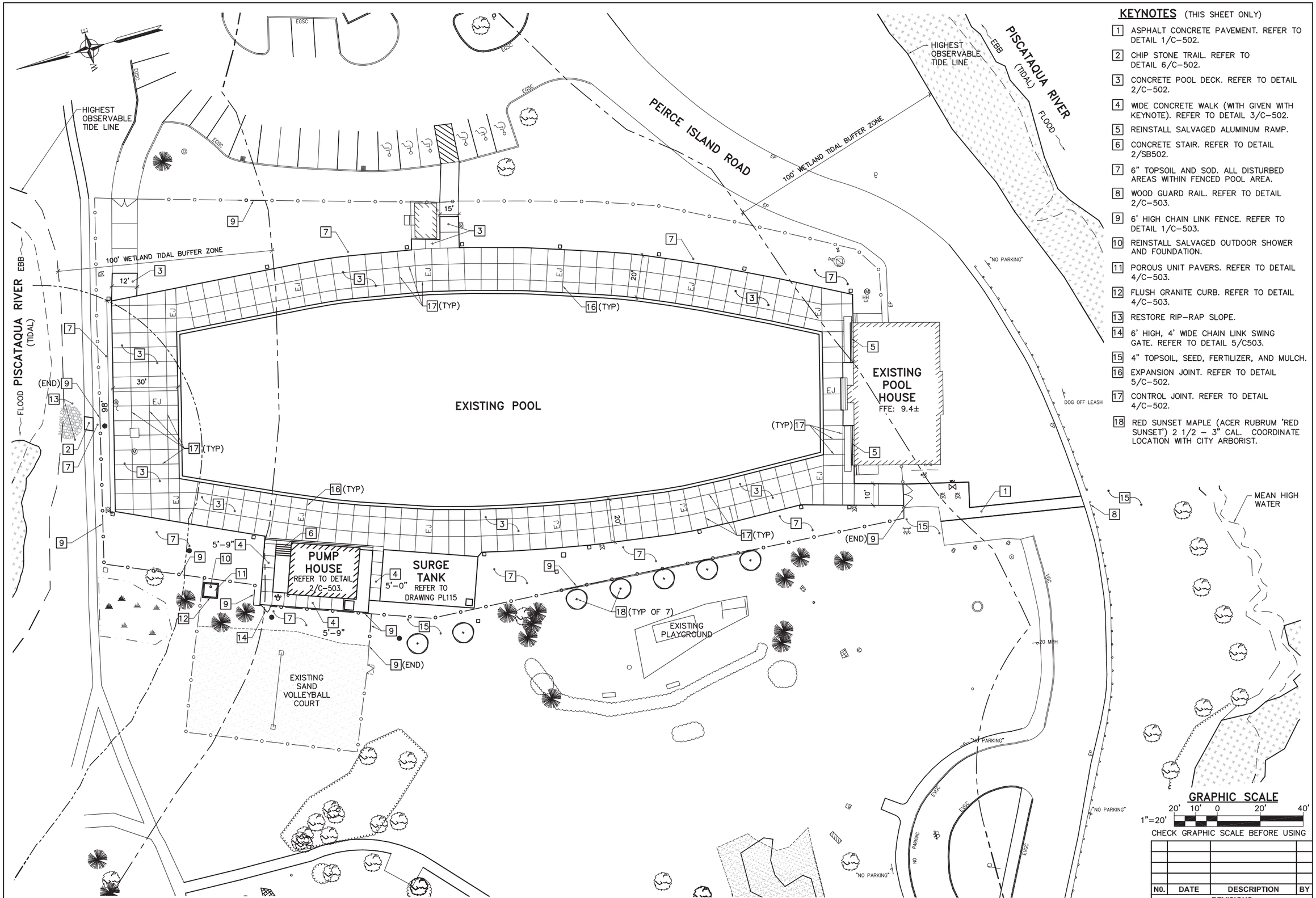
REMOVALS SITE PLAN

SCALE: AS NOTED

DATE: 06/17/2022

DWG.: CD101

SHEET: 7 OF 72



KEYNOTES (THIS SHEET ONLY)

1. ASPHALT CONCRETE PAVEMENT. REFER TO DETAIL 1/C-502.
2. CHIP STONE TRAIL. REFER TO DETAIL 6/C-502.
3. CONCRETE POOL DECK. REFER TO DETAIL 2/C-502.
4. WIDE CONCRETE WALK (WITH GIVEN WITH KEYNOTE). REFER TO DETAIL 3/C-502.
5. REINSTALL SALVAGED ALUMINUM RAMP.
6. CONCRETE STAIR. REFER TO DETAIL 2/SB502.
7. 6" TOPSOIL AND SOD. ALL DISTURBED AREAS WITHIN FENCED POOL AREA.
8. WOOD GUARD RAIL. REFER TO DETAIL 2/C-503.
9. 6' HIGH CHAIN LINK FENCE. REFER TO DETAIL 1/C-503.
10. REINSTALL SALVAGED OUTDOOR SHOWER AND FOUNDATION.
11. POROUS UNIT PAVERS. REFER TO DETAIL 4/C-503.
12. FLUSH GRANITE CURB. REFER TO DETAIL 4/C-503.
13. RESTORE RIP-RAP SLOPE.
14. 6' HIGH, 4' WIDE CHAIN LINK SWING GATE. REFER TO DETAIL 5/C503.
15. 4" TOPSOIL, SEED, FERTILIZER, AND MULCH.
16. EXPANSION JOINT. REFER TO DETAIL 5/C-502.
17. CONTROL JOINT. REFER TO DETAIL 4/C-502.
18. RED SUNSET MAPLE (ACER RUBRUM 'RED SUNSET') 2 1/2 – 3" CAL. COORDINATE LOCATION WITH CITY ARBORIST.

GRAPHIC SCALE
1"=20'
20' 10' 0 20' 40'
CHECK GRAPHIC SCALE BEFORE USING

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REVISIONS			

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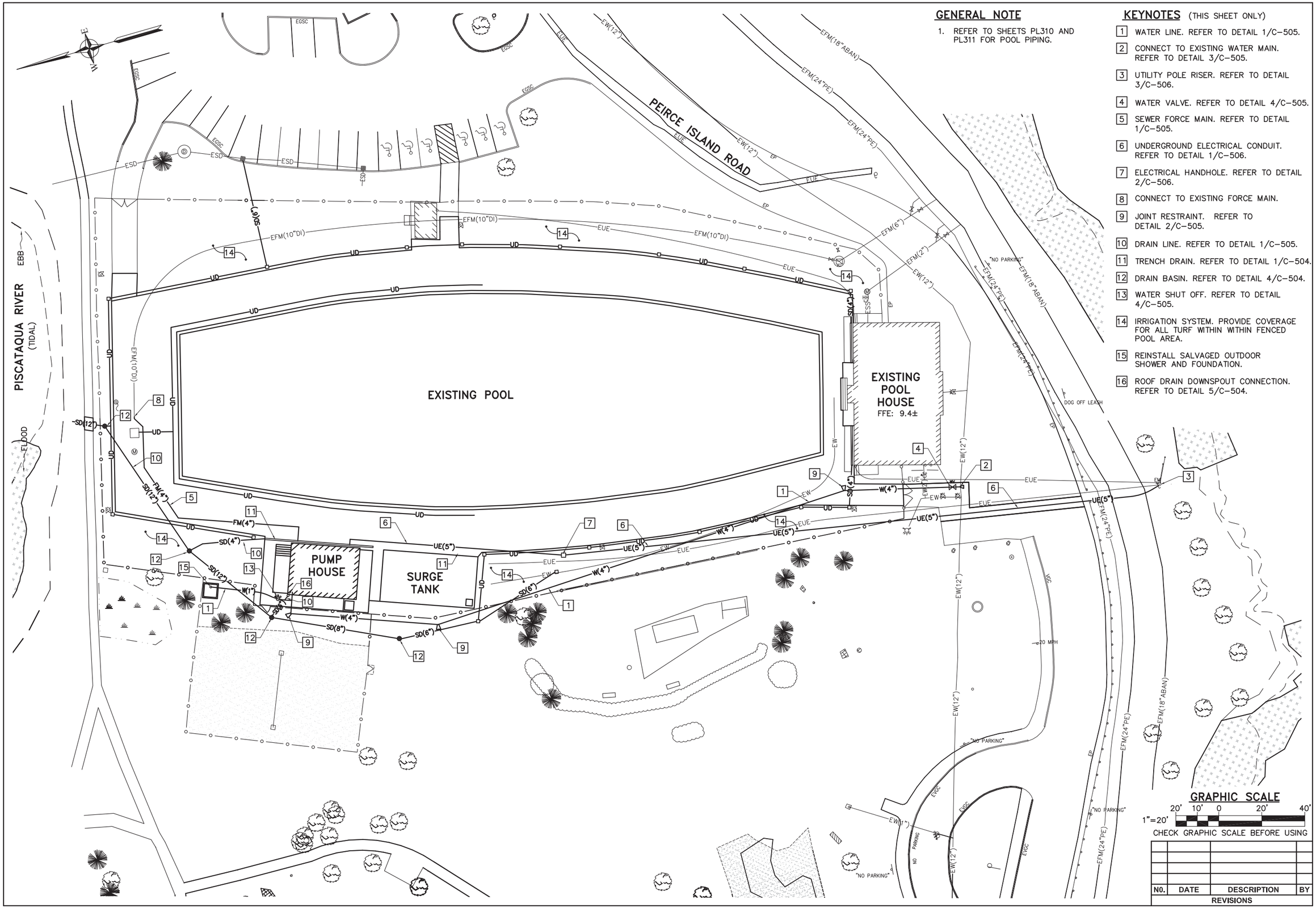
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

SITE PLAN

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: CS101
SHEET: 8 OF 72



GENERAL NOTE

1. REFER TO SHEETS PL310 AND PL311 FOR POOL PIPING.

KEYNOTES (THIS SHEET ONLY)

1. WATER LINE. REFER TO DETAIL 1/C–505.
2. CONNECT TO EXISTING WATER MAIN. REFER TO DETAIL 3/C–505.
3. UTILITY POLE RISER. REFER TO DETAIL 3/C–506.
4. WATER VALVE. REFER TO DETAIL 4/C–505.
5. SEWER FORCE MAIN. REFER TO DETAIL 1/C–505.
6. UNDERGROUND ELECTRICAL CONDUIT. REFER TO DETAIL 1/C–506.
7. ELECTRICAL HANDHOLE. REFER TO DETAIL 2/C–506.
8. CONNECT TO EXISTING FORCE MAIN.
9. JOINT RESTRAINT. REFER TO DETAIL 2/C–505.
10. DRAIN LINE. REFER TO DETAIL 1/C–505.
11. TRENCH DRAIN. REFER TO DETAIL 1/C–504.
12. DRAIN BASIN. REFER TO DETAIL 4/C–504.
13. WATER SHUT OFF. REFER TO DETAIL 4/C–505.
14. IRRIGATION SYSTEM. PROVIDE COVERAGE FOR ALL TURF WITHIN WITHIN FENCED POOL AREA.
15. REINSTALL SALVAGED OUTDOOR SHOWER AND FOUNDATION.
16. ROOF DRAIN DOWNSPOUT CONNECTION. REFER TO DETAIL 5/C–504.

GRAPHIC SCALE

1"=20'

20' 10' 0 20' 40'

CHECK GRAPHIC SCALE BEFORE USING

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6/17/22

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Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
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SITE UTILITY PLAN

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: CU101
SHEET: 9 OF 72

DRAINAGE STRUCTURE SCHEDULE

	RIM	INV IN	INV IN	INV OUT
DB A	6.50	4.10 (12")	5.00 (6")	4.00 (12")
DB B	6.50	4.60 (12")	4.60 (6")	4.50 (12")
DB C	7.10	5.00 (12")	5.00 (6")	4.90 (12")
DB D	6.40	5.20 (6")		5.10 (8")

KEYNOTES (THIS SHEET ONLY)

1. DRAIN BASIN. REFER TO DETAIL 4/C–504.
2. STORM DRAIN LINE. REFER TO DETAIL 1/C–505.
3. TRENCH DRAIN. REFER TO DETAIL 1/C–504.
4. UNDER DRAIN. REFER TO DETAIL 4/C–502.
5. POOL PERIMETER UNDERDRAIN. REFER TO DETAIL 6/C–504.
6. CORE EXISTING CONCRETE VAULT AND CONSTRUCT UNDERDRAIN CONNECTION.
7. CONNECT TO BUILDING ROOF DRAIN. REFER TO DETAIL 5/C–504.
8. SILT FENCE. REFER TO DETAIL 1/C–501.
9. RIP–RAP PIPE OUTLET PROTECTION. REFER TO DETAIL 2/C–504.
10. INLET PROTECTION. REFER TO DETAIL 4/C–501.
11. LANDSCAPE DRAIN. REFER TO DETAIL 3/C–504. INSTALL TEMPORARY FILTER FABRIC UNDER GRATE UNTIL SOD IS INSTALLED. REFER TO DETAIL 4/C–501 (SIM).
12. CONNECT TO EXISTING CATCH BASIN.

PEIRCE ISLAND ROAD

PISCATAQUA RIVER (TIDAL)

EXISTING POOL

EXISTING POOL HOUSE FFE: 9.4±

PUMP HOUSE FFE: 10.00

BENCHMARK: X–CUT ON LEFT BOLT OVER MAIN OUTLET ELEV.=12.75

"NO PARKING"

DOG OFF LEASH AREA

20 MPH

GRAPHIC SCALE
20' 10' 0 20' 40'
1"=20'
CHECK GRAPHIC SCALE BEFORE USING

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DESIGNED BY: WAL
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CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

GRADING AND DRAINAGE PLAN

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: CG101
SHEET: 10 OF 72

EROSION AND SEDIMENT CONTROL NOTES

A. GENERAL NOTES

1. DURING CONSTRUCTION AND THEREAFTER, PROVIDE EROSION CONTROL MEASURES AS INDICATED AND SPECIFIED. EROSION CONTROL MEASURES MUST BE IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORM WATER MANUAL".
2. TEMPORARY EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL DEVICES, TEMPORARY SEEDING AND MULCHING, AND PROVISIONS FOR STABILIZING INACTIVE AREAS. PERMANENT EROSION CONTROL MEASURES INCLUDE PERMANENT SEEDING AND MULCHING.
3. INSTALL PERIMETER EROSION CONTROLS PRIOR TO BEGINNING EARTH MOVING OPERATIONS.
4. PROVIDE INLET PROTECTION FOR EACH CATCH BASIN ON THE SAME DAY THAT BACKFILL IS PLACED AROUND THE CATCH BASIN.
5. PROVIDE 6–INCHES PLANTING SOIL, SEED AND MULCH ON DISTURBED AREAS NOT OTHERWISE SPECIFIED. COMPLETE PERMANENT SEEDING BETWEEN THE DATES OF APRIL 1 AND OCTOBER 14. WATER VEGETATED AREAS AS NECESSARY TO ESTABLISH A VIGOROUS TURF.
6. PROVIDE EROSION CONTROL MEASURES TO CONTROL EROSION AND SEDIMENTATION FROM THE PROJECT SITE. THE MEASURES INDICATED ON THE DRAWINGS ARE THE MINIMUM TO BE PROVIDED. PROVIDE ADDITIONAL MEASURES AS NECESSARY AND APPLICABLE TO CONTROL EROSION AND SEDIMENTATION FROM LEAVING THE SITE.
7. LIMIT AREAS OF EXPOSED SOILS TO THOSE AREAS THAT WILL ACTIVELY BE WORKED. TEMPORARILY STABILIZE AREAS OF DISTURBED SOIL THAT REMAIN UNWORKED FOR MORE THAN 14 DAYS USING TEMPORARY MULCHING (IF THE SOIL WILL BE PERMANENTLY STABILIZED WITHIN 30 DAYS) OR TEMPORARY SEEDING AND MULCHING (IF THE SOIL WILL NOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS). PERMANENTLY STABILIZE ANY AREA OF DISTURBED SOIL BROUGHT TO FINAL GRADE WITHIN 7 DAYS. DISTURBED SOILS DO NOT INCLUDE COMPACTED BASE COURSES OR STRUCTURAL FILLS USED FOR ROADS AND PARKING LOTS. UNSTABILIZED AREA MUST NOT EXCEED 1 ACRE AT ANY ONE TIME.
8. AN AREA WILL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B. A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
   C. A MINIMUM OF 3 INCHES OF NON–EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED.
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
9. STABILIZE ROADWAYS AND PARKING LOTS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. SEED AND LOAM CUT AND FILL SLOPES WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
10. INSTALL SWALES EARLY IN THE CONSTRUCTION SEQUENCE. PERMANENTLY STABILIZE SWALES PRIOR TO DIRECTING FLOW TO THEM.
11. INSTALL STABILIZED CONSTRUCTION EXIT AT VEHICULAR ACCESS POINT TO THE SITE TO PREVENT TRACKING ONTO ADJACENT EXISTING PAVEMENT SURFACES. REFER TO DETAIL 3/C–501.

B. INSPECTION AND MAINTENANCE

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE PROJECT AREA DAILY AND BEFORE AND AFTER EACH STORM EVENT WITH PRECIPITATION GREATER THAN 0.1" AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE NPDES STANDARDS MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
2. KEEP AND MAINTAIN A LOG (REPORT) SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPs THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW–UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.
3. MAINTAIN EROSION CONTROL MEASURES FOR THE LIFE OF THE PROJECT AND UNTIL PERMANENT STABILIZATION OF THE ENTIRE SITE IS ESTABLISHED. PERMANENT STABILIZATION MUST CONSIST OF AT LEAST 90–PERCENT VEGETATION OR PAVEMENT.
4. PROTECT STABILIZED AREAS FROM EROSION AND IMMEDIATELY REPAIR/REVEGETATE ERODED AREAS.
5. SEDIMENT ACCUMULATIONS MUST BE REMOVED FROM HAY BALE BARRIERS AND SILT FENCES WHEN THE SEDIMENT DEPTH REACHES 6 INCHES.
6. REMOVE TEMPORARY EROSION CONTROL MEASURES WITHIN 30 DAYS AFTER THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

C. SEQUENCE OF CONSTRUCTION

1. INITIAL OPERATIONS INCLUDE INSTALLATION OF EROSION CONTROL DEVICES.
2. CLEAR TREES, GRUB OUT STUMPS AND STRIP TOPSOIL AND STOCKPILE. PROVIDE SILT FENCE DOWNGRADIENT OF STOCKPILES AND COVER STOCKPILES WITH MULCH.
3. COMMENCE LARGE–SCALE EARTH EXCAVATION MOVING OPERATIONS. CONSTRUCT STORM DRAINAGE SYSTEM BEGINNING AT THE LOW POINT OF THE SYSTEM.
4. CONTINUE WITH OTHER UTILITY AND PAVEMENT CONSTRUCTION.
5. COMPLETE PAVEMENT CONSTRUCTION. PROVIDE PERMANENT SEEDING, MULCHING, OR OTHER SURFACE TREATMENTS AS INDICATED IMMEDIATELY UPON ESTABLISHMENT OF FINISH GRADES.

D. SOIL STOCKPILE STABILIZATION

1. COVER SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 30 DAYS WITH HAY MULCH (90 LBS HAY/1000 SF) OR COVERED WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. SEED SOIL AND FILL STOCKPILES EXPECTED TO REMAIN LONGER THAN 30 DAYS WITH A CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LB/1000 SF) AND HAY MULCHED (90 LBS. HAY/1000 SF) WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
3. INSTALL SEDIMENT BARRIER (e.g. SILT FENCE) INSTALLED AROUND THE DOWNHILL EDGE OF THE SOIL STOCKPILES TO TRAP SEDIMENTS.

E. TEMPORARY SEEDING

1. BEDDING – REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT 4" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
2. FERTILIZER – UNIFORMLY SPREAD FERTILIZER MUST OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. APPLY A 10–10–10 MIX OF ORGANIC FERTILIZER AT A RATE OF 300 LBS PER ACRE.
3. SEED MIXTURE – USE ANY OF THE FOLLOWING IN UPLAND AREAS:

SPECIES	ACRE	SEEDING RATES 1,000 SF	DATES	DEPTH
WINTER RYE	112 LBS	2.5 LBS	8/15 – 9/15	1 INCH
OATS	80 LBS	2.0 LBS	SPRING – 5/15	1 INCH
ANNUAL RYEGRASS	40 LBS	1.0 LBS	4/15 – 9/15 WITH MULCH	0.25 INCH

4. MULCHING FOR TEMPORARY SEEDING – WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, MULCH THE SEEDED TO FACILITATE GERMINATION. APPLY MULCH IN THE FORM OF HAY OR STRAW MUST BE APPLIED AT A RATE OF 70 TO 40 90 LBS PER 1,000 SF.
5. REMOVE TEMPORARY GROWTH FROM TEMPORARY SEEDING PRIOR TO PERMANENT SEEDING.

F. MULCHING

PROVIDE TEMPORARY MULCHING ON SLOPES, CHANNELS, OTHER EROSION PRONE AREAS, AND EXPOSED SOILS THAT CANNOT RECEIVE PERMANENT COVER WITHIN 14 DAYS OF DISTURBANCE. ALSO PROVIDE MULCH FOLLOWING TEMPORARY AND PERMANENT SEEDING AS SPECIFIED. MULCH ANCHORS MUST BE USED ON SLOPES GREATER THAN 5% IN FALL (PAST OCTOBER 1, AND OVER WINTER TO APRIL 1).

MULCH TYPE	RATE PER 1000 SF
HAY OR STRAW	70 TO 40 90 LBS
WOOD CHIPS OR BARK MULCH	480 TO 920 LBS
JUTE AND FIBROUS MATTING	AS PER MANUFACTURERS' SPECIFICATIONS
CRUSHED STONE 1/4" TO 1–1/2"	SPREAD MORE THAN 1/2" THICK

G. TEMPORARY EROSION CONTROL MAT SPECIFICATIONS

1. PROVIDE STRAW EROSION CONTROL MAT CONSISTING OF A MACHINE PRODUCED MAT OF 100 PERCENT AGRICULTURAL STRAW FIBER, MINIMUM WEIGHT: 0.5 LBS/SY. NETTINGS MUST BE LIGHTWEIGHT BIO OR PHOTO DEGRADEABLE, TOP SIDE ONLY, MINIMUM WEIGHT: 1.5 LBS/1000 SF. MINIMUM WIDTH: 48", MINIMUM THICKNESS: 0.39 INCH. THE MINIMUM FUNCTIONAL LONGEVITY OF THE EROSION CONTROL MAT MUST BE 45 DAYS.

H. EXTENDED USE EROSION CONTROL BLANKET SPECIFICATION

1. PROVIDE STRAW EROSION CONTROL MAT CONSISTING OF A MACHINE PRODUCED MAT OF 100 PERCENT AGRICULTURAL STRAW FIBER, MINIMUM WEIGHT: 0.5 LBS/SY. NETTINGS MUST BE 100 PERCENT BIO OR PHOTO DEGRADABLE WOVEN NATURAL ORGANIC FIBER, TOP SIDE ONLY, MINIMUM WEIGHT: 9.3 LB/1000 SF. MINIMUM WIDTH: 6.7 FT, MINIMUM THICKNESS: 0.24 INCH. THE MINIMUM FUNCTIONAL LONGEVITY OF THE EROSION CONTROL MAT MUST BE 12 MONTHS.

I. WINTER STABILIZATION

THE WINTER CONSTRUCTION PERIOD IS FROM OCTOBER 15 THROUGH APRIL 1. IF THE SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 85% MATURE VEGETATION COVER, OR RIPRAP BY OCTOBER 15 THEN PROTECT THE SITE WITH OVER–WINTER STABILIZATION.

1. PROVIDE STABILIZATION AS FOLLOWS WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:
   A. PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH MUST BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX.
   B. PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHOULD BE SEEDED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCH THICKNESS OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHOULD NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
2. DO NOT INSTALL ANCHORED HAY MULCH OR EROSION CONTROL MIX OVER ACCUMULATED SNOW OR FROZEN GROUND. INSTALLATION MUST BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
3. ANCHOR MULCH APPLIED DURING WINTER (e.g, BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
4. MULCH STOCKPILES OF SOIL MATERIALS FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. MULCHING MUST BE DONE WITHIN 24 HOURS OF STOCKING, AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. NO SOIL STOCKPILE MUST BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100 FEET FROM ANY WETLAND OR OTHER WATER RESOURCE AREA.
5. CONSTRUCT GRASS LINED DITCHES AND CHANNELS AND STABILIZE BY SEPTEMBER 1. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH MUST BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
6. AFTER NOVEMBER 15TH, PROTECT INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON WITH A MINIMUM 3 INCH LAYER OF BASE COURSE (NHDOT ITEM 304.3).
7. DO NOT EXPOSE MORE THAN ONE ACRE OF THE SITE (WITHOUT STABILIZATION) AT ANY ONE TIME. GENERALLY THE EXPOSED AREA SHOULD BE LIMITED TO ONLY THOSE AREAS IN WHICH WORK WILL OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW OR RAINFALL EVENT.

