

**REGULAR MEETING  
CONSERVATION COMMISSION  
1 JUNKINS AVENUE  
PORTSMOUTH, NEW HAMPSHIRE  
EILEEN DONDERO FOLEY COUNCIL CHAMBERS**

**3:30 P.M.**

**May 10, 2023**

**AGENDA**

**I. APPROVAL OF MINUTES**

1. April 12, 2023

**II. CONDITIONAL USE PERMIT APPLICATIONS (NEW BUSINESS)**

1. Utility Structure Replacement  
Eversource Energy, Owner  
Gosling Road to Echo Avenue & Between Borthwick Avenue and Ocean Road  
(Substation)

**III. STATE WETLANDS BUREAU APPLICATIONS (OLD BUSINESS)**

- A. Standard Dredge and Fill  
105 Bartlett Street  
Clipper Traders, LLC, Portsmouth Lumber & Hardware, LLC, Iron Horse Properties,  
LLC, Owners  
Assessor Map 157, Lots 1 and 2, Map 164, Lots 1, 2, and 4-2

**IV. STATE WETLANDS BUREAU APPLICATIONS (NEW BUSINESS)**

1. Minimum Impact  
39 Holmes Court  
Stephen & Kathryn Singlar, Owners  
Assessor Map 101, Lot 13
2. Major Impact  
43 Holmes Court  
Stephen & Kathryn Singlar, Owners  
Assessor Map 101, Lot 14

**V. OTHER BUSINESS**

1. 365 Little Harbor Road

**VI. 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\\_Bx9KbjqFT46nB4pqEX6NVw](https://us06web.zoom.us/webinar/register/WN_Bx9KbjqFT46nB4pqEX6NVw)

**MINUTES  
CONSERVATION COMMISSION  
1 JUNKINS AVENUE  
PORTSMOUTH, NEW HAMPSHIRE  
EILEEN DONDERO FOLEY COUNCIL CHAMBERS**

**3:30 P.M.**

**April 12, 2023**

**MEMBERS PRESENT:** Chair Samantha Collins; Vice Chair Barbara McMillan; Members; Allison Tanner, Lynn Vaccaro, Jessica Blasko (virtual), Thaddeus Jankowski; Alternates; Abigail Gindele, Brian Gibb

**MEMBERS ABSENT:** Stewart Sheppard

**ALSO PRESENT:** Peter Britz, Director of Planning and Sustainability; Kate Homet, Associate Environmental Planner

\* Timestamps of recording denoted in brackets []

[7:30] The meeting began at 3:33 p.m.

**I. APPROVAL OF MINUTES**

1. March 08, 2023

Chair Collins announced that one member will be on Zoom and that the Commission would be voting via roll call.

[8:05] Ms. Tanner made a motion to approve the minutes as presented. Vice Chair McMillan made an edit to switch the Chair and Vice Chair labels in the attendance section and seconded the motion. The motion passed unanimously with Ms. Gindele abstained from the vote due to her absence from the last meeting.

**II. CONDITIONAL USE PERMIT APPLICATIONS (NEW BUSINESS)**

1. 50 Andrew Jarvis Drive  
City of Portsmouth, Owner  
Assessor Map 229, Lot 33

[9:02] Chair Collins announced the first wetland conditional use permit application for 50 Andrew Jarvis Drive.

[9:14] Ken Linchey, the Facilities Director of the Portsmouth School Department, came to

present this application. Mr. Linchey noted that the tennis athletic programs could not host competitions on the current PHS tennis courts as they do not meet regulation requirements. There used to be the necessary number of courts downtown by Leary Field but they were converted to pickleball courts. The current courts at PHS are outdated and showing signs of cracking. Mr. Linchey met with a wetland scientist, Joe Noel, after the Commission's site walk to determine the best path forward for landscaping and removing invasives. Mr. Linchey went on to describe the proposed stormwater improvements around the tennis courts, the removal of certain trees and the addition of new plantings.

[18:36] Ms. Tanner asked if he knew how many trees would be removed in total. Mr. Linchey estimated around 24-30 white birches along with 3 maple trees. They will attempt to relocate trees where they can and supplement with new native buffer plantings.

[19:43] Ms. Tanner asked if they could plant more trees in the southwest corner of the lot. Mr. Linchey responded that they could do that.

[20:50] Ms. Vaccaro noted that there were probably also spaces all over the school grounds that could benefit from more plantings as well to help offset these impacts. Mr. Linchey responded that they have been doing that a lot in the recent past and will continue to look for new areas to plant in.

[21:49] Vice Chair McMillan asked if they were expanding into the southwest area at all. Mr. Linchey responded that they will be expanding slightly into the existing grass area there which is within the wetland buffer and they are doing so to minimize the impact on the wetland on the north side.

[24:49] Vice Chair McMillan asked whether they could use coir logs in their BMPs for stormwater instead of the proposed silt fence as they are less invasive and impactful than the silt fence.

[25:17] Ms. Tanner asked if the walkway needed to be 12 ft wide as it appeared rather wide. Mr. Linchey responded that it is structured as an egress in case of emergency access for ambulances but they could reduce it to 10 ft.

[26:05] Ms. Gindele asked what the cost of this project would be. Mr. Linchey responded that it was \$1.1 million for the new courts. She inquired whether the new pickleball courts could be dual use for tennis instead of this renovation project at the high school. Mr. Linchey responded that he did not know if there was any conveyance of information between the Recreation Board and the School Department when the new pickleball courts were being put in and the old tennis courts removed.

[28:50] Chair Collins asked if there was an opportunity to change some of the impervious surface to pervious, other than the emergency access areas. Mr. Linchey responded that could look at alternatives to impervious areas but they are also focusing on longevity of all the new hardscaping to ensure it lasts for another thirty years. This would require greater maintenance and would increase project costs but they can look at that as an option.

[31:09] Chair Collins asked if emergency vehicles could access the covered area and get to the rear court.

Mr. Linchey responded that emergency response crews would drive on the pervious surface and then go onto the court on foot with medical equipment. They do not need to be able to drive onto the courts.

[31:50] Chair Collins asked about the construction sequence. Mr. Linchey responded that the two existing courts would be torn up at the same time by milling them down, creating a gravel base and then creating the new court and working their way back to the original courts.

[32:27] Vice Chair McMillan noted that there were many things that would be included as additions to the proposal to come after this meeting and whether or not he would be okay with postponing until the next meeting.

Mr. Linchey responded that if it was postponed it would postpone the construction project and their timeline currently is to have the courts ready for the Spring of 2024. He noted that the updated plans could be submitted to Mr. Britz by next week.

[34:17] Ms. Blasko asked about plans for snow removal. Mr. Linchey responded that they do not remove the snow on the tennis courts as usually the heat and sun in the spring would help melt it. If snow does not melt, they also have the option of using small ATV vehicles and a tractor for maintenance purposes.

[36:21] Ms. Tanner made a motion to recommend approval with the following stipulations:

1. A planting plan to be submitted to and approved by the Planning & Sustainability Department before submission to the Planning Board.
2. Reduce walkways from 12 feet wide to 10 feet where possible.
3. Consider the use of pervious pavement wherever possible.
4. Applicant shall replace proposed silt fences with silt socks to be used during construction.
5. Applicant shall replace all Maple trees to be remove with new Maple trees and replace all trees over 4" dbh with new trees around the site and school property.

The motion passed 6-2 with Ms. Gindele and Vice Chair McMillan voting no.

[38:05] Vice Chair McMillan seconded the motion.

[38:14] Vice Chair McMillan mentioned that she did not feel comfortable approving this plan since they did not receive the new plan in a timely manner, and they were not able to see where new plantings would be going.

[38:57] Ms. Gindele felt that they did not need six courts and could dually use the new pickleball courts that are downtown.

[40:19] Mr. Gibb brought up the subject of timing for this project and he thought it would be helpful to understand the significance of the timing of all the stipulations and why the Commission felt hesitant.

Mr. Linchey responded that the South Mill Pond location was not in walking distance for students and that with both women and men's teams there are many people in need of the courts. He brought up the timing of construction and how the project will have to go out to bid, start mid-summer and wrap up by winter. A postponement would impact the bid and construction process which could have potential impacts for the Spring tennis season starting next year.

[42:45] Theresa (Woodbury Avenue) a member of the community came to the podium and noted that she was not in support of impacting the wetlands further in this area for the tennis courts. She felt strongly about the removal of trees in this project. She felt that the diversity of landscaping across the city was unacceptable and went on to express concern for the wildlife and landscape across the city and the amount of greed within development projects.

[50:01] Mr. Jankowski mentioned that he is wary of the timeline of this project and noted that he would like to see the Commission review the planting plan when it comes in.

[50:25] Chair Collins would like to see a master plan for the upcoming recreational fields because there are so many projects that have been happening and they need to ensure that all these spaces are being used. Mr. Linchey responded that he knew that a lot of these fields are used heavily by students and even the public. The City and various recreation groups have identified the existing sports facilities across the city in the recreational study and the need for different facilities as well.

2. 89 Sparhawk Street  
Jonathan and Lisa Morse, Owners  
Assessor Map 159, Lot 2

[56:03] Chair Collins introduced the wetland conditional use permit application for 89 Sparhawk Street.

[56:39] Steve Riker of Ambit Engineering, Vicki Martel of Woodburn and Company Landscape Architecture, Jenn Ramsey of Soma Studios and John Chagnon of Ambit Engineering.

Mr. Riker noted that the Commission came on a site walk of the property on January 4th where their design team met to go over the feedback they had received which included reducing the size of the proposed addition.

He described the existing property - this includes an existing gravel driveway, landscaped retaining walls, a stone patio, and a deck. For demolition, the patio will be removed along with

some of the retaining walls. The applicant is proposing a new garage, walkways in the front, a new pervious patio and concrete patio, stairs leading from the front to the rear yard, etc. The applicant is also applying for an NHDES permit to remove the existing patio from the tidal buffer zone. The applicant mentioned that the grading for this project will be minimal and they have designed the project to fit into the current grading to the best of their ability. They have also included a stormwater maintenance plan for proper maintenance of pervious surfaces by the owner and have proposed some drip edges, porous surfaces and a roof drain that will meet with a new drain under the proposed landing area which will go underground and discharge on the slope of the wetland.

[1:07:24] Ms. Ramsey of Soma Studios presented the garage addition plans. She noted that they had reduced the scale from three-cars to a two-car garage and they have revised the living space to include more storage space. She noted that the garage could not be placed on the other side of the garage due to egress issues and the need for rearrangement of the interior space in the existing home along with a sightline issue for vehicles if they were to exit from that side.

[1:10:02] Ms. Martel went on to describe the proposed new landscaping along with the existing landscaping that is to stay.

[1:11:05] Chair Collins asked Mr. Riker if he could speak to the NHDES permit application as well.

Mr. Riker noted that there was a small area in blue that requires an NHDES permit for the removal of the existing patio in the Tidal Buffer Zone. The green and brown areas will require a shoreland permit from NHDES as well which they will be applying for.

[1:12:21] Ms. Tanner noted that although they did reduce the size of the garage, they are increasing the area of what it is built on considerably. She also asked why the rear exit of the addition could not be moved outside of the buffer and into the side of the garage that is outside the buffer.

[1:13:39] Ms. Martel noted that the area on the side of the garage is a mechanical unit area and that the logical space grade-wise for the landing of the garage is in the rear. Ms. Ramsey also noted that a relocation would put the egress closer to the abutter and would require more digging in the buffer along the side of the garage which would mean greater impact than what is proposed.

[1:15:22] Ms. Gindele inquired why the applicant needed two patios which would both be in the buffer and what they would need to store in that lower level that would require a patio. Ms. Ramsey responded that the main patio is a replacement which is being placed outside the tidal buffer. The additional landing patio will be needed for taking items in and out of storage in the basement of the garage such as patio furniture and things such as kayaks.

[1:17:44] Ms. Gindele noted that her sister lived on this street and she had written a letter for the public comment period of this application. Ms. Gindele did not believe that the garage addition needed to be as large as it was.

[1:19:08] Vice Chair McMillan asked to have more information be shared about the grading plans.

Mr. Chagnon responded with plans for the grading which included removal of the existing patio which needs spot grading from loam and seed, the bottom of the stairs, the patio and the backside of the new patio will all require regrading. Additionally, the area of the proposed addition will have new grading including in the front of the home where the driveway will be. The side of the new addition will be sloped and drop off grades as you make your way to the backyard through a new walkway. He noted there will be no changes in elevation for the roof drain, it will be a temporary impact that involves trenching it out. He also noted that it could be a perforated pipe that is infiltrative.

Mr. Britz expressed his concern for erosion of the bank from the roof drain and noted that a dry well would be preferred. Mr. Chagnon responded that it would work but if there was no daylight outlet then it could potentially back up into the living space.

[1:26:40] Vice Chair McMillan asked what the plans were for mitigating the disturbance around the pipe and whether there would be stone at the outlet. Mr. Chagnon noted there would be a flared end and a transition area with some plantings at the outlet that are native.

[1:27:42] Chair Collins asked what the square footage changed to after they removed the third bay from the garage.

Ms. Ramsey noted that it was not reduced by a full car bay because they kept a little bit of extra width. The square footage is around 336 s.f.

[1:28:45] Chair Collins asked why the rear patio had to be impervious concrete and at the size that it is.

Mr. Riker responded that it is within the water table which is just 32 inches below grade. The size of the patio is due to the proposed storage of furniture and kayaks so that the opening is large enough for those things to be taken out.

[1:29:58] Chair Collins asked for an explanation as for the intent of the patio size. Ms. Ramsey responded that there is currently no space under the existing deck and there is no storage space in the existing basement for such items.

[1:32:23] Vice Chair McMillan asked if the landscape architect could speak to the existing buffer plantings and how the size compares to the proposed plantings.

[1:32:50] Ms. Martel noted that there are existing arborvitae and hydrangeas, there may be disruption from the roof drain but anything removed there will be replaced. They plan to supplement areas where existing blueberries occur by adding two more rows of blueberry bushes. The area within the vegetated buffer will remain undisturbed with no new plantings.



[1:34:35] Chair Collins opened the public hearing.

[1:34:33] Elizabeth Bratter of 159 McDonough Street came to speak about this application and noted that many new residents who move into spaces along the waterfront do not even use their decks due to pests and bugs.

[1:36:19] A discussion ensued about whether or not Ms. Gindele should recuse herself from discussing and voting on this application.

[1:39:16] Ms. Gindele recused herself and made her way to the podium to speak.

[1:40:20] Abigail Gindele of 229 Clinton Street came to speak out against this application. She noted that the size of the project was too large and the height would impact the wildlife in this area.

[1:41:18] Vice Chair McMillan voted to recommend approval of this application and went on to explain her decision. Ms. Tanner seconded the motion. Vice Chair McMillan mentioned that although she was concerned about the size of the addition and had concerns about stormwater issues being created by the new construction, especially with little to no new plantings in the buffer to help make a substantial difference.

[1:42:52] Mr. Gibb mentioned that when looking at the six required conditions from Article 10, he felt he could only satisfy 2 of the 10 conditions. Mr. Jankowski agreed with Mr. Gibb. He noted that he would not recommend this conditional use permit to the Planning Board.

[1:43:45] Ms. Collins did not believe the lack of storage space was a justifiable reason for the proposed impacts to this property. She also mentioned that the footprint being added was very large and not justifiable.

[1:44:55] Ms. Blasko reiterated what her fellow Commission members said and noted that it felt like a significant increase to the buffer. She noted that as a homeowner whose house fully sits in the wetlands, you do not always receive the proper information about the wetlands and the ability to develop in it. Nobody sits down to guide you through your property options before you buy it,

[1:46:14] Mr. Chagnon requested the Commission postpone the application so that they can scale back the project with the property owner.

[1:46:46] Vice Chair McMillan withdrew her motion. She then made a new motion to postpone the application to the May meeting. Ms. Tanner seconded the motion.

[1:48:37] Mr. Gibb noted that he felt hesitant to support a postponement because they did not present substantial changes with this new application, and he felt as though they would not apply substantial changes in the next round.

The motion passed 5-2 the application was postponed to the May meeting.

3. 253 Odiorne Point Drive  
RTM Trust, Ryan & Heidi Mullen Trustees, Owners  
Assessor Map 224, Lot 10-19

[1:53:33] Chair Collins introduced the wetland conditional use permit application for 253 Odiorne Point Road.

[1:54:07] Ms. Tanner made a motion that the meeting be extended until 6:00 p.m. Vice Chair McMillan seconded the motion. The motion passed unanimously.

[1:54:58] Ryan Mullen, the property owner, came to present this application. He noted his appreciation for the site walk last week which allowed him to do further research. He went on to describe his property - a recent purchase which is nearly entirely within the 100 ft wetland buffer. There currently exists ineffective drainage on the property which results in pooling of water and damage to the stairs, piers, siding and patio space of the home. He proposed extending an existing rock wall which will divert water away from the home and towards the wetland. An additional rock wall on the opposite side of the residence will be extended for the same purpose. Steps will be added for pedestrian access. The property owner has already removed the flagstone patio which he intends to replace with 12-18" of depth of crushed stone and permeable pavers. This will all help with infiltration for the two french drains that currently exist underneath. A concrete slab will be placed underneath the depth with 100 s.f. An area for a hot tub with pavers surrounding it. Additionally, a natural culvert that currently exists will be replaced with a french drain and a rain garden. For structure alterations, the existing deck will need new support piers and the staircase for the deck will be moved further from the wetland and will face a new direction, the proposed deck will be within the 40 ft setback which will require a variance from the Zoning Board of Adjustment. For landscaping alterations, they are proposing new permeable pavers with topsoil and will follow soil guidelines for rain gardens. The existing clay soil that was removed from above the french drains will be spread out by the rock wall and the applicant is also proposing the removal of the invasive species within the wetland edge which will be replaced with native wetland plantings.

[2:07:22] Ms. Vaccaro asked where the rain garden would go. Mr. Mullen pointed out that he would like to place it where the existing garden was along with the area that is shaded by where the existing natural culvert exists. Ms. Vaccaro noted that the rain garden may not work well in areas that are usually saturated but they could work better further towards the driveway.

[2:08:23] Mr. Britz reiterated that the saturation of that area would be difficult for a rain garden but that a berm may be more manageable in that area.

[2:09:53] Ms. Tanner clarified that the applicant should plant buffer plantings in the vegetated buffer to have the most impact before stormwater reaches the wetland itself.

[2:10:51] Vice Chair McMillan asked for clarification on whether there was a swale or an underground culvert already and what the plans for the new french drain were.

Mr. Mullen responded that he was planning to redirect stormwater with a French drain near the

top of the surface. Vice Chair McMillan noted that although there was a lot of existing clay in the soil, he should strive to slow down and infiltrate stormwater as much as possible before it enters the wetland.

[2:13:49] Mr. Jankowski asked the applicant to follow NOFA standards on this property. He noted that more information can be found on the City website. Mr. Mullen agreed that he would not be using harmful substances here especially with young kids playing in the yard.

[2:15:08] Chair Collins asked about the existing erosion control measures and asked if the applicant planned to add additional measures on top of the current silt fence.

[2:16:25] Mr. Britz recommended that a silt sock be placed along the boundary which is biodegradable and could be removed after everything is stabilized.