J. PERMANENT SEEDING

1. REFER TO TURF AND GRASSES SPECIFICATION.

K. OFF–SITE VEHICLE TRACKING

1. SWEEP ADJACENT PAVED AREAS AND ROADS AS NECESSARY AND AS DIRECTED BY THE OWNER TO KEEP THEM FREE OF SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES.
2. PROVIDE A STABILIZED CONSTRUCTION EXIT AT LOCATIONS USED FOR EXITING THE CONSTRUCTION SITE AS DETAILED ON THE DRAWINGS.

L. HOUSEKEEPING

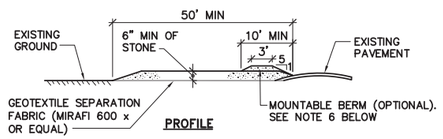
1. COLLECT AND STORE WASTE MATERIALS IN SECURELY LIDDED RECEPTACLES. TRASH AND CONSTRUCTION DEBRIS FROM THE SITE MUST BE DEPOSITED IN A DUMPSTER PROVIDED BY THE CONTRACTOR. CONSTRUCTION WASTE MATERIALS MUST NOT BE BURIED ON SITE.
2. DISPOSE OF HAZARDOUS WASTE MATERIALS IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
3. STORE MATERIALS ON SITE IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINER AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE. STORE ONLY SUFFICIENT AMOUNTS OF MATERIALS TO COMPLETE THE JOB.
4. DISPOSE OF SURPLUS MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, LOCAL, STATE AND FEDERAL CODES.
5. MONITOR CONSTRUCTION RELATED EQUIPMENT AND VEHICLES FOR LEAKS AND PROVIDE REGULAR PREVENTATIVE MAINTENANCE TO AVOID LEAKAGE.
6. EQUIPMENT SHALL BE STAGED AND REFUELED IN ACCORDANCE TO ENV–WT 307.15.

M. DUST CONTROL

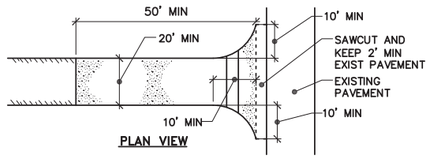
1. CONTROL DUST WITH PERIODIC WATERING OF THE EXPOSED SOIL SURFACES WITH ADEQUATE WATER TO CONTROL DUST FROM BECOMING AIRBORNE. APPLY REPETITIVE TREATMENTS AS NEEDED TO CONTROL DUST THROUGHOUT CONSTRUCTION UNTIL AREAS HAVE BEEN STABILIZED.
2. OTHER METHODS TO CONTROL DUST MAY BE ALLOWED WITH APPROVAL BY THE OWNER.

N. RIPRAP SPECIFICATION

1. PROVIDE RIPRAP CONSISTING OF SOUND, DURABLE ROCK WHICH WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER. ANGULAR FIELD STONE, ROUGH QUARRY STONE OR BLASTED LEDGE ROCK MAY BE USED. THE MEDIAN STONE SIZE MUST BE AS INDICATED. THE MAXIMUM STONE SIZE MUST BE TWICE THE MEDIAN SIZE. PROVIDE SMALLER STONES TO FILL THE VOIDS IN THE LARGER STONES.



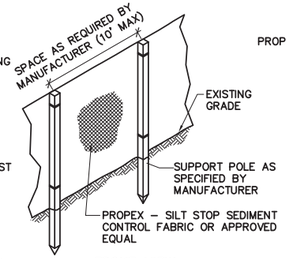
PROFILE



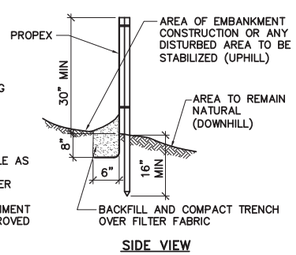
PLAN VIEW

NOTES:
1. PROVIDE 2 TO 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE MUST NOT BE LESS THAN 50 FEET.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE MUST NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE MUST NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 20 FEET, WHICHEVER IS GREATER.
5. PLACE GEOTEXTILE SEPARATION FILTER FABRIC OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. PIPE SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM MAY BE SUBSTITUTED FOR THE PIPE. THE MOUNTABLE BERM MUST HAVE 5:1 SLOPES AND THICKNESS REQUIRED TO DIVERT FLOW WHILE MAINTAINING ACCESS THAT CAN BE CROSSED BY VEHICLES.
7. MAINTAIN THE ENTRANCE IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ADJACENT PAVED AREAS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. SEDIMENT SPILLED, WASHED, OR TRACKED ONTO ADJACENT PAVED AREAS MUST BE REMOVED IMMEDIATELY.
8. CLEAN WHEELS TO REMOVE MUD PRIOR TO ENTRANCE ONTO ADJACENT PAVED AREAS. WHEN WASHING IS REQUIRED, IT MUST BE PERFORMED ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

3 STABILIZED CONSTRUCTION EXIT
C–501 (C–501) NOT TO SCALE



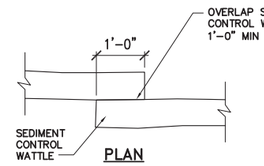
FRONT VIEW



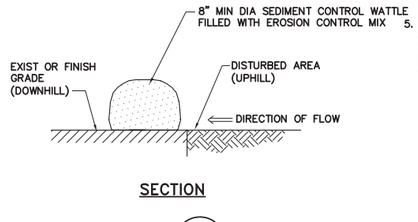
SIDE VIEW

NOTES
1. WHEN JOINTS ARE NECESSARY, FILTER FABRIC MUST BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6" OVERLAP, AND SECURELY SEALED.
2. INSPECT SILT FENCES AFTER EACH RAINFALL AND REPAIRS/REPLACEMENT MUST BE MADE IMMEDIATELY.
3. REMOVE SEDIMENT DEPOSITS AFTER EACH STORM EVENT.
4. REMOVE SILT FENCES AFTER SATISFACTORY VEGETATIVE COVER IS ESTABLISHED OR DISTURBED AREAS ARE OTHERWISE STABILIZED. PROVIDE PLANTING SOIL, FINISH GRADE, SEED AND MULCH DISTURBED AREAS.
5. EROSION CONTROL WATTLES BE USED IN LIEU OF SILT FENCE WHERE APPROVED BY THE OWNER OR TO SUPPLEMENT EROSION CONTROL MEASURES. SEE DETAIL 2/C–501.

1 SILT FENCE
CG101 (C–501) NOT TO SCALE



PLAN

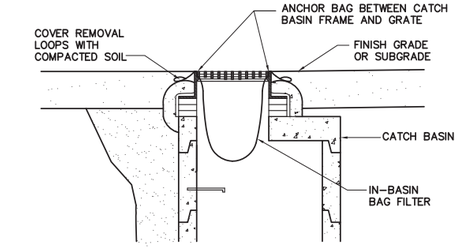


SECTION

NOTES
1. SEDIMENT CONTROL WATTLES SHALL BE MANUFACTURED FOR THE PURPOSE OF TEMPORARY SEDIMENT CONTROL AND INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 2" IN DEPTH.
3. SEDIMENT CONTROL WATTLES SHALL REMAIN IN PLACE UNTIL AREAS ARE STABILIZED.
4. SECURE SEDIMENT CONTROL WATTLES WITH CONCRETE BLOCKS OR WOOD STAKES IN LOCATIONS WHERE WATTLE FAILS TO REMAIN IN PLACE DUE TO HYDRAULIC FORCE.
5. EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF WELL GRADED ORGANIC MATERIAL AND SHALL INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR OTHER PRODUCTS BASED ON A SIMILAR RAW SOURCE. SILT, CLAY, OR FINE SAND ARE NOT ACCEPTABLE IN THE MIX.

2 SEDIMENT CONTROL WATTLE DETAIL
C–501 (C–501) NOT TO SCALE

NOTES:
1. IN–BASIN BAG FILTERS MUST BE "DANDY SACK" BY TENCATE OR APPROVED EQUAL. INSTALL ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
2. REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



4 INLET PROTECTION
CG101 (C–501) NOT TO SCALE

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STATE OF NEW HAMPSHIRE — WADE ALLEN LIPPERT No. 13633 — LICENSED PROFESSIONAL ENGINEER — 6/17/22

DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: WFG
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

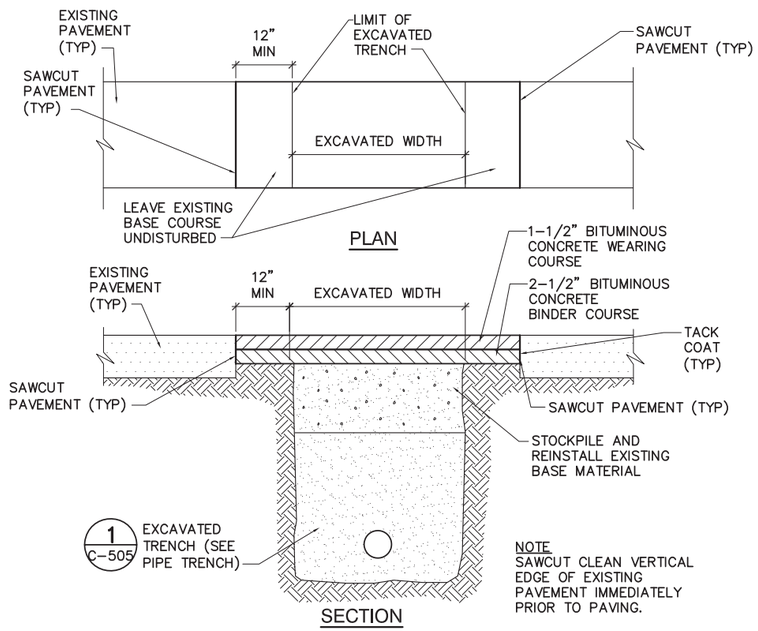
PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

EROSION AND SEDIMENT CONTROL DETAILS

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-501
SHEET: 11 OF 72

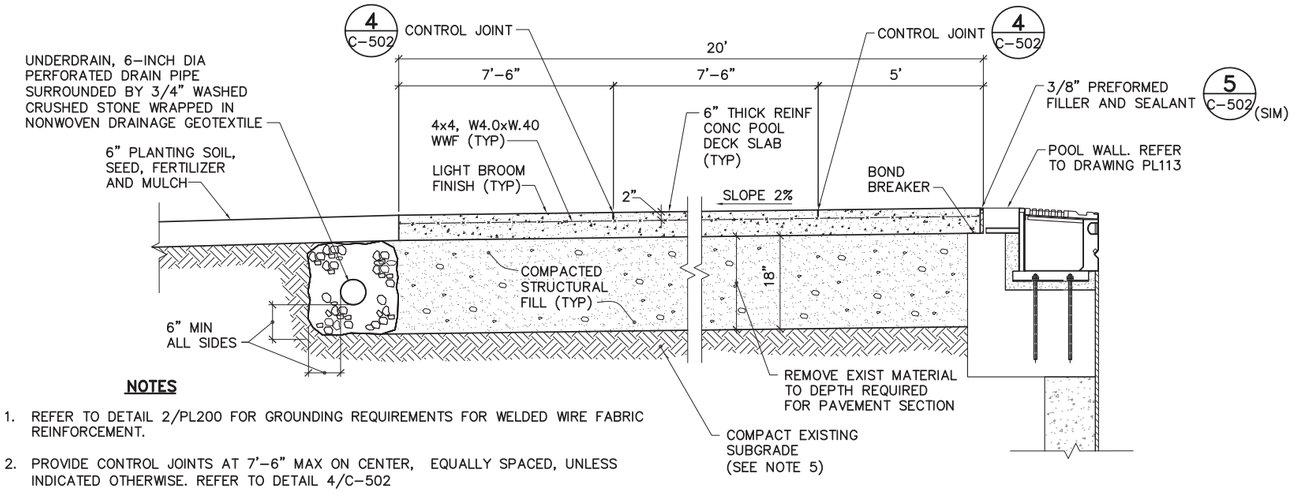
NO.	DATE	DESCRIPTION	BY

REVISIONS



1 ASPHALT CONCRETE TRENCH REPAIR

CS101, C-505 — 1 C-502 — NOT TO SCALE

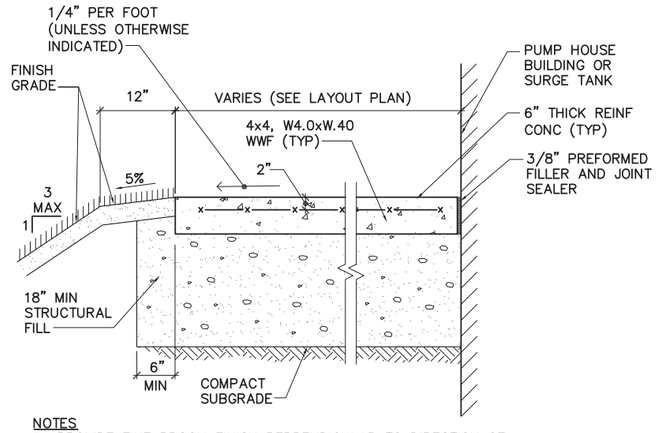


NOTES

1. REFER TO DETAIL 2/PL200 FOR GROUNDING REQUIREMENTS FOR WELDED WIRE FABRIC REINFORCEMENT.
2. PROVIDE CONTROL JOINTS AT 7'-6" MAX ON CENTER, EQUALLY SPACED, UNLESS INDICATED OTHERWISE. REFER TO DETAIL 4/C-502
3. PROVIDE EXPANSION JOINTS AT 60'-0" MAX ON CENTER, EQUALLY SPACED, UNLESS INDICATED OTHERWISE. REFER TO DETAIL 5/C-502.
4. PROVIDE 3/8" PREFORMED FILLER AND JOINT SEALANT WHERE POOL DECK ABUTS THE TRENCH DRAIN, BUILDING FOUNDATION, OR STRUCTURES.
5. AFTER REMOVAL OF EXISTING FILL AND ORGANIC MATERIAL, AND PRIOR TO STRUCTURAL FILL BASE PLACEMENT, COMPACT THE EXPOSED SUBGRADE WITH A MINIMUM OF TWO PASSES OF A 5-TON, OR LARGER, STATIC ROLLER TO IMPROVE DENSITY OF THE SUBGRADE SOILS. EXCAVATE AREAS WHERE SOFT AND/OR LOOSE SOILS ARE ENCOUNTERED OR THAT WEAVE AND/OR RUT IN EXCESS OF 1-INCH IN DEPTH AND REPLACE WITH COMPACTED STRUCTURAL FILL. THE COMPACTION PROCESS MUST BE PERFORMED UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER.

2 CONCRETE POOL DECK

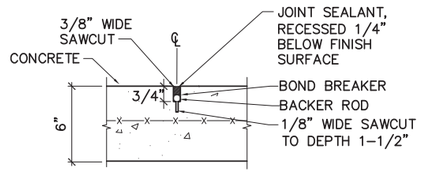
CS101, SB502, C-504 — 2 C-502 — NOT TO SCALE



NOTES
1. PROVIDE FINE BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL.
2. PROVIDE CONTROL JOINTS AT 6'-0" MAX ON CENTER, EQUALLY SPACED, UNLESS INDICATED OTHERWISE — 4 C-502
3. PROVIDE 3/8" PREFORMED FILLER AND JOINT SEALANT WHERE WALK ABUTS THE SURGE TANK OR BUILDING FOUNDATION. — 5 C-502 (SIM)

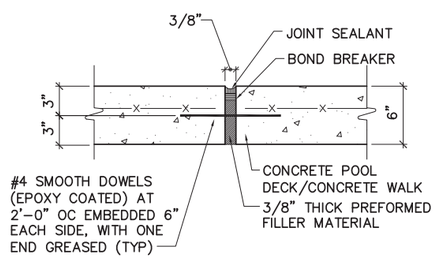
3 CONCRETE WALK

CS101, C-505 — 3 C-502 — NOT TO SCALE



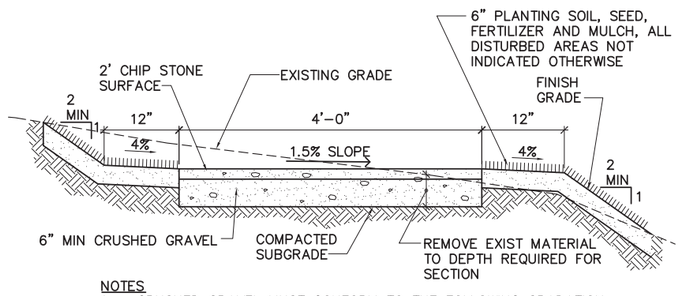
4 CONTROL JOINT

C-502, CS101, CS101 — 4 C-502 — NOT TO SCALE



5 EXPANSION JOINT

C-502, C-504, CS101 — 5 C-502 — NOT TO SCALE



NOTES
1. CRUSHED GRAVEL MUST CONFORM TO THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT FINE BY WEIGHT
1-1/2 INCH	100
1 INCH	90-100
NO. 4	27-52
NO. 200	0-10

2. CHIP STONE SURFACE MUST CONFORM TO THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT FINE BY WEIGHT
1/2 INCH	90-100
3/8 INCH	75-90
1/4 INCH	60-75
NO. 30	40-60
NO. 100	20-40
NO. 200	10-20

3. CHIP STONE MUST BE MADE OF HARD, DURABLE, SHARP EDGED ROCK FRAGMENTS, FREE FROM SILT, ORGANIC, OR OTHER DELETERIOUS MATERIAL.
4. SEE GRADING PLAN FOR FINISH GRADES.

6 CHIP STONE TRAIL SECTION

CS101 — 6 C-502 — NOT TO SCALE

NO.	DATE	DESCRIPTION	BY

REVISIONS

17 Jun, 2022 - 12:07pm
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STATE OF NEW HAMPSHIRE
WADE ALLEN LIPPERT
No. 18334
PROFESSIONAL ENGINEER
6/17/22

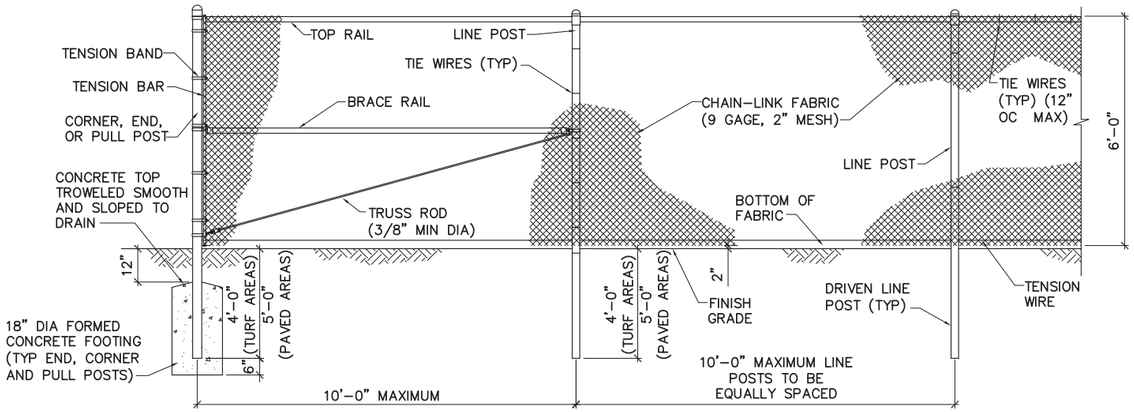
DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

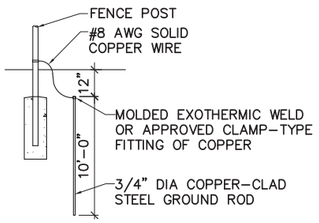
PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

SITE DETAILS 1

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-502
SHEET: 12 OF 72



FENCE DETAIL



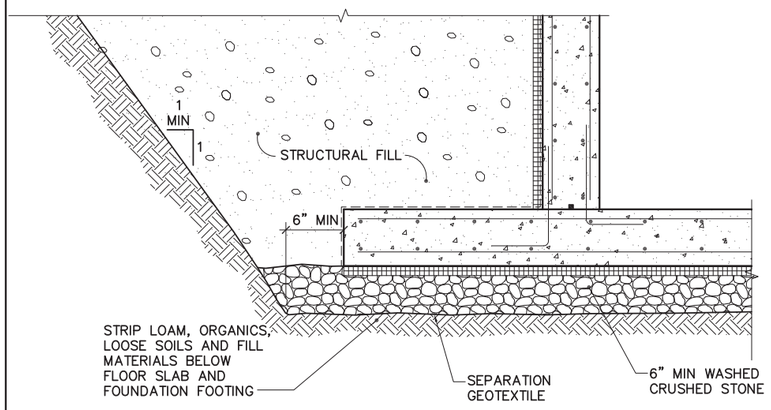
GROUNDING DETAIL

STEEL POST SCHEDULE	
USE AND SECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)
CORNER, END & PULL POSTS TUBULAR – ROUND	2.875" OD
LINE POSTS TUBULAR – ROUND	2.375" OD
TOP, BOTTOM & BRACE RAILS TUBULAR – ROUND	1.66" OD

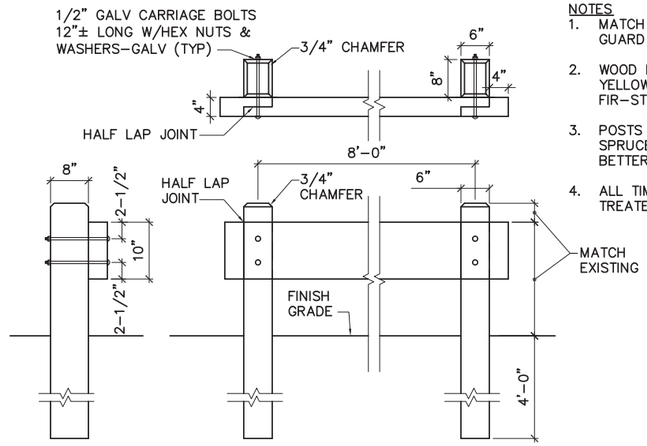
NOTES
1. INSTALL WIRE TIES, RAILS, POSTS, AND BRACES ON THE SECURE SIDE OF THE FENCE ALIGNMENT. INSTALL CHAIN-LINK FABRIC ON THE SIDE OPPOSITE THE SECURE AREA.
2. PROVIDE 9-GAGE GALVANIZED STEEL TIE WIRES FOR FASTENING THE FENCE FABRIC TO FENCE POSTS AND RAILS. PROVIDE 16-GAGE STAINLESS STEEL TIE WIRES FOR FASTENING FENCE FABRIC TO TENSION WIRES.

1 CHAIN LINK FENCE
CS101 / C-503 NOT TO SCALE

NOTES
1. PROVIDE STRUCTURAL FILL WITHIN 4 FEET OF FOOTINGS AND FOUNDATION WALLS.
2. WHERE BEDROCK IS ENCOUNTERED, REMOVE ROCK TO ONE FOOT BELOW BOTTOM OF FOOTING AND REPLACE WITH COMPACTED CRUSHED STONE.
3. SEE SHEET SB101 FOR FOUNDATION DETAILS, INCLUDING SLAB, FOOTING, INSULATION, AND VAPOR BARRIER INFORMATION.
4. PROTECT PREPARED SUBGRADES AND FOUNDATION SOILS FROM FREEZING, EXCESSIVE MOISTURE, AND CONSTRUCTION ACTIVITIES. DO NOT ALLOW SURFACE WATER TO ACCUMULATE ON PREPARED SUBGRADES OR FOUNDATION SOILS. RECONSTRUCT SUBGRADE/FOUNDATION SOILS DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, AS DIRECTED BY QUALIFIED GEOTECHNICAL ENGINEER AND AS APPROVED BY THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.
5. REFER TO SPECIFICATION SECTION 312000, "EARTHMOVING" FOR ADDITIONAL REQUIREMENTS.

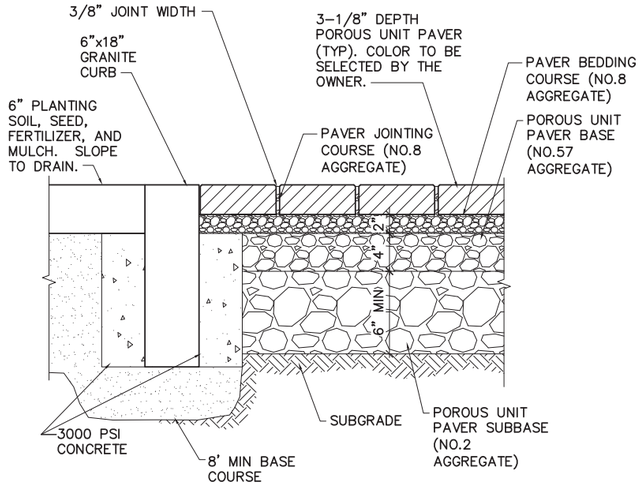


2 FOUNDATION PREPARATION DETAIL
CS101 / C-503 NOT TO SCALE



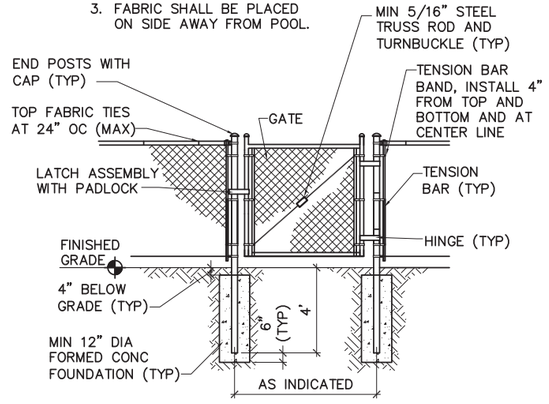
NOTES
1. MATCH EXISTING ADJACENT WOOD GUARD RAIL TO REMAIN.
2. WOOD RAILS TO BE LONGLEAF YELLOW PINE OR DOUGLAS FIR-STRUCTURAL GRADE OR BETTER.
3. POSTS TO BE DOUGLAS FIR, OR SPRUCE STRUCTURAL GRADE OR BETTER.
4. ALL TIMBERS SHALL BE PRESSURE TREATED.

2 WOOD GUARD RAIL
CS101 / C-503 NOT TO SCALE



4 POROUS UNIT PAVER
CS101 / C-503 NOT TO SCALE

CHAIN LINK FENCE NOTES:
1. ALL POSTS, RAILS, FABRIC AND APPURTENANCES SHALL BE GALVANIZED.
2. CONCRETE FOR POST FOUNDATIONS SHALL BE 3000 PSI MIN.
3. FABRIC SHALL BE PLACED ON SIDE AWAY FROM POOL.



5 CHAIN LINK GATE
CS101 / C-503 NOT TO SCALE

NO.	DATE	DESCRIPTION	BY

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17 Jun, 2022 – 12:07pm
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WADE ALLEN LIPPERT No. 16334 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 6/17/22

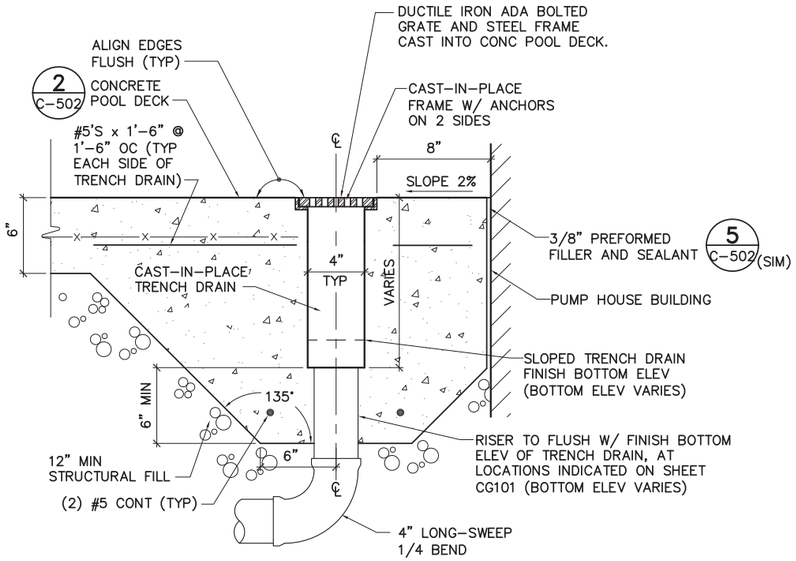
DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

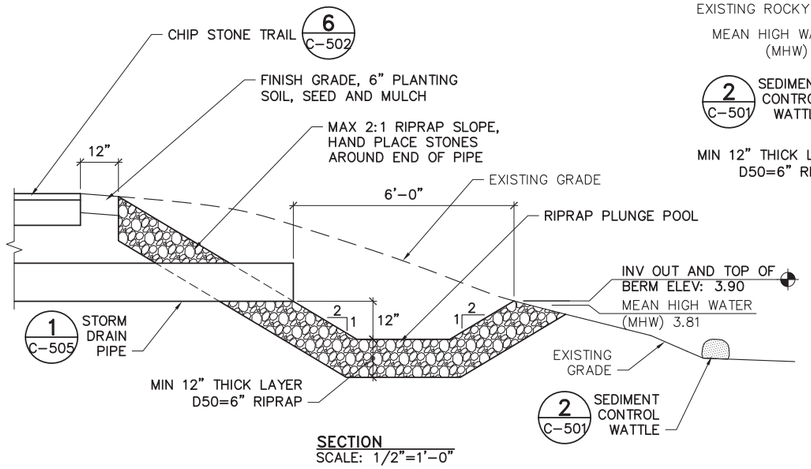
SITE DETAILS 2

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-503
SHEET: 13 OF 72



1 C-504 TRENCH DRAIN

CG101, CU101 NOT TO SCALE



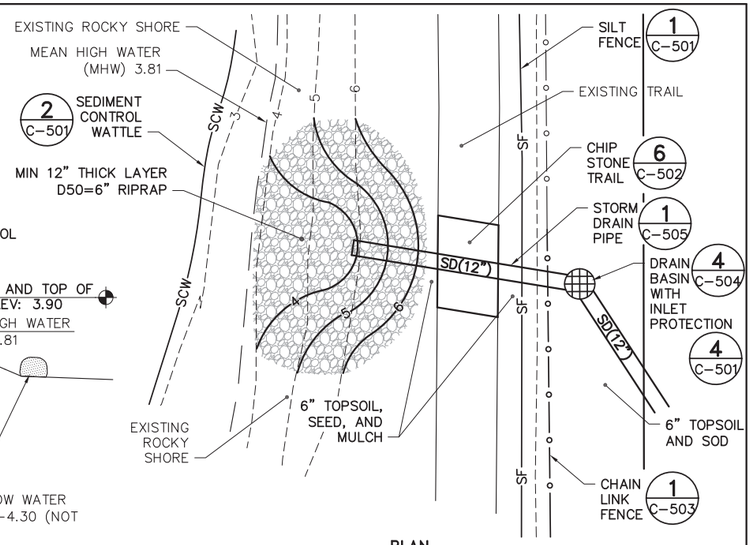
SECTION

SCALE: 1/2"=1'-0"

NOTES

1. PIPE OUTLET CONSTRUCTION MUST OCCUR DURING LOW TIDE CONDITIONS.
2. TEMPORARY EROSION CONTROL MEASURES MUST BE INSTALLED PRIOR TO CONSTRUCTION AND REMOVED ONCE THE OUTLET HAS BEEN STABILIZED.
3. OUTLET CONSTRUCTION AND PERMANENT STABILIZATION MUST BE COMPLETED IN ONE WORKING DAY PRIOR TO HIGH TIDE CONDITIONS.

MEAN LOW WATER (MLW): −4.30 (NOT SHOWN)

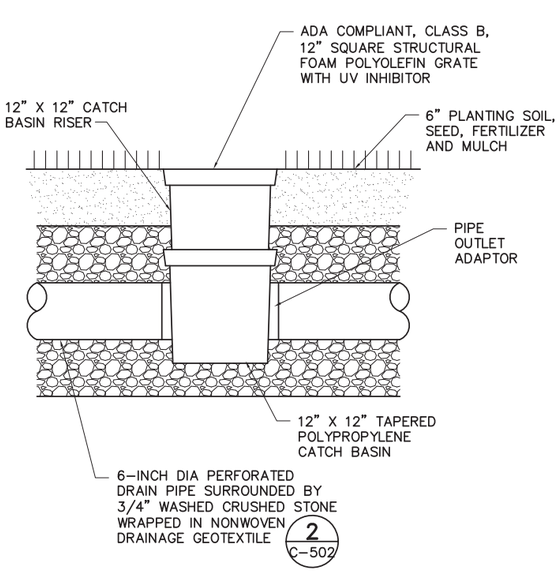


PLAN

SCALE: 1"=5'

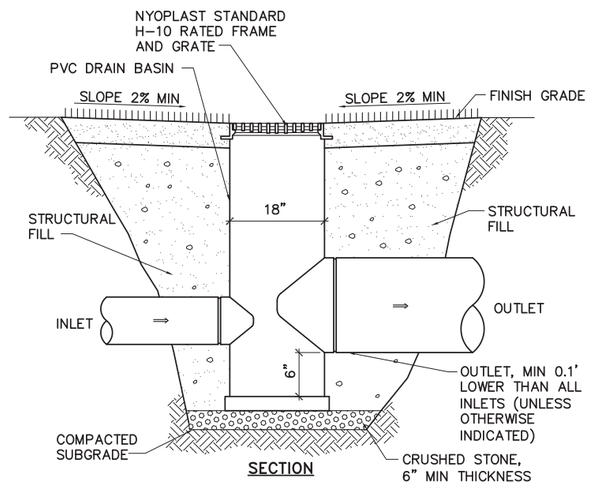
2 C-504 RIP RAP OUTLET PROTECTION DETAIL

CG101 SCALE: AS NOTED



3 C-504 LANDSCAPE DRAIN

CG101 NOT TO SCALE



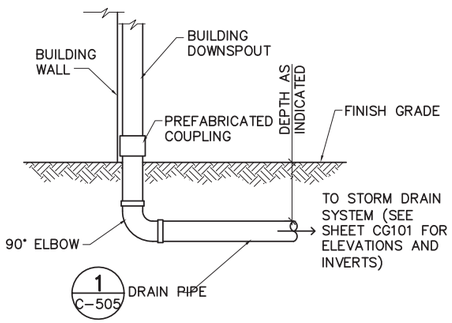
SECTION

NOTES

1. PROVIDE PIPE PENETRATION AS INDICATED ON SHEET CG101.
2. PVC CATCH BASIN MUST BE NYOPLAST DRAIN BASIN, H-10 RATED OR APPROVED EQUAL.

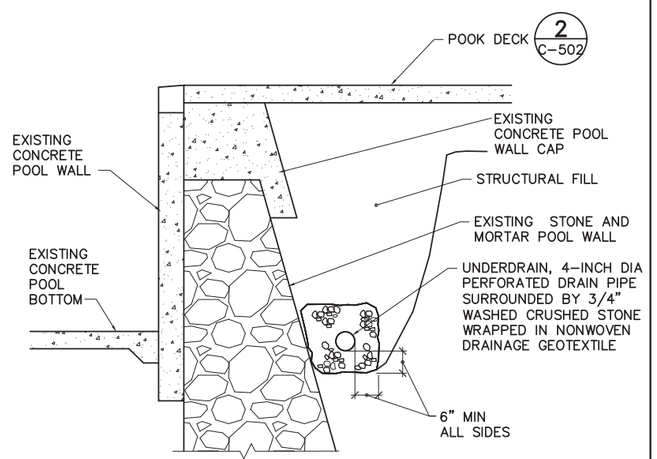
4 C-504 DRAIN BASIN

CU101, CG101 NOT TO SCALE



5 C-504 ROOF DRAIN RISER

CU101, CG101 NOT TO SCALE



6 C-504 POOL UNDERDRAIN DETAIL

CG101 NOT TO SCALE

GRAPHIC SCALES

1"=5' (5' 0 5' 10')

1/2"=1'-0" (2' 1' 0 1' 4')

CHECK GRAPHIC SCALE BEFORE USING

NO.	DATE	DESCRIPTION	BY
REVISIONS			

27 Jul, 2022 – 1:39pm
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WADE ALLEN LIPPERT No. 13633 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 6/17/22

DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

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Portsmouth, NH 03801

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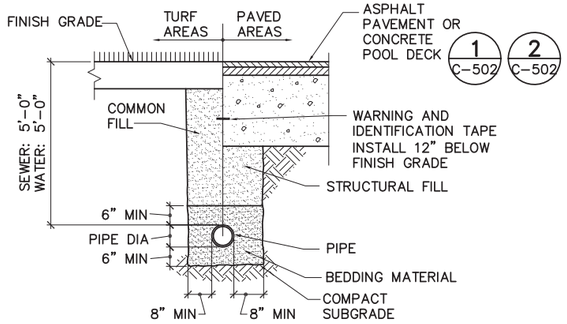
Peirce Island Road
Portsmouth, NH 03801

SITE DETAILS 3

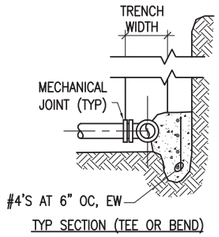
SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-504
SHEET: 14 OF 72



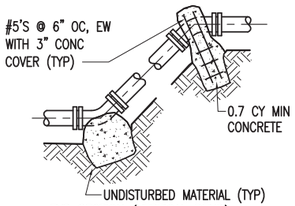
NOTES
1. EXCAVATION WORK MUST COMPLY WITH OSHA STANDARDS. TRENCH SIDEWALLS MUST BE VERTICAL FROM TRENCH BOTTOM TO 12" ABOVE TOP OF PIPE.
2. PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE BETWEEN CROSSING PIPES.
3. PROVIDE 10' HORIZONTAL CLEARANCE BETWEEN WATER AND SEWER LINE.
4. WHERE 5'-0" MIN COVER OVER SEWER LINE CANNOT BE ACHIEVED PROVIDE 4' WIDE, 4" THICK RIGID FOAM BOARD INSULATION OVER BLANKET MATERIAL. (2-2" LAYERS WITH JOINTS STAGGERED)
5. PROVIDE A SEPARATION OF AT LEAST 18 INCHES BETWEEN THE BOTTOM OF THE WATER PIPING AND THE TOP OF THE SEWER PIPING IN CASES WHERE WATER PIPING CROSSES ABOVE SEWER PIPING. IF SEPARATION CANNOT BE ACHIEVED PROVIDE 6" MIN CONCRETE ENCASEMENT OF WATER PIPE FOR A DISTANCE OF 10' ON EITHER SIDE OF THE CROSSING.

1 PIPE TRENCH
CU101, CG101, C-502, C-504, C-505 — C-505 — NOT TO SCALE

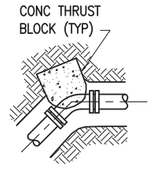
NOTES
1. PROVIDE JOINT RESTRAINT FOR TEES, BENDS, AND PLUGS. FOR DUCTILE IRON PIPE PROVIDE CONCRETE THRUST BLOCKS AND WEDGE-ACTION TYPE RETAINER GLANDS. FOR POLYETHYLENE PIPE PROVIDE CONCRETE THRUST BLOCKS.
2. WRAP DI PIPE FITTINGS IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE THRUST BLOCKING.
3. PLACE CONCRETE PAVERS OR BRICKS IN FRONT OF PLUGS BEFORE PLACING THRUST BLOCKS.
4. PLACE THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND CONCRETE THRUST BLOCK TO UNDISTURBED MATERIAL. AREA OF THRUST BLOCKS SHOWN ARE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1,500 POUNDS PER SQUARE FOOT AND 1.5 SAFETY FACTOR. BEARING CAPACITY MAY BE ALTERED BASED ON CONDITIONS ENCOUNTERED WITH APPROVAL BY THE OWNER.
5. EXTEND CONCRETE THRUST BLOCKING THE ENTIRE LENGTH OF THE FITTING. DO NOT COVER ANY PART OF THE JOINT WITH CONCRETE.
6. PROVIDE LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
7. CONCRETE THRUST BLOCKS MUST BE 3,000 PSI (MIN) PORTLAND CEMENT CONCRETE.
8. PROVIDE CONCRETE THRUST BLOCKING IN ACCORDANCE WITH NFPA 24 AND CITY OF PORTSMOUTH WATER DIVISION CONSTRUCTION MANUAL.
9. PROVIDE WEDGE-ACTION TYPE RETAINER GLANDS ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.



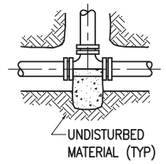
TYP SECTION (TEE OR BEND)



TYP SECTION (VERTICAL BEND)



TYP PLAN VIEW (HORIZONTAL BEND)



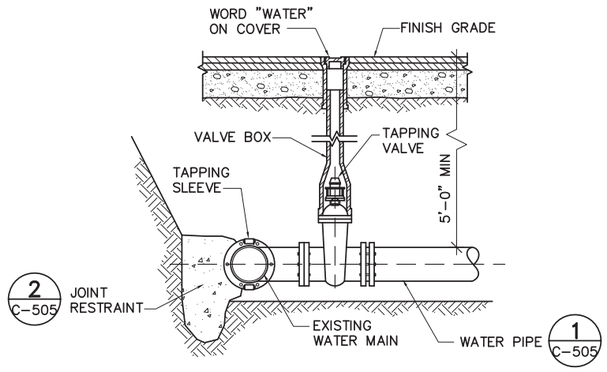
TYP PLAN VIEW (TEE)

THRUST BLOCK SCHEDULE
SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL (BASED ON 100 PSI WORKING PRESSURE)

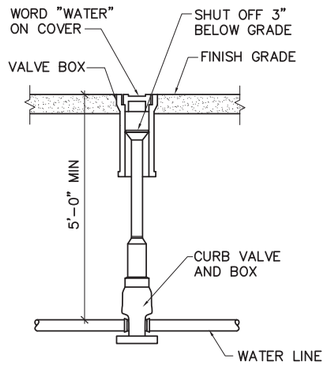
REACTION TYPE	PIPE SIZE (INCHES)				
	4"	6"	8"	10"	12"
TEE	1.4	2.8	4.8	7.3	10.3
90° BEND	1.9	4.0	6.8	10.3	14.5
45° BEND	1.0	2.2	3.7	5.6	7.9
22.5° BEND	0.5	1.1	1.9	2.8	4.0
11.25° BEND	0.3	0.6	1.0	1.4	2.0

NOTE: FOR OTHER PRESSURES, AREA OF CONCRETE THRUST BLOCKING IS DIRECTLY PROPORTIONAL TO AREAS SHOWN IN ABOVE TABLE.

2 JOINT RESTRAINT
CU101, C-505 — C-505 — NOT TO SCALE



3 WATER SERVICE CONNECTION
CU101 — C-505 — NOT TO SCALE



4 WATER SHUT OFF VALVE
CU101 — C-505 — NOT TO SCALE

17 Jun, 2022 - 12:08pm
C:\dfile\21904.14-C505.dwg

NO.	DATE	DESCRIPTION	BY

REVISIONS

OAK POINT ASSOCIATES
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www.oakpoint.com

STATE OF NEW HAMPSHIRE
WADE ALLEN LIPPERT
No. 18334
LICENSED PROFESSIONAL ENGINEER
6/17/22

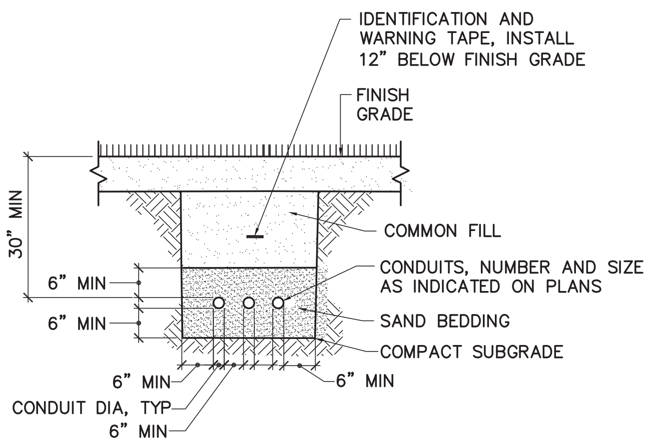
DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

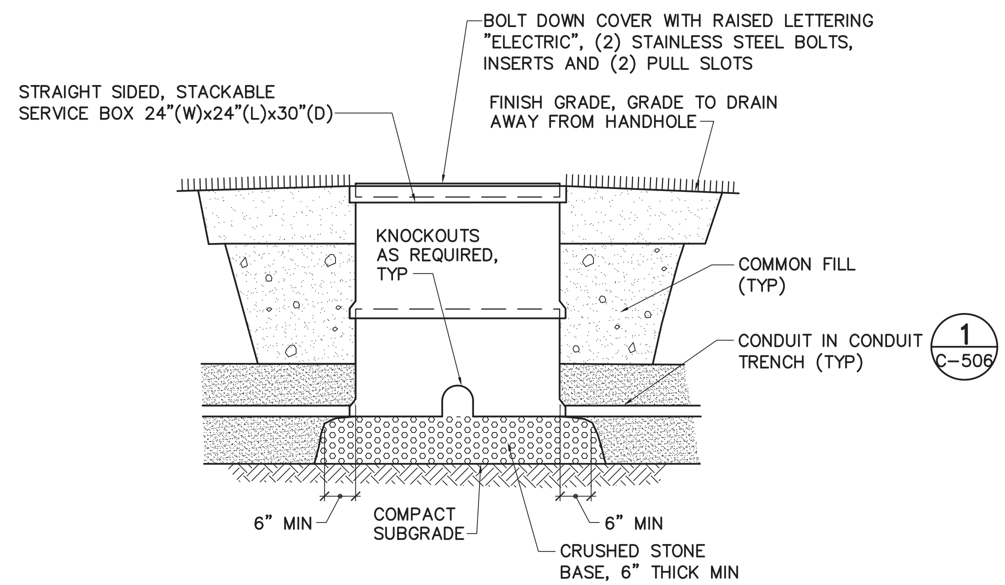
SITE DETAILS 4

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-505
SHEET: 15 OF 72



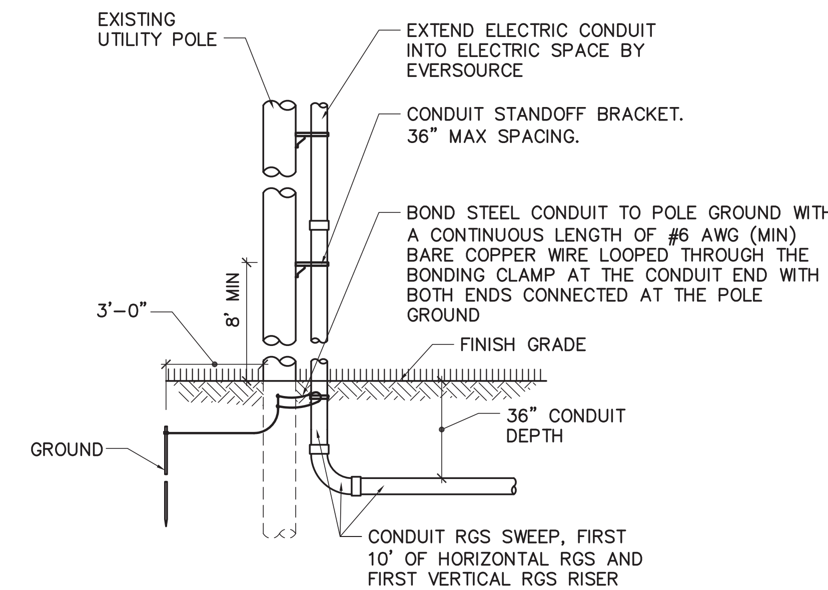
NOTES
1. ELECTRIC SERVICE TRENCH MUST CONFORM TO EVERSOURCE CONSTRUCTION STANDARDS.
2. PROVIDE 18" MIN SEPARATION TO WATER LINES.

1 ELECTRIC SERVICE TRENCH
C-506 NOT TO SCALE
CU101, C-506



NOTES
1. HOUSING AND COVER MUST BE POLYMER CONCRETE REINFORCED WITH A HEAVY WEAVE FIBERGLASS REINFORCING WITH A COMPRESSIVE STRENGTH NO LESS THAN 10,000 PSI AND ABLE TO SUPPORT A SERVICE LOAD OF NO LESS THAN 20,800 POUNDS OVER A 10"x10" AREA.
2. HANDHOLE BOX AND COVER MUST BE LISTED BY UNDERWRITERS LABORATORIES.

2 ELECTRIC HANDHOLE
C-506 NOT TO SCALE
CU101



NOTES
1. ELECTRIC CONDUIT AND SPARE CONDUIT RISER MUST BE IN ACCORDANCE WITH EVERSOURCE STANDARD.
2. COMMUNICATION CONDUIT RISER MUST BE IN ACCORDANCE WITH FAIRPOINT COMMUNICATIONS STANDARDS AND SPECIFICATIONS. PROVIDE SWEEP AND FIRST SECTION OF VERTICAL CONDUIT SIMILAR TO ELECTRIC RISER INSTALLATION.
3. WEATHER SEAL TOP END OF VERTICAL RISER CONDUITS AFTER INSTALLATION OF CABLES. TEMPORARILY CAP THE TOP END OF THE VERTICAL RISER CONDUIT UNTIL CABLES ARE INSTALLED.