[2:16:56] Mr. Gibb wanted to express his appreciation for the applicant responding to the Commission's requests and for the clearly laid out plans.

[2:17:23] Vice Chair McMillan noted that the applicant had done work without a permit on this site which they do not allow, noting that this permit would technically be an after the fact permit due to all of the earth disturbance within the wetland buffer, which also did not allow the Commission to learn about the existing conditions. Vice Chair McMillan noted that she would recommend postponement so that the applicant could provide a plan that shows the exact placement of all of the proposed changes and additions.

[2:20:09] Mr. Mullen said that he had done many things out of safety in terms of all of the flooding damage and acknowledged that he did not know of all of the rules as he was a new resident to the City.

[2:26:56] Ms. Tanner made a motion to recommend approval of the plan with the following stipulations:

1. A silt sock is put in as an addition to the existing silt fence to help mitigate construction impacts.
2. No plantings will be planted within the wetland itself, just the buffer, and no removal of invasives will be performed within the wetland.
3. A final site plan will be submitted to the Planning Department for review and approval prior to submission to the Planning Board.
4. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall install permanent wetland boundary markers during project construction. These can be purchased through the City of Portsmouth Planning and Sustainability Department.
5. The Conservation Commission recommends the property owner follow NOFA land care standards on the site

[http://www.organiclandcare.net/sites/default/files/nofa\\_organic\\_land\\_care\\_standards\\_6thedition\\_2017\\_opt.pdf](http://www.organiclandcare.net/sites/default/files/nofa_organic_land_care_standards_6thedition_2017_opt.pdf)

[2:28:31] Ms. Blasko seconded the motion.

[6:03] The motion passed 5-1.

[2:38:32] Vice Chair McMillan suggested to extend for another fifteen minutes.

[2:38:50] Ms. Tanner made a motion to extend the meeting for another fifteen minutes.

4. 500 Market Street  
Nobles Island Condominium Association, Owner  
Assessor Map 120, Lot 2

[2:40:00] Mike Street from CP Management for Nobles Island came to present this application. He briefly described the application which requires the replacement of existing decks and the support system of these decks due to rotting and rusting.

[2:40:55] Chair Collins asked what the plan was for adding plantings.

Mr. Street noted that much of the area was riprap with minimal grass area. Recently, marsh beach roses were removed from the area. There is an opportunity to plant near the back of building B which provides a wide enough area outside the stone riprap and between the decking. He noted that there also exists some areas at the edge of pavement where stormwater currently runs off that could benefit from plantings.

[2:43:17] Mr. Jankowski asked what they did to maintain the grass property.

Mr. Street responded that since there was not much lawn area they did need any real maintenance for any of it.

Mr. Jankowski suggested that they follow NOFA standards.

[2:44:22] Ms. Gindele asked if they could do a mechanical method of removing rodents under the deck instead of using the rodenticide that is being stored under the decks. Mr. Street agreed to this. Ms. Gindele also suggested the removal of remaining lawn area and replacement with plantings.

[2:45:45] Mr. Street noted that their landscapers are very willing to do native species and he will speak with them about new plantings in the existing grass areas.

[2:46:58] Ms. Vaccaro suggested that some sort of filtration be done for the stormwater coming off the parking lot such as a rain garden which Mr. Street was amenable to.

[2:47:13] Mr. Britz would be willing to help the applicant with this but he did not believe there

was enough room for a rain garden. Instead, either using a silt sock or removing a small amount of pavement and removal of soil depth and placement of stone would help slow the water. All of these might be difficult due to the lack of room.

Ms. Tanner made a motion to recommend approval of the wetland conditional use permit with the following stipulations:

1. The applicant shall not use rodenticide for pest control, instead they shall use mechanical traps.
2. Applicant will submit plans for approval to the Planning & Sustainability Department prior to Planning Board submittal for the two stormwater outfall areas off the parking lot. These areas should be provided with some sort of infiltration before it reaches the North Mill Pond. This can include digging down into the soil and placing crushed stone or the planting of native buffer species to slow stormwater.
3. Native buffer plantings shall be placed along the bank behind Building B as a replacement of portions of the grass as well as others areas where appropriate.
4. The Conservation Commission recommends the property owner follow NOFA land care standards on the site  
[http://www.organiclandcare.net/sites/default/files/nofa\\_organic\\_land\\_care\\_standards\\_6th\\_edition\\_2017\\_opt.pdf](http://www.organiclandcare.net/sites/default/files/nofa_organic_land_care_standards_6th_edition_2017_opt.pdf)
5. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall install permanent wetland boundary markers during project construction. These can be purchased through the City of Portsmouth Planning and Sustainability Department.

[2:49:17] Vice Chair McMillan seconded the motion. The vote was unanimous.

### **III. STATE WETLANDS BUREAU APPLICATIONS (NEW BUSINESS)**

1. Standard Dredge and Fill  
105 Bartlett Street  
Clipper Traders, LLC, Portsmouth Lumber & Hardware, LLC, Iron Horse Properties, LLC, Owners  
Assessor Map 157, Lots 1 and 2, Map 164, Lots 1, 2, and 4-2

[2:39:05] Ms. Tanner made a motion to postpone the 105 Bartlett application until the May meeting. Mr. Jankowski seconded the motion. The motion passed unanimously.

2. Minimum Impact  
89 Sparhawk Street  
Jonathan and Lisa Morse, Owners  
Assessor Map 159, Lot 2

[1:51:35] Ms. Tanner made a motion to recommend approval of the state wetland permit. Vice Chair McMillan seconded the motion. The motion passed 4-2.

#### **IV. OTHER BUSINESS**

##### 1. Earth Day Discussion

[2:50:41] Chair Collins mentioned the upcoming earth day cleanup event at the great bog, noting that anyone who wants to come is welcome and should bring hand tools if possible.

[2:51:24] Ms. Tanner brought up that the conservation commission will be tabling at another earth day event with handouts and different links to give out to people. This will be on Friday April 21st at the Connie Bean and so far, Ms. Tanner and Ms. Vaccaro are signed up to help.

#### **V. ADJOURNMENT**

The meeting adjourned at 6:19 pm.



# Memo

TO: Conservation Commission Members  
FROM: Peter Britz, Environmental Planner  
Kate Homet, Associate Environmental Planner  
DATE: May 5, 2023  
SUBJ: May 10, 2023 Conservation Commission Meeting

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**Site Address**  
**0 Ocean Road**  
**E194 & U181 Structure Replacement Project**  
**Eversource**  
**(LU-23-60)**

This is a utility structure replacement project with work throughout the Portsmouth transmission corridor between Gosling Road to Echo Avenue and between Borthwick Avenue and the Ocean Road Substation. The Site crosses through residential, industrial and commercial properties, as well as wooded areas and wetlands. Work in the right of way is proposed in palustrine scrub-shrub and palustrine emergent wetland systems, including the Great Bog. Additionally, there will be temporary impacts to the Pickering Brook tributary and within the 100-foot wetland buffer. In total, the proposed project requires approximately 208,734 sq. ft. of temporary wetland impact for the placement of timber matting and structure replacements. There will be approximately 3,310 sq. ft. of temporary impact to Pickering Brook in order to span the stream with timber matting. The project also proposes 78,642 sq. ft. of temporary buffer impact in uplands for clearing and grading to gain access to structures.

According to *Article 10 Section 10.1017.650* the applicant must satisfy the following conditions for approval of this utility project.

1. *The proposed project is in the public interest.*

The project is necessary maintain existing corridor powerlines with upgraded support poles.

2. *Design, construction, and maintenance methods will utilize best management practices to minimize any detrimental impact of such use upon the wetland and will include restoration of the site as nearly as possible to its original grade condition and vegetated state.*

The applicant has stated that the work will be conducted in accordance with NHDES Best Management Practices Manual for Utilities in and Adjacent to Wetlands and Waterbodies (NH DNCR 2019). Prior to placement of timber mats the applicant has stated they will inspect the mats to ensure cleanliness and will clean them off with each reuse. Wooden timber matting will be used to minimize the disturbance of wetlands and sensitive areas and once removed, the areas will be restored and stabilized with seed and mulch. Any areas of soil disturbance will be stabilized with seed and straw mulch. Additional proposed BMPs include silt fences, straw wattles/bales, and the use of water bars.

3. *No alternative feasible route exists which does not cross or alter a wetland or have a less detrimental impact on a wetland.*

The applicant has chosen the only routes available to access the replacement poles, but the applicant has selected access designed to utilize existing historical access routes where possible to minimize impacts.

4. *Alterations of natural vegetation or managed woodland will occur only to the extent necessary to achieve construction goals.*

Generally, the vegetation is expected to return to its original configuration after the timber mats are removed. After removal, if erosion has occurred the areas will be restored with seed and mulch. However, there will be some vegetation removed exactly where the structure replacement is proposed to occur.

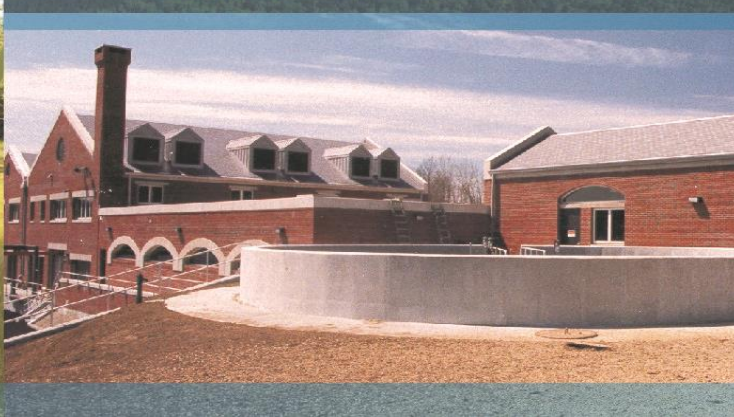
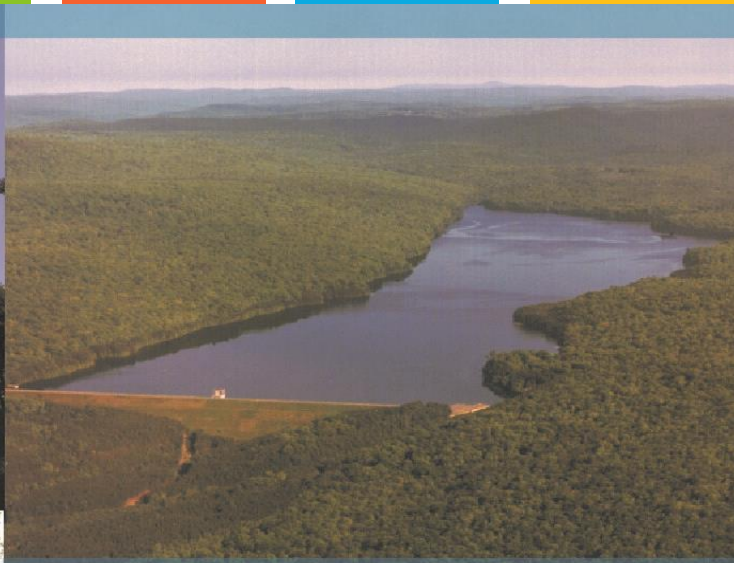
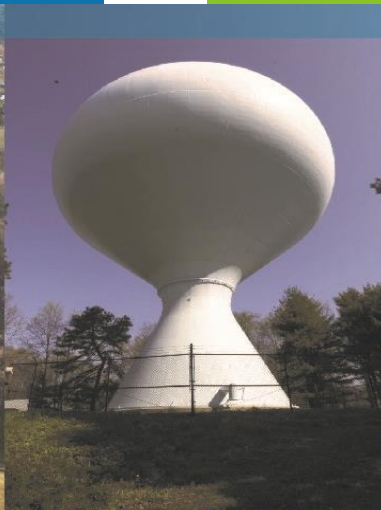
**Recommendation:** Staff believes the applicant has provided a work plan which is best suited to the nature of the work required to maintain the utility lines in this corridor and recommends this application be approved as proposed.

#### OTHER BUSINESS:

**Site Address**  
**365 Little Harbor Road**  
**Charles Doleac, Owner**

A wetland restoration program created by Marc Jacobs, a certified soil & wetland scientist, has been approved by the NH Department of Environmental Services for the property at 365 Little Harbor Road. This plan was created in response to unpermitted impacts to a jurisdictional shoreland area which resulted in a clearing of vegetation along the slope of the shore. The property owner is planning to work with a licensed pesticide applicator to remove invasive species on the property and they plan on replanting the area with similar shrubs and tree species that existed in the area prior to removal. Given the applicant has received approval for this restoration plan and the result will be not change to terrain or no new structures on the site, just a revegetated site, staff recommends the City allow the restoration to proceed with no additional permitting from the City.





E194 & U181 Structure Replacement Project  
Portsmouth, New Hampshire

# CITY OF PORTSMOUTH CONDITIONAL USE PERMIT

Eversource Energy  
13 Legends Drive  
Hooksett, New Hampshire

April 2023

E-5034-200-01  
April 25, 2023

Ms. Barbara McMillan, Chair  
City of Portsmouth Conservation Commission  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

Re: **Eversource E194 & U181 Structure Replacement Project  
Wetland Conditional Use Permit Application  
Portsmouth, NH**

Dear Ms. McMillan:

On behalf of Eversource Energy dba Public Service Company of New Hampshire (Eversource), Tighe & Bond is pleased to submit the following Conditional Use Permit (CUP) for the above referenced project. Eversource proposes to replace existing utility structures on the E194 and U181 lines within an existing maintained transmission right-of-way (ROW) in Portsmouth. These structures are being replaced due to overall age and condition to allow for continued reliable utility transmission. Enclosed is a project description and supporting documents including project mapping, a wetland resource area description and assessment, representative site photographs, and an application fee check (file copy) in the amount of \$1,000.

The proposed project is located on the Eversource Lines E194 and U181 Right-of-Way (ROW) in Portsmouth and Newington, New Hampshire. The transmission line within Portsmouth runs from Gosling Road to Echo Avenue, and between Borthwick Avenue and the Ocean Road Substation on the Greenland/Portsmouth town line. The ROW and access roads are surrounded by residential, industrial, and commercial buildings, wooded areas, and wetlands. The proposed project will consist of the replacement of forty-two (42) structures and associated static wire work at eight (8) structures on the E194 and U181 lines. Existing wooden utility structures will be replaced with new steel structures. In addition to the structure replacements, existing upland access roads and work pads will need to be established. Impacts to the 100-foot Buffer Zone will result from the creation of approximately 100-foot by 100-foot work pads and 16-foot-wide access roads. Wetlands and other sensitive areas are to be protected with timber matting along proposed access and surrounding the structures to be replaced.

We trust the enclosed information addresses the requirements for the CUP application. If you have any questions or require any additional information, please feel free to contact me at (413) 875-1305 or at [KLWilkins@tighebond.com](mailto:KLWilkins@tighebond.com).

Respectfully,

**TIGHE & BOND, INC.**



Katherine Wilkins  
Project Manager

Enclosures

Copy: Planning Board, City of Portsmouth  
Ashley Friend, Licensing and Permitting, Eversource Energy



**Filing Fee Check (File Copy)**

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**Appendices**

- A Project Mapping
- B Wetland Resource Area Description and Assessment Report
- C Site Photographs

\\Tighebond.com\data\Data\Projects\E\E5034 Eversource L&P 2019\200 - Line E194 & U181\Permitting\City of Portsmouth\E194 & U181 CUP Narrative - draft.docx

**Tighe & Bond, Inc.**  
53 Southampton Road  
Westfield, MA 01085

This is a Deluxe eCheck. The PAY TO THE ORDER OF line designates the Payee. For questions call Deluxe Payment Exchange customer support at 1-877-633-6964. Ref: 7303-164F

**6509**

Date 03/23/2023  
Void after 90 days

PAY TO THE ORDER OF City of Portsmouth

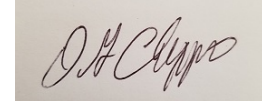
**\$ 1,000.00**

One thousand and 00/100

Dollars

TD Bank, NA

Memo \_\_\_\_\_



Verify check at <https://echecks.com/verify>

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Account numbers are concealed for your security

**FILE COPY**

## Check Details

**Check issued:** 03/23/2023

**Check number:** 6509

**From:** Tighe & Bond, Inc.

**Amount:** \$1,000.00

**Payable to:** City of Portsmouth

**Delivered to:** jnovotny@tighebond.com

**Documents:** Yes - see Remittance below

**Message from sender:** Hi, attached is your Tighe & Bond electronic check. Any questions please email AP@tighebond.com.

## Notes

## Activity

ACTIVITY TYPE	TIME	DATE
Tracy Houle issued check 6509	10:40 AM EDT	03/23/2023
Check 6509 file copy printed by Julia Novotny	12:35 PM EDT	03/23/2023

## **Section 1**

# **Project Description**

Eversource Energy has determined that forty-five (45) wooden utility structures on the E194 and U181 Lines in Portsmouth and Newington need to be replaced with steel structures due to their overall age and condition. Forty-two (42) of these structures are located within Portsmouth. These include Structures 13-16, 19, 37-41, 43-45, 48-54, 65.5 and 66 on the U181 Line and Structures 12-14, 19, 41-53, 65.5, and 66 on the E194 Line. Additionally, static wire work will be conducted at STRs 65-67 on the U181 and STRs 65-67 on the E194. The proposed structure replacements are required to maintain the safety and reliability of the existing transmission system. All practicable alternatives to avoid or minimize impacts from this work have been assessed and incorporated into the project design.

As part of the work, the existing access roads will need to be regraded, and proposed access routes established. Work pads will also be established around the structures to be replaced or that require overhead work. This regrading and gravel placement will only be completed within upland areas. Portions of the access roads and work pads located in wetlands will be protected with timber matting, as will some uplands where the work is proposed within sensitive areas.

The following narrative describes existing conditions and proposed activities within jurisdictional areas. Representative photographs of the project area are found in Appendix C and Project Mapping is provided in Appendix A.

## **Section 2**

# **Existing Conditions**

### **2.1 Project Site**

The E194 and U181 transmission lines originate at the Newington Substation off Gosling Road in Newington and run southwest of the Piscataqua River. The lines then extend southeast, parallel with Route 4 before turning southwest again, parallel with Interstate 95. The lines continue southwest through Great Bog in Portsmouth before turning west and terminating at the Ocean Road Substation in Greenland. The topography is generally flat throughout the right-of-way (ROW) with slight depressions and hills located in the less developed reaches. The areas surrounding the ROW are mostly commercial, industrial, and residential, with some large portions of forested and wetland areas closer to the Greenland town line.

The proposed limits of work, as shown on the Project Mapping, consist of the existing ROW corridor. The work proposed within Portsmouth is located between Gosling Road and Echo Avenue, and between Borthwick Avenue and the Ocean Road Substation on the Greenland/Portsmouth border. Representative site photographs are provided in Appendix C.

### **2.2 Jurisdictional Wetland Resource Areas**

There are multiple wetland resource areas within the E194 and U181 ROW corridor. Jurisdictional wetland resource areas within the project area were identified and delineated on December 21, 2022, and January 4, 9, and 17, 2023 by Tighe & Bond wetland scientists, including a New Hampshire Certified Wetland Scientist. Refer to the Wetland Resource Area Description and Assessment Report provided in Appendix B for a detailed description of these areas.

#### **2.2.1 Wetlands**

Wetlands within the project area are characterized as a mixture of palustrine scrub-shrub (PSS) and palustrine emergent (PEM) systems. Several of these wetlands are situated within disturbed areas surrounded by development. The E194 and U181 ROW crosses through these wetlands and adjacent developed areas, in addition to Great Bog between Greenland Road and the Ocean Road Substation in Greenland. The wetlands adjacent to Borthwick Avenue near Structures 37 through 42, in addition to Great Bog, are designated as Prime Wetlands.

Approximately 208,734 square feet (SF) of temporary impacts to wetlands will result from the placement of timber matting for access to the structures. Several of the structures to be replaced are located within wetlands.

#### **2.2.2 Pickering Brook**

A tributary to Pickering Brook flows northeast to southwest through the project area within Great Bog. This stream flows adjacent to Structure 49 on the E194 and Structure 49 on the U181. Work at these structures will require temporary impacts of approximately 3,310

SF to span the stream with timber matting. This tributary flows to the main stem of the river, which is located west of the project site.

### **2.2.3 100-foot Buffer Zone**

The 100-foot Buffer Zone within the project area is a mixture of impervious/paved, forested, residential, and commercial areas, as well as the existing maintained ROW.

Buffer Zone between Structures 12 and 16 and around Structure 19 on both lines is mainly comprised of impervious area (e.g., parking lots and roadways) and residential or commercial development, with some upland areas in and adjacent to the ROW. Additionally, Buffer Zone between Structures 37 and 41 is comprised nearly entirely of paved roadways or parking lots. Buffer Zone between Structures 45 and 54 on both lines and at the Ocean Road Substation is comprised entirely of upland maintained ROW and forested areas. Vegetation in this area is mainly scrub-shrub and a mixture of deciduous and coniferous forest.

Impacts to Buffer Zone total approximately 78,642 SF resulting from proposed clearing and grading for access to the structures.



## **Section 3 Proposed Activities**

### **3.1 Structure Replacement and Maintenance**

The structure replacements will consist of drilling holes up to four feet in diameter and the installation of a caisson (metal culvert) into each hole approximately 15 to 20 feet (10% of structure height plus 2 feet) below the ground surface. The new poles will be placed into the caissons and backfilled with clean, suitable materials. Spoils generated from the drilling operations will be disposed in appropriate upland areas at least 100 feet away from wetland areas and then stabilized.

Concrete block anchors will be installed by excavating trenches to a sufficient depth, installing the anchors, and backfilling the trenches. Where block anchors are required within a wetland, hydric soils will be segregated upon excavation and replaced to maintain the hydric soil profile. Any additional spoils will be disposed in upland areas away from wetland areas. Disturbed soil will be seeded with a conservation seed mix and mulched with straw.

Once the new poles are installed, old poles will then be removed by cutting them below the ground surface. The old poles, cross-arms, wires, and accessory equipment will be removed and disposed off-site. The pole butts associated with the existing poles will only be removed if they impact the structural integrity of the new poles.

### **3.2 Access**

Access road improvements and development are needed to provide reliable access for the proposed work, as well as for future maintenance and emergency repairs. The access routes will follow existing entrances onto and within the ROW and have been sited to minimize ground disturbance. Improvements will include regrading as needed with up to a 16-foot-wide disturbance. Disturbance of wetlands and sensitive upland areas will be minimized through the use of wooden timber matting.

### **3.3 Work Pad Construction**

The proposed project includes the construction of 100-foot by 100-foot gravel work pads to provide level and stable surfaces needed to facilitate the structure installations. Work pads in upland areas will be constructed using crushed stone, top-dressed with 1.5- to 3-inch diameter clean stone. Where work pads overlap with wetlands and other sensitive areas, they will utilize temporary construction matting, which will be removed upon completion of the work. Any areas of soil disturbance around the work pads will be stabilized with seed and straw mulch. Matted upland work pads will be restored upon the removal of the timber mats, and exposed soils will be stabilized with seed and mulch.

### **3.4 Construction Sequence**

The work is proposed to begin in September of 2023, with all work requiring regulatory approval beginning following the receipt of all applicable permits. The following is a description of the anticipated construction sequence. The actual sequence and schedule

will be determined by the selected contractor(s).

- Install sediment and erosion controls
- Upgrade access roads and build work pads, install construction mats where needed
- Conduct structure replacements
- Remove construction mats and stabilize/restore disturbed areas
- Stabilize exposed soils within the ROW
- Remove erosion and sedimentation controls following stabilization

### **3.5 Protective Measures**

Work will be performed utilizing the latest *Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire* (NH DNCR 2019) to limit impacts to the environment. Where deemed necessary, perimeter protective measures consisting of silt fence, straw wattles, and or straw bales will be installed around the structure to minimize potential impacts to the nearby wetland resource areas. Water bars will be installed in areas of road improvements and in areas with steep slopes as identified by the Contractor. Any areas of disturbed soil will be mulched with hay or straw as necessary following the completion of work. No equipment or material will be stored within wetland resource areas or wellhead protection areas. Erosion controls will be implemented during construction, as noted on the project plans in Appendix A, to minimize the potential impacts during construction.

Timber matting will be removed promptly upon completion of work to avoid long-term impacts to wetland vegetation or hydrology. Once the project work is complete, any disturbed upland areas will be restored and stabilized. Areas of exposed soils will be seeded and/or mulched appropriately.

## **Section 4**

# **Regulatory Compliance**

### **4.1 City of Portsmouth Zoning Ordinance – Article 10**

The proposed work will be completed in compliance with the requirements set forth in the City of Portsmouth Zoning Ordinance (Article 10, Environmental Protection Standards). The work complies with the criteria set forth in Article 10, Section 1017.60, Public and Private Utilities within Rights-of-Way in Wetlands and Wetland Buffers, discussed below.

*(1) The proposed construction is in the public interest;*

The proposed construction is in the public interest, as these structure replacements are necessary to continue reliable transmission of public utilities.

*(2) Design, construction, and maintenance methods will utilize best management practices to minimize any detrimental impact of such use upon the wetland and will include restoration of the site as nearly as possible to its original grade, condition, and vegetated state;*

Eversource will utilize Best Management Practices, as described in Section 3.5, during construction to mitigate impacts to wetland resource areas. Following construction, all disturbed areas will be restored to previously existing conditions, where feasible. Certain work pad areas and access roads (outside of wetlands) may not be restored to original grades if it is not feasible to achieve. These areas will be stabilized and previously vegetated areas will be mulched and seeded.

*(3) No alternative feasible route exists which does not cross or alter a wetland or have less detrimental impact on a wetland; and*

The proposed work has been designed in consideration of environmental impacts. The replacement activities are limited to the existing maintained ROW and limits of work have been established to allow only for work necessary to complete the structure replacements. Access to the structures will primarily be utilizing existing access routes in previously disturbed areas to replace existing infrastructure. Timber matting in wetlands has been limited to the extent practicable to complete the proposed utility maintenance. Due to the location of the existing structures, no feasible alternatives exist which would have less impact on wetlands.

*(4) Alterations of natural vegetation of managed woodland will occur only to the extent necessary to achieve construction goals.*

There is no proposed alteration of woodland vegetation as all work is within the maintained extent of the ROW. Alterations to wetland vegetation are temporary and timber matting will be removed promptly upon completion of work to avoid long-term impacts. As noted above, the limits of work have been established to allow work only necessary to complete the structure replacements.

**4.1.1 Wetland Functions and Values Assessment**

Pursuant to Article 10, Section 1017.22 of the City of Portsmouth Zoning Ordinance, a project that proposes the temporary or permanent alteration of greater than 1,000 square feet of wetland and greater than 250 square feet of wetland buffer requires a function and values assessment and wetland buffer description. A full description of the wetlands delineated within the project area and their respective buffers is provided in Appendix B.

**4.1.2 Wetland Buffer Impervious Surface Impacts**

Impacts resulting from the construction of access roads and work pads will be temporary and will not increase impervious surfaces within wetland buffers. A wetland buffer enhancement plan is not feasible due to the nature of the proposed work and the likelihood of future maintenance within the ROW. Vegetation within the ROW is routinely maintained and access will be necessary for future utility maintenance.

**4.2 State Permits****4.2.1 Alteration of Terrain**

The proposed work exceeds 100,000 square feet of earth moving activities and as such requires an Alteration of Terrain (AoT) permit from the New Hampshire Department of Environmental Services (NHDES) AoT Bureau. This permit will be submitted after the filing of this CUP.

**4.2.2 Utility Statutory Permit-by-Notification**

This project includes direct impacts to wetlands and waters of the state, and thus requires authorization under NH RSA § 482-A. Utility Statutory Permit-by-Notification applications will be filed for each municipality where work is proposed after the filing of this CUP.

**4.3 Federal Permits****4.3.1 EPA 2022 Construction General Permit**

The proposed work will exceed one acre of earth moving activities and will require a Construction General Permit (CGP) from the U.S. Environmental Protection Agency (EPA). A Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) will be completed at least 14 days prior to the start of construction.

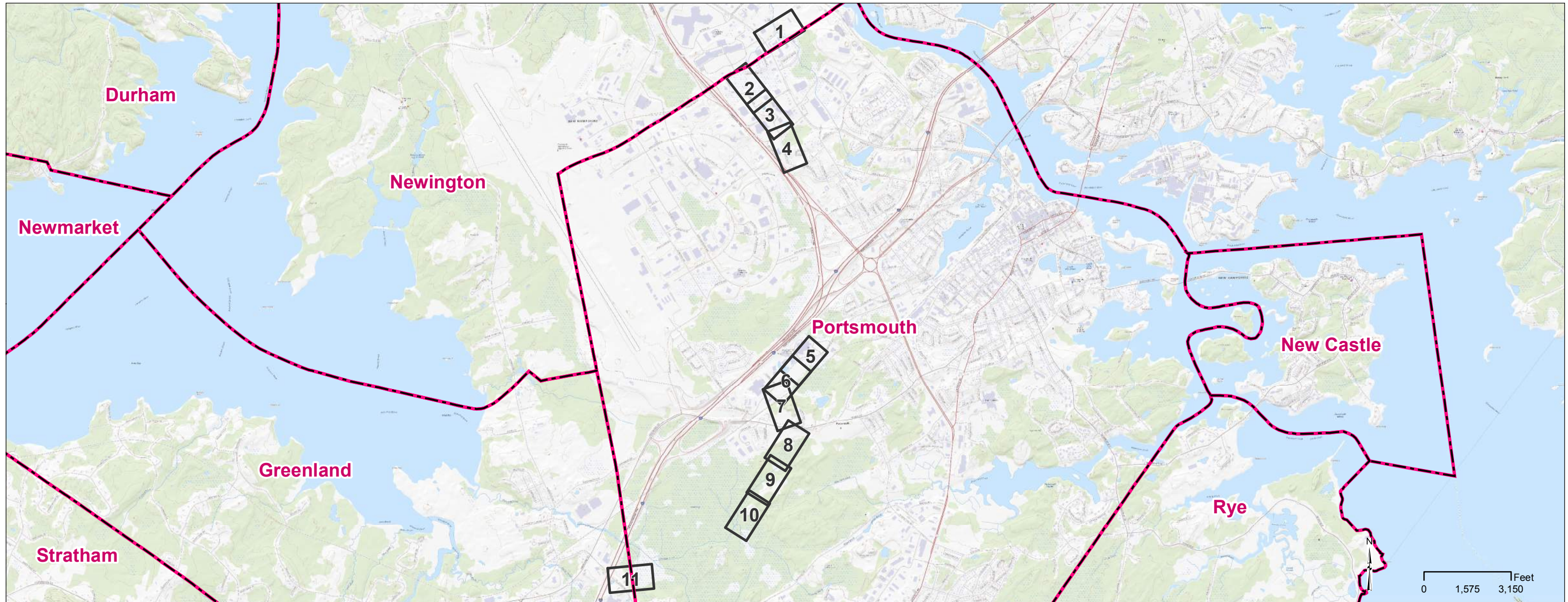
**Tighe&Bond**

**APPENDIX A**

# Line E194 and U181 Structure Replacement Project

## NEWINGTON AND PORTSMOUTH, NEW HAMPSHIRE Environmental Resources Map

Date: March 23, 2023



PREPARED FOR:

**EVERSOURCE**

13 Legends Drive  
Hooksett, NH 03106

### Legend

- Map Index
- Municipal Boundary

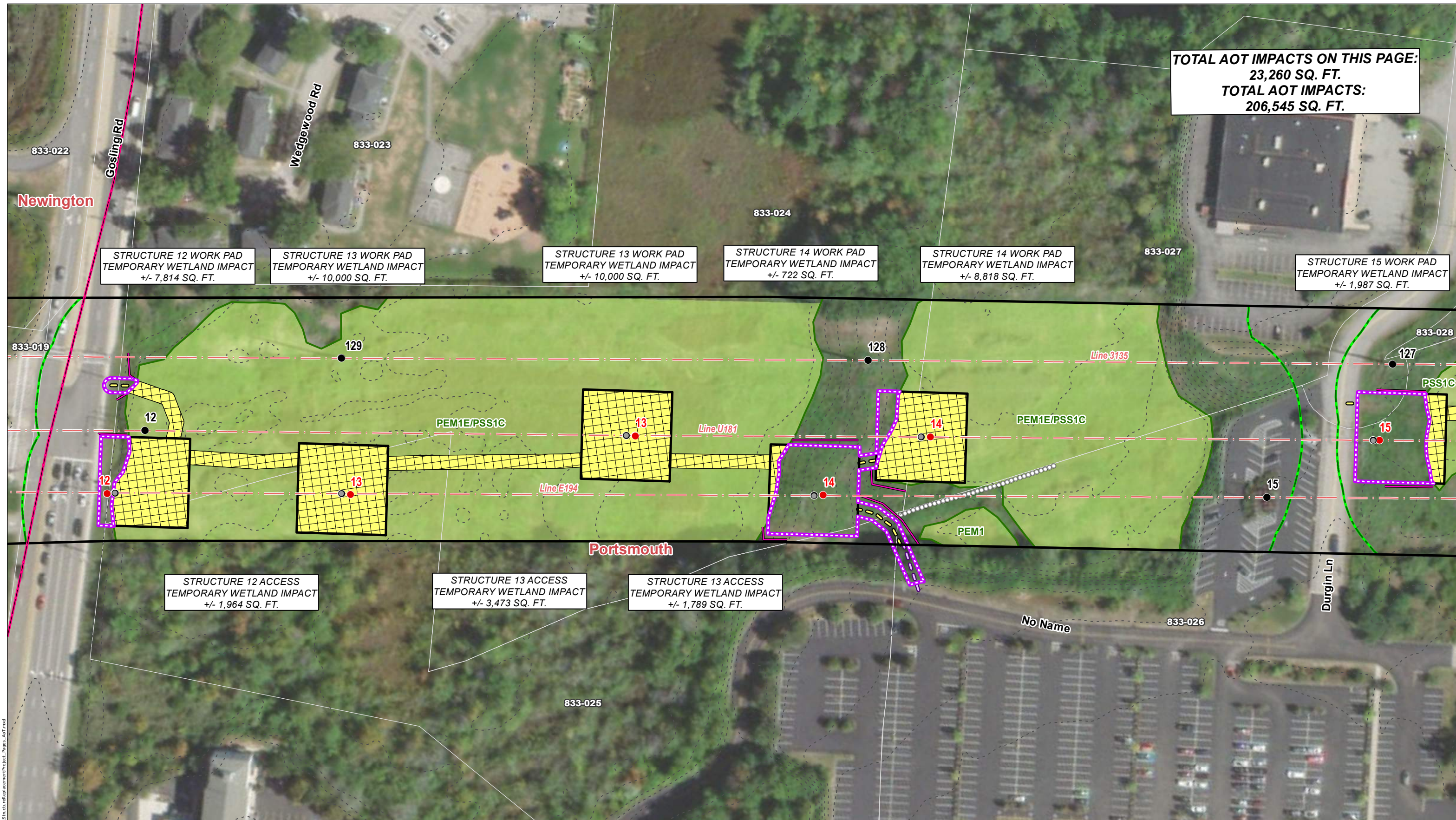
### INDEX OF FIGURES

Title Sheet / Index Map  
Map Sheets 1-11

PREPARED BY:

**Tighe & Bond**

53 Southampton Road  
Westfield, MA 01085



**TOTAL AOT IMPACTS ON THIS PAGE:**  
 23,260 SQ. FT.  
**TOTAL AOT IMPACTS:**  
 206,545 SQ. FT.

STRUCTURE 12 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 7,814 SQ. FT.

STRUCTURE 13 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 10,000 SQ. FT.

STRUCTURE 13 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 10,000 SQ. FT.

STRUCTURE 14 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 722 SQ. FT.

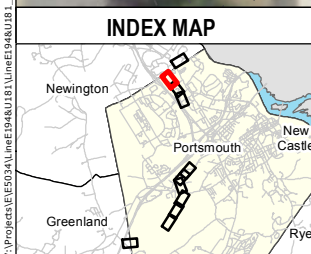
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 TEMPORARY WETLAND IMPACT  
 +/- 8,818 SQ. FT.

STRUCTURE 15 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 1,987 SQ. FT.

STRUCTURE 12 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 1,964 SQ. FT.

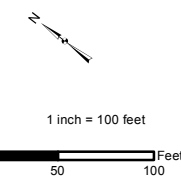
STRUCTURE 13 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 3,473 SQ. FT.

STRUCTURE 13 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 1,789 SQ. FT.



Legend	
● Proposed Structure	○ Proposed Access
● Existing Structure to be Modified	○ Off-ROW Access Pending Rights
● Existing Structure to be Removed	— Railroad
● Existing Structure	--- Contour Line (2 Ft.)
⊠ Gate	×=× Fence
⊠ Culvert	— Overhead Eversource Line
— Existing Access	— Distribution Line
○ Stonewall	— Sediment Control Barrier
— 25' Wetland Buffer (Newington)	— 100' Buffer Zone (Portsmouth)
— Existing Right-of-Way	— Municipal Boundary
— Delineated Intermittent Watercourse	— Delineated Wetland Boundary Outline
	— Field Delineated Wetland*
	— Parcel Boundary
	— Work Pad
	— 100 Year Flood Zone
	— Wellhead Protection Areas
	— Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
 Figure intended to be printed on 11x17  
 \*Indicates datasets with a transparency setting of 30-70%  
 This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.



NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 2 of 11

**Tighe & Bond**

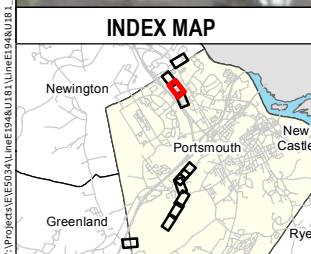
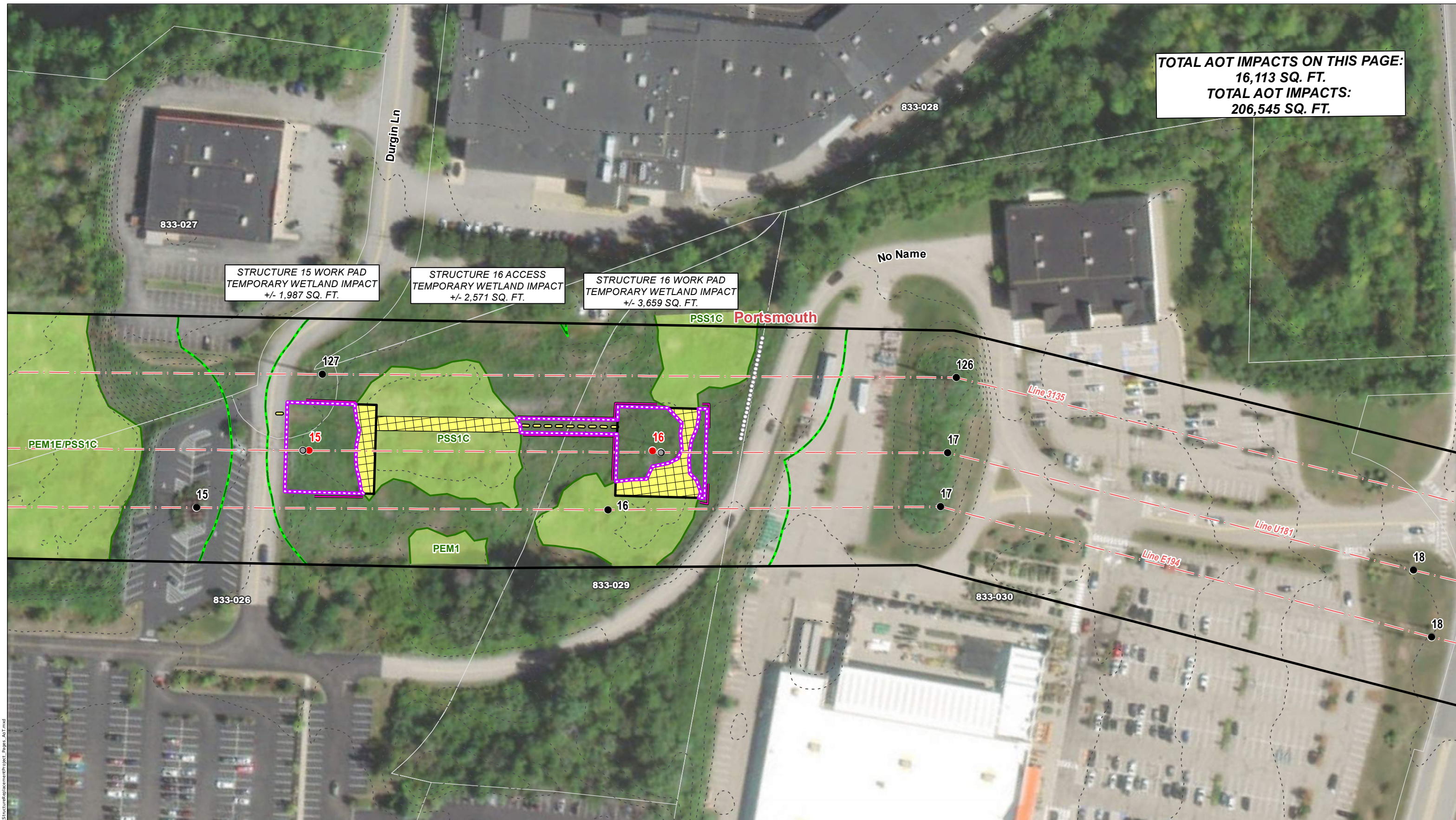
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**TOTAL AOT IMPACTS:**  
 206,545 SQ. FT.

STRUCTURE 15 WORK PAD  
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 +/- 1,987 SQ. FT.

STRUCTURE 16 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 2,571 SQ. FT.

STRUCTURE 16 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 3,659 SQ. FT.



- Legend**
- Proposed Structure
  - Existing Structure to be Modified
  - Existing Structure to be Removed
  - Existing Structure
  - Gate
  - Culvert
  - Existing Access
  - Proposed Access
  - Off-ROW Access Pending Rights
  - Railroad
  - Contour Line (2 Ft.)
  - X=X Fence
  - Overhead Eversource Line
  - Distribution Line
  - Stonewall
  - Sediment Control Barrier
  - 25' Wetland Buffer (Newington)
  - 100' Buffer Zone (Portsmouth)
  - Existing Right-of-Way
  - Municipal Boundary
  - Delineated Intermittent Watercourse
  - Delineated Wetland Boundary Outline
  - Field Delineated Wetland\*
  - Parcel Boundary
  - Work Pad
  - 100 Year Flood Zone
  - Wellhead Protection Areas
  - Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
 Figure intended to be printed on 11x17  
 \*Indicates datasets with a transparency setting of 30-70%  
 This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.

1 inch = 100 feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

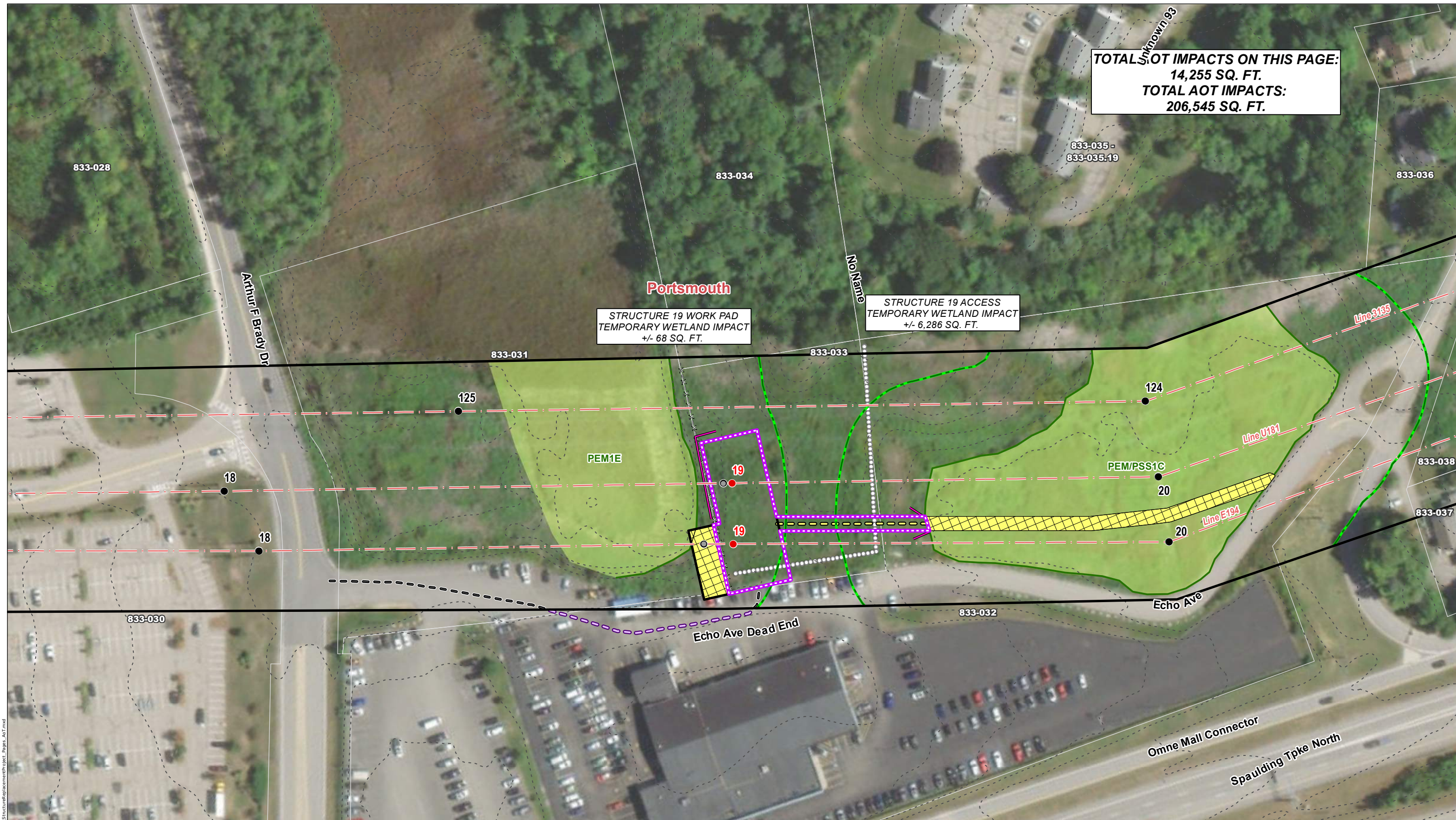
Date: March 23, 2023

Map Sheet 3 of 11

**Tighe & Bond**

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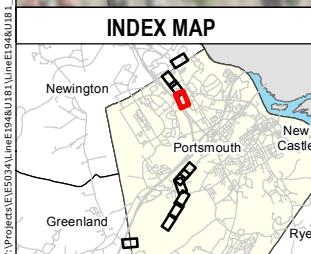




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**TOTAL AOT IMPACTS:**  
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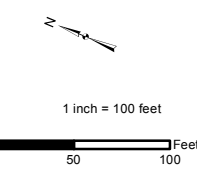
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**STRUCTURE 19 ACCESS**  
**TEMPORARY WETLAND IMPACT**  
**+/- 6,286 SQ. FT.**



Legend	
● Proposed Structure	▭ Proposed Access
● Existing Structure to be Modified	▭ Off-ROW Access Pending Rights
● Existing Structure to be Removed	▭ Sediment Control Barrier
● Existing Structure	▭ 25' Wetland Buffer (Newington)
● Gate	▭ 100' Buffer Zone (Portsmouth)
● Culvert	▭ Existing Right-of-Way
▭ Existing Access	▭ Municipal Boundary
○ Stonewall	▭ Delineated Intermittent Watercourse
▭ Delineated Wetland Boundary Outline	▭ Work Pad
▭ Field Delineated Wetland*	▭ 100 Year Flood Zone
▭ Parcel Boundary	▭ Wellhead Protection Areas
▭ Alteration of Terrain	

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
 Figure intended to be printed on 11x17  
 \*Indicates datasets with a transparency setting of 30-70%  
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NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181**  
**Structure Replacement Project**

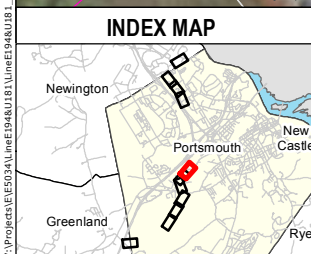
Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 4 of 11

**Tighe & Bond**

V:\projects\ESD\94\LineE194\U181\StructureReplacement\PROJECT\_Pages\_Aot.mxd



**Legend**

● Proposed Structure	— Proposed Access	○ Stonewall	— Delineated Wetland Boundary Outline
● Existing Structure to be Modified	— Off-ROW Access Pending Rights	— Sediment Control Barrier	— Field Delineated Wetland*
● Existing Structure to be Removed	— Railroad	— 25' Wetland Buffer (Newington)	— Parcel Boundary
● Existing Structure	— Contour Line (2 Ft.)	— 100' Buffer Zone (Portsmouth)	— Work Pad
— Gate	— X=X Fence	— Existing Right-of-Way	— 100 Year Flood Zone
— Culvert	— Overhead Eversource Line	— Municipal Boundary	— Wellhead Protection Areas
— Existing Access	— Distribution Line	— Delineated Intermittent Watercourse	— Alteration of Terrain

**Map Notes:**  
Data valid as of March 2023.  
Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
Contours downloaded from New Hampshire GRANIT  
Parcels provided by New Hampshire GRANIT  
Figure intended to be printed on 11x17  
\*Indicates datasets with a transparency setting of 30-70%  
This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.

1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
Structure Replacement Project**

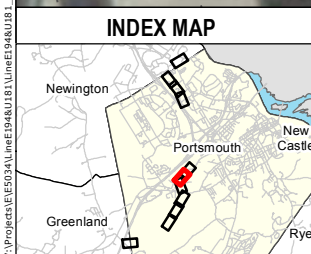
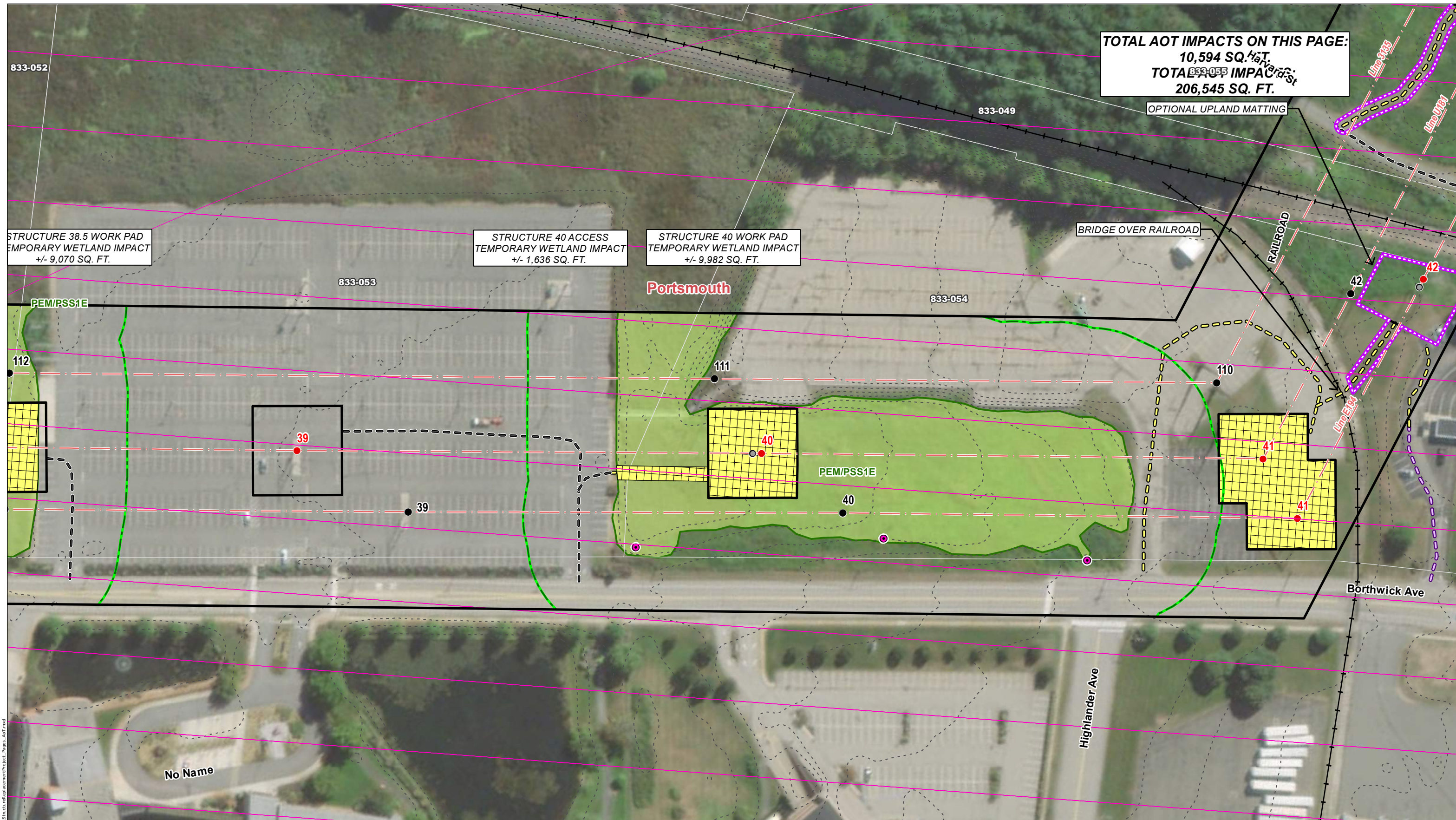
Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 5 of 11

**Tighe & Bond**

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- Legend**
- Proposed Structure
  - Existing Structure to be Modified
  - Existing Structure to be Removed
  - Existing Structure
  - Ⓜ Gate
  - Ⓜ Existing Access
  - Proposed Access
  - Off-ROW Access Pending Rights
  - Railroad
  - Contour Line (2 Ft.)
  - Fence
  - Overhead Eversource Line
  - Distribution Line
  - Ⓜ Stonewall
  - Sediment Control Barrier
  - 25' Wetland Buffer (Newington)
  - 100' Buffer Zone (Portsmouth)
  - Existing Right-of-Way
  - Municipal Boundary
  - Delineated Intermittent Watercourse
  - Delineated Wetland Boundary Outline
  - Field Delineated Wetland\*
  - Parcel Boundary
  - Work Pad
  - 100 Year Flood Zone
  - Wellhead Protection Areas
  - Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
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1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181 Structure Replacement Project**

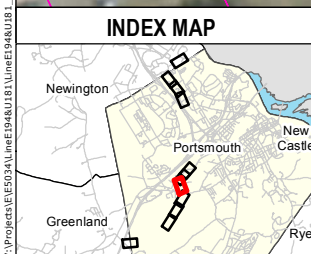
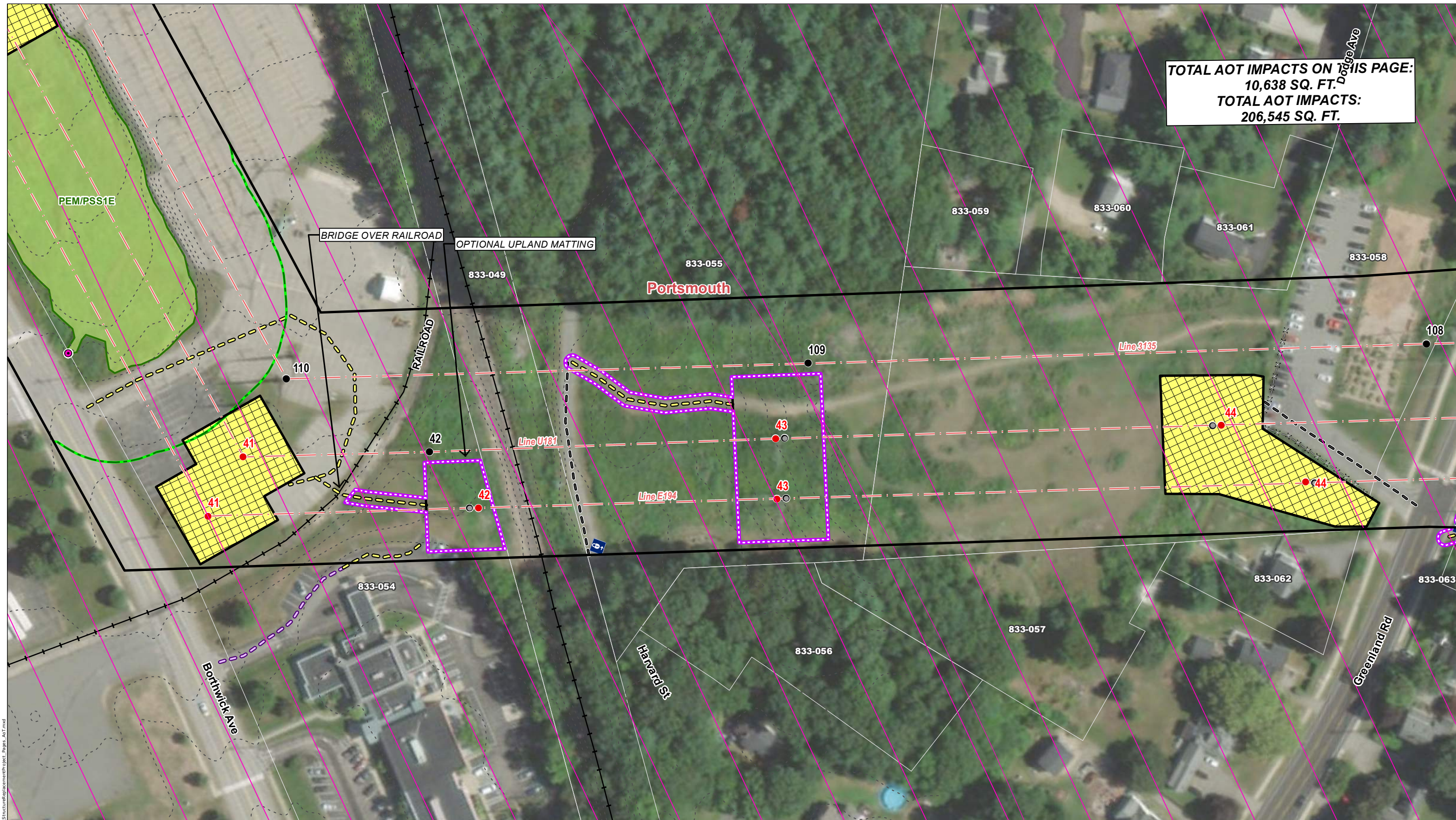
Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 6 of 11

**Tighe & Bond**

**TOTAL AOT IMPACTS ON THIS PAGE:**  
 10,638 SQ. FT.  
**TOTAL AOT IMPACTS:**  
 206,545 SQ. FT.



Legend	
● Proposed Structure	— Proposed Access
● Existing Structure to be Modified	— Off-ROW Access Pending Rights
● Existing Structure to be Removed	— Railroad
● Existing Structure	— Contour Line (2 Ft.)
● Gate	— Fence
● Culvert	— Overhead Eversource Line
— Existing Access	— Distribution Line
○ Stonewall	— Sediment Control Barrier
— 25' Wetland Buffer (Newington)	— 100' Buffer Zone (Portsmouth)
— Existing Right-of-Way	— Municipal Boundary
— Delineated Intermittent Watercourse	— Delineated Wetland Boundary Outline
— Field Delineated Wetland*	— Parcel Boundary
— Work Pad	— 100 Year Flood Zone
— Wellhead Protection Areas	— Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
 Figure intended to be printed on 11x17  
 \*Indicates datasets with a transparency setting of 30-70%  
 This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.