3 UTILITY POLE CONDUIT RISER
C-506 NOT TO SCALE
CU101, EP101

NO.	DATE	DESCRIPTION	BY

REVISIONS

17 Jun, 2022 – 12:09pm
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STATE OF NEW HAMPSHIRE WADE ALLEN LIPPERT No. 16331 PROFESSIONAL ENGINEER 6/17/22

DESIGNED BY: WAL
DRAWN BY: WAL
CHECKED BY: PJM
PROJECT: 21904.14

CITY OF PORTSMOUTH
1 Junkins Avenue
Portsmouth, NH 03801

PEIRCE ISLAND PUMP HOUSE AND POOL RENOVATION
Peirce Island Road
Portsmouth, NH 03801

SITE DETAILS 5

SCALE: AS NOTED
DATE: 06/17/2022
DWG.: C-506
SHEET: 16 OF 72

EXHIBIT 7

PROJECT NARRATIVE

(EXPLANATION OF METHODS, TIMING, AND MANNER OF HOW THE PROJECT WILL MEET STANDARD PERMIT CONDITIONS (ENV-WT 307))

Peirce Island Public Outdoor Pool

Project Narrative

Section 1. Required Information

a. <u>Project Purpose and Description (Env-Wt 603.02)</u>

The City of Portsmouth is proposing a renovation of the Peirce Island swimming pool and associated pump house on Peirce Island Road to bring a deteriorated public facility up to current health and safety requirements. These renovations include replacement of the pool's existing vinyl liner, pool gutter, underground surge tank, concrete pool deck, pump house, and existing stormwater drainage system on the east side of the pool. The old pump house will be removed, and a new pump house built in a location outside the Tidal Buffer Zone with its doorways and other exterior building wall penetrations elevated 2 feet above the Piscataqua River flood level to protect the building systems from potential flood events. A new stormwater drainage system will be constructed to collect runoff from the new pump house roof, adjacent walkway and lawn area. The new drainage system will outlet to the Piscataqua River on the north side of the pool. The pipe outlet will be located above mean high water elevation and stone rip rap will be installed to provide erosion protection at the outlet. The majority of the impacts will be temporary, associated with renovation of the existing pool, pool deck, and adjacent lawn area. Demolition of the existing pump house and construction of the existing pump house will result in a net increase in impervious area due to the required larger size of the new pump house.

Most of the work will occur in the protected shoreland zone. However, demolition of the existing pump house, and portions of the new stormwater drainage system and pool infrastructure renovations will occur in the previously developed tidal buffer zone and within the 75 ft buffer of a salt marsh. Installation of the outlet for the new stormwater drainage system will also occur within the rocky shore below the HOTL.

The specifics of the project are as follows:

Pool Repairs

The Peirce Island swimming pool was originally constructed as a Works Progress Administration (WPA) project in 1937 and was original constructed with a gravel bottom with mortar stone masonry sidewalls. It was later improved with concrete sidewalls, concrete bottom, and PVC liner. The pool's vinyl liner is approximately 25 years old, exceeding its life expectancy of 10 – 15 years, and is reported to be leaking. The liner will be replaced. Portions of the pool gutter are in poor condition resulting in safety hazards. The entire pool gutter system and associated supply and return piping will be replaced. The existing underground surge tank is inadequate in volume to meet required standards. The tank will be removed and replaced with a new larger underground tank adjacent to the proposed pump house building discussed below. Portions of the concrete pool deck are in poor condition with spalling and longitudinal cracking. There are several areas of pool deck with joint openings greater than the 1/2-inch or changes in level of greater than 1/4-inch allowed by the Americans with Disabilities Act (ADA). Portions of the deck pond water and does not meet requirements of NH Env-Wq 1100 (public bathing facilities) for minimum slope. The entire concrete deck will be replaced to facilitate the new gutter system and

correct deficiencies. The existing stormwater drainage system on the east side of the pool drains to a hydrodynamic separator located between the pool and adjacent parking area which then discharges to the Piscataqua River. The drainage on the east side of the pool will be replaced with a new system which will have the same general configuration.

The pool deck configuration will match the existing configuration with the exception of in the vicinity of the old and new pump house buildings. All pool repairs and improvements are generally being conducted with in-kind materials and configuration and are not expected to have any adverse impact.

Pump House Replacement and New Stormwater Drainage System

The pool mechanical systems are located in an existing 18 foot by 30 foot pump house building located near the northwest corner of the pool. A small freshwater wetland is located to the west side of the existing building. The existing building is structurally deficient and inadequate in size to meet current requirements. It is not feasible to renovate the existing building due to structural deficiencies and requirements of the new pool filtration system. Additionally, the existing building is also located within the 100-year flood zone and is vulnerable to future flooding. The existing building will be removed and replaced with a 24-foot by 32-foot new building located outside the TBZ. The finished floor elevation of the pump house will be elevated two feet above the 100-year flood elevation to protect the building and pool systems within the building from flooding and to account for future sea level rise.

Several building locations were evaluated to minimize site disturbance while meeting elevation and layout constraints of the new pool piping layout. The new pump house will be located to the south of the existing building. Relocation of the building will allow 1,222 square feet of impervious building and paved area within the TBZ to be converted to pervious turf. Finish grade in this area will be approximately the same as existing. The proposed new pump house location is within a previously developed pool deck and lawn area. Seven trees ranging in diameter from 4 to 26 inches in diameter will need to be removed to construct the proposed pump house and new underground surge tank.

A new stormwater drainage system will be constructed to collect the runoff from the building roof, adjacent walkways and lawn area. The drainage system will outlet into the Piscataqua River north of the pool. The pipe outlet will be located within the rocky shore, below the HOTL but above the mean high water elevation with stone rip rap installed for erosion protection at the outlet.

No impacts to the salt marsh, freshwater wetland, or marsh elder (*Iva fruescens*; a NH Threatened species) are anticipated for any portion of the proposed work. Installation of the new stormwater drainage system outlet and associated rip rap will require 125 square feet of permanent impact to the rocky shore north of the pool. The existing walking trail and vegetation along the northern edge of the pool disturbed by the stormwater drainage system outlet installation will be restored. Erosion and sediment controls will be installed prior to commencement of earth moving or demolition activities and maintained throughout construction until the site is permanently stabilized. During construction of the proposed project, inspection and maintenance of erosion and sedimentation control practices will be the responsibility of the general contractor. The contractor will also be required to provide a dewatering plan complying with NHDES requirements prepared by a New Hampshire professional engineer prior to construction. Dewatering discharge will not be permitted to discharge directly to the river.

Description of Natural Resources

Peirce Island is located in the City of Portsmouth on the Piscataqua River. It is owned by the City and the State of NH, and provides multiple public services, including the WWTF, the State Fish Pier, the public outdoor pool, boat ramp, park, and numerous walking trails. The Project Area consists of the public outdoor pool located on the western half of the island. The shoreline of Peirce Island is bordered by estuarine habitats, including rocky shore (E2RS1/2) and salt marsh (E2EM1), with a salt marsh located within 100 ft of the portions of the proposed work. A small freshwater wetland is also present off the northwestern corner of the pool. No impacts to the salt marsh or freshwater wetland are proposed. Minor impacts to the rocky shore north of the pool are proposed for the installation of a new stormwater drainage system outlet. Most of the work lies within the protected shoreland, with the demolition of the existing pump house and portions of the new stormwater drainage system and pool repairs lying within the 100-foot tidal buffer zone. Marsh elder (*Iva frutescens*), a State Threatened plant species that is known to occur on Peirce Island, was surveyed for within a 100-foot buffer of the project in Summer 2021 and 2022 and none were found.

See representative photographs of resources in Exhibit 15.

Tidal Buffer Zone

The proposed demolition of the existing pump house and portions of the new stormwater drainage system and pool repairs occurs within the jurisdictional tidal buffer zone (TBZ), the majority of which is previously developed (PDTBZ). The majority of the PDTBZ within the project area includes the pool, pool deck, existing pump house, walking trail, paved parking lot, and surrounding grassed lawns that are regularly maintained. A sparse, 3-foot wide vegetation buffer occurs along the top of the slope north of the pool that leads down to a combination of rocky shore and cobble/gravel shore, which is dominated by patches of beach rose (*Rosa rugosa*) and a mix of perennial grasses and forbs. A portion of this vegetation buffer not containing beach rose will be disturbed as part of the installation of the stormwater outlet and will be restored following completion of the installation. An isolated persistent emergent wetland that is seasonally flooded/saturated (PEM1E) occurs directly west of the existing pumphouse. This wetland is dominated by cattails (*Typha latifolia*) and purple loosestrife (*Lythrum salicaria*) and its soils contain prominent redox concentrations with a depleted matrix (F3). The wetland had saturated soils at the surface and a water table 5 inches from the surface. This emergent wetland will not be impacted by the project.

Salt Marsh

Several sections of salt marsh occur on the southern, more protected side of the island, as well one section on the northern side of the island. The marsh on the southern side are a mix of high marsh and low marsh with typical *Spartina* species (*S. alterniflora* in the low marsh and *S. patens* dominating the high marsh), while the marsh on the northern side is exclusively low marsh. Typical salt marsh forbs dominate in the upper marsh and marsh elder (NH State Threatened; see NHB21-1136) and occurs in multiple stands along the upland border on the southern side of the island and is reported to occur on the northern side of the island northwest of the project area. No marsh elder was found to occur along the upland border of the salt marsh on the northern side of the island within 100 feet of the project. No salt marsh or marsh elder will be impacted by the project.

Rocky Shore

The northern portion of Peirce Island below the Highest Observable Tide Line is predominately bedrock outcrop and cobble/gravel shore. Rockweeds (*Ascophyllum* and *Fucus* spp) are prevalent in the lower intertidal zone on boulders and ledge, but much of the remaining rocky shore is unvegetated. A small area of the unvegetated rocky shore will be impacted by the proposed installation of a new stormwater drainage outlet and rip rap apron north of the Peirce Island public pool.

Protected Shoreland

Over half of the proposed work will occur in the protected shoreland above the TBZ. All the protected shoreland above the TBZ in the western portion of the island is developed and regularly maintained including a portion of the public outdoor pool, associated parking lot, surrounding lawn areas, unpaved walking paths, and Peirce Island Road.

State-Listed Species

The NHB data review (NHB21-1136; Exhibit 19) indicates eelgrass (*Zostera maritima*) and Atlantic and Shortnose Sturgeon (*Acipenser oxyrinchus* and *A. brevirostrum*) occur in the subtidal waters off Peirce Island. The proposed work will have no adverse impacts to those marine species. The project does not impact any estuarine or marine wetland resources, nor does it include significant noise, blasting, or adverse impacts to water quality.

Proposed Mitigation

Mitigation for impacts to the Previously Developed Tidal Buffer Zone and Rocky Shore

Per Env-Wt 801.03 the City considered permittee-responsible mitigation opportunities within the vicinity of the proposed work and determined on-site mitigation for the 125 sf of permanent impact to the rocky shore is not practicable. City representatives are currently unaware of any "shovel-ready" local mitigation projects for a rocky shore environment elsewhere in the municipality of the proposed work. Thus, mitigation for 125 sf of permanent impacts to the rocky shore will be provided via submittal of an ARM fund payment of $1,487.37. ARM fund payment was determined using the NHDES Aquatic Resource Mitigation Fund Wetland Payment Calculation spreadsheet.

Section 8. How Project meets Relevant Standard Conditions and Approval Criteria

Env-WT 307.03 Protection of Water Quality

a) Water quality will be protected during construction using Best Management Practices (BMP) for controlling runoff and stabilizing sediments.
b) Soil stockpiles will be managed to minimize risk of erosion and sedimentation to tidal waters or wetlands. See Exhibit 5, Sheets CG101 and C-501 for erosion and sediment controls.
c) All water quality measures are designed to provide maximum protection during storm events during construction, and will be removed from the site when construction is complete, and vegetated areas are stable.
d) During construction, erosion and sedimentation control structures will be inspected daily, and any sediments accumulated behind erosion control structures will be removed and disposed at a stable and suitable site.

e) Substrates exposed during construction in the TBZ and protected shoreland will be permanently stabilized within 3 days of completion of final grades. Construction of the outfall between the last downstream drainage basin and the pipe outlet will be completed in one work day. All disturbed areas associated with the outfall will be stabilized with rip rap stone or erosion control blanket prior to the end of the work day.
f) No work requiring a coffer dam or turbidity barrier is proposed in or near open water. Installation of the new stormwater drainage outlet will be done during dry weather and low tidal conditions
g) The contractor will be required to inspect equipment daily for leaking fuel, oil and hydraulic fluid prior to initiating work. All leaks shall be contained and repaired to prevent fluids from reaching groundwater, surface water or wetlands. Kits for oil and diesel spills will be readily accessible at each work site, and equipment operators will be trained in their use.
h) Equipment shall be staged and refueled in accordance to Env-Wt 307.15.

Env-Wt 307.05 Protection Against Invasive Species

a) Does not apply.
b) All equipment used will be completely free of all aquatic and terrestrial plants, seeds, and other propagules, and all exotic aquatic species of wildlife as defined in RSA 487: 16, I-a
c) All applicable requirements of RSA 487:15-25 shall be met.
d) To prevent the use of soil or seed stock containing nuisance or invasive species, the contractor shall follow the Invasive Plant BMPs.

Env-Wt 307.06 Protection of Rare, Threatened or Endangered Species or Critical Habitat

a) through c) No direct impacts to the marsh elder bordering the southern edge of the island shall occur. All work activities will be directed to avoid and minimize adverse impacts to soils upgradient of the plants.

Env-Wt 307.07 Consistency with Shoreland Water Quality Protection Act

All project activities shall be conducted in compliance with the applicable requirements of RSA 483-B and Env-Wq 1400 during and after construction.

Env-Wt 307.08 Protection of Designated Prime Wetlands and Duly-Established 100-Foot Buffers

No Designated Prime Wetlands are present within the vicinity of the proposed work.

Env-Wt 307.09 Shoreline Structures

No shoreline structures are proposed as part of this project.

Env-Wt 307.09 Dredging Activity Conditions

No dredging activity is proposed as part of this project.

Env-Wt 307.11 Filling Activities

No filling activities are proposed as part of this project.

Env-Wt 307.12 Restoring Temporary Impacts; Site Stabilization. In addition to all other applicable conditions in this part, the following conditions shall apply to restoring all temporary impacts:

a) Within 3 days of final grading or temporary suspension of work in an area that is in or adjacent to surface waters, all exposed soil areas shall be stabilized by:
    (1) Seeding and mulching, if during the growing season; or
    (2) mulching with tackifiers on slopes less than 3:1 or netting and pinning on slopes steeper than 3:1 if not within the growing season
b) Any seed mix used shall not contain plant species that are exotic aquatic weeds;
c) Mulch used within an area being restored shall be natural straw or equivalent non-toxic, non-seedbearing organic material;
d) If any temporary impact area that is stabilized with seeding or plantings does not have at least 75% successful establishment of wetlands vegetation after 2 growing seasons, the area shall be replanted or reseeded, as applicable;
e) Does not apply as wetland soils will not be used in the areas being restored.
f) If any temporary impact area that is stabilized by seeding or plantings does not have at least 75% successful establishment of vegetation after 2 growing seasons, the area shall be replanted or reseeded, as applicable.
g) If a temporary impact area is restored by seeding or plantings, then:
    (1) The work shall not be deemed successful if the area is invaded by nuisance species such as common reed or purple loosestrife during the first full growing season following the completion of construction; and
    (2) The person responsible for the work shall submit a remediation plan to the department that proposes measures to be taken to eradicate nuisance species during this same period;
h) The stumps of those trees cut as part of construction of the new pump house will be removed as part of the excavation required for the building basement and underground surge tank.
i) Does not apply as no impacts to wetland areas are part of the proposed work; only impacts the PDTBZ and the rocky shore.

Env-Wt 313.01 Criteria for Approving Standard Permit Applications

a) The department shall not approve an application for a standard permit and issue a permit unless:
    (1a) The project has provided a functional assessment and demonstrated there will be no adverse impacts to surrounding wetlands and waters, and the Tidal Buffer Zone.
    (1b) Avoidance and minimization criteria have been met to the degree feasible.
    (1c) A proposal for appropriate mitigation for permanent impacts in the Tidal Buffer Zone and rocky shore is provided. Please see Exhibit 7 – Project Narrative.
    (2) Recommended applicable conditions are provided above.
    (3) All resource-specific criteria in Env-Wt 500 and 600 have been met.
    (4) All project-specific criteria in Env-Wt 500 and 600 have been met.
    (5) The work does not infringe on abutting properties or unreasonably affect the value or enjoyment of property abutting owners'
b) Does not apply.

c) The requirements to avoid and minimize have been met:
    (1) There is no practicable alternative that would have a less adverse impact on the area or the environment and still meet the critical infrastructure needs and public benefits proposed.
    (2) The project will not cause random or unnecessary destruction of wetlands; or
    (3) Cause or contribute to significant degradation of waters of the state or loss of any PRAs

Env-Wt 516.02 Criteria for Intake and Outflow Structures

b) In addition to meeting the applicable conditions established in Envt-Wt 300, the department shall not approve an application for a permit to construct an outflow structure unless:
    (1) The proposed outflow will not cause scouring due to the proposed installation of a rip rap apron at the outfall and the outflow will not endanger any vegetation, finfish, crustacea, shellfish, or wildlife;
    (2) The structure will be located above mean high water elevation north of Peirce Island pool, so no danger to navigation, recreation, or commerce is anticipated.

Env-Wt 516.03 Application Requirements for Intake and Outflow Structures

a) Does not apply as the outflow will be located above mean high water elevation and minimal to no passage of aquatic organisms is anticipated;
b) Installation of the outlet via trench excavation and backfilling will be done during dry weather and low tidal conditions and is expected to be completed in one work day. Appropriate erosion controls will be installed surrounding the work area during outlet installation to protect water quality downslope and removed following stabilization of the work area. All disturbed areas associated with the outfall will be stabilized with rip rap stone or erosion control blanket prior to the end of the work day.
c) The bank restoration shall be constructed and landscaped to conform with existing bank conditions on either side of the outlet installation. The face of the bank shall be stabilized with rip rap conforming to the existing rip rap in place on either side of the outlet installation. The top of bank will be seeded and covered with erosion control blanket to re-establish the vegetative buffer between the public walking trail and the rocky shore. The restored area will be monitored and replanted/reseeded as necessary to ensure at least 75% successful establishment of vegetation after 2 growing seasons along the top of bank.
d) Cross section and specifications of the proposed stone rip rap apron to be installed at the stormwater drainage system outlet is provided in Exhibit 5 – Sheets C-504 Detail 2
e) Maintenance and repairs shall be done on an as need basis. Should need for repairs arise, work will be done during dry weather and low tidal conditions to protect the water quality of the adjacent tidal waters.
f) No large groundwater withdrawal will be required for the proposed work.
a) No AoT permit is required as the work will qualify under Env-Wq 1503.03 General Permit by Rule.
b) No cofferdam shall be required as the outlet will be located above mean high water elevation and installation will be done during dry weather and low tidal conditions.

Env-Wt 516.04 Design and Construction Requirements for Intake and Outflow Structures. In addition to meeting the applicable design and construction requirements of Env-Wt 307, an intake or outflow project shall be designed to:

a) The outflow will be located above mean high water elevation regular entrainment of aquatic organisms unlikely.
b) The outflow will be installed on a bank with a slope that exceeds 25% that is currently stabilized with rip rap. The slope will be re-stabilized with rip rap following installation of the outflow.
c) Highly concentrated flow is not anticipated from the outflow as it drains a relatively small area. Additionally, a rip rap apron shall be installed at the outlet to prevent erosion.
d) Installation of the rip rap will be done at low tide conditions;
e) The proposed work will not be done in flow water.
f) There is no potential for channel constriction due to the installation of this outflow;
g) Restoration plans conform with bank stabilization criteria under Env-Wt 514 and shoreland standards for native species revegetation and species composition pursuant to Env-Wq 1412.05; and
h) No brook floater mussels or dwarf wedge mussels were identified in the NHB Data Check.

Env-Wt 516.06 Maintenance and Repair of Intake and Outflow Structures

a) The City of Portsmouth shall monitor the outflow structure for effectiveness, water quality, and stability.
b) If maintenance or repair of the outflow structure is needed the project shall be classified in accordance with Env-Wt 407

EXHIBIT 8

PERMITTEE RESPONSIBLE MITIGATION PROJECT WORKSHEET

PERMITTEE RESPONSIBLE MITIGATION PROJECT WORKSHEET

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/Rule: 482-A: / Env-Wt 800

SECTION 1. PROPOSED PERMITTEE RESPONSIBLE MITIGATION PROJECT TYPE		
UPLAND BUFFER PRESERVATION: ☐ AQUATIC RESOURCE RESTORATION: ☐ MITIGATION PAYMENT: ☒		
SECTION 2. PROPOSED MITIGATION PROJECT LOCATION INFORMATION (if applicable)		
STREET/ROAD: Peirce Island Road	TOWN/CITY: Portsmouth	TAX MAP/LOT #: 208/1
SECTION 3. APPLICANT INFORMATION		
APPLICANT NAME: City of Portsmouth		
APPLICANT MAILING ADDRESS: 680 Peverly Hill Road		
CONTACT INDIVIDUAL: Terry Desmarais, PE		
DAYTIME TELEPHONE: (603) 766-1421	EMAIL (IF ANY): tldesmarais@cityofportsmouth.com	
SECTION 4. RESOURCE WORKSHEET SUMMARY		
AQUATIC RESOURCES INVOLVED IN PROJECT: See Table Below.		
TOTAL PRESERVATION PROPOSED: Upland: Acres Wetland: Acres		
TOTAL LENGTH OF STREAM ON PROPERTY: Linear Feet % having 100-ft wooded zone: in direction % upland: in direction		
# CONFIRMED VERNAL POOLS:	# POTENTIAL VERNAL POOLS:	
AREA OF WETLAND RESTORATION PROPOSED: acres	AREA OF WETLAND CREATION PROPOSED: acres	
AREA OF WETLAND ENHANCEMENT PROPOSED: acres	AREA OF UPLAND ENHANCEMENT PROPOSED: acres	
SECTION 5. BRIEF NARRATIVE DESCRIBING PROPOSED PERMITTEE RESPONSIBLE MITIGATION		
See Text Below, and Exhibit 7 - Project Narrative		
SECTION 6. SIGNATURE AND CERTIFICATION		
- I hereby certify that: ▪ The information contained in or otherwise submitted with this application is true, complete, and not misleading to the best of my knowledge and belief; ▪ **I understand that:** - Submitting false, incomplete, or misleading information is grounds for denying the application or revoking any award of ARM Funds that is made based on such information; and - I am subject to the penalties for making unsworn false statements specified RSA 641:3 or any successor New Hampshire statute.		
SIGNATURE: _____	**DATE:** _____ / _____/ _____	

Lori.Sommer@des.nh.gov or (603) 271-4059
NHDES Wetlands Bureau, Concord, NH 03303-0095
www.des.nh.gov

Summary of Aquatic Resource(s) Involved in Project

The following information is required to be provided about the aquatic resources found on the proposed impact site and the mitigation site. New Hampshire RSA 482-A:3 requires a wetland permit for any proposed project that involves dredging and filling wetlands or impacts to the bed or bank surface waters such as rivers and streams. Before NHDES will issue a permit, applicants must demonstrate that their project proposal will avoid adverse impacts to aquatic resources and will minimize and mitigate those impacts that are unavoidable. When impacts to aquatic resources are unavoidable, applicants must identify the wetland and stream(s) resource types that will be lost during the development of the project. Identifying the functions and values of the aquatic resource that will be lost at the project site better ensures that they can be recreated and transferred to the proposed mitigation site. Please use the table formats provided below to document all aquatic resources types on the impact site and the mitigation site. A separate table should be prepared for each site. *Additional rows may be required for projects proposing impacts to multiple resource types.*

Wetland Resources: Wetlands shall be classified by US Fish and Wildlife Service Manual WS/OBS-79/31 Classification of Wetlands and Deepwater Habitats of the United States, Cowardin et al, 1979, reprinted 1992.

Stream Resources: For permittee responsible mitigation projects to restore or improve stream systems, the streams on the project site shall be reviewed and the following information collected to the best extent possible:

Stream order according to New Hampshire Hydrography Dataset (NHHD)	Geomorphology including degradation
Rosgen stream type	Position within the surrounding landscape
Impacts to upstream and downstream flooding	Connectivity improvement for aquatic organism passage
Stream bed materials	Fisheries presence
Sediment Transport capacity	Characterization of the adjacent buffers in terms of vegetative coverage
Channel form	Floodplain connectivity

These general principals are described within the New Hampshire Stream Crossing Guidelines, University of New Hampshire, May 2009.

Wetland Functions & Values: A wetland evaluation is the process of determining the values of a wetland based on an assessment of the functions it performs. The evaluation of wetland functions and values should be determined through use of the *Method for Inventorying and Evaluating Freshwater Wetlands in New Hampshire*, 2015 edition (2015 NH Method) –*OR*– U.S. Army Corps of Engineers (USACE) New England District *Highway Methodology Workbook Supplement*, 1999 edition (1999 US ACE Highway Workbook Supplement). The evaluation should focus on the following:

Ecological Integrity (EI), Wetland-Dependent Wildlife Habitat (WH), Fish and Aquatic Habitat (FH), Scenic Quality (SQ), Educational Potential (EP), Wetland-based Recreation (WR), Flood Storage (FS), Groundwater (GW), Sediment Trapping (ST), Nutrient Trapping/Retention/Transformation (NT), Shoreline Anchoring (SA), Noteworthiness (NW).

Secondary Impacts: The USACE federal mitigation guidance should be consulted if the project involves conversion of forested wetlands to scrub-shrub or emergent wetlands, cutting of riparian buffer and impacts within the buffer to vernal pools.

WETLAND/STREAM RESOURCE SUMMARY

Wetland ID or Stream Number	**Cowardin Wetland Class** (list all that apply) **or Stream Type**	**Principal Functions & Values**	**Project Impacts**						**Vernal Pool Present? ID or Number**	**Other Comments**
			Permanent Wetland (sq.ft.)	**Permanent Stream Bank** (lin.ft.)			**Temporary** (sq.ft.)	**Secondary** (sq.ft.)		
				Bank Left	Bank Right	Channel				

MITIGATION RESOURCE SUMMARY

Wetland ID or Stream Number	**Cowardin Wetland Class** (list all that apply) **or Stream Type**	**Principal Functions & Values**	**Wetland/Stream Resources**			**Vernal Pool Present? ID or Number**	**Other Comments**
			Area of Wetland (sq.ft. or acres)	**Streams** (lin.ft.)			
				Length on Property	% having 100 foot wooded zone		

Peirce Island Public Swimming Pool

Mitigation for impacts to the Previously Developed Tidal Buffer Zone and Rocky Shore

Per Env-Wt 801.03 the City considered permittee-responsible mitigation opportunities within the vicinity of the proposed work and determined on-site mitigation for the 125 sf of permanent impact to the rocky shore is not practicable. City representatives are currently unaware of any "shovel-ready" local mitigation projects for a rocky shore environment elsewhere in the municipality of the proposed work. Thus, mitigation for 125 sf of permanent impacts to the rocky shore will be provided via submittal of an ARM fund payment of $1,487.37. ARM fund payment was determined using the NHDES Aquatic Resource Mitigation Fund Wetland Payment Calculation spreadsheet.

EXHIBIT 9

ADDITIONAL RESOURCE INFORMATION

(No additional resource information is required)

EXHIBIT 10

PROJECT SPECIFIC INFORMATION REQUIRED BY ENV-WT 500, 600, AND 900

(SEE EXHIBIT 7 – PROJECT NARRATIVE)

Abutters List

Pease Development Authority
c/o Portsmouth Fish Cooperative
1 Peirce Island Road
Portsmouth, NH 03801

EXHIBIT 12

CERTIFIED MAILING RECEIPTS

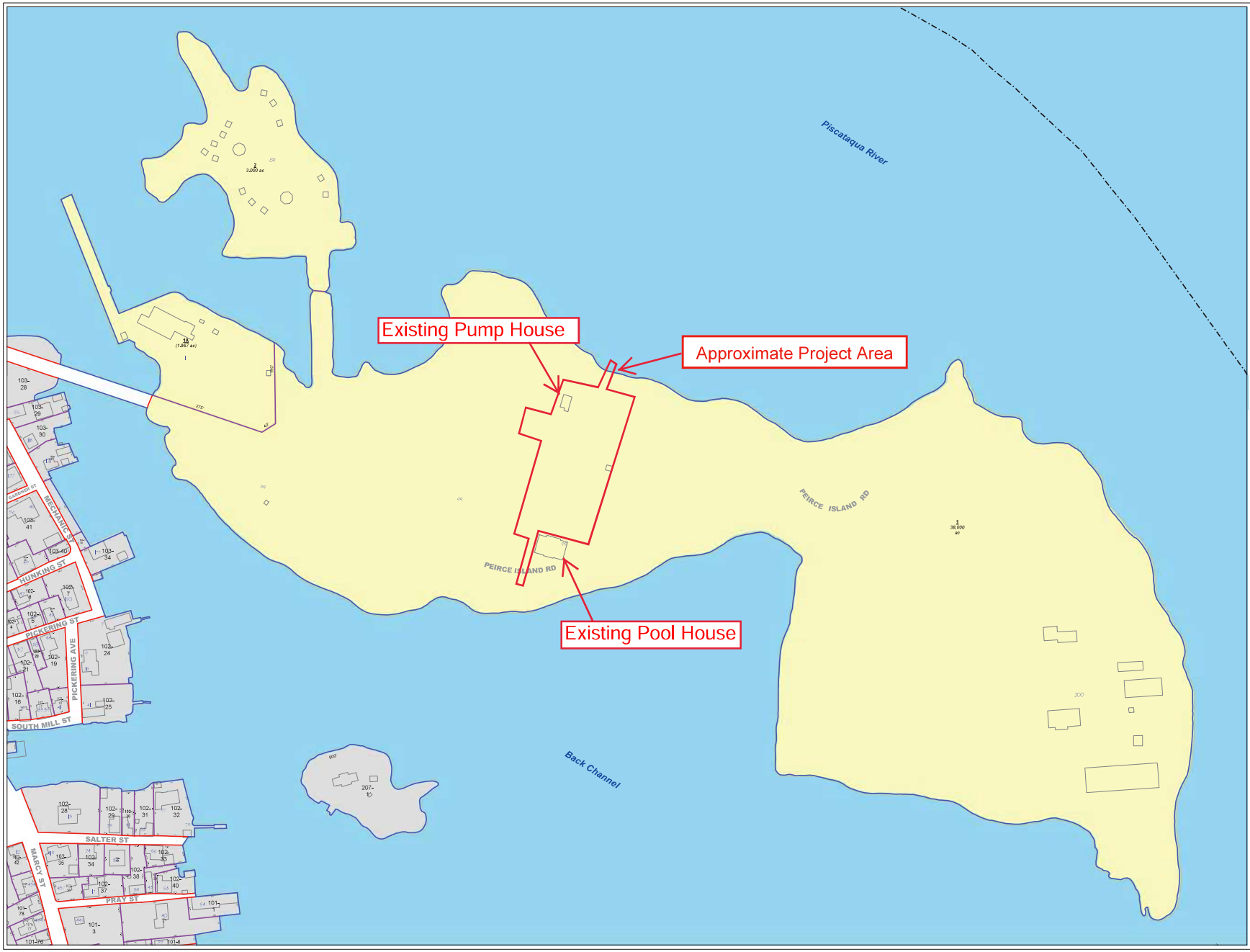
EXHIBIT 13

PROJECT DESIGN CONSIDERATION REQUIRED BY ENV-WT 313

(SEE EXHIBIT 7 - PROJECT NARRATIVE)

EXHIBIT 14

TAX MAP



Partial Legend

See the cover sheet for the complete legend.

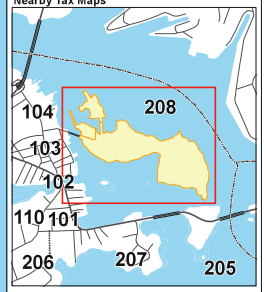
- 7-5A — Lot or lot-unit number
- 2.56 ac — Parcel area in acres (ac) or square feet (sf)
- 29 — Address number
- 233-137 — Parcel number from a neighboring map
- 68' — Parcel line dimension
- SIMS AVE — Street name
- Parcel/Parcel boundary
- Parcel/ROW boundary
- Water boundary
- Structure (1994 data)
- Parcel covered by this map
- Parcel from a neighboring map (see other map for current status)

0 50 100 200 300 Feet

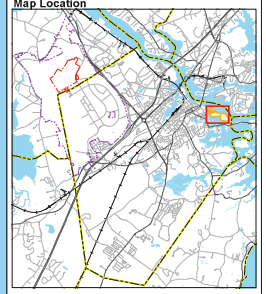
0 20 40 80 Meters

This map is for assessment purposes only. It is not intended for legal description or conveyance.
Parcels are mapped as of April 1.
Building footprints are 2006 data and may not represent current structures.
Streets appearing on this map may be paper (unbuilt) streets.
Lot numbers take precedence over address numbers. Address numbers shown on this map may not represent posted or legal addresses.

Nearby Tax Maps



Map Location



Portsmouth, New Hampshire
2019

Tax Map 208

EXHIBIT 15

PHOTOS OF JURISDICTIONAL AREAS AND SHORELINE STRUCTURES

Photo 1. Low salt marsh off the northwest corner of the pool, viewing southeast. (06-25-21)

Photo 2. Low salt marsh northwest of the pool extending beyond the 100-ft buffer of the project's LOW, view west. (06-25-21)

Photo 3. Gravel shoreline off the north side of Peirce Island public pool, looking east. A portion of the low salt marsh off the northwest corner of the pool is visible in the bottom left portion of the photo. (06-25-21)

Photo 4. Gravel shoreline off the north side of Peirce Island public pool, looking west. Low salt marsh off the northwest corner of the pool is also visible in the background. (06-25-21)

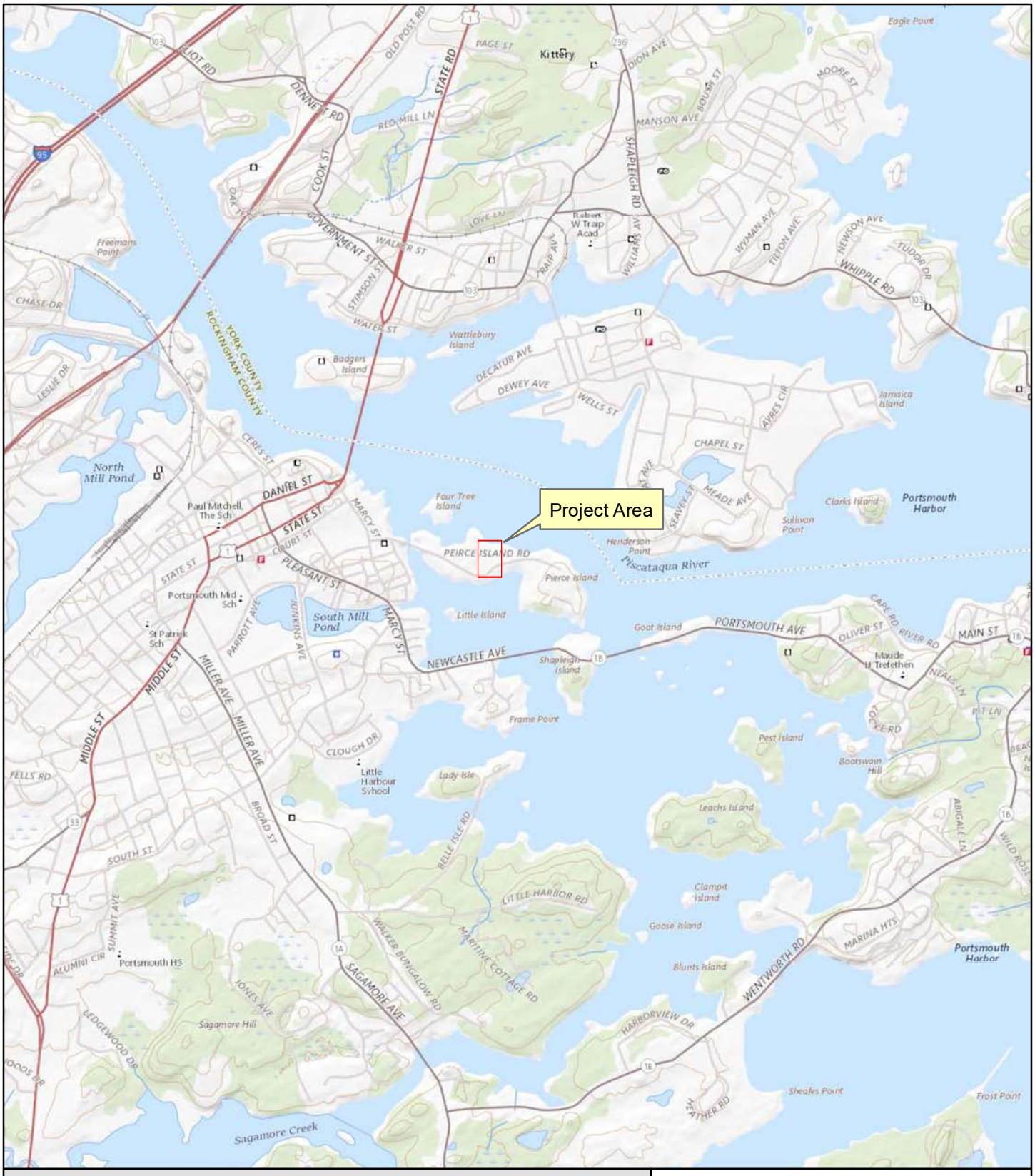
Photo 5. Walking trail along the northside of the pool, looking east. A portion of the freshwater wetland directly west of the existing pump house is visible on the right side of the photo. (06-25-21)

Photo 6. Walking trail along the northside of the pool, looking west. (06-25-21)

Photo 7. Existing sand volleyball court adjacent proposed location for new pump house, viewing south. (06-25-21)

EXHIBIT 16

USGS MAP



Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed December, 2019.

0 550 1,100 2,200 Feet

N

Peirce Island Pool Renovation

Project Locus

NORMANDEAU ASSOCIATES
ENVIRONMENTAL CONSULTANTS

Path: J:\Projects\Portsmouth Wastewater Treatment Facility_Pierce Island\MXD\Permitting2020Locus.mxd

EXHIBIT 17

CONSTRUCTION NARRATIVE

(NARRATIVE OF WORK SEQUENCE, INCLUDING PRE- AND POST-CONSTRUCTION, AND RELATIVE TIMING AND PROGRESSION OF ALL WORK)

Construction Narrative

The proposed renovations of the Peirce Island swimming pool and associated pump house will be made in the fall of 2022 and winter/early spring of 2023, beginning after the pool closes for the season on August 26th. The proposed renovations to the pool and its associated systems will bring a deteriorated public facility up to current health and safety requirements. Prior to the start of work, construction fencing will be erected around the work area and erosion and sediment best management practices will be installed (see Erosion BMPs, Exhibit 5, Sheets CG101 and C-501). The pool's existing concrete decking, vinyl liner, gutter system and associated supply and return piping, and existing stormwater drainage system on the east side of the pool will all be removed. Replacement of these components will be with in-kind materials in the same configuration as existing conditions, begin at the lowest point of the system with the stormwater drainage system and progressing upward. The existing underground surge tank will also be removed and replaced with a larger tank to be installed in a new location adjacent the proposed new location for the pool pump house. The existing pump house building will be demolished, and all associated piping and portions of the surrounding decking removed. The new pump house will be constructed south of the current location outside of the tidal buffer zone and a new stormwater drainage system to collect the runoff from the new pump house roof, adjacent walkways, and lawn area will be constructed. Most of the existing pump house and surrounding decking footprint will be converted to grass turf graded to direct drainage to one of the catch basins to be installed as part of this new stormwater drainage system. The new drainage system will convey flow via a 12-inch high density polyethylene (HDPE) pipe that will outlet at an elevation of 3.90 ft NAVD88 onto the rocky shore along the Piscataqua River off the north side of the swimming pool.

Most of the new stormwater drainage system construction will occur within the main portion of the project area in the tidal buffer zone, within the perimeter of the erosion and sediment BMPs installed prior to the start of work. Construction system outfall between the last downstream drainage basin and the pipe outlet on the rocky shore will be completed in one workday during dry weather and low tidal conditions. Installation of the outlet will be done via a 3-ft x 3-ft trench excavation extending from the main portion of the project area across the existing walking trail and vegetation buffer north of the pool and rip rap bank below. A 125 sf stone rip rap apron will be constructed on the rocky shore at the outlet for erosion protection purposes. Prior to the start of trench excavation, erosion and sediment best management practices will be installed (see Erosion BMPs, Exhibit 5, Sheets CG101, C-501, and C-504 Detail 2) and will be removed following stabilization by the end of the work day. The disturbed rip rap on the bank slope will be reinstalled and the top of bank will be seeded and stabilized with erosion control blanket prior to the end of the workday.

The construction period for all these renovations is expected to take 9 months. All erosion and sedimentation controls will remain in place until the vegetation in lawn areas surrounding the pool and the disturbed vegetation buffer along the walking trail north of the pool is established (at least 75% cover). The new stormwater drainage system will also be monitored during this time to confirm the system is functioning properly.

EXHIBIT 18/19

COPY OF DEED

line in the County of Norfolk, Elizabeth W. Macmahon, otherwise known as Elizabeth W. Macmahon of Boston in the County of Suffolk and Ann B. Pratt, otherwise known as Annie B. Pratt, of Hingham in the County of Plymouth, all in the Commonwealth of Massachusetts, for and in consideration of the sum of one dollar and other valuable considerations, to us in hand before the delivery hereof, well and truly paid by the City of Portsmouth, a municipal Corporation located in the County of Rockingham and State of New Hampshire, the receipt whereof we do hereby acknowledge, have granted, bargained and sold and by these presents do give, grant, bargain, sell, alien, enfeoff, convey and confirm unto the said City of Portsmouth, its successors or assigns forever, the following described tracts of land with the building thereon, and all rights and privileges appurtenant and belonging thereto, situate in the said City of Portsmouth, and bounded and described as follows, to wit:

Warrantee Deed
Peirce et al
to
City of Portsmouth
Del. to
J. D. Sullivan

The Island situated in Piscataqua River, within the limits of the said City of Portsmouth, with the buildings thereon, containing twenty-seven acres, more or less, known as Peirce's Island and formerly known as Partridge's Island and Jaurrin's Island, together with the flats adjoining to the same; being the same premises devised by Joshua W. Peirce to Joseph W. Peirce by will executed July 22, 1859 and allowed by the Court of Probate, May 12, 1876, and devised by the said Joseph W. Peirce by will executed June 4, 1910 and proven and allowed March 7, 1916, to the Grantors herein as residuary legatees; also,

A certain tract or parcel of land with the buildings thereon, situate on Mechanic Street in said Portsmouth, and bounded and described as follows, to wit, — Beginning at the northwesterly corner of land now or formerly of Addie A. Curtis and Mechanic Street, and running in a northerly direction along said Mechanic Street, one hundred forty-six feet, two inches, (146.2) to land now or formerly of John C. Beasley; thence turning and running in an easterly direction along land of said Beasley, thirty (30), feet more or less to the Piscataqua River; thence turning and running in a southerly direction along said River, one hundred forty-five feet six inches (145.6) to land of the said Addie A. Curtis; thence turning and running in a westerly direction, along land of the said Curtis, sixteen (16), feet, to the point begun at. Said tract containing three thousand twelve square feet, more or less, and being the premises described as being Lot #63 on Plan #7 of the "Plan of the City of Portsmouth" on file at the Assessor's Office in said City; also

All rights, privileges and grants vested in the grantors or their devisors or grantors by the State of New Hampshire, authorizing and permitting the construction of a bridge from the Southerly part of said City of Portsmouth to Peirce's Island hereinbefore referred to.

To Have And To Hold the said granted premises, with all the privileges and appurtenances to the same belonging, to it the

lawful owners of the said premises and were seized and possessed thereof in our own right in fee simple; and have full power and lawful authority to grant and convey the same in manner aforesaid; and that we will and our heirs, executors and administrators shall and will Warrant And Defend the same to the said City of Portsmouth and its successors and assigns against the lawful claims and demands of any person or persons whomsoever.

And we, Sara L. Peirce, wife of the said Joseph B. Peirce, Charles C., husband of the said Elisabeth W. Macmahon and C. Barton, husband of the said Ann B. Pratt, for the consideration aforesaid, do hereby relinquish our respective rights of dower and curtesy in the before mentioned premises.

In Witness Whereof, we have hereunto set our hands and seals this 9th day of August in the year of our Lord, one thousand nine hundred and twenty-three.

Signed, sealed and delivered in the presence of us

Chas. N. Baxter witness to all

Joseph B. Peirce (L.S.)
Sara L. Peirce (L.S.)
Elisabeth W. Macmahon (L.S.)
Charles C. Macmahon (L.S.)
Anne B. Pratt (L.S.)
C. Barton Pratt (L.S.)

Commonwealth of Massachusetts,
Norfolk ss. August 9th 1923.

Personally appeared the above named Joseph B. and Sara L. Peirce and acknowledged the foregoing instrument to be their voluntary act and deed,

Before me,

Chas N. Baxter
Notary Public (-)
Justice of the Peace
My Commission expires June 11/1927.

Commonwealth of Massachusetts,
Suffolk ss. August 9th. 1923.

Personally appeared the above named Elisabeth W. Macmahon and Charles C. Macmahon and acknowledged the foregoing instrument to be their voluntary act and deed.

Before me.

Chas N. Baxter
Justice of the Peace

Commonwealth of Massachusetts, Plymouth ss. August 9th. 1923.

Personally appeared the above named Ann B. and C. Barton Pratt and acknowledged the foregoing instrument to be their voluntary act and deed, Before me,

EXHIBIT 20

NHB CORRESPONDENCE

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo

NH Natural Heritage Bureau
NHB Datacheck Results Letter

To: Elizabeth Olliver, Normandeau Associates, Inc.
25 Nashua Road
Bedford, NH 03110

From: Amy Lamb, NH Natural Heritage Bureau
Date: 4/6/2021 (valid until 04/06/2022)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Wetland Standard Dredge & Fill - Major

NHB ID: NHB21-1136 Town: Portsmouth Location: 200 Peirce Island Road
Description: Replace failed sewer force mains from western bridge abutment to WWTF, and water main to swimming pool. Work will include removal of 1 existing sewer force main, burial of 2 new force mains in its place, and abandoning a second force main in place. The existing lines hung under Peirce Island Road Bridge will be slip lined to ensure integrity. All work will be confined to the existing footprint - a mix of in-road, and off road. Work is an amendment to NHB13-3237 and NHB15-1528, and NHB20-1059.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments NHB: Please confirm that all shoreline impact areas have been surveyed for marsh elder, and that the conditions on the attached 2016 memo are still valid. Please send the final plan for the proposed plantings discussed in relation to the NHB20-1059 project segment. The eelgrass record, newly added to the NHB database, was included for your information.
F&G: Please contact the NHFG Marine Division to address impacts to Atlantic and Shortnose Sturgeon and anadromous fish species. Please contact Mike Dionne or Cheri Patterson at (603) 868-1095.