1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 7 of 11

**Tighe & Bond**

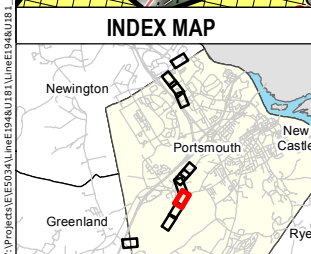
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**TOTAL AOT IMPACTS:**  
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STRUCTURE 46 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 6,583 SQ. FT.

STRUCTURE 47 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 10,000 SQ. FT.

STRUCTURE 48 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 19,799 SQ. FT.



Legend	
● Proposed Structure	— Proposed Access
● Existing Structure to be Modified	— Off-ROW Access Pending Rights
● Existing Structure to be Removed	— Railroad
● Existing Structure	— Contour Line (2 Ft.)
● Gate	— X=X Fence
● Culvert	— Overhead Eversource Line
— Existing Access	— Distribution Line
○ Stonewall	— Sediment Control Barrier
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— Existing Right-of-Way	— Municipal Boundary
— Delineated Intermittent Watercourse	— Delineated Wetland Boundary Outline
— Field Delineated Wetland*	— Parcel Boundary
— Work Pad	— 100 Year Flood Zone
— Wellhead Protection Areas	— Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
 Figure intended to be printed on 11x17  
 \*Indicates datasets with a transparency setting of 30-70%  
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1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 8 of 11

**Tighe & Bond**

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**TOTAL AOT IMPACTS:**  
**206,545 SQ. FT.**

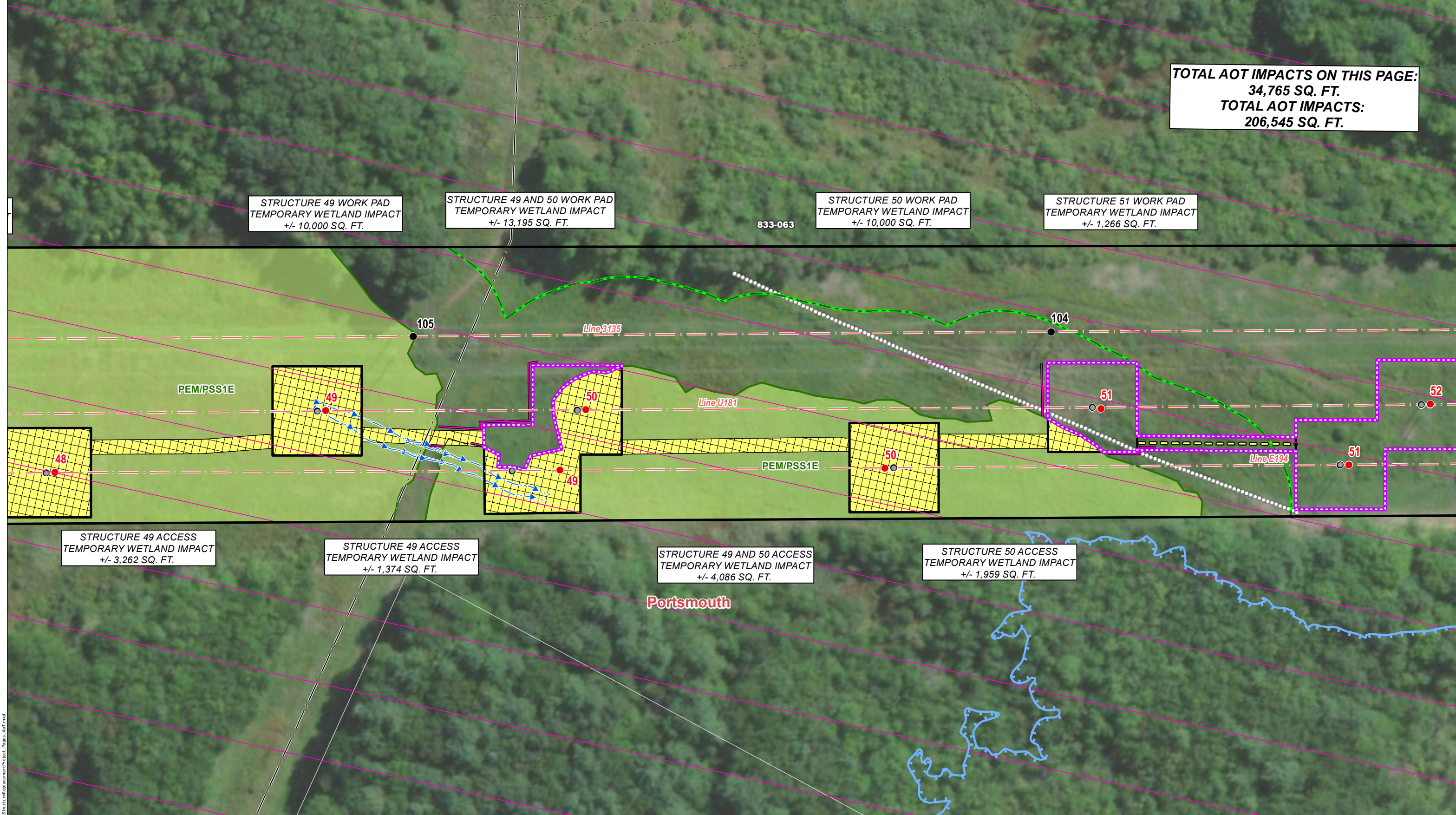
STRUCTURE 49 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 10,000 SQ. FT.

STRUCTURE 49 AND 50 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 13,195 SQ. FT.

STRUCTURE 50 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 10,000 SQ. FT.

STRUCTURE 51 WORK PAD  
 TEMPORARY WETLAND IMPACT  
 +/- 1,266 SQ. FT.

833-063



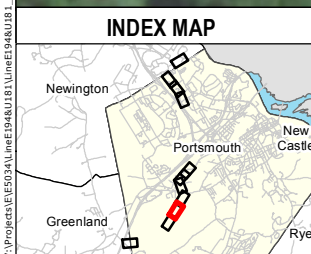
STRUCTURE 49 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 3,262 SQ. FT.

STRUCTURE 49 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 1,374 SQ. FT.

STRUCTURE 49 AND 50 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 4,086 SQ. FT.

STRUCTURE 50 ACCESS  
 TEMPORARY WETLAND IMPACT  
 +/- 1,959 SQ. FT.

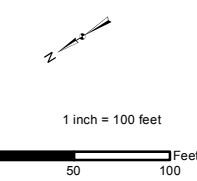
Portsmouth



**Legend**

● Proposed Structure	— Proposed Access	○ Stonewall	— Delineated Wetland Boundary Outline
● Existing Structure to be Modified	— Off-ROW Access Pending Rights	— Sediment Control Barrier	— Field Delineated Wetland*
● Existing Structure to be Removed	— Railroad	— 25' Wetland Buffer (Newington)	— Parcel Boundary
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— Culvert	— Overhead Eversource Line	— Municipal Boundary	— Wellhead Protection Areas
— Existing Access	— Distribution Line	— Delineated Intermittent Watercourse	— Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
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 Contours downloaded from New Hampshire GRANIT  
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NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

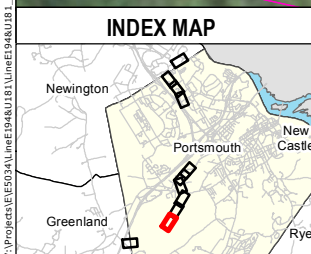
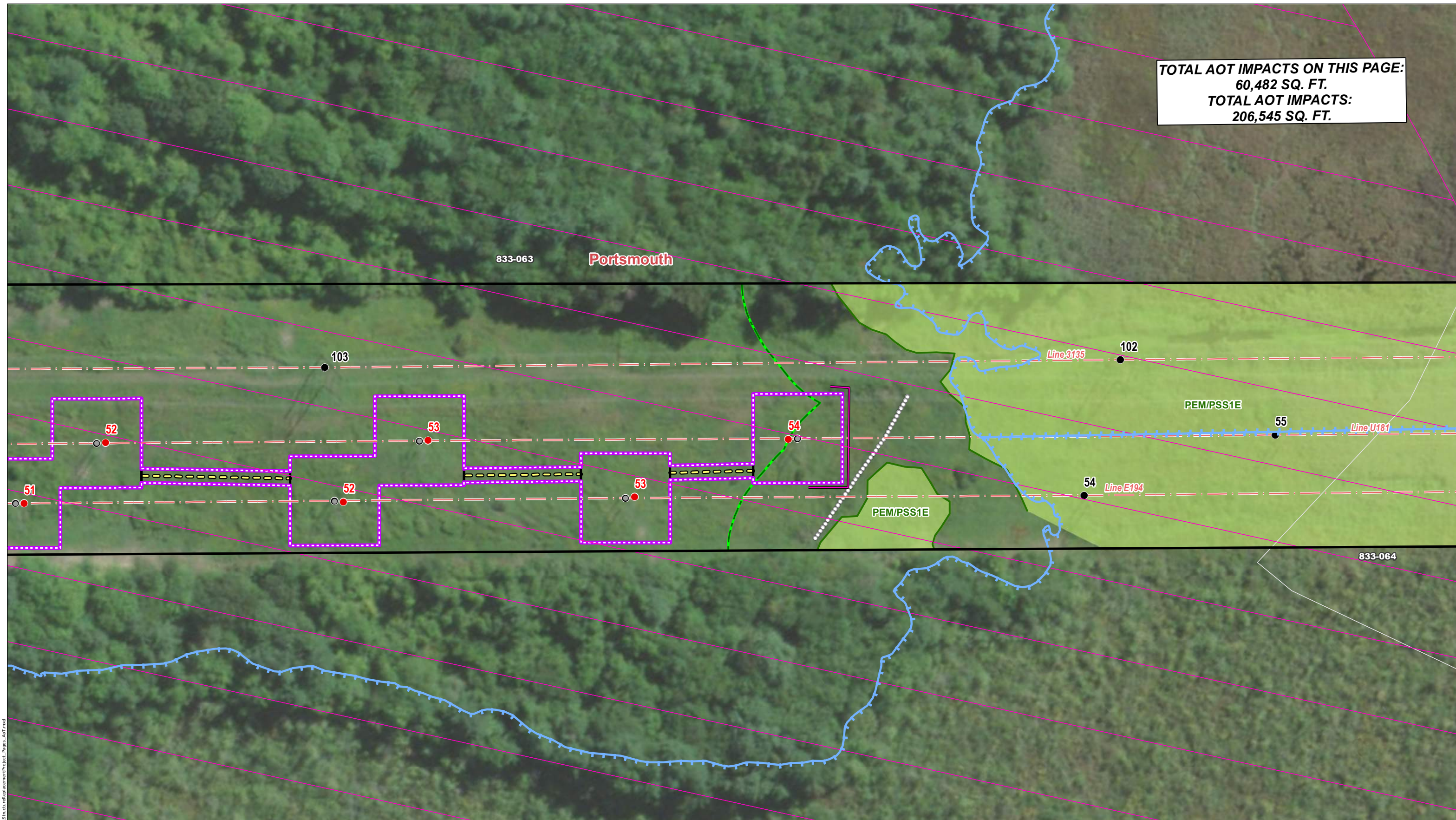
Date: March 23, 2023

Map Sheet 9 of 11

**Tighe & Bond**

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**TOTAL AOT IMPACTS ON THIS PAGE:**  
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**TOTAL AOT IMPACTS:**  
**206,545 SQ. FT.**



**Legend**

● Proposed Structure	— Proposed Access	○ Stonewall	— Delineated Wetland Boundary Outline
● Existing Structure to be Modified	— Off-ROW Access Pending Rights	— Sediment Control Barrier	— Field Delineated Wetland*
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● Culvert	— Overhead Eversource Line	— Municipal Boundary	— Wellhead Protection Areas
— Existing Access	— Distribution Line	— Delineated Intermittent Watercourse	— Alteration of Terrain

**Map Notes:**  
 Data valid as of March 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
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1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

Date: March 23, 2023

Map Sheet 10 of 11

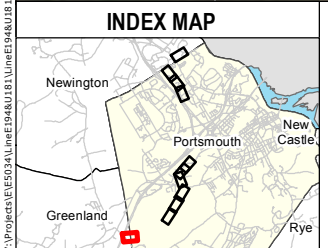
**Tighe & Bond**

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**TOTAL AOT IMPACTS:**  
**206,545 SQ. FT.**



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Legend	
● Proposed Structure	— Proposed Access
● Existing Structure to be Modified	— Off-ROW Access Pending
● Existing Structure to be Removed	— Railroad
● Existing Structure	--- Contour Line (2 Ft.)
Gate	××× Fence
● Culvert	— Overhead Eversource Line
— Existing Access	— Distribution Line
○ Stonewall	— Delineated Wetland Boundary Outline
— Sediment Control Barrier	— Field Delineated Wetland*
— 25' Wetland Buffer (Newington)	— Parcel Boundary
— 100' Buffer Zone (Portsmouth)	— Work Pad
— Existing Right-of-Way	— 100 Year Flood Zone
— Municipal Boundary	— Wellhead Protection
— Delineated Intermittent Watercourse	— Alteration of Terrain

**Map Notes:**  
 Data valid as of April 2023.  
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.  
 Contours downloaded from New Hampshire GRANIT  
 Parcels provided by New Hampshire GRANIT  
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1 inch = 100 feet

NO.	DATE	REVISIONS

**EVERSOURCE**

**Line E194 and U181  
 Structure Replacement Project**

Portsmouth, New Hampshire

Date: April 17, 2023

Map Sheet 11 of 11

**Tighe & Bond**



**Tighe&Bond**

**APPENDIX B**

## **E194 & U181 Structure Replacement Project**

### **Wetland Resource Area Description and Assessment**

**TO:** Katy Wilkins, Project Manager, Tighe & Bond, Inc.

**FROM:** Julia Novotny, Environmental Scientist, Tighe & Bond, Inc.  
Jeremy Degler, Project Environmental Scientist, CWS, PWS, CWB,  
Tighe & Bond, Inc.

**DATE:** March 22, 2023

---

On December 21, 2022 and January 4, 9, and 17, 2023, Tighe & Bond wetland scientists conducted a wetland resource area investigation within and adjacent to the location of the E194 and U181 transmission line right-of-way (ROW) in support of a structure replacement project proposed by Eversource Energy (Eversource). This memorandum presents a summary of the wetland resource areas investigated at the Project Site and a functions and values assessment for these resource areas.

### **Project Location**

The project area consists of the existing maintained transmission line ROW that contains the E194 and U181 Lines. This ROW is comprised of a mixture of impervious area, maintained upland, and wetland. The surrounding landscape areas are comprised of impervious surfaces (e.g., roadways and parking lots), industrial, commercial, and residential areas, in addition to forest and wetlands. The ROW runs from the Newington Substation off Gosling Road to the Ocean Road Substation on the Greenland/Portsmouth border.

### **Methodology of Wetland Resource Investigations**

The wetland delineation was conducted in accordance with the procedures outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (January 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (January 2012). Locations of wetland boundaries were surveyed using a global positioning system (GPS) unit with sub-meter accuracy.

### **Summary of Jurisdictional Wetland Resource Areas**

The following sections discuss the wetland resource areas identified in the project area and summarize their characteristics.

#### **Vegetated Wetlands**

Multiple wetlands were identified within the E194 and U181 ROW, adjacent to the limits of work. Wetlands identified within the ROW were classified as having the characteristics of both palustrine emergent system with persistent vegetation, and a palustrine scrub-shrub system with broad-leaved deciduous vegetation (PEM1/PSS1).

Common vegetation observed included common reed (*Phragmites australis*; FACW), cattail (*Typha sp.*; OBL), purple loosestrife (*Lythrum salicaria*; OBL), sensitive fern (*Onoclea sensibilis*; FACW), curly dock (*Rumex crispus*; FAC), winterberry (*Ilex verticillata*; FACW), willow (*Salix spp.*), glossy buckthorn (*Frangula alnus*; FAC), red maple (*Acer rubrum*; FAC), common rush (*Juncus effusus*; OBL), reed canary grass (*Phalaris arundinacea*; FACW), white meadowsweet (*Spiraea alba*; FACW), red osier dogwood (*Cornus sericea*; FACW), speckled

alder (*Alnus incana*; FACW), tussock sedge (*Carex stricta*; OBL), brambles (*Rubus spp.*), and goldenrod (*Solidago spp.*)

Two streams were identified in association with the delineated wetlands: an unnamed tributary to the Piscataqua River (Newington) and an unnamed tributary to Pickering Brook in Great Bog (Portsmouth). Many of the wetlands within the project area are disturbed from previous ROW work and surrounding development including from commercial, industrial, and residential areas.