Natural Community	State[1]	Federal	Notes
Eelgrass bed	--	--	

Plant species	State[1]	Federal	Notes
marsh elder (*Iva frutescens*)	T	--	Threats are primarily alterations to the hydrology of the wetland, such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat, activities that eliminate plants, and increased input of nutrients and pollutants in storm runoff.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo

NH Natural Heritage Bureau
NHB Datacheck Results Letter

Vertebrate species	State[1]	Federal	Notes
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)	T	T	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).
Shortnose Sturgeon (*Acipenser brevirostrum*)	E	E	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

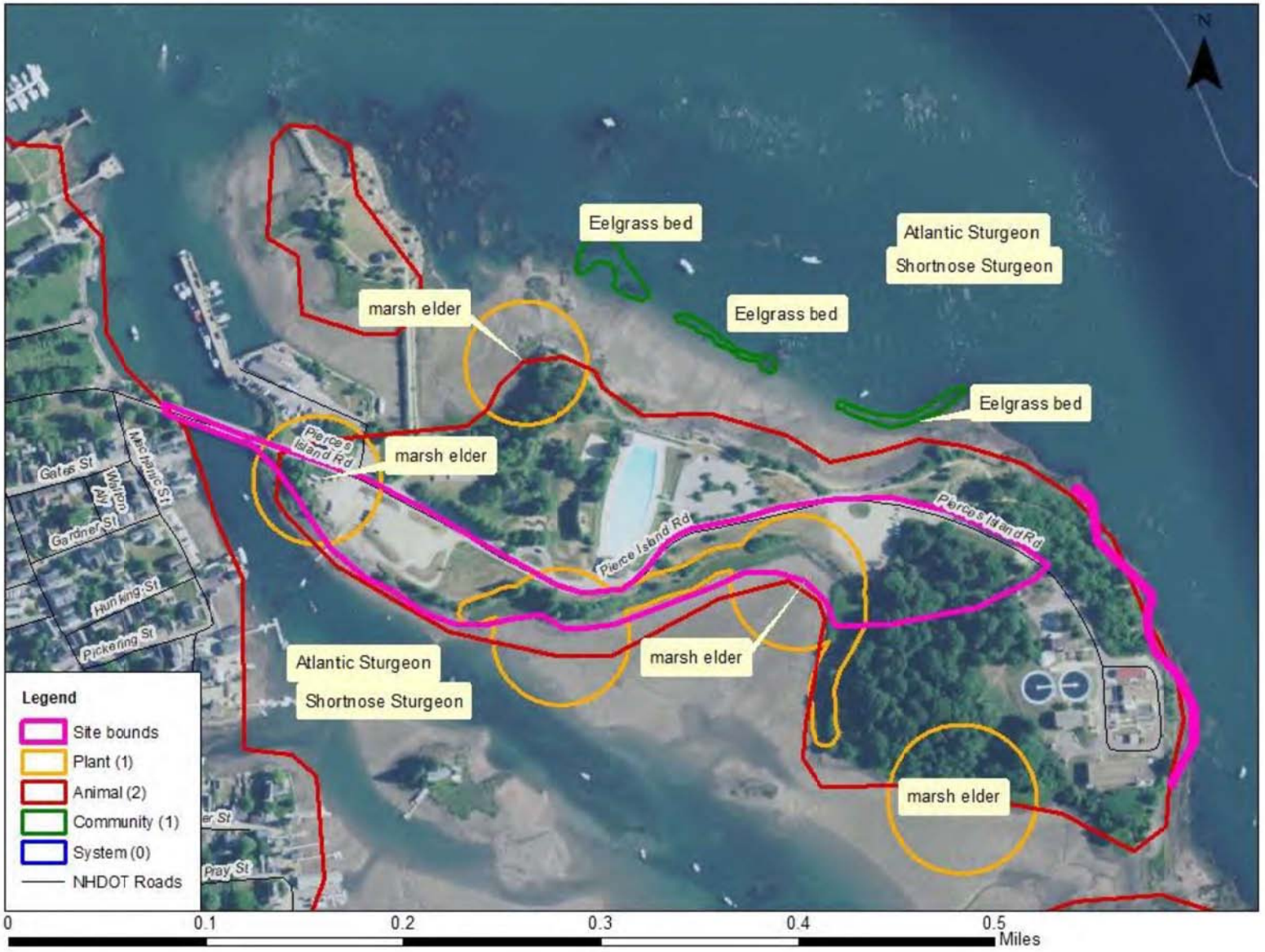
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

CONFIDENTIAL – NH Dept. of Environmental Services review

NHB21-1136



New Hampshire Natural Heritage Bureau - Community Record

Eelgrass bed

Legal Status	Conservation Status
Federal: Not listed	Global: Not ranked (need more information)
State: Not listed	State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank: --

Detailed Description: 2017: 174.6 acres of eelgrass bed mapped over 90 individual patches.
General Area: 2017: In permanently inundated tidal waters from Little Bay down to the mouth of Portsmouth Harbor. Often occurred with macroalgae.
General Comments: 2017: Data derived from report on annual mapping of eelgrass extent in the Great Bay estuary.
Management Comments: --

Location

Survey Site Name: Piscataqua River
Managed By:

County:
Town(s): Out-Of-State
Size: 183.6 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2017: Eelgrass beds in portions of Portsmouth Harbor, the Piscataqua River, and Little Bay. Includes areas in Maine state waters.

Dates documented

First reported: 2017 Last reported: 2017

New Hampshire Natural Heritage Bureau - Plant Record

marsh elder (*Iva frutescens*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank:	Excellent quality, condition and landscape context ('A' on a scale of A-D).
Comments on Rank:	This rank may be for the state rather than relative to others in the region.
Detailed Description:	2020: Tidal Pool: Species observed in flower. 2017: Leachs Island: Several thousand plants spread along 800+ feet of shoreline. 10-20% dieback, 10-15% yellowing, 65-80% normal to vigorous. Aphids observed on 80% of clumps. 2016: Peirce Island: Additional subpopulations located, raising total number of plants to over 600. Plants appear to be in much better health than 2014, with all individuals in fruit and in good vigor. Shaws Hill: Several clumps over an area approximately 30 x 15 feet. Estimated at over 200 individuals. Tidal Pool: Plants in 3 areas along shoreline near tidal pool. 2014 Peirce Island: Over 500 plants were observed, all stunted, with approximately 50-60% dead stems, mostly confined to the upper portions of the plants. 1996: Constant observation since 1953 reported, including all stages of phenology and age structure. 1982: Good clump observed.
General Area:	2017: Leachs Island: Upper edge of brackish marsh/rocky shore. Plants absent from areas with broader expanse of marsh. Rocks present in most areas where the plants are growing. Associated species include black oak (*Quercus velutina*), saltmarsh rush (*Juncus gerardii*), sea-blite (*Suaeda* sp.), hastate-leaved orache (*Atriplex* cf. *prostrata*), smooth cordgrass (*Spartina alterniflora*), Carolina sea-lavender (*Limonium carolinianum*), and seaside plantain (*Plantago maritima* ssp. *juncoides*). 2016: Peirce Island: Population forms a narrow band immediately above the highest observed wrack line along the shore. Associated upland species include staghorn sumac (*Rhus hirta*), autumn-olive (*Elaeagnus umbellata* var. *parvifolia*), Asian bittersweet (*Celastrus orbiculatus*), and speckled alder (*Alnus incana* ssp. *rugosa*). The saline areas downslope of the marsh elder contained over 50% unvegetated substrate, as well as a mixture of cordgrass (*Spartina* sp.) and saltgrass (*Distichlis spicata*). Shaws Hill: Surrounding land use is developed. All plants below highest observable tide line in ***high salt marsh***, located among saltmeadow cordgrass (*Spartina patens*), smooth cordgrass (*Spartina alterniflora*), and seaside goldenrod (*Solidago sempervirens*). Tidal Pool: Sagamore Creek/Great Bay shoreline, with smooth cordgrass (*Spartina alterniflora*), saltmarsh rush (*Juncus gerardii*), saltmeadow cordgrass (*Spartina patens*), seaside goldenrod (*Solidago sempervirens*), and sea-blite (*Suaeda* spp.). 1996: On shores of several islands and peninsulas in the more or less enclosed bay system. Associated plant species: *Solidago sempervirens* (seaside goldenrod), *Juncus gerardii* (salt marsh rush), *Spartina patens* (salt-meadow cord-grass), *Triglochin maritimum* (arrow-grass), *Elymus virginicus* (Virginia wild rye), *Atriplex patula* (narrow-leaved orach), and *Artemisia vulgaris* (common mugwort). Substrate: gravel and marsh peat and muck. 1982: On shore at Pleasant Point.
General Comments:	2016: Peirce Island: "The population currently appears to be in good health, although the results of the June 2014 surveys indicated that there may be some intermittent pressure on this population. The propensity of this species to grow in a very narrow band along the tide line does not allow for rapid adaptation to changing sea levels, storm events, or polluted runoff that a larger, robust population may resist. If sea levels gradually rise as expected, the marsh elder will be unable to move inland due to a small but steep cut bank that forms the upland break adjacent to the marsh elder population. The remaining subpopulations may also be getting shaded by the adjacent upland vegetation, which appears to be encroaching on the shoreline. This vegetation is comprised of large shrub species and the invasive Oriental bittersweet that is capable of overtaking the native plants in the area."
Management Comments:	--

Location

Survey Site Name: Little Harbor, back channel
Managed By: Little Harbor Trust

County: Rockingham
Town(s): Portsmouth
Size: 59.9 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2017: Leachs Island: Island in New Castle only accessible by boat. Plants observed on south shore of island 2016: Peirce Island: Along the southern shore of Peirce Island, along the edge of a small cove west of the wastewater treatment facility. Shaws Hill: Take Laurel Lane off New Castle Avenue, bear left onto driveway right-of-way servicing 51A and 51B Laurel Lane. At end of right-of-way, 51B will be located on the right. Tidal Pool: Along Sagamore Creek shoreline on Creek Farm Reservation property in Portsmouth. In the vicinity of Rte. 1B which encircles the Little Harbor back channel from Portsmouth to New Castle and Rye. Many of the sites are visible only by boat.

Dates documented

First reported: 1953 Last reported: 2020-08-02

New Hampshire Natural Heritage Bureau - Animal Record

Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)

Legal Status	Conservation Status
Federal: Listed Threatened	Global: Rare or uncommon
State: Listed Threatened	State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank: --

Detailed Description: 2016: 1 individual, sex unknown, detected in the lower Piscataqua River. 2015: 1 individual, sex unknown, detected in Portsmouth Harbor. 2012: 1 individual, sex unknown, detected in Little Bay.
General Area: 2016: Tidal waters in Portsmouth Harbor, Little Bay, and the Piscataqua River.
General Comments: --
Management Comments: --

Location

Survey Site Name: Piscataqua River
Managed By:

County:
Town(s): Out-Of-State
Size: 7749.3 acres Elevation:

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: 2016: Tidal waters of Portsmouth Harbor, Little Bay, and the Piscataqua River.

Dates documented

First reported: 2012-06-02 Last reported: 2016-05-27

The U.S. Fish & Wildlife Service has jurisdiction over Federally listed species. Please contact them at 70 Commercial Street, Suite 300, Concord NH 03301 or at (603) 223-2541.

New Hampshire Natural Heritage Bureau - Animal Record

Shortnose Sturgeon (*Acipenser brevirostrum*)

Legal Status		Conservation Status	
Federal:	Listed Endangered	Global:	Rare or uncommon
State:	Listed Endangered	State:	Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank:	Not ranked
Comments on Rank:	--
Detailed Description:	2016: 2 individuals, 1 female and 1 sex unknown, detected in Portsmouth Harbor and the lower Piscataqua River. 2015: 3 females and 2 other individuals, sex unknown detected in Portsmouth Harbor. 2014: 1 female detected moving from Portsmouth Harbor up the Piscataqua River to the mouth of the Cocheco River. 2012: 1 female detected in Little Bay. 2011: 1 female detected in Little Bay. 2010: 1 female detected in Little Bay.
General Area:	2016: Tidal waters in Portsmouth Harbor, Little Bay, and the Piscataqua River.
General Comments:	--
Management Comments:	--

Location

Survey Site Name:	Piscataqua River		
Managed By:			
County:			
Town(s):	Out-Of-State		
Size:	7749.3 acres	Elevation:	

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: 2016: Tidal waters of Portsmouth Harbor, Little Bay, and the Piscataqua River.

Dates documented

First reported:	2010-11-03	Last reported:	2016-10-20

The U.S. Fish & Wildlife Service has jurisdiction over Federally listed species. Please contact them at 70 Commercial Street, Suite 300, Concord NH 03301 or at (603) 223-2541.

EXHIBIT 21

CONSERVATION COMISSION CORRESPONDENCE

Conservation Commission Correspondence

Re-presentation of the Wetland Standard Dredge & Fill application for the project to the Portsmouth Conservation Commission is planned during the August 10th, 2022 Conservation Commission meeting following a continuance issued during the July 13th meeting.

EXHIBIT 22

FEDERAL AGENCY CORRESPONDENCE

Federal Agency Correspondence

While the new stormwater outlet proposed off the north side of Peirce Island pool will be located below the highest observable tide line (HOTL), the outlet will be located above the mean high water elevation. The outlet and associated rip rap apron will not extend out from the existing shoreline a sufficient distance to effect boating and the stormwater discharge from the outlet into the Piscataqua River will be relatively small. No other federal or cultural resources are directly or indirectly impacted by this project, therefore no federal agency review is anticipated.

EXHIBIT 23

AVOIDANCE AND MINIMIZATION NARRATIVE

AVOIDANCE AND MINIMIZATION WRITTEN NARRATIVE

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.04(j); Env-Wt 311.07; Env-Wt 313.01(a)(1)b; Env-Wt 313.01(c)

APPLICANT'S NAME: **Terry Demarais, PE, City of Portsmouth** **TOWN NAME:** **Portsmouth**

An applicant for a standard permit shall submit with the permit application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable. This attachment can be used to guide the narrative (attach additional pages if needed). Alternatively, the applicant may attach a completed Avoidance and Minimization Checklist (NHDES-W-06-050) to the permit application.

SECTION 1 - WATER ACCESS STRUCTURES (Env-Wt 311.07(b)(1))

Is the primary purpose of the proposed project to construct a water access structure?

The primary purpose of this project does not involve a water access structure.

SECTION 2 - BUILDABLE LOT (Env-Wt 311.07(b)(1))

Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?

The proposed project does not require access through wetlands to reach a buildable lot.

SECTION 3 - AVAILABLE PROPERTY (Env-Wt 311.07(b)(2))*

For any project that proposes permanent impacts of more than one acre, or that proposes permanent impacts to a PRA, or both, are any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, that could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs?

**Except as provided in any project-specific criteria and except for NH Department of Transportation projects that qualify for a categorical exclusion under the National Environmental Policy Act.*

The proposed project has impacts to the previously developed tidal buffer zone, protected shoreland, and a small portion of rocky shore. The project is intended to provide renovations necessary to bring the long standing and highly utilized public outdoor swimming pool up to current health and safety requirements and provide additional stormwater management for the area.

SECTION 4 - ALTERNATIVES (Env-Wt 311.07(b)(3))

Could alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies be used to avoid impacts to jurisdictional areas or their functions and values as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization?

The proposed project includes demolition of the existing pump house building, construction of a new pump house building in a new location with a larger surge tank to be installed directly adjacent, and installation of a new stormwater drainage system. Existing structural damage and the requirements of the new pool infiltration system necessitate the demolition rather than renovation of the existing pump house. Facility needs of the pool require the new pump house location be in the immediate vicinity of the pool with is entirely within the 100-year flood zone. However, new the pump house will be located outside the tidal buffer zone and constructed with its finished floor elevated two feet above the 100-year flood level to protect the building systems form potential flood events and account for future sea level rise. Facility needs also require the new underground surge tank be of a greater size than the one existing, to be installed directly adjacent the new pump house location. The installation of a new stormwater drainage system associated with the new pump house and surrounding walkways and lawn area will result in a net improvement to existing conditions by providing stormwater management for the western side of the pool, which was previously absent. Limited existing topographic relief necessitates the new system drain to an outlet off the north side of the pool rather than connecting with the existing drainage system on the eastern side of the pool. The proposed outlet position meets the hydraulic needs of the system while avoiding the salt marsh northwest of the pool as much as practicable. All other proposed renovations of the pool systems and decking are in situ with in-kind materials.

SECTION 5 - CONFORMANCE WITH Env-Wt 311.10(c) (Env-Wt 311.07(b)(4))**

How does the project conform to Env-Wt 311.10(c)?

***Except for projects solely limited to construction or modification of non-tidal shoreline structures only need to complete relevant sections of Attachment A.*

The stormwater outlet has been sited at the maximum practicable distance from the salt marsh off the northwestern corner of pool while meeting the hydraulic needs of the drainage system. The conversion of the existing pump house building and portions of surrouding decking to lawn will result in an increase of previous surface within the tidal buffer zone. The other pool renovations within the tidal buffer zone will consist of in-kind replacement at pre-existing locations of necessary pool infrastructure.

EXHIBIT 25

COASTAL RESOURCE WORKSHEET AS REQUIRED BY ENV-WT 600

(ALSO SEE EXHIBIT 7 – PROJECT NARRATIVE)

COASTAL RESOURCE WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 600

APPLICANT LAST NAME, FIRST NAME, M.I.: Desmarais, Terry, PE, City of Portsmouth

This worksheet may be used to present the information required for projects in coastal areas, in addition to the information required for Lower-Scrutiny Approvals, Expedited Permits, and Standard Permits under Env-Wt 603.01.

Please refer to Env-Wt 605.03 for impacts requiring compensatory mitigation.

SECTION 1 - REQUIRED INFORMATION (Env-Wt 603.02; Env-Wt 603.06; Env-Wt 603.09)

The following information is required for projects in coastal areas.

Describe the purpose of the proposed project, including the overall goal of the project, the core project purpose consisting of a concise description of the facilities and work that could impact jurisdictional areas, and the intended project outcome. Specifically identify all natural resource assets in the area proposed to be impacted and include maps created through a data screening in accordance with Env-Wt 603.03 (refer to Section 2) and Env-Wt 603.04 (refer to Section 3) as attachments.

The City of Portsmouth is proposing a renovation of the Peirce Island swimming pool and associated pump house and systems on Peirce Island Road to bring a highly utilized, but deteriorated public facility up to current health and safety requirements. These renovations include replacement of the pool's existing vinyl liner, pool gutter, underground surge tank, concrete pool deck, pump house, and existing stormwater drainage system on the east side of the pool. The pump house will be relocated at a position outside of the tidal buffer zone and its finished floor elevated two feet above the 100-ft flood zone elevation to protect the building and pool systems in the building from potential flood events and to account for future sea level rise. A new stormwater drainage system will also be constructed to collect runoff from the new pump house roof, adjacent walkway, and surrounding lawn area and will outlet to the Piscataqua River off the north side of the pool. The pipe outlet will be located at an elevation of 3.90 ft NAVD88 between the HOTL and the mean high water elevation and a rip rap apron will be constructed for erosion protection at the outlet. The approximately a third of the total project impacts lies within the Tidal Buffer Zone (TBZ).

The specifics of the project and a detailed description of the Tidal Buffer Zone and surrounding natural resources are included in Exhibit 7 - Project Narrative.

For standard permit projects, provide:

☒ A Coastal Functional Assessment (CFA) report in accordance with Env-Wt 603.04 (refer to Section 3).

☒ A vulnerability assessment in accordance with Env-Wt 603.05 (refer to Section 4).

Explain all recommended methods and other considerations to protect the natural resource assets during and as a result of project construction in accordance with Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04.

Approximately a third of the total project impacts will occurr within the previously tidal buffer zone with a small amount of permanent impact to rocky shore below the highest observable tide line and the remainder occurring within the protected shoreland upslope. No other impacts to tidal wetlands or waters, including salt marshes or Iva frutescens (a NH Threatened species) are anticipated. The section of existing walking trail and adjacent vegetated buffer north of the pool to be impacted during installation of the the stormwater drainage system outlet will be restored to maintain protection of the pool from high water and wave action during storms.

See additional detail in Exhibit 7 - Project Narrative.

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

The appropriate standard conditions and approval criteria are provided in Exhibit 7 - Project Narrative.

Provide a project design narrative that includes the following:

☒ A discussion of how the proposed project:

- Uses best management practices and standard conditions in Env-Wt 307;
- Meets all avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- Meets approval criteria in Env-Wt 313.01;
- Meets evaluation criteria in Env-Wt 313.01(c);
- Meets CFA requirements in Env-Wt 603.04; and
- Considers sea-level rise and potential flooding evaluated pursuant to Env-Wt 603.05;

☒ A construction sequence, erosion/siltation control methods to be used, and a dewatering plan; and

☒ A discussion of how the completed project will be maintained and managed.

Upon completion the project will be maintained as part of the City's Department of Public Works management of lands.

☒ Provide design plans that meet the requirements of Env-Wt 603.07 (refer to Section 5);

☒ Provide water depth supporting information required by Env-Wt 603.08 (refer to Section 6); and

☐ For any major project that proposes to construct a structure in tidal waters/wetlands or to extend an existing structure seaward, provide a statement from the Pease Development Authority Division of Ports and Harbors (DP&H) chief harbormaster, or designee, for the subject location relative to the proposed structure's impact on navigation. If the proposed structure might impede existing public passage along the subject shoreline on foot or by non-motorized watercraft, the applicant shall explain how the impediments have been minimized to the greatest extent practicable.

SECTION 2 - DATA SCREENING (Env-Wt 603.03, in addition to Env-Wt 306.05)

Please use the Wetland Permit Planning Tool, or any other database or source, to indicate the presence of:

☒ Existing salt marsh and salt marsh migration pathways;

☒ Eelgrass beds;

☒ Documented shellfish sites;

☒ Projected sea-level rise; and

☒ 100-year floodplain.

Conduct data screening as described to identify documented essential fish habitat, and tides and currents that may be impacted by the proposed project, by using the following links:

☒ National Oceanic and Atmospheric Administration (NOAA) Tides & Currents; and

☒ NOAA Essential Fish Habitat Mapper.

☒ Verify or correct the information collected from the data screenings by conducting an on-site assessment of the subject property in accordance with Env-Wt 406 and Env-Wt 603.04.

SECTION 3 - COASTAL FUNCTIONAL ASSESSMENT/ AVOIDANCE AND MINIMIZATION (Env-Wt 603.04; Env-Wt 605.01; Env-Wt 605.02; Env-Wt 605.03)

Projects in coastal areas shall:

☒ Not impair the navigation, recreation, or commerce of the general public; and

☒ Minimize alterations in prevailing currents.

An applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone shall demonstrate that the following have been avoided or minimized as required by Env-Wt 313.04:

☒ Adverse impacts to beach or tidal flat sediment replenishment;

☒ Adverse impacts to the movement of sediments along a shore;

☒ Adverse impacts on a tidal wetland's ability to dissipate wave energy and storm surge; and

☒ Adverse impacts of project runoff on salinity levels in tidal environments.

For standard permit applications submitted for minor or major projects:

☒ Attach a CFA based on the data screening information and on-site evaluation required by Env-Wt 603.03. The CFA for tidal wetlands or tidal waters shall be:

- Performed by a qualified coastal professional; and
- Completed using one of the following methods:

  a. The US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District *Highway Methodology Workbook Supplement*, dated 1999; or

  b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

For any project that would impact tidal wetlands, tidal waters, or associated sand dunes, the applicant shall:

☒ Use the results of the CFA to select the location of the proposed project having the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☒ Design the proposed project to have the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☒ Where impact to wetland and other coastal resource functions is unavoidable, limit the project impacts to the least valuable functions, avoiding and minimizing impact to the highest and most valuable functions; and

☒ Include on-site minimization measures and construction management practices to protect coastal resource areas.

Projects in coastal areas shall use results of this CFA to:

☒ Minimize adverse impacts to finfish, shellfish, crustacean, and wildlife;

☒ Minimize disturbances to groundwater and surface water flow;

☒ Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and

☒ Avoid impacts that might cause erosion to shoreline properties.

SECTION 4 - VULNERABILITY ASSESSMENT (Env-Wt 603.05)

Refer to the New Hampshire Coastal Flood Risk Summary Part 1: Science and New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections or other best available science to:

Determine the time period over which the project is designed to serve.

The expected lifespan of the renovated pool systems and pump house building is 40 years.

Identify the project's relative risk tolerance to flooding and potential damage or loss likely to result from flooding to buildings, infrastructure, salt marshes, sand dunes and other valuable coastal resource areas.

The proposed pump house and pool systems within it have a low risk tolerance as these systems will not tolerate flooding. Thus, the finished floor of the pump house will be elevated two feet above the 100-year flood zone elevation to reduce the chance of flooding and account for future sea level rise. The foundation of the building will also be waterproofed and all piping penetrations will have watertight connections.

The existing pool is within the 100-year flood zone has a high probability of being flooded in its expected lifespan, but it and its exterior systems have a high risk tolerance as they are expected to tolerate a flood event with minimal damage. The exterior pool systems bye their nature are submerged under normal operating conditions. All vunerable components are located in the pump house elevated above expected flood elevation. A flood event would likely generate accumulated sediment and debris which would require cleaning of the pool and gutter system.

The new stormwater drainage system has a high risk tolerance as it is expected to be inundated during major flood events with minimal permanent damage. Accumulated sediment from a flood event may require cleaning of the system and the drainage outfall does have a potential for damage due to shoreline erosion during a flood event.

The salt marsh off the northwestern corner of the project have a high risk tolerance since it can survive prolonged flooding by seawater.

Reference the projected sea-level rise (SLR) scenario that most closely matches the end of the project design life and the project's tolerance to risk or loss.

As part of separate project by the City on Peirce Island, an analysis of anticipated sea level rise by 2050, the anticipated lifespan of that project, was performed by a coastal engineer based on the RCP 4.5 project curve. See attached memorandum re "Coastal Resiliency Basis of Design". Based on this analysis, the anticipated 2050 sea level rise at this location is approximately 0.9 feet, based on the RCP 4.5 projection (1.15 feet) and the Corps' intermediate sea level rise projection (0.6 feet).

Use of the UNH project curves provided in the two part report New Hampshire Coastal Flood Risk Summary was not recommended for the previous project design based on their greater divergence from observed data. While the 95% UNH projection curve recommended for design of projects with a medium tolerance for sea level rise estimates 2.1 feet of sea level rise by 2060 (the end of the anticipated 40 year project design life), the above mentioned analysis suggests this estimate is higher than is likely. Thus, the design of the finished floor two feet above the current 100-year flood elevation is considered an appropriately conservative approach.

Identify areas of the proposed project site subject to flooding from SLR.

Nearly the entire work area for the pool renovations lies within the current 100-year flood zone at an elevation of 8 feet NAVD88. Assuming an anticipated 0.9 feet of sea level rise based on this analysis discussed above the project location has a predicted 9.0 foot elevation for RSLR at 2050. After construction of the new pump house, the vulnerable pool systems will be located above this elevation.

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

The current FEMA flood map for this site has the 100-year flood elevation at 9 feet NGVD29. The more precise NOAA 100-year flood elevation for 2018 based on tide data is 8.1 feet NAVD88 from the datum for the nearby Seavey Island, Maine (Portsmouth Naval Shipyard). Nearly the entire project footprint lie below elevation 8.1 (see Exhibit 5, Sheet CX101).

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

The project proposes to build the new pump house with a finished floor elevated two feet above the current 100-year flood elevation to protect the building and the pool systems within the flooding and to account for future sea level rise based on the analysis discussed above. The foundation of the building will also be waterproofed and all piping penetrations will have watertight connections.

The pool and its associated exterior systems, as well as the new stormwater drainage system, have a high risk tolerance for flooding. It is anticipated these portions of the project will flood during the course of the design lifespan with minimal damage to the systems requiring minor cleaning out of debris and sediment should flooding occur.

Where there are conflicts between the project's purpose and the vulnerability assessment results, schedule a pre-application meeting with the department to evaluate design alternatives, engineering approaches, and use of the best available science.

☐ Pre-application meeting date held:

SECTION 5 - DESIGN PLANS (Env-Wt 603.07, in addition to Env-Wt 311)

Submit design plans for the project in both plan and elevation views that clearly depict and identify all required elements.

The plan view shall depict the following:

☒ The engineering scale used, which shall be no larger than one inch equals 50 feet;

☒ The location of tidal datum lines depicted as lines with the associated elevation noted, based on North American Vertical Datum of 1988 (NAVD 88), derived from https://tidesandcurrents.noaa.gov/datum_options.html, as described in Section 6.

☒ An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;

☒ The location of all special aquatic sites at or within 100 feet of the subject property;

☒ Existing bank contours;

☒ The name and license number, if applicable, of each individual responsible for the plan, including:

a. The agent for tidal docking structures who determined elevations represented on plans; and

b. The qualified coastal professional who completed the CFA report and located the identified resources on the plan;

☒ The location and dimensions of all existing and proposed structures and landscape features on the property;

☒ Tidal datum(s) with associated elevations noted, based on NAVD 88; and

☒ Location of all special aquatic sites within 100-feet of the property.

The elevation view shall depict the following:

☒ The nature and slope of the shoreline;

☒ The location and dimensions of all proposed structures, including permanent piers, pilings, float stop structures, ramps, floats, and dolphins; and

☒ Water depths depicted as a line with associated elevation at highest observable tide, mean high tide, and mean low tide, and the date and tide height when the depths were measured. Refer to Section 6 for more instructions regarding water depth supporting information.

See specific design and plan requirements for certain types of coastal projects:

- Overwater structures (Env-Wt 606).
- Dredging activities (Env-Wt 607).
- Tidal shoreline stabilization (Env-Wt 609).
- Protected tidal zone (Env-Wt 610).

- Tidal beach maintenance (Env-Wt 608).
- Sand Dunes (Env-Wt 611).

SECTION 6 - WATER DEPTH SUPPORTING INFORMATION REQUIRED (Env-Wt 603.08)

Using current predicted NOAA tidal datum for the location, and tying field measurements to NAVD 88, field observations of at least three tide events, including at least one minus tide event, shall be located to document the range of the tide in the proposed location showing the following levels:

☒ Mean lower low water;
☒ Mean low water;
☒ Mean high water;
☒ Mean tide level;
☒ Mean higher high water;
☒ Highest observable tide line; and
☒ Predicted sea-level rise as identified in the vulnerability assessment in Env-Wt 603.05.

The following data shall be presented in the application project narrative to support how water depths were determined:

☐ The date, time of day, and weather conditions when water depths were recorded; and
☐ The name and license number of the licensed land surveyor who conducted the field measurements.

For tidal stream crossing projects, provide:

☐ Water depth information to show how the tier 4 stream crossing is designed to meet Env-Wt 904.07(c) and (d).

For repair, rehabilitation or replacement of tier 4 stream crossings:

☐ Demonstrate how the requirements of Env-Wt 904.09 are met.

SECTION 7 - GENERAL CRITERIA FOR TIDAL BEACHES, TIDAL SHORELINE, AND SAND DUNES (Env-Wt 604.01)

Any person proposing a project in or on a tidal beach, tidal shoreline, or sand dune, or any combination thereof, shall evaluate the proposed project based on:

☒ The standard conditions in Env-Wt 307;
☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
☒ The approval criteria in Env-Wt 313.01;
☒ The evaluation criteria in Env-Wt 313.05;
☒ The project specific criteria in Env-Wt 600;
☒ The CFA required by Env-Wt 603.04; and
☒ The vulnerability assessment required by Env-Wt 603.05.

New permanent impacts to sand dunes that provide coastal storm surge protection for protected species or habitat shall not be allowed except:

☐ To protect public safety; and
☐ Only if constructed by a state agency, coastal resiliency project, or for a federal homeland security project.

Projects in or on a tidal beach, tidal shoreline, or sand dune shall support integrated shoreline management that:

☐ Optimizes the natural function of the shoreline, including protection or restoration of habitat, water quality, and self-sustaining stability to flooding and storm surge; and

☐ Protects upland infrastructure from coastal hazards with a preference for living shorelines over hardened shoreline practices.

SECTION 8 - GENERAL CRITERIA FOR TIDAL BUFFER ZONES (Env-Wt 604.02)

The 100-foot statutory limit on the extent of the tidal buffer zone shall be measured horizontally. Any person proposing a project in or on an undeveloped tidal buffer zone shall evaluate the proposed project based on:

☒ The standard conditions in Env-Wt 307;

☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☒ The approval criteria in Env-Wt 313.01;

☒ The evaluation criteria in Env-Wt 313.05;

☒ The project specific criteria in Env-Wt 600;

☒ The CFA required by Env-Wt 603.04; and

☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in or on a tidal buffer zone shall preserve the self-sustaining ability of the buffer area to:

☒ Provide habitat values;

☒ Protect tidal environments from potential sources of pollution;

☒ Provide stability of the coastal shoreline; and

☒ Maintain existing buffers intact where the lot has disturbed area defined under RSA 483-B:4, IV.

SECTION 9 - GENERAL CRITERIA FOR TIDAL WATERS/WETLANDS (Env-Wt 604.03)

Except as allowed under Env-Wt 606, permanent new impacts to tidal wetlands shall be allowed only to protect public safety or homeland security. Evaluation of impacts to tidal wetlands and tidal waters shall be based on:

☒ The standard conditions in Env-Wt 307;

☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☒ The approval criteria in Env-Wt 313.01;

☒ The evaluation criteria in Env-Wt 313.05;

☒ The project specific criteria in Env-Wt 600;

☒ The CFA required by Env-Wt 603.04; and

☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in tidal surface waters or tidal wetlands shall:

☒ Optimize the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge;

☒ Be designed with a preference for living shorelines over hardened stabilization practices; and

☒ Be limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea-level rise and coastal flood risk.

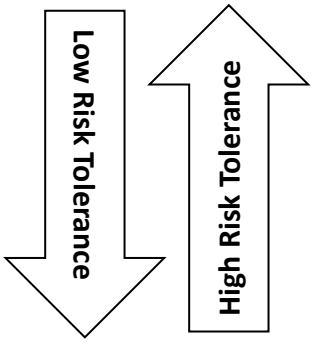
SECTION 10 – GUIDANCE

Your application must follow the New Hampshire Coastal Risk and Hazards Commission's Guiding Principles or other best available science. Below are some of these guidance principles:

- Incorporate science-based coastal flood risk projections into planning;
- Apply risk tolerance* to assessment, planning, design, and construction;
- Protect natural resources and public access;
- Create a bold vision, start immediately, and respond incrementally and opportunistically as projected coastal flood risks increase over time; and
- Consider the full suite of actions including effectiveness and consequences of actions.

*Risk tolerance is a project's willingness to accept a higher or lower probability of flooding impacts. The diagram below gives examples of project with lower and higher risk tolerance:

Critical infrastructures, historic sites, essential ecosystems, and high value assets typically have lower risk tolerance, and thus should be planned, designed, and constructed using higher coastal flood risk projections.



Sheds, pathways, and small docks typically have higher risk tolerance and thus may be planned, designed, and constructed using less protective coastal flood risk projections.

CIVILWORKS NEW ENGLAND

181 WATSON ROAD

P.O. BOX 1166

DOVER, NH 03821-1166

PHONE: 603.749.0443 FAX : 603.749.7348

MEMORANDUM

Date: February 12, 2021

To: Eric Weinrieb, PE

Altus Engineering, Inc.

From: Duncan Mellor, PE
Principal Coastal Engineer

Re: Peirce Island WWTF Access Road Coastal Resiliency Basis of Design

The wastewater treatment facility (WWTF) access road crosses a low area on Peirce Island before rising to the higher elevation of the treatment plant. The access road here is proposed to be raised to maintain facility access during storm surges and in anticipation of sea level rise over time. This low area section of road is adjacent to the main Piscataqua channel with a wind wave fetch of 3,000' from Badgers Island.

WAVE CONDITIONS:

A typical engineering design code for wind criteria is a reference by the American Society of Civil Engineers, ASCE 7-10, which includes maps showing design wind speed (3 second gust, 7% probability of exceedance in 50 years) in the US. This design wind speed when used for wave generation is reduced to remove the added load factor and adjusted down to fit the minimum wind duration to grow these waves to fully developed waves for the wind fetch and water depth. Transforming the wave into shore/shallows gives a 2.6' breaking wave (far in excess of limits for vegetated shoreline). For riprap sizing the W_{50} mean size is 170# (about 1.2' dimension), based on a 2:1 slope. Minimum toe stone size is 230# (about 1.5' size). From a public safety, walking on the rocks standpoint, larger stone is generally more stable when properly set.

Per the NOAA Seavey Island extreme tides data (surge without wave action), the 100-yr flood level is EL 8.1' NAVD88 for 2018 (latest data), which does match the FEMA AE zone elevation of EL 8' NAVD88. With a surge and wave action you may still get some waves washing over the road with wave runup to EL 10.2' with no future sea level rise allowance.

As the wave fetch from Badger's Island would be a northwesterly wind, this design wave condition might not occur during extreme storm surges in a Northeaster or hurricane.

Design guides for alternative road edge wave erosion protection included *Living Shorelines: The Science and Management of Nature-Based Coastal Protection*[1]. Chapter 11 discusses living/planted shoreline design, and multiple cited references indicate a maximum wave height for salt marsh without toe stone berm armoring, is about a 1 foot wave. As the site design wave condition significantly exceed 1 foot, and wave breaking on the shore is expected, some level of stone armoring is needed to ensure that access to the WWTF survives storm conditions.

The State of New Jersey has a well written living shoreline guideline[2] that provides recommended sill stone sizes as a function of wind fetch length (design wind speed and duration not mentioned). For this site with a 0.6 mile fetch, they recommend 300 to 900 pound stones with 1.4' to 2.0' size. This is in good agreement with the site specific wave forecasting and revetment stone sizing performed.

Wave runup, with and without sea level rise projections, will overtop a stone sill/berm if utilized as a toe for a planted slope. There are several well recognized coastal engineering guidelines that indicate bioengineered slopes at this site will fail due to wave action overtopping the seawall.

The Army Corps of Engineers EM-1110-2-1100[3] for grassed sea dikes subject to wave action will have no damage at overtopping of 0.001 cfs/LF (0.6 cups of water per 5 seconds/LF of embankment). Damage will begin at overtopping rates between 0.01 and 0.1 cfs/LF (1 foot of erosion per hour).

Practical case study experience in Europe has been incorporated into EurOtop software[4]. Table 3.1 in the EurOtop manual for calculating wave overtopping volumes provides a discharge limit of 0.001 (cfs/LF) for grass covered slopes. For this site the wave forecasting and runup in storm events and with sea level rise allowance, indicate that stone armoring is needed up to road surface elevation due to wave overtopping.

ROAD ELEVATION & RESILIENCY:

TR-16 Guides for the Design of Wastewater Treatment Works (2016 rev)[5] is a standard for evaluation and design of wastewater treatment facilities with general guidance for coastal resiliency provisions and climate change. The TR-16 coastal resilience allowances follow the former Obama Executive Order that federally funded projects be designed for flood resistance to 2 or 3 feet above the FEMA 100 yr flood (1% annual chance) elevation depending on how critical the structure is to maintaining service. The FEMA flood hazard elevations do not currently include provisions for future sea level rise, so TR-16 added elevation increase allowances for climate change flood protection design extending 2 or 3

feet above the FEMA 100 yr flood elevation, based on how critical the structure is to the facility function. The FEMA flood map for this site has the 100 year flood elevation (AE zone) at 8 feet NAVD88 datum, following FEMA policy to only provide flood elevations to the nearest foot. The more precise NOAA 100-year flood elevation for 2018 based on tide data is 8.1 feet NAVD88 datum for the adjacent Seavey Island, Maine (Portsmouth Naval Shipyard across the channel).

TR-16 recommends that future sea level rise allowances are added to existing flood study elevations. TR-16 provides generalized added freeboard allowances for sea level rise, however these design criteria do not include a timeline for design life and do not consider site-specific considerations[6].

The Portsmouth Harbor NOAA tide station (Seavey Island) has extensive data gaps (years) where no data were collected. The NOAA tide station in Portland, Maine, however does have observed tide levels with over 100 years of data. The Portland tide station has sea level record since 1912 with an average rise of 1.89+/- 0.14 mm/year at 95% confidence. Looking at the Portland tide data over the last 38 years (two tidal epochs) the rate of sea level rise is about 2.6 mm/year (with a larger standard deviation). It is reasonable to use this 2.6 mm/year (10 inches /100 years) rise rate as a lower limit of anticipated sea level rise near term.

There are recent reports presenting projections for accelerating sea level rise caused by global warming. The latest federal government guide is 2017 NOAA Tech Report 083[7,] Sweet et.al. with tabulated values for relative sea level every 10 years starting in the year 2000, with consideration of land/earth crust vertical movement at selected tide gauge cities, and changes in local sea level including by gravitational changes associated with anticipated ice cap melting. This NOAA report does provide eighteen different decadal projections for local sea level rise at Portland, Maine, but did not relate these to the carbon emissions Representative Concentration Pathway (RCP) models developed by the Intergovernmental Panel on Climate Change (IPCC). Interpolation between the NOAA projection values for RCP4.5 sea level rise values, is plotted in green on Figure 1. The RCP4.5 interpolation between NOAA curves for Portland, indicates about 2.5 feet of sea level rise by year 2100. It is apparent that the actual observed rates of sea level rise from tide data in Portland, from a global average to 20 distributed tide stations and from satellite altimetry measurements (global), that the actual rate of sea level rise is significantly less than the NOAA report projected rate of rise. For early 2020, the NOAA projection curve which started in year 2000, is about 2.7 inches higher than observations and the trends are diverging. Thus the RCP4.5 carbon model and associated global warming sea level rise are not supported by observed data for Maine and New Hampshire.

The US Army Corps of Engineers sea level rise projection curves are shown in yellow and red in Figure 1. The “high” red curve has already diverged from observations. The

"intermediate" yellow curve has much better agreement with observations to date, and suggests 1.6 feet of sea level rise by 2100 above 1992 sea level.

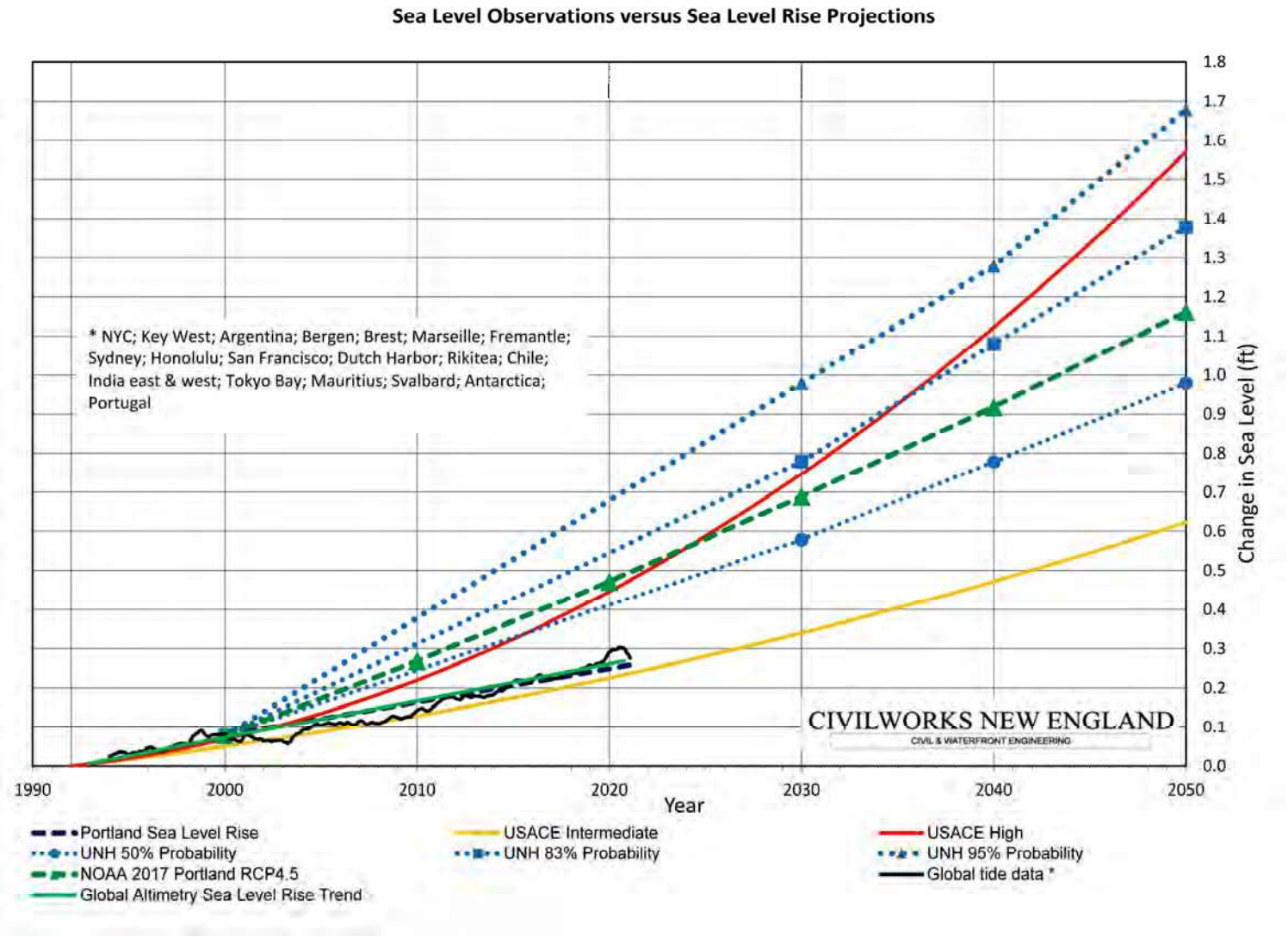


Figure 1 Comparison of Sea Level Rise Projections to Observations

The University of New Hampshire (UNH) issued a two part report *New Hampshire Coastal Flood Risk Summary*[9] in 2019 and 2020, which has been adopted by the state of New Hampshire and is the recommended policy in regulatory permitting by the NH Department of Environmental Services. Both the NOAA projections and the UNH projections use sea level rise projections starting from a sea level in the year 2000, developed by Kopp et. al. (2014)[10]. The UNH report does list probabilities for multiple sea level rise curves, using different probabilities for different projects tolerance for risk. It is important to understand

that these probabilities are Bayesian probabilities, based on future expectations, not traditional probabilities calculated from observational data, such as FEMA flood levels.

The 50% UNH probability sea level rise curve (lower dotted blue line) is plotted from the UNH Part I science report, and it is not used in the Part II guidance report. The Part II guidance report uses the 83% probability curve for the low end of design for projects with a high tolerance for sea level rise. The 95% probability curve is recommended for design of projects with a medium tolerance for sea level rise. UNH does recommend higher 99% and 99.9% probability curves, recommended for design of projects with low and very low tolerance for sea level rise, however these were not plotted given the greater divergence from observed data. For early 2020, the UNH 83% projection curve is about 3.5 inches higher than observations, for UNH 95% projection curve is about 5.2 inches higher than observations and both trends are diverging. The UNH guidance projection curves are based on older rise projections and the UNH model was not calibrated in consideration of actual sea level rise observations and trend over the last 20 years. Since the UNH sea level rise projections are already significantly in higher than observations with a steeper rise trend, they are not recommended for project design.

The design guidance in TR-16 for 100 year flood level plus 3 feet of sea level rise allowance is reasonable and conservative relative to observations, relative to a NOAA RCP4.5 sea level rise projection and relative to the Army Corps of Engineers intermediate sea level rise projection until at least year 2100.

REFERENCES:

1 *Living Shorelines: The Science and Management of Nature-Based Coastal Protection,* CRC Press, 2017, ISBN 9781315151465.

2 *Living Shorelines Engineering Guidelines*, New Jersey Department of Environmental Protection, revised Feb., 2016, SIT-DL-14-9-2942.

3 EM-1110-2-1100, Part 6, Table VI-5-6, Coastal Engineering Manual, US Army Corps of Engineers 2011.

4 *EurOtop*, 2018. Manual on wave overtopping of sea defences and related structures. Van der Meer, J.W., Allsop, N.W.H., Bruce, T., De Rouck, J., Kortenhaus, A., Pullen, T., Schüttrumpf, H., Troch, P. and Zanuttigh, B.

5 *TR-16 Guides For The Design of Wastewater Treatment Works*, NEIWPCC, 2011 Ed., rev 2016.

6 *Coastal Flood Protection: TR-16 Criteria Versus Site Specific Analysis*, D. Mellor, NEWEA Journal, Summer 2020, Vol. 54, No. 2, ISSN 1077-3002.

7 *Global and Regional Sea Level Rise Scenarios for the United States*. NOAA Technical Report NOS CO-OPS 083, Sweet, W.V., R.E. Kopp, C.P. Weaver, J. Obeysekera, R.M. Horton, E.R. Thieler, and C. Zervas, NOAA/NOS Center for Operational Oceanographic Products and Services, 2017.

8 *Procedures to Evaluate Sea Level Change: Impacts, Responses, and Adaptation*, ETL 1100-2-1, June 30, 2014, US Army Corps of Engineers.

9 *New Hampshire Coastal Flood Risk Summary – Part I: Science; Part II: Guidance for Using Scientific Projections*, NH Coastal Flood Risk Science and Technical Advisory Panel (2020), Univ. of New Hampshire, 2019/2020.

10 *Probabilistic 21st and 22nd Century Sea-Level Projections at a Global Network of Tide Gauge Sites.* Earth's Future, Kopp, R.E., Horton, R.M., Little, C.M., Mitrovica, J.X., Oppenheimer, M., Rasmussen, D.J., Strauss, B.H., & Tebaldi, C. (2014).