### **100-foot Buffer Zone (Locally Regulated)**

The 100-foot Buffer Zone associated with the wetlands identified in the project area consists of a mixture of impervious area (e.g., paved parking lots, roadways), residential, industrial, and commercial areas, as well as forested areas, and maintained ROW. The percentage of Buffer Zone that is developed, including impervious paved areas, is approximately 40 percent. Non-impervious 100-foot Buffer Zone is mainly comprised of maintained shrubby vegetation within the existing ROW and mixed deciduous and coniferous forest on the ROW boundaries.

## **Functions and Values Assessment**

### **Gosling Road and Durgin Lane Wetlands**

Wetlands off Gosling Road and Durgin Lane are surrounded by residential and commercial development. They are classified as palustrine emergent and scrub-shrub systems, mostly dominated by common reed, purple loosestrife, and cattail. These wetlands are situated in depressions and flat, low lying areas and are densely vegetated with pockets of standing water. Flood storage, sediment and toxicant retention, and nutrient retention/removal are likely functions of these wetlands. Due to the location of these wetlands in highly developed areas and the dominance of invasive species, they do not provide good aesthetic qualities and are unlikely to provide good wildlife habitat.

### **Echo Avenue Wetlands**

Echo Avenue wetlands are characterized as palustrine emergent and palustrine scrub-shrub systems. These wetlands are located directly adjacent to commercial and residential development. They are also located approximately 330 feet northeast of Route 4. These wetlands are densely vegetated and some portions are situated in depressions. Functions associated with these areas include flood storage and sediment and toxicant retention. Due to the location of these wetlands in a developed area and the dominance of invasive species, they do not provide good aesthetic qualities and are unlikely to provide good wildlife habitat.

### **Borthwick Avenue Wetlands**

The wetlands adjacent to Borthwick Avenue are situated in highly disturbed areas. These wetlands are mainly palustrine emergent systems dominated by common reed and cattail. These wetlands are designated as Prime Wetlands pursuant to NH RSA § 482-A:15.

Dense emergent vegetation and organic soils in these wetlands allow for sediment and toxicant retention. Given the proximity of these wetlands to surrounding development and impervious surfaces and their position on the landscape they are likely important in providing flood storage. These wetlands provide little aesthetic qualities as they are dominated by invasive species that obstruct clear views and are surrounded by impervious area and commercial development.

**Great Bog Wetlands**

The wetlands associated with Great Bog are predominantly palustrine emergent and palustrine scrub-shrub systems. These wetlands are associated with Pickering Brook, which flows northeast to southwest through Great Bog. These wetlands are designated as Prime Wetlands.

Due to the dense vegetation in this wetland and the presence of deep water and organic soils, it likely provides sediment and toxicant retention, as well as nutrient retention and transformation. Additionally, the large size of this wetland complex and its position on the landscape allows for flood storage. Great Bog has historic known occurrences of rare, threatened, and endangered plant species, and has aesthetic qualities and recreational opportunities via adjacent trails. This area likely provides good wildlife habitat as Great Bog is large and relatively unfragmented. The aesthetic quality is partially compromised by the dominance of invasive common reed and purple loosestrife, and the proximity of Great Bog to major roads and highways.

**Tighe&Bond**


**APPENDIX C**

# Photographic Log

**Client:** Eversource Energy  
E194 & U181 Structure Replacement Project  
**Site:** Portsmouth and Newington, NH

**Job Number:** 14-5034-200

<b>Photograph No.: 1</b>	<b>Date:</b> 1/9/2023	<b>Direction Taken:</b> Southwest
<b>Description:</b> Overview of the E194 & U181 right-of-way in Great Bog (Portsmouth), facing southwest.		
		


<b>Photograph No.: 2</b>	<b>Date:</b> 1/9/2023	<b>Direction Taken:</b> Southeast
<b>Description:</b> View of Great Bog in the E194 & U181 right-of-way from an adjacent upland area immediately southeast of Greenland Road (Route 33) in Portsmouth where access will be constructed.		
		

# Photographic Log

**Client:** Eversource Energy  
E194 & U181 Structure Replacement Project  
**Site:** Portsmouth and Newington, NH

**Job Number:** 14-5034-200

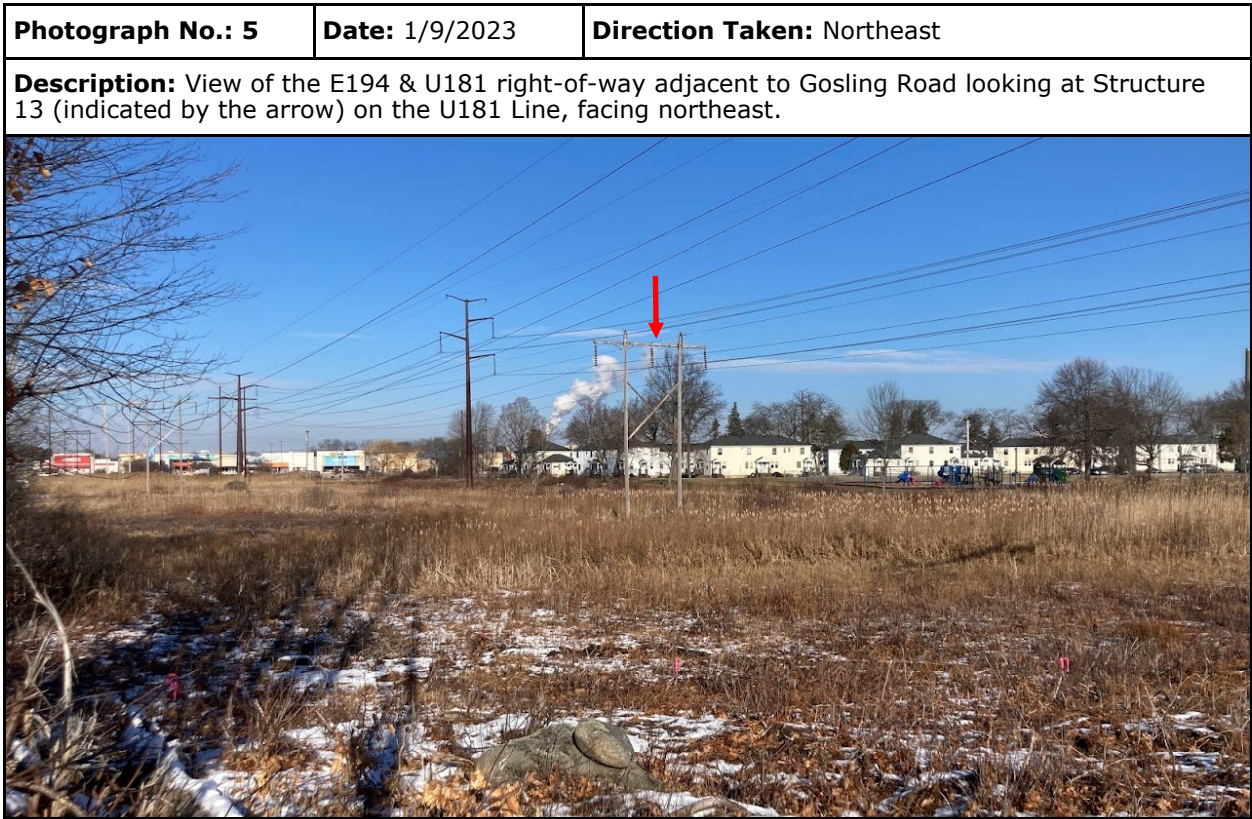
<b>Photograph No.:</b> 3	<b>Date:</b> 1/9/2023	<b>Direction Taken:</b> Southeast
<b>Description:</b> View of the E194 & U181 right-of-way in Great Bog looking at Structures 49 and 50, facing northwest.		
		

<b>Photograph No.:</b> 4	<b>Date:</b> 1/18/2023	<b>Direction Taken:</b> East
<b>Description:</b> View of the structures on the E194 and U181 Lines where static wire work is proposed at the Ocean Road Substation in Greenland/Portsmouth, facing east.		
		

# Photographic Log

**Client:** Eversource Energy  
E194 & U181 Structure Replacement Project  
**Site:** Portsmouth and Newington, NH

**Job Number:** 14-5034-200

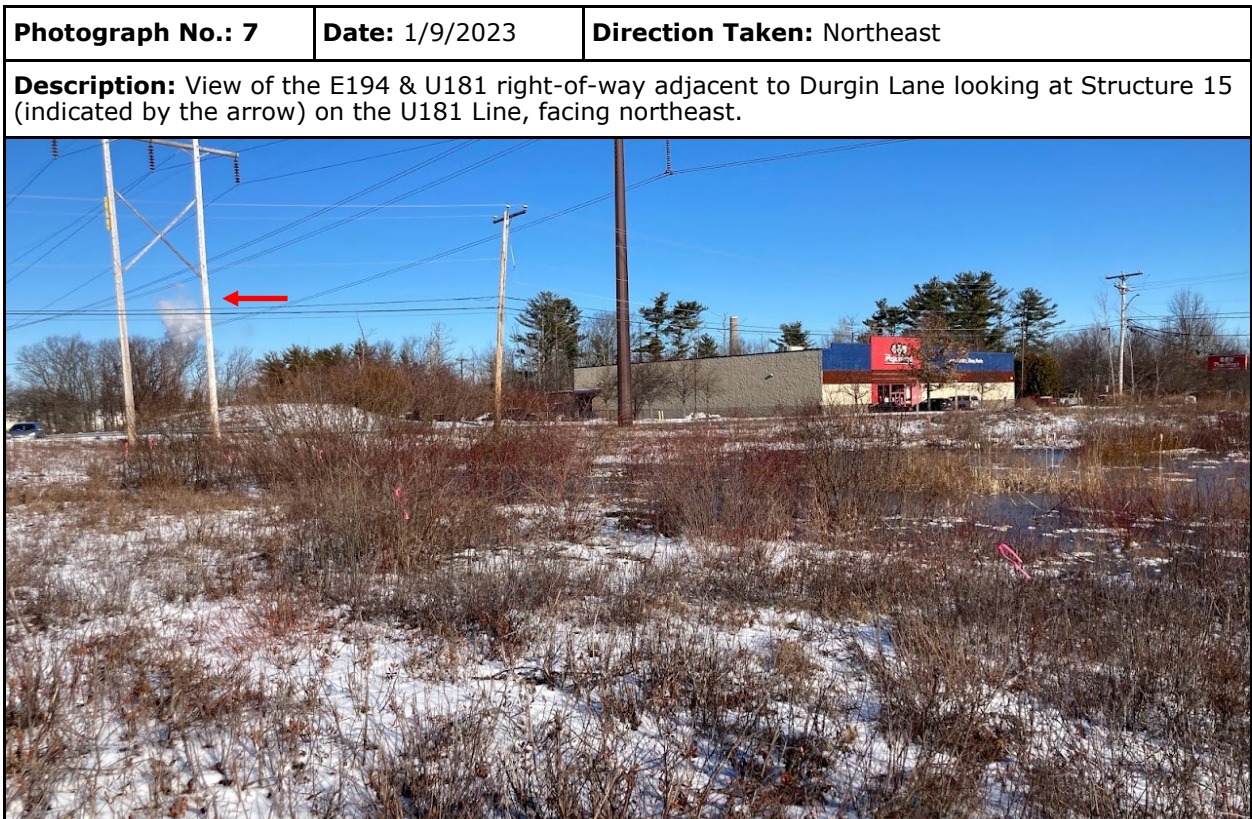




# Photographic Log

**Client:** Eversource Energy  
E194 & U181 Structure Replacement Project  
**Site:** Portsmouth and Newington, NH

**Job Number:** 14-5034-200



# Photographic Log

**Client:** Eversource Energy **Job Number:** 14-5034-200  
E194 & U181 Structure Replacement Project  
**Site:** Portsmouth and Newington, NH

<b>Photograph No.:</b> 9	<b>Date:</b> 12/21/2022	<b>Direction Taken:</b> East
<b>Description:</b> View of the E194 & U181 right-of-way adjacent to Borthwick Avenue, facing east. Structure 40 on the U181 Line is indicated by the arrow.		







**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: 2023-00122 (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.

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, PO Box 95, Concord, NH 03303-0095

[www.des.nh.gov](http://www.des.nh.gov)

**SECTION 3 - AMENDMENT TO AN EXISTING PERMIT**

Not applicable

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

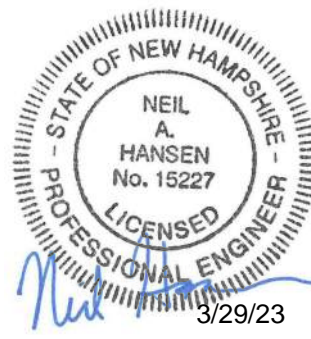
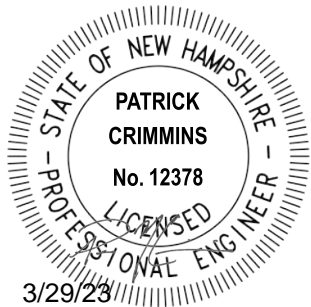
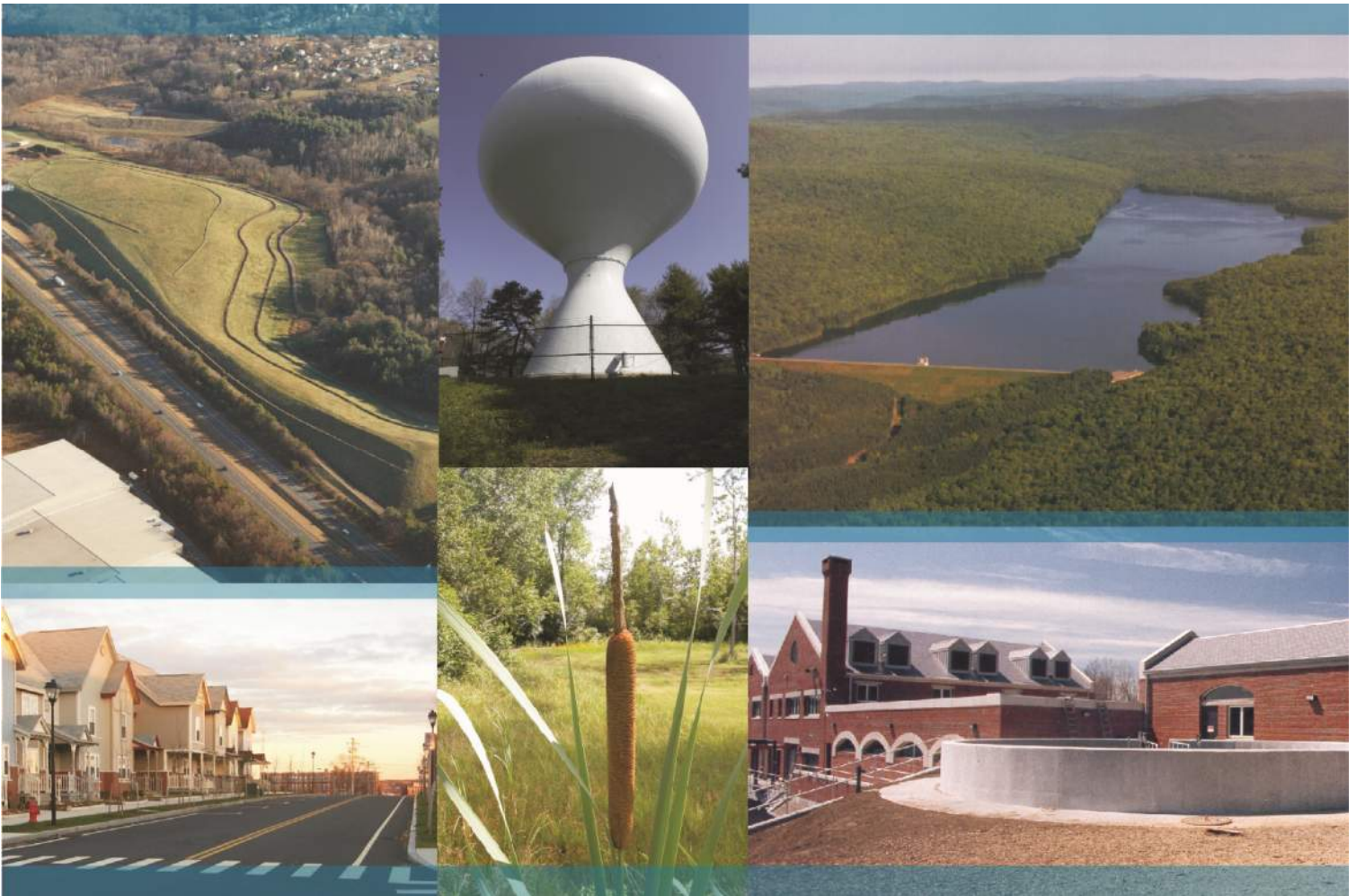
- Submit the information required and filed with the original permit application, including but not limited to a revised set of plans, and revised application fees for any additional square footage of impacts calculated pursuant to RSA 482-A:3, l(b) or (c) as applicable, and
- Provide notice to all who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

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, PO Box 95, Concord, NH 03303-0095

[www.des.nh.gov](http://www.des.nh.gov)



**Tighe & Bond**

Iron Horse Properties, LLC  
105 Bartlett Street  
Portsmouth, New Hampshire

## **Standard Dredge and Fill Wetlands Permit Application**

Prepared For:  
**Iron Horse Properties, LLC**

January 10, 2023  
Last Revised March 29, 2023



C0960-006  
March 29, 2023

NHDES Wetlands Bureau  
Attn: Kristin Duclos  
29 Hazen Dr, PO Box 95  
Concord, NH 03302-0095

Re: **Wetland Application – Standard Major Impact  
Iron Horse Properties, LLC, Portsmouth, NH  
105 Bartlett Street  
NHDES File Number 2023-00122**

Dear Ms. Duclos:

Tighe & Bond is pleased to submit this amendment to a pending permit application on behalf of Iron Horse Properties, LLC (owner/applicant) for impacts associated with the redevelopment of a commercial parcel in the previously developed upland buffer at 105 Bartlett Street in Portsmouth.

Changes to the plans from the original submission include adjusting the locations of Headwall #2 and Headwall #3 to the locations they were approved by the local Planning Board. There are no changes in proposed wetland or wetland buffer impacts from the originally submitted plans.

## Project Description

The proposed project is located at 105 Bartlett Street and is comprised of a five (5) parcels that are bounded by Bartlett Street to the west and south, North Mill Pond to the north, and the Boston and Maine (B&M) railroad to the east. The existing parcels are listed below.

<b>Tax Map/Lot No.</b>	<b>Area (ac)</b>
157 / 1	1.42
157 / 2	2.34
164 / 1	1.19
164 / 4-2	5.73
R.O.W.	1.60

Lot 157-1 is currently occupied by a 20,000-square-foot, 2-story, concrete block/steel frame building and associated parking lot. Lot 157-2 contains another 20,000-square foot wood frame structure with a variety of outbuildings, such as sheds, to support an impervious lumber yard. Lot 164-1 also contains an approximately 20,000-square foot wood frame structure that hosts a variety of smaller businesses and associated parking. Lot 164-4-2 is currently occupied by a former B&M railroad turntable, a dilapidated former brick roundhouse, and an approximately 3,600-square-foot machine shop. Several shipping containers are also present throughout the lot. The northern end of the lot is comprised





mostly of abandoned rail lines that run down the shoreline between North Mill Pond and the active railroad past the northern limits of the project site

The proposed project will include demolition of the existing building on lot 157-1 and the existing buildings on Lot 164-4-2, These buildings will be replaced with three (3) multi-family apartment buildings depicted as Building A, B and C on the Site Plan. The three (3) buildings will include a total of 152 dwelling units with parking below Buildings A and B. The project includes associated site improvements that consist of the private road cul-de-sac adjacent to Building C, surface parking, pedestrian access, utilities, dark-sky friendly lighting, landscaping and stormwater management systems that provide treatment for runoff.

## Jurisdictional Wetlands

On October 29 and December 2, 2019, Tighe & Bond reviewed and assessed 2,000+/- linear feet of tidal wetlands and buffers along the North Mill Pond. The review was limited to the vicinity of a proposed multi-family development, extending from Bartlett Street to an area opposite Cornwall Street, which runs roughly perpendicular to the parcel.

The wetland delineation review was based on criteria specified in the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (January 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (January 2012). The Highest Observable Tide Line was reviewed based on the definition found in NH Department of Environmental Services Wetland Rules, Env-Wt 101.49/Env-Wt 602.23. Wetlands were classified based on *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979).

The Highest Observable Tide Line (HOTL) had been previously delineated by another consulting firm in 2017. This line was reviewed by exporting the 2017 surveyed line into ArcGIS to overlay on an aerial photographic base map. This base map was then uploaded to an iPad and paired with a Trimble R1 submeter GPS for in-field verification. Using the iPad and GPS as a guide, the line was then evaluated in the field. The HOTL was deemed accurate and the previous 2017 delineation was accepted by Tighe & Bond. A previously unidentified freshwater wetland was also found within a six-foot +/- deep abandoned railroad turntable. Tighe & Bond delineated this area with sequentially numbered flagging and located the wetland boundary using the GPS technology described above.

Functions and values were assessed in the vicinity of the proposed project. Assessment methodologies were adapted from the *Maine Citizens Guide to Evaluating, Restoring, and Managing Tidal Marshes* (Bryan et al., 1997) and *The Highway Methodology Workbook Supplement—Wetland Functions and Values: A Descriptive Approach*, NAEPP-360-1-30a, US Army Corps of Engineers, New England Division, September 1999.

## Tidal Buffer

The North Mill Pond 100-foot tidal buffer can be divided into three zones within the project area: 1) a commercial area, including the Ricci Supply and Ace Hardware complex, the Great Rhythm Brewery building, a former railroad machine shop, and all the paved and unpaved impervious surfaces associated with those buildings; 2) the disturbed forest directly northeast and northwest of Great Rhythm Brewery, including the area around the old railroad turntable and roundhouse remains; and 3) the shrub thicket extending along the narrow portion of the parcel to the northeast. These areas all include historic filling 2-16 feet deep associated with railroad activities. The fill includes coal, coal ash, and possible slag.

## Waiver Request

The attached permit application includes a request for a waiver from Env-Wt 603.08(a) and (b), which require location and documentation of three tidal events by a licensed land surveyor. We have proposed, instead, to use the NOAA predicted tidal datums from nearby Seavey Island as conservative estimates of tidal heights. These heights are conservative because tides flow through two moderate restrictions between Seavey Island and the project site, which should dampen tidal extremes. From this analysis, the proposed project was determined to have a medium risk tolerance and is not at risk of flooding under a predicted sea level rise (SLR) of 5.0 feet by 2122.

## Summary of Agency Coordination

- A wetland preapplication teleconference was held with NHDES staff on April 15, 2020 and February 23, 2021.
- A mitigation preapplication teleconference was held with NHDES staff on March 18, 2021.
- A mitigation preapplication teleconference was held with NHDES staff on March 22, 2022.
- A DataCheck request was completed through the NH Natural Heritage Bureau February 22, 2021 & April 11, 2022 with a finding of no recorded occurrences for sensitive species near the project area.
- A NHDES Alteration of Terrain Permit was issued for this project on September 29, 2021. Permit: AoT-2026.
- This project has received comments from Portsmouth Conservation Commission. These comments were incorporated into plans that have received local approvals, including a Wetland Conditional Use Permit, Shared Parking Conditional Use Permit, Lot line Relocation, and Site Plan Review approved April 20, 2021.

## Appendices

The following supporting documents are included as part of this submittal:

- Appendix A – Forms
  - Standard Major Impact Application
    - Owners List
  - Attachment A
  - Avoidance & Minimization Checklist
  - Copy of the Fee Payment
  - Wetlands Rule Waiver Request
  - Coastal Resource Worksheet and Attachments
    - Project Narrative with Construction Sequencing and Project Monitoring
    - Sea Level Rise Table
    - NOAA Tidal Datums
- Appendix B – Federal and State Coordination
  - US Army Corps of Engineers Appendix B Checklist

- IPAC Review Species List
- Section 106 NH Department of Historical Resources Response Letter
- Appendix C – Maps & Other Attachments
  - Tax Map
  - Abutters List
  - Abutters Notification
  - Abutters Certified Mailing List
  - Photograph Log
  - Site Location Map
  - Recorded Deed
  - Owner’s Letter of Authorization
  - Agent Letter of Authorization
  - Natural Heritage Bureau Results Letter
  - NHFG Correspondence Email
- Appendix D – Functional Assessment
- Appendix E – Figures
  - Figure 1 – Predicted Salt Marsh Migration
  - Figure 2 – Eelgrass Beds and Documented Shellfish Sites
  - Figure 3 – Projected Sea Level Rise
  - Figure 4 – Elevation View
  - Figure 5 - Priority Resource Map
  - Figure 6 – Essential Fish Habitat Map Results
  - Figure 7 – FEMA Flood Map
- Appendix F – Compensatory Mitigation Proposal & In-Lieu Fee
- Appendix G – Engineering Plans

Should you have any questions or require any additional information, please contact me at 603-294-9213 or NAHansen@TigheBond.com.

Sincerely,

**TIGHE & BOND, INC.**



Neil A. Hansen, PE  
Project Manager



Patrick M. Crimmins, PE  
Vice President

Enclosures

Copy: Portsmouth City Clerk  
Portsmouth Conservation Commission  
Portsmouth Planning Board  
Portsmouth City Council  
Iron Horse Properties, LLC, c/o Rob Simmons





**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:** Iron Horse Properties, LLC, Rob Simmons **TOWN NAME:** Portsmouth, NH

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](#).

<b>SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))</b>	
Please use the <a href="#">Wetland Permit Planning Tool (WPPT)</a> , the Natural Heritage Bureau (NHB) <a href="#">DataCheck Tool</a> , the <a href="#">Aquatic Restoration Mapper</a> , or other sources to assist in identifying key features such as: <a href="#">priority resource areas (PRAs)</a> , <a href="#">protected species or habitats</a> , coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&amp;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.</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Protected species or habitat?                             <ul style="list-style-type: none"> <li>○ If yes, species or habitat name(s): <input style="width: 100px;" type="text"/></li> <li>○ NHB Project ID #: <input style="width: 100px;" type="text" value="NHB22-1202"/></li> </ul> </li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
• Bog?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
• Designated prime wetland or duly-established 100-foot buffer?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is the property within a Designated River corridor? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Name of Local River Management Advisory Committee (LAC): <input style="width: 100px;" type="text"/></li> <li>• A copy of the application was sent to the LAC on Month: <input style="width: 30px;" type="text"/> Day: <input style="width: 30px;" type="text"/> Year: <input style="width: 30px;" type="text"/></li> </ul>	

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

For dredging projects, is the subject property contaminated? • If yes, list contaminant: <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 15px;"></span>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input type="checkbox"/> No
For stream crossing projects, provide watershed size (see <a href="#">WPPT</a> or Stream Stats): <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 15px;"></span>	
<b>SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))</b> Provide a <b>brief</b> 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 proposed project consists of constructing two (2) multi-family apartment buildings with basement level parking, one (1) mixed used building with first floor office and amenity space, and upper story apartments. The project will include a total of 152 dwelling units. The project will include associated site improvements that consist of a private road with cul-de-sac, parking, utilities, stormwater management, landscaping and lighting. The project will also include community space along the North Mill Pond. The land from North Mill Pond's mean high water (MHW) line to the 50ft wetland buffer will be designated as community space for the City's North Mill Pond Trail project which will be permitted separately as part of a future projet. The proposed wetland impacts from this project will be permanent impacts.	
<b>SECTION 3 - PROJECT LOCATION</b> Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: <span style="background-color: #cccccc;">105 Bartlett Street</span>	
TOWN/CITY: <span style="background-color: #cccccc;">Portsmouth</span>	
TAX MAP/BLOCK/LOT/UNIT: <span style="background-color: #cccccc;">Map 157 Lot 1, 2 &amp; Map 164 Lot 1, 4-2</span>	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: <span style="background-color: #cccccc;">North Mill Pond</span> <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	
	43.07201° North 70.75781° West

<b>SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))</b>		
If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: Iron Horse Properties, LLC, Rob Simmons		
MAILING ADDRESS: 6 Liberty Square, PMB 90767		
TOWN/CITY: Boston	STATE: MA	ZIP CODE: 02109
EMAIL ADDRESS: robs@cathartes.com		
FAX: [REDACTED]	PHONE: 617-893-9354	
ELECTRONIC COMMUNICATION: By initialing here: JJ, I hereby authorize NHDES to communicate all matters relative to this application electronically.		
<b>SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))</b>		
<input type="checkbox"/> N/A		
LAST NAME, FIRST NAME, M.I.: Hansen, Neil A		
COMPANY NAME: Tighe & Bond, Inc.		
MAILING ADDRESS: 177 Corporate Drive		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: NAHansen@tighebond.com		
FAX: [REDACTED]	PHONE: 603-433-8818	
ELECTRONIC COMMUNICATION: By initialing here NAH, I hereby authorize NHDES to communicate all matters relative to this application electronically.		
<b>SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))</b>		
If the owner is a trust or a company, then complete with the trust or company information.		
<input type="checkbox"/> Same as applicant		
NAME: SEE LIST OF OWNERS INCLUDED		
MAILING ADDRESS: [REDACTED]		
TOWN/CITY: [REDACTED]	STATE: [REDACTED]	ZIP CODE: [REDACTED]
EMAIL ADDRESS: [REDACTED]		
FAX: [REDACTED]	PHONE: [REDACTED]	
ELECTRONIC COMMUNICATION: By initialing here NAH, 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):

Env-Wt 400: The jurisdictional wetland and 100-foot tidal buffer were reviewed and accepted by Tighe & Bond on October 29 and December 2, 2019. The proposed project preserves the existing wetland resource while reducing permanent buffer impacts.

Env-Wt 500: Not applicable, does not apply to coastal project, per Env-Wt 509.02(b).

Env-Wt 600: This project is classified as a Major Impact project because it will result in greater than 10,000 sf of temporary and permanent impacts within the tidal buffer zone. The existing 100-foot tidal buffer is highly developed and consists primarily of commercial buildings, paved parking lots, and abandoned buildings. There are patches of vegetation and trees near the central portion of the project's wetland delineation. The vegetated permeable surfaces within the buffer does little to enhance and protect the downgradient tidal wetland. The proposed project will involve regrading of the wooded vegetation and include the addition of native planting and grasses to enhance the buffer area from the existing condition. The project will include permanent stormwater treatment BMPs that will protect the downgradient waters. A Coastal Resource worksheet is attached. Wetlands on this site are classified as Estuarine, Unconsolidated Shore, Mud, and regularly flooded (E2US3N). Wetland functions in this portion of North Mill Pond include ecological integrity, W F & S habitat, recreational and commercial potential, aesthetic quality, educational potential, and noteworthnes, which will be enhanced with the proposed project.

Env-Wt 700: Not applicable, no prime wetland impacts.

Env-Wt 900: Not applicable, no stream crossings proposed.

**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/ivers, 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	1,528		<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River			<input type="checkbox"/>			<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh	209		<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ	34,639		<input type="checkbox"/>	10,182		<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
<b>TOTAL</b>		<b>36,376</b>			<b>10,182</b>		

**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):	46,558 SF	× \$0.40 =	\$ 18,623.2
Seasonal docking structure:	SF	× \$2.00 =	\$
Permanent docking structure:	SF	× \$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =			\$

	\$
Total =	18,623.
	2

**The application fee for minor or major impact is the above calculated total or \$400, whichever is greater =** \$ 18,623.  
2

**SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)**  
Indicate the project classification.

<input type="checkbox"/> Minimum Impact Project	<input type="checkbox"/> Minor Project	<input checked="" type="checkbox"/> Major Project
---	--	---

**SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)**

**Initial each box below to certify:**


Initials: <input type="text"/> <input type="text"/> NAH	To the best of the signer's knowledge and belief, all required notifications have been provided.
--	--

Initials: <input type="text"/> <input type="text"/> NAH	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
--	--

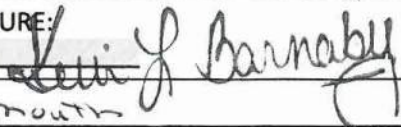
Initials: <input type="text"/> <input type="text"/> NAH	The signer understands that: <ul style="list-style-type: none"> <li>• The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:                         <ol style="list-style-type: none"> <li>1. Deny the application.</li> <li>2. Revoke any approval that is granted based on the information.</li> <li>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.</li> </ol> </li> <li>• The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.</li> <li>• 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.</li> </ul>
--	--

Initials: <input type="text"/> <input type="text"/> NAH	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): <u>See Owner's/Agent Letter of Authorization</u>	PRINT NAME LEGIBLY: <input type="text"/>	DATE: <input type="text"/>
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): <input type="text"/>	PRINT NAME LEGIBLY: <input type="text"/>	DATE: <input type="text"/>
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: Neil Hansen	DATE: 3/29/23

**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: Kelli L. Barnaby
TOWN/CITY: Portsmouth	DATE: March 29, 2023

**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".



**Owners List**  
Proposed Multi-Family Development  
105 Bartlett Street  
Portsmouth, New Hampshire

<b><u>OWNERS</u></b>	<b><u>MAP #</u></b>	<b><u>LOT #</u></b>
Clipper Traders LLC 105 Bartlett Street Portsmouth, NH 03801	157	1
Portsmouth Hardware & Lumber LLC 105 Bartlett Street Portsmouth, NH 03801	157 164	2 1
Iron Horse Properties LLC 105 Bartlett Street Portsmouth, NH 03801	164	4-2





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:** Iron Horse Properties, LLC, c/o Rob Simmons      **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.

ALTHOUGH THE PROPOSED PROJECT IMPACTS JURISDICTIONAL WETLANDS, THE PROPOSED IMPACTS ARE LIMITED TO SMALL AREAS IN THE TIDAL WETLAND FOR DISCHARGE OF TREATED STORMWATER. THE PROJECT PROPOSES ENHANCED STORMWATER TREATMENT, DECREASED IMPERVIOUS SURFACES, AND INCREASED RECREATION USE OF THE BUFFER AREA IN COORDINATION WITH THE CITY. IMPACTS FROM THE PROJECT HAVE BEEN AVOIDED AND MINIMIZED BY PULLING THE NEW BUILDINGS AND PARKING LOT FURTHER BACK FROM THE COASTAL WETLAND AND UTILIZING UNDERGROUND PARKING, THUS FREEING UP SIGNIFICANT AREAS OF IMPERVIOUS SURFACES TO BE RESTORED (SEE APPENDIX F FOR THE MITIGATION PROPOSAL AND WETLAND IMPACT PLAN). ALL WORK IS BEING DONE WITHIN THE PREVIOUSLY DEVELOPED TIDAL BUFFER.



**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 marshes are located within the project limits.

**SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))**

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

The proposed project does not change existing hydrologic connections.

**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.

Impacts from the project have been avoided and minimized by pulling portions of the new buildings and parking lot further back from the coastal wetland and utilizing underground parking, thus freeing up significant areas of impervious surfaces to be restored (see Appendix F for the mitigation proposal and wetland impact plan). All work is being done within the previously developed tidal buffer. The proposed project results in 209 SF of permanent impacts to the tidal wetland to construct two of the three stormwater outfall plunge pools. The proposed project also results in 1,528 SF of permanent impacts to a small forested wetland located inside the abandoned railroad turntable.

**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.

The proposed project increases public recreation and does not affect commerce or navigation.

**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 project has been designed to maintain the existing flood storage capacity within the floodplain.

**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.

The project does not impact these systems.

**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.

The proposed project enhances stormwater runoff treatment from the existing condition which will improve the surrounding water conditions. Furthermore, this is an urban area adjacent to brackish waters with no potential to supply public drinking water.

**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.

N/A - no stream channels.

**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.

N/A - no shoreline structures proposed.

**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.

N/A - no shoreline structures proposed.

**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.

N/A - no shoreline structures proposed.

**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.

N/A - no shoreline structures proposed.

**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.

N/A - no shoreline structures proposed.

**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.

N/A - no shoreline structures proposed.

<b>PART II: FUNCTIONAL ASSESSMENT</b>
<p><b>REQUIREMENTS</b></p> <p>Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).</p>
<p><b>FUNCTIONAL ASSESSMENT METHOD USED:</b></p> <p>The assessment was based on the Maine Citizens Guide to Evaluating, Restoring, and Managing Tidal Marshes (Maine Audubon, 1997); Method for Inventorying and Evaluating Wetlands In New Hampshire, University of New Hampshire Cooperative Extension, 2015; and The Highway Methodology Workbook Supplement—Wetland Functions and Values: A Descriptive Approach, NAEPP-360-1-30a, US Army Corps of Engineers, New England Division, (September 1999).</p>
<p><b>NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT:</b> LEONARD A LORD, PHD, NHCWS#14</p>
<p><b>DATE OF ASSESSMENT:</b> OCT. 29 AND DEC. 2, 2019</p>
<p>Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:</p> <p><input checked="" type="checkbox"/></p>
<p>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:</p> <p><input type="checkbox"/></p> <p>Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.</p>







# AVOIDANCE AND MINIMIZATION CHECKLIST

## Water Division/Land Resources Management Wetlands Bureau



[Check the Status of your Application](#)

**RSA/Rule:** RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in [Attachment A: Minor and Major Projects \(NHDES-W-06-013\)](#)).