C:\Users\Dmellor\Documents\Altus\WWTP\Memo Coastal Design Basis 2-16-21.Docx

TIDAL DATUM

Based on Seavey Island, ME - Datum, NAVD88

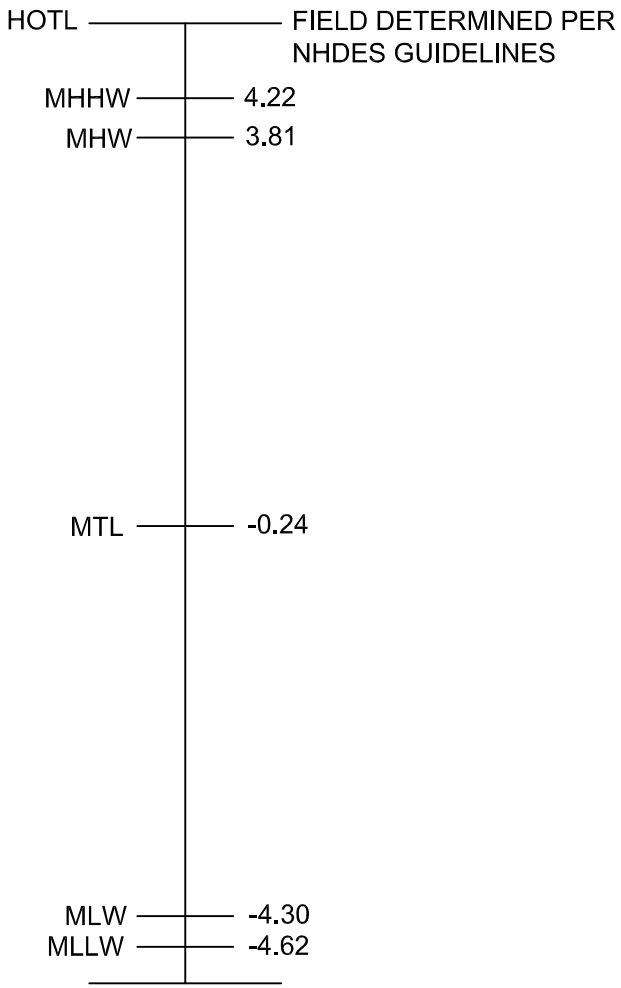
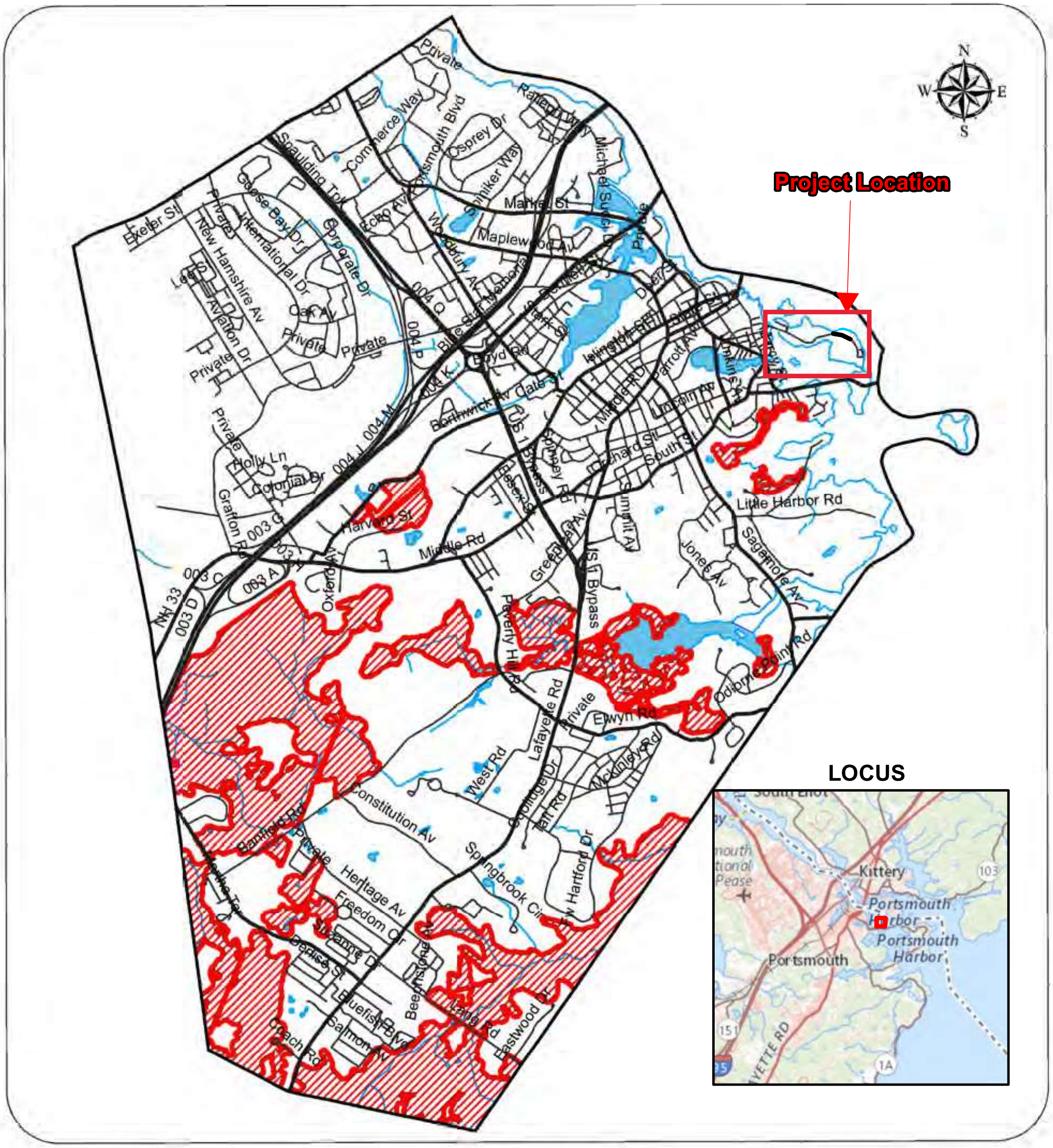


EXHIBIT 26

PRIME WETLANDS



Prime Wetlands in Portsmouth, NH

Legend

Roads
- Town
- State

Hydrography
- Surface Water

Prime Wetland 100 Foot Buffer
- NO
- YES
- 100 Foot Buffer

New Hampshire State Plane Coordinate System
North American Datum 1983 (feet)

The coverages presented are under constant revision, as new sites or facilities are added, and may not contain all potential or existing sites or facilities. These maps were prepared using data supplied by the municipality and the information was digitized to the best of our ability. For prime wetland and prime wetland buffer locations for a specific site, please contact the municipal office where the project is proposed. NHDES is not responsible for the use or interpretation of this information by third parties.

NHDES
New Hampshire Department of Environmental Services
Wetlands Bureau
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

DATE PRODUCED
October, 2012

1 0.5 0 1 2
Miles

EXHIBIT 27

ATTACHMENT A – MINOR AND MAJOR PROJECTS

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION ATTACHMENT A: MINOR AND MAJOR PROJECTS

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

APPLICANT'S NAME: **Terry Demarais, PE, City of Portsmouth** **TOWN NAME:** Portsmouth

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the Avoidance and Minimization Narrative or Checklist that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization.

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

THIS PROJECT NECESSARILY REQUIRES DISTURBANCE OF A PORTION OF THE PREVIOUSLY DEVELOPED TIDAL BUFFER ZONE AND ROCKY SHORELINE IN WHICH AN OUTLET FOR A NEW STORMWATER DRAINAGE SYSTEM WILL BE INSTALLED. THIS DRAINAGE SYSTEM WILL PROVIDE STORMWATER MANAGEMENT FOR THE NEW PUMP HOUSE BUILDING AND SURROUNDING WALKWAYS AND LAWN AREA AND NO ALTERNATIVE EXISTS FOR PLACEMENT OF THE OUTLET WHILE MEETING THE HYDRAULIC CONDITIONS NECESSARY FOR THE SYSTEM TO FUNCTION. ADDITIONAL WORK WITHIN THE PREVIOUSLY DEVELOPED TIDAL BUFFER ZONE WILL BE THE DEMOLITION OF THE EXISTING OF THE PUMP HOUSE BUILD AND CONVERSION OF THE MOST OF ITS FOOTPRINT TO PERVIOUS GRASS SURFACE, RESULTING IN IMPROVEMENT TO EXISTING ENVIRONMENTAL CONDITIONS. THESE IMPROVEMENTS ALONG WITH REPLACEMENT OF THE PUBLIC POOLS SYSTEMS, VINYL LINER, AND SURROUNDING CONCRETE DECKING WILL BRING A HIGHLY UTILIZED, BUT DETIORATED PUBLIC FACILITY UP TO CURRENT HEALTH AND SAFETY REQUIREMENTS.

SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

No wetlands providing sources of nutrients for finfish, crustaceans, shellfish, and wildlife of significant value are being impacted as part of this project.

SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

No hydrologic connections exist between adjacent wetland or stream systems within the area of this project.

SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

There is no potential impact to exemplary natural communities, vernal pools, documented fisheries, and habitat and reproduction areas for species of concern. The majority of the environment to be impact by this project is an already highly disturbed Tidal Buffer Zone environment and a small portion of the rocky shore. There are populations of a protected species, Iva Frutescens, on Peirce Island, but they are not located within the vicinity of the proposed work.

SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

There is no potential for impacts that would eliminate, depreciate, or obstruct public commerce in relation to this project. No businesses will be closed as a result of construction, and the project will have a long term benefit by improving a recreational area for the public.

SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

The proposed work will have no impact on the flood storage or effect on tidal elevations during storms.

SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

There are no natural riverine forested wetland systems or scrub-shrub marsh complexes affected by the proposed project.

SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

This project is located immediately upstream of the tidal system, thus impacts to the site will not affect drinking water supplies or groundwater aquifers.

SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

There are no stream channels in the area to be impacted by the project.

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

There is no planned construction of shoreline structures for this project.

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

There is no planned construction of shoreline structures for this project.

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

There is no planned construction of shoreline structures for this project.

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

There is no planned construction of shoreline structures for this project.

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

There is no planned construction of shoreline structures for this project.

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

There is no planned construction of shoreline structures for this project.

PART II: FUNCTIONAL ASSESSMENT
REQUIREMENTS Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).
FUNCTIONAL ASSESSMENT METHOD USED: This project, proposes direct impacts to a small portion of the unvegetated rocky shore. No other impacts to tidal wetlands or waters are proposed. The US Army Corps of Engineers highway methodology was used to evaluate the functions of the salt marsh and rocky shore adjacent to the proposed project.
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: BENJAMIN GRIFFITH
DATE OF ASSESSMENT: 06/25/21
Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT: ☒
For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable: ☒ Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.

EXHIBIT 28

FUNCTIONAL ASSESSMENT WORKSHEETS, NATURAL RESOURCE SUMMARY, AND CORPS PLOTS

WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Terry Demarais, PE, City of Portsmouth

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Avoidance and Minimization Written Narrative (NHDES-W-06-089) and the Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: Mowed lawn, public walking path, outdoor swimming pool	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☐ Yes ☒ No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 10	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Benjamin Griffith, NH CWS #298	
DATE(S) OF SITE VISIT(S): 06/25/21	DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No
CONFIRM THAT THE EVALUATION IS BASED ON: ☒ Office and ☒ Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): ☒ USACE Highway Methodology. ☐ Other scientifically supported method (enter name/ title):	

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: Salt marsh south of laydown	LOCATION: (LAT/ LONG) 43.074282/-70.744530
WETLAND AREA: 1,270 sf of the salt marsh was delineated in the project vicinity, but the wetland extends west along the shoreline beyond the project area.	DOMINANT WETLAND SYSTEMS PRESENT: Fringe salt marsh
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? None	COWARDIN CLASS: E2EM1
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☐ Yes ☒ No if not, where does the wetland lie in the drainage basin? Lower	IS THE WETLAND PART OF: ☐ A wildlife corridor or ☒ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☒ Yes ☐ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☒ Yes ☐ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☐ Yes ☒ No
PROPOSED WETLAND IMPACT TYPE: None	PROPOSED WETLAND IMPACT AREA: None

SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective".

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☒ Yes ☐ No	Fringing salt marsh on northern side of the island provides physical and biological value to area	☐ Yes ☒ No	Marsh further to the west supports Iva frutescens, a State-Threatened species, according to NHB DataCheck.
2	☐ Yes ☒ No	1,2,8,9,14	☐ Yes ☒ No	Marsh is of limited value due to small size and fringe nature.
3	☒ Yes ☐ No	1,2,3,4,6	☐ Yes ☒ No	Site is adjacent to Piscataqua River, with anadromous fish migration. Offers nursery and forage to multiple fish species.
4	☐ Yes ☒ No	6,10,11,13	☐ Yes ☒ No	Fringe marsh provides minor storage and buffer during storms and flooding
5	☐ Yes ☒ No	4,8,15	☐ Yes ☒ No	Borders tidal waters, underlain by mudflat, gravel, and bedrock
6	☒ Yes ☐ No	1	☐ Yes ☒ No	Marsh further to the west supports Iva frutescens, a State-Threatened species, according to NHB DataCheck.
7	☒ Yes ☐ No	3,5,7,9,11,12,14	☐ Yes ☒ No	Fringe marsh vegetation provides limited nutrient removal opportunities of runoff from adjacent walking trail and lawns.
8	☒ Yes ☐ No	2,5,6,11,13	☐ Yes ☒ No	Fringe marsh vegetation supports invertebrates and exports detritus for food web support.
9	☒ Yes ☐ No	2,7,12	☐ Yes ☒ No	Fringe marsh adds visual benefit in developed Portsmouth landscape.
10	☒ Yes ☐ No	1,3,4	☐ Yes ☒ No	Fringe marsh provides minor sediment removal function from runoff from walking trail and lawns.
11	☒ Yes ☐ No	1,7,10,11	☒ Yes ☐ No	Fringe marsh provides some energy absorbing action to protect shoreline from scour.
12	☒ Yes ☐ No	1,10,13,14,22,24,28	☒ Yes ☐ No	Marsh is adjacent to the Peirce Island trail system and the marsh further to the west supports the rare shrub, Iva frutescens based on NHB DataCheck.

13	☐ Yes ☒ No	7,9,10,12	☐ Yes ☒ No	Marsh in close proximity to proposed parking area.
14	☒ Yes ☐ No	3,6,8,19	☐ Yes ☒ No	Fringe marsh provides wildlife habitat on island in developed Portsmouth harbor.

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM:	STREAM TYPE (ROSGEN):
HAVE FISHERIES BEEN DOCUMENTED?	DOES THE STREAM SYSTEM APPEAR STABLE?

☐ Yes ☐ No	☐ Yes ☐ No

OTHER KEY ON-SITE FUNCTIONS OF NOTE:

The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☐ No		☐ Yes ☐ No	
2	☐ Yes ☐ No		☐ Yes ☐ No	
3	☐ Yes ☐ No		☐ Yes ☐ No	
4	☐ Yes ☐ No		☐ Yes ☐ No	
5	☐ Yes ☐ No		☐ Yes ☐ No	
6	☐ Yes ☐ No		☐ Yes ☐ No	
7	☐ Yes ☐ No		☐ Yes ☐ No	
8	☐ Yes ☐ No		☐ Yes ☐ No	
9	☐ Yes ☐ No		☐ Yes ☐ No	
10	☐ Yes ☐ No		☐ Yes ☐ No	
11	☐ Yes ☐ No		☐ Yes ☐ No	
12	☐ Yes ☐ No		☐ Yes ☐ No	
13	☐ Yes ☐ No		☐ Yes ☐ No	
14	☐ Yes ☐ No		☐ Yes ☐ No	

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

☒ Wildlife and vegetation diversity/abundance list.

☒ Photograph of wetland.

☒ Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.

☒ For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Terry Demarais, PE, City of Portsmouth

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Avoidance and Minimization Written Narrative (NHDES-W-06-089) and the Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: Mowed lawn, public walking path, outdoor swimming pool and associated parking lot	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☐ Yes ☒ No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 10	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Benjamin Griffith, NH CWS #298	
DATE(S) OF SITE VISIT(S): 06/25/21	DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No
CONFIRM THAT THE EVALUATION IS BASED ON: ☒ Office and ☒ Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if “other”): ☒ USACE Highway Methodology. ☐ Other scientifically supported method (enter name/ title):	

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: Rocky shore on north side of island	LOCATION: (LAT/ LONG) 43.075225/-70.745001
WETLAND AREA: ~350 sf of rocky shore and tidal mudflat occur off north side of the pool. The rocky shore extends east along the shore beyond the project area.	DOMINANT WETLAND SYSTEMS PRESENT: Rocky shore
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? None	COWARDIN CLASS: E2RS
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☐ Yes ☒ No if not, where does the wetland lie in the drainage basin? Lower	IS THE WETLAND PART OF: ☐ A wildlife corridor or ☒ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☒ Yes ☐ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☒ Yes ☐ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☐ Yes ☒ No
PROPOSED WETLAND IMPACT TYPE: Installation of a stormwater outlet pipe and stone rip rap apron for erosion protection purposes in the rocky shore.	PROPOSED WETLAND IMPACT AREA: 125 sf

SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function

only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☒ Yes ☐ No	Provides buffer from wave action and habitat for marine species	☐ Yes ☒ No	Disturbed habitat with rip rap along bank face, more level sections northeast of the pool appears undisturbed.
2	☐ Yes ☒ No	8,10	☐ Yes ☒ No	
3	☒ Yes ☐ No	3,4,5,6	☒ Yes ☐ No	Adjacent to Piscataqua River, with anadromous fish migration. Offers nursery and forage to multiple fish species.
4	☐ Yes ☒ No	3,9,13	☐ Yes ☒ No	Steep gradient provides minimal storage during storms and flooding.
5	☐ Yes ☒ No	7	☐ Yes ☒ No	
6	☐ Yes ☒ No	None	☐ Yes ☒ No	Mapped as high value on WAP, but appears to be spillover from estuary
7	☐ Yes ☒ No	2,4,5	☐ Yes ☒ No	Rockweed provides minimal nutrient removal opportunities from runoff.
8	☒ Yes ☐ No	2,5,6	☐ Yes ☒ No	Rockweed provides some forage and shelter for higher trophic organisms, occasional detritus.
9	☒ Yes ☐ No	6,7,12	☐ Yes ☒ No	Path will allow public viewing.
10	☐ Yes ☒ No	8	☐ Yes ☒ No	Hard, steep substrate provides minimal sediment removal function.
11	☒ Yes ☐ No	2,8,11	☒ Yes ☐ No	Ledge protects against erosion from wave action
12	☒ Yes ☐ No	9,14,22	☐ Yes ☒ No	Typical rocky shore of Piscataqua River, but path will allow public viewing.

13	☐ Yes ☒ No	6,7,9	☐ Yes ☒ No	
14	☒ Yes ☐ No	24	☐ Yes ☒ No	Marine invertebrates and rockweed provide forage for seaducks.

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM:	STREAM TYPE (ROSGEN):
HAVE FISHERIES BEEN DOCUMENTED?	DOES THE STREAM SYSTEM APPEAR STABLE?

☐ Yes ☐ No	☐ Yes ☐ No

OTHER KEY ON-SITE FUNCTIONS OF NOTE:

The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☐ No		☐ Yes ☐ No	
2	☐ Yes ☐ No		☐ Yes ☐ No	
3	☐ Yes ☐ No		☐ Yes ☐ No	
4	☐ Yes ☐ No		☐ Yes ☐ No	
5	☐ Yes ☐ No		☐ Yes ☐ No	
6	☐ Yes ☐ No		☐ Yes ☐ No	
7	☐ Yes ☐ No		☐ Yes ☐ No	
8	☐ Yes ☐ No		☐ Yes ☐ No	
9	☐ Yes ☐ No		☐ Yes ☐ No	
10	☐ Yes ☐ No		☐ Yes ☐ No	
11	☐ Yes ☐ No		☐ Yes ☐ No	
12	☐ Yes ☐ No		☐ Yes ☐ No	
13	☐ Yes ☐ No		☐ Yes ☐ No	
14	☐ Yes ☐ No		☐ Yes ☐ No	

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

☒ Wildlife and vegetation diversity/abundance list.

☒ Photograph of wetland.

☒ Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.

☒ For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Peirce Island Pool Renovations

Wetland Narrative

Section 1. Required Information

Peirce Island is located in the City of Portsmouth on the Piscataqua River. It is owned by the City and the State of NH, and provides multiple public services, including the WWTF, the State Fish Pier, the public outdoor pool, boat ramp, park, and numerous walking trails. The Project Area consists of the public outdoor pool located on the western half of the island. The shoreline of Peirce Island is bordered by estuarine habitats, including rocky shore (E2RS1/2) and salt marsh (E2EM1), with a salt marsh located within 100 ft of the portions of the proposed work. A small freshwater wetland is also present off the northwestern corner of the pool. No impacts to the salt marsh or freshwater wetland are proposed. Minor impacts to the rocky shore north of the pool are proposed for the installation of a new stormwater drainage system outlet. Most of the work lies within the protected shoreland, with the demolition of the existing pump house and portions of the new stormwater drainage system and pool repairs lying within the 100-foot tidal buffer zone. Marsh elder (*Iva frutescens*), a State Threatened plant species that is known to occur on Peirce Island, was surveyed for within a 100-foot buffer of the project in Summer 2021 and 2022 and none were found.

See representative photographs of resources in Exhibit 15.

Tidal Buffer Zone

The proposed demolition of the existing pump house and portions of the new stormwater drainage system and pool repairs occurs within the jurisdictional tidal buffer zone (TBZ), the majority of which is previously developed (PDTBZ). The majority of the PDTBZ within the project area includes the pool, pool deck, existing pump house, walking trail, paved parking lot, and surrounding grassed lawns that are regularly maintained. A sparse, 3-foot wide vegetation buffer occurs along the top of the slope north of the pool that leads down to a combination of rocky shore and cobble/gravel shore, which is dominated by patches of beach rose (*Rosa rugosa*) and a mix of perennial grasses and forbs. A portion of this vegetation buffer not containing beach rose will be disturbed as part of the installation of the stormwater outlet and will be restored following completion of the installation. An isolated persistent emergent wetland that is seasonally flooded/saturated (PEM1E) occurs directly west of the existing pumphouse. This wetland is dominated by cattails (*Typha latifolia*) and purple loosestrife (*Lythrum salicaria*) and its soils contain prominent redox concentrations with a depleted matrix (F3). The wetland had saturated soils at the surface and a water table 5 inches from the surface. This emergent wetland will not be impacted by the project.

Salt Marsh

Several sections of salt marsh occur on the southern, more protected side of the island, as well one section on the northern side of the island. The marsh on the southern side are a mix of high marsh and low marsh with typical *Spartina* species (*S. alterniflora* in the low marsh and *S. patens* dominating the high marsh), while the marsh on the northern side is exclusively low marsh. Typical salt marsh forbs

dominate in the upper marsh and marsh elder (NH State Threatened; see NHB21-1136) and occurs in multiple stands along the upland border on the southern side of the island and is reported to occur on the northern side of the island northwest of the project area. No marsh elder was found to occur along the upland border of the salt marsh on the northern side of the island within 100 feet of the project. No salt marsh or marsh elder will be impacted by the project.

Rocky Shore

The northern portion of Peirce Island below the Highest Observable Tide Line is predominately bedrock outcrop and cobble/gravel shore. Rockweeds (*Ascophyllum* and *Fucus* spp) are prevalent in the lower intertidal zone on boulders and ledge, but much of the remaining rocky shore is unvegetated. A small area of the unvegetated rocky shore will be impacted by the proposed installation of a new stormwater drainage outlet and rip rap apron north of the Peirce Island public pool.

Protected Shoreland

Over half of the proposed work will occur in the protected shoreland above the TBZ. All the protected shoreland above the TBZ in the western portion of the island is developed and regularly maintained including a portion of the public outdoor pool, associated parking lot, surrounding lawn areas, unpaved walking paths, and Peirce Island Road.

State-Listed Species

The NHB data review (NHB21-1136; Exhibit 19) indicates eelgrass (*Zostera maritima*) and Atlantic and Shortnose Sturgeon (*Acipenser oxyrinchus* and *A. brevirostrum*) occur in the subtidal waters off Peirce Island. The proposed work will have no adverse impacts to those marine species. The project does not impact any estuarine or marine wetland resources, nor does it include significant noise, blasting, or adverse impacts to water quality.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Peirce Island Pool Renovation City/County: Portsmouth/Rockingham Sampling Date: June 25, 2021

Applicant/Owner: City of Portsmouth State: NH Sampling Point: PW1-Wet

Investigator(s): B. Griffith Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 43.075206 Long: -70.745518 Datum: WGS 1984

Soil Map Unit Name: Urban land-Canton complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Portsmouth is listed as being in a Moderate Drought accroding to the U.S. Drought Monitor.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: PW1-Wet

Tree Stratum (Plot size: 30' R)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' R)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5' R)			
1. *Typha latifolia*	60	Yes	OBL
2. *Lythrum salicaria*	25	Yes	OBL
3. *Carex stipata*	5	No	OBL
4. *Parthenocissus quinquefolia*	1	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	91 =Total Cover		
Woody Vine Stratum (Plot size: 30' R)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column Totals:	91 (A)		94 (B)

Prevalence Index = B/A = 1.03

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point PW1-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 6/1	95	7.5YR 5/8	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Peirce Island Pool Renovation City/County: Portsmouth/Rockingham Sampling Date: June 25, 2021

Applicant/Owner: City of Portsmouth State: NH Sampling Point: Tidal Plot

Investigator(s): B. Griffith Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 43.07542 Long: -70.745455 Datum: WGS 1984

Soil Map Unit Name: Urban land-Canton complex NWI classification: E2US3M

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Portsmouth is listed as being in a Moderate Drought according to the U.S. Drought Monitor.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Tidal Plot

Tree Stratum (Plot size: 30' R)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' R)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5' R)			
1. *Spartina alterniflora*	60	Yes	OBL
2. *Suaeda linearis*	5	No	OBL
3. *Distichlis spicata*	10	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 =Total Cover		
Woody Vine Stratum (Plot size: 30' R)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	75 (A)		115 (B)

Prevalence Index = B/A = 1.53

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Tidal Plot

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	N 5/	100					Sandy	
6-10	N 6/	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- X Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 4

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Peirce Island Pool Renovation City/County: Portsmouth/Rockingham Sampling Date: June 25, 2021

Applicant/Owner: City of Portsmouth State: NH Sampling Point: PW1-UPL

Investigator(s): B. Griffith Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 43.075355 Long: -70.745531 Datum: WGS 1984

Soil Map Unit Name: Urban land-Canton complex NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Portsmouth is listed as being in a Moderate Drought according to the U.S. Drought Monitor.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: PW1-UPL

Tree Stratum (Plot size: 30' R)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' R)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5' R)			
1. *Elymus virginicus*	60	Yes	FACW
2. *Solidago sempervirens*	20	Yes	FACW
3. *Galaeopsis tetrahit*	10	No	UPL
4. *Alopecurus pratensis*	5	No	FAC
5. *Poaceae*	5	No	
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' R)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	95 (A)		225 (B)

Prevalence Index = B/A = 2.37

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point PW1-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 4

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)