The following definitions and abbreviations apply to this worksheet:

- “A/M BMPs” stands for [Wetlands Best Management Practice Techniques for Avoidance and Minimization](#) dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- “Practicable” means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION		
APPLICANT LAST NAME, FIRST NAME, M.I.: Iron Horse Properties, LLC, c/o Rob Simmons		
PROJECT STREET ADDRESS: 105 Bartlett Street	PROJECT TOWN: Portsmouth	
TAX MAP/LOT NUMBER: Map 157 Lot 1, 2 & Map 164 Lot 1, 4-2		
SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If you answered “no” to this question, describe the purpose of the “non-access” project type you have proposed:</p> <p>The purpose of the project is to redevelop a parcel adjacent to a tidal wetland. The proposed project will include demolition of the existing building on lot 157-1 and the existing buildings on Lot 164-4-2, These buildings will be replaced with three (3) multi-family apartment buildings depicted as Building A, B and C on the Site Plan. The three (3) buildings will include a total of 152 dwelling units with parking below Buildings A and B. The project includes associated site improvements that consist of the private road cul-de-sac adjacent to Building C, surface parking, pedestrian access, utilities, dark-sky friendly lighting, landscaping and stormwater management systems that provide treatment for runoff. The project will include temporary and permanent impacts within the Tidal Buffer Zone. The project will result in a net reduction of impervious surface within the Tidal Buffer Zone. This project will also include the construction of a portion of the City of Portsmouth's North Mill Pond Greenway project. This is a 10 ft wide porous asphalt pathway within the 50 ft buffer of North Mill Pond for public recreational use. These improvements will be both temporary and permanent.</p>		

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<b>SECTION 3 - A/M PROJECT DESIGN TECHNIQUES</b>		
Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.		
Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A

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A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
<b>SECTION 4 - NON-TIDAL SHORELINE STRUCTURES</b>		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A





**WETLANDS RULE WAIVER OR  
DWELLING OVER WATER WAIVER  
REQUEST FORM**  
WATER DIVISION/LAND RESOURCES MANAGEMENT  
WETLANDS BUREAU



**RSA/Rule:** RSA 482-A/ Env-Wt 204

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

A person may request a waiver to requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interests of the public or the environment. A person may also request a waiver of standard for existing dwellings over water pursuant to RSA 482-A:26, III (b).

<b>SECTION 1 - PROJECT LOCATION INFORMATION (Env-Wt 204.03(c))</b>			
ADDRESS: 105 Bartlett Street	TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
TAX MAP/LOT NUMBER: Map 157 Lot 1, 2 & Map 164 Lot 1, 4-2 2			
<b>SECTION 2 - WAIVER REQUESTOR INFORMATION (Env-Wt 204.03(a))</b>			
LAST NAME, FIRST NAME, M.I.: Hansen, Neil A.			
MAILING ADDRESS: 177 Corporate Drive			
TOWN/CITY: Portsmouth		STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS (if available): nhansen@tighebond.com or if not FAX NUMBER: [REDACTED]		DAYTIME TELEPHONE NUMBER: (603) 433-8818	
<b>SECTION 3 - APPLICANT INFORMATION (Env-Wt 204.03(b))</b>			
If request is being made on behalf of someone else, include the following information regarding the person being represented. If requestor is the applicant, check the following box and proceed to Section 4.			
<input type="checkbox"/> Requestor is the applicant.			
LAST NAME, FIRST NAME, M.I.: Iron Horse Properties, LLC, Rob Simmons			
MAILING ADDRESS: 6 Liberty Square, PMB 90767			
TOWN/CITY: Boston		STATE: MA	ZIP CODE: 02110
EMAIL ADDRESS (if available): robs@cathartes.com or if not FAX NUMBER: [REDACTED]		DAYTIME PHONE NUMBER: 617-893-9354	

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<b>SECTION 4 - WAIVER INFORMATION</b>
<b>SECTION 4A - WAIVER TO RULE Env-Wt 100-900</b>
<input type="checkbox"/> N/A - If you are not requesting a rule waiver, check this box and proceed to Section 4b
Provide the number of the specific section of each rule for which a waiver is sought (Env-Wt 204.03(d)): Env-Wt 603.08(a)&(b)
Provide a complete explanation of why a waiver is being requested, including an explanation of the operational and economic consequences of complying with the requirement and, if the requested waiver would extend the duration of a permit, the reason(s) why the permit holder was not able to complete the project within the specified time (Env-Wt 204.03(f)(1)):  The provisions referenced in the rule section referenced above state that field observations of at least 3 tide events to be conducted by a licensed land surveyor. A waiver is being requested because the project location is within 1.5 miles of a NOAA Tide and Current station at Seavey Island which provides data that can conservatively used for this project location. This data is conservative because tides flow through two moderate restrictions between Seavey Island and the project site, which should dampen tidal extremes. The expense incurred to have a licensed professional is excessive for redundant information which is readily available from the Seavey Island station.
If applicable, provide a complete explanation of the alternative that is proposed to be substituted for the requirement in Env-Wt, including written documentation or data, or both, to support the alternative (Env-Wt 204.03(g)):  As previously stated, the project's design has incorporated the tide and current information provided by the Seavey Island tide and current station. This information has been provided as an attachment to the Coastal Resources Worksheet within this applicaton package.
<b>SECTION 4B – DWELLING OVER WATERS WAIVER UNDER RSA 482-A:26, III(b).</b>
<input checked="" type="checkbox"/> N/A - If you are not requesting a standard waiver, check this box and proceed to Section 5)
Identify the specific standard to which a waiver is being requested (Env-Wt 204.03(e)): RSA 482-A: [REDACTED]

Provide a complete explanation of why a waiver is being requested, including a complete explanation of how the statutory criteria of RSA 482-A:26, III(b) will be met (Env-Wt 204.03(f)(2)):

[Redacted]

**SECTION 5 - ADDITIONAL WAIVER INFORMATION (Env-Wt 204.03(h); Env-Wt 204.03(i))**  
 (applicable to Waivers of Rules *and* Standards under RSA 482-A:26, III(b))

Indicate whether the waiver is needed for a limited duration and, if so, an estimate of when the waiver will no longer be needed (Env-Wt 204.03(h)):

The waiver is needed for permit approval only.

Provide a complete explanation of why the applicant believes that having the waiver granted will meet the criteria in Env-Wt 204.05 or 204.06, as applicable (Env-Wt 204.03(i)):

Env-Wt 204.05

(a1) The waiver will not result in an adverse impact to the environment or public safety. (a2) It will not interfere with public waters. (a3) It will not result in an advance impact on abutting properties. NH RSA 482-A:26 (Dwellings Over Water) is not applicable.

**SECTION 6 - REQUIRED CERTIFICATIONS (Env-Wt 204.04)**

Initial each box and sign below to certify:

Initials: NAH	The information provided is true, complete, and not misleading to the knowledge and belief of the signer.
Initials: NAH	The signer understands that: <ul style="list-style-type: none"> <li>Any waiver granted based on false, incomplete, or misleading information shall be subject to revocation; and</li> </ul>

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<ul style="list-style-type: none"> <li>• He or she is subject to the penalties for falsification in official matters, currently established in RSA 641.</li> </ul>		
<b>SECTION 7 - REQUESTOR SIGNATURE (Env-Wt 204.04)</b>		
SIGNATURE (APPLICANT): * _____	PRINT NAME LEGIBLY: _____	DATE: _____
SIGNATURE (REQUESTOR): <i>Neil Hansen</i> _____	PRINT NAME LEGIBLY: Tighe & Bond, Inc., c/o Neil Hansen	DATE: 3/29/23

\*In lieu of an applicant signature, you may include a separate signed and dated authorization for the requestor to act on the person's behalf in connection with the request.



WETLANDS RULE WAIVER OR DWELLING OVER WATER WAIVER REQUEST FORM CRITERIA/DECISION



WATER DIVISION/LAND RESOURCES MANAGEMENT WETLANDS BUREAU

(Keep this sheet for your reference; do not submit it with your application)

RSA/Rule: RSA 482-A/ Env-Wt 204

SECTION 1 - WAIVER CRITERIA

SECTION 1A - CRITERIA FOR WAIVERS TO RULES (Env-Wt 204.05)

- (a) The Department shall grant a waiver to a requirement established in subtitle Env-Wt that will not extend the duration of a wetlands permit only if:
(1) Granting a waiver will not result in:
a. An avoidable adverse impact on:
1. The environment or natural resources of the state, including but not limited to jurisdictional areas and protected species or habitat; or
2. Public health or public safety;
b. An impact on abutting properties that is more significant than that which would result from complying with the rule; or
c. A statutory requirement being waived; and
(2) Any benefit to the public or the environment from complying with the rule is outweighed by the operational or economic costs to the applicant.
(b) The Department shall grant a waiver that has the effect of extending the duration of a wetlands permit that does not qualify for the statutory extension under RSA 482-A:3, XIV-a only if:
(1) The permit holder:
a. Was precluded from proceeding under the permit due to actions taken by persons opposed to the project; or
b. Rationally refrained from proceeding under the permit due to reasonable uncertainties surrounding the project's legal viability, which shall not include uncertainties regarding the project's financial viability;
(2) If other permits are required for the project, at least one other permit already has a duration that extends beyond the expiration of the wetlands permit or, if the other permit expires concurrently or prior to the wetlands permit, the permit holder reasonably anticipates that an extension will be obtained; and
(3) Extending the permit will not result in:
a. Adverse impacts on public health or safety, or the environment or natural resources of the state, that would be greater than those accounted for in the permit that was issued; or
b. Adverse impacts on abutting properties that is more significant than that which would have resulted if the project had been initiated in time to be completed during the permit term.

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**SECTION 1B - CRITERIA FOR WAIVERS UNDER RSA 482-A:26, III(b) (Env-Wt 204.06)**

The Department shall grant a waiver under RSA 482-A:26, III(b) if:

- (a) The waiver will not result in:
  - (1) An avoidable adverse impact on the environment or natural resources of the state, public health or public safety;
  - (2) Any interference with the public trust in waters held by the state; or
  - (3) An adverse impact on abutting properties that is more significant than that which would result from complying with the rule; and
- (b) The following criteria from RSA 482-A:26, III(b) are met:
  - (1) The effect of the requested repair or reconstruction represents greater protection of public water or the environment;
  - (2) Such repair or reconstruction does not change a recreational, water-based activity to a land-based, residential or commercial activity;
  - (3) There will be no expansion of the existing footprint, outside dimensions, or square footage of floor space; and
  - (4) There will be a net reduction in the total square footage of kitchen, bathroom, shower, and toilet facilities.

**SECTION 2 – DECISION (Env-Wt 204.07)**

- (a) The Department shall notify the requestor of the decision in writing. If the request is denied, the Department shall identify the specific reason(s) for the denial.
- (b) If a waiver is granted, the Department shall impose such conditions, including time limitations, as the Department deems necessary to ensure that the activities conducted pursuant to the waiver will be consistent with the applicable criteria.



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.:** Iron Horse Properties, LLC, Rob Simmons

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 proposed project will include demolition of the existing building on lot 157-1 and the existing buildings on Lot 164-4-2. The proposed project consists of constructing two (2) multi-family apartment buildings with basement level parking, one (1) mixed used building with first floor office and amenity space, and upper story apartments. The project will include a total of 152 dwelling units. The project will include associated site improvements that consist of a private road with cul-de-sac, parking, utilities, stormwater management, landscaping and lighting. The project will include permanent impacts, though will result in a net reduction of impervious surface within the Tidal Buffer Zone. This project will also include the construction of a portion of the City of Portsmouth's North Mill Pond Greenway project. This is a 10 ft wide porous asphalt pathway within the 50 ft buffer of North Mill Pond for public recreational use.**

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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.

**The North Mill Pond 100-foot tidal buffer can be divided into three zones within the project area: 1) a commercial area and all the paved and unpaved impervious surfaces associated with the buildings; 2) the disturbed forest area around the old railroad turntable,; and 3) the shrub ticket extending along the narrow portion of the parcel.**

**The proposed project will result in a net reduction in impervious surfaces. Restoring impervious surfaces restores vegetation, reduces runoff to the tidal wetland, provides improved water quality treatment of runoff, allows for increased wetland screening for wildlife, and restores available wildlife habitat. Installation of the North Mill Pond trail and greenway would result in improved functions and values of the wetland and buffer including: Ecological Integrity, Recreation Potential, Aesthetic Quality, and possibly Educational Potential. Existing impacts to the 100-foot buffer will also be reduced from the trail and greenway improvements through the removal and restoration of impervious surfaces.**

**The result of the proposed mitigation will be 22,384 SF of restored previously disturbed tidal buffer area and 47,189 SF of previously disturbed tidal buffer enhancement area.**

**The 100-foot tidal buffer impact limits will be marked and erosion controls in place prior to project construction and monitoring will occur during and following construction to assure impacts are minimized and proposed restoration activities are properly carried out.**

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

**Surface waters will not be impacted by the project. All work will employ proper erosion and sediment control BMPs. No equipment will be used within surface waters or wetlands and no invasive species will be used to stabilize the site. The NH Natural Heritage Bureau DataCheck has determined that no rare species or critical habitats will be impacted. All work on this project is within previously developed and landscaped areas and will be consistent with the Shoreland Water Quality Protection Act. No work will be adjacent to designated prime wetlands. The project does not involve dredging or filling of wetlands. Areas of temporary soil disturbance will be stabilized within three days of final grading as described in the construction sequencing below. No work will be done within 10 feet of a property line without an abutter's prior written consent.**

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.

**A project design narrative, including monitoring, is attached.**

- 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.

**N/A**

**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 project useful life is expected to be 100 years. There are expected to be significant upgrades over that time period, which will include technologies to deal with rising sea levels as needed.

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.

NH Coastal Flood Risk Summary Part II, Step 2 Table: Medium Risk Tolerance



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.

NH Coastal Flood Risk Summary Part II, Step 3 Table A: Sea level rise for Medium Risk Tolerance is 5.0 feet (13.00 feet NGVD88) by 2122.

Identify areas of the proposed project site subject to flooding from SLR.

The current 100 -year floodplain (Zone AE) base flood elevation is 8.0 feet NAVD88. The threshold for the parking garage is elevation 7.00 feet and the finished floor elevation of the first floor is 17.50 feet NGVD88. The below grade parking elevation is 7.00 feet. The 100-year floodplain is expected to be above the parking garage threshold within 36 years with a 2.0 foot sea level rise (elevation 10.76 feet) by 2058.

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

Portions of the existing lawn on the northwest side of the property are currently within the 100-year floodplain.

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

The proposed project consists of a 5-story residential use building with one level of below grade parking and one level of parking at grade and beneath the building. The threshold for the parking garage door is 10.75 feet and the finished floor elevation of the first floor is 14.75 feet NGVD29, nearly one foot above the predicted 2122 100-year floodplain .

Two forms of waterproofing are being employed to protect the basement parking garage from water seepage. The slab will be protected with a blind-side waterproofing membrane. The foundation walls will be protected by a waterproofing sheet membrane. These two membranes will connect below the footings along the building perimeter.

Flood proofing technologies will be deployed to relieve potential flooding in the parking garage by 2058, when the 100-year floodplain is expected to exceed the garage threshold.

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: **Waived by S. Giallongo via email to N Hansen July 19, 2021**

#### **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](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).
- Tidal shoreline stabilization (Env-Wt 609).
- Dredging activities (Env-Wt 607).
- Protected tidal zone (Env-Wt 610).

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- 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.

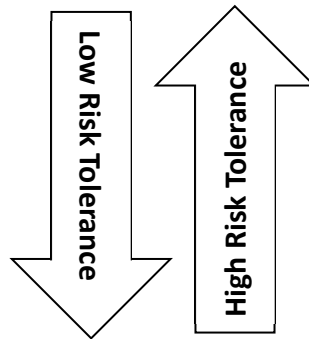
## SECTION 10 – GUIDANCE

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.

## **Project Design Narrative**

### **Project Discussion**

Env-Wt 307. Surface waters will not be impacted by the project. All work will employ proper erosion and sediment control BMPs. No equipment will be used within surface waters or wetlands and no invasive species will be used to stabilize the site. The NH Natural Heritage Bureau DataCheck has determined that no rare species or critical habitats will be impacted. All work on this project is within previously developed and landscaped areas and will be consistent with the Shoreland Water Quality Protection Act. No work will be adjacent to designated prime wetlands. The project does not involve dredging or filling of wetlands. Areas of temporary soil disturbance will be stabilized within three days of final grading as described in the construction sequencing below. No work will be done within 10 feet of a property line without an abutter's prior written consent.

Env-Wt 311.07 & 313.03. Impacts from the project have been avoided and minimized by pulling portions of the new buildings and parking lot further back from the coastal wetland and utilizing underground parking, thus freeing up significant areas of impervious surfaces to be restored (see Appendix F for the mitigation proposal and wetland impact plan). All work is being done within the previously developed tidal buffer. The only direct wetland impact from the project is for the construction of three outfall pipe plunge pools.

Env-Wt 313.01. As described throughout this application, the project will meet all permit approval criteria.

Env-Wt 313.01(c). Impacts from the project have been avoided and minimized by pulling portions of the new buildings and parking lot further back from the coastal wetland and utilizing underground parking, thus freeing up significant areas of impervious surfaces to be restored (see Appendix F for the mitigation proposal and wetland impact plan). All work is being done within the previously developed tidal buffer. The only direct wetland impact from the project is for the construction of three outfall pipe plunge pools.

Env-Wt 603.04. A Coastal Functional Assessment is provided in Appendix D

Env-Wt 603.05. A Vulnerability Assessment is included on the Coastal Worksheet and includes consideration of sea level rise and flooding. Design plans are attached that include water depth information. The project has a medium risk tolerance. The threshold of the underground parking will be below the elevation of the predicted 100 year floodplain by 2058, however, flood proofing technologies will be installed to relieve flooding in that area before that time. The first floor finish elevation will be approximately one foot above the predicted 100-year floodplain in 2122.

### **Construction Sequencing**

1. Prior written consent will be obtained from abutters prior to any soil disturbance less than 10 feet from property lines.
2. Cut and clear trees as required.
3. Construct temporary and permanent sediment, erosion and detention control facilities. Erosion, sediment, and detention measures shall be installed prior to any earth moving operations.
4. Establish a properly constructed dewatering area as needed. Wherever possible, the discharge from the dewatering structure shall drain to a well-vegetated buffer by sheet

flow while maximizing the distance to the nearest water resource and minimizing the slope of the buffer area.

5. 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.
6. Clear and dispose of debris.
7. Construct temporary culverts and diversion channels as required.
8. Grade and gravel roadways and parking areas – all roads and parking areas shall be stabilized within 72 hours of achieving finishing grade.
9. Begin permanent and temporary seeding and mulching. All cut and fill slopes shall be seeded and mulched within 72 hours of achieving finished grade daily, or as required.
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.

### **Project Monitoring, Maintenance, and Management**

The project will be monitored during and following construction by a NH Certified Wetland Scientist or other qualified professional to be sure the site is stabilized, and all components have been properly installed. The restoration areas will be followed up with annual monitoring by a NH Certified Wetland Scientist or other qualified professional. Monitoring will continue until the site is fully stabilized and there is at least 75% survivorship of restoration plantings.

The public greenway trail that runs through the area is expected to be monitored by the conservation commission or other City entity.

The project building and grounds will be maintained by the owners as needed. The grounds will be maintained by contracted landscapers.

**STEP 3 TABLE A. RECOMMENDED DECADAL RSLR ESTIMATES (IN FEET ABOVE 2000 LEVELS) BASED ON RCP 4.5, PROJECT TIMEFRAME, AND TOLERANCE FOR FLOOD RISK.**

TIMEFRAME	HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
	Plan for the following RSLR estimate (ft)* compared to sea level in the year 2000			
	Lower magnitude, Higher probability			Higher magnitude, Lower probability
2030	0.7	0.9	1.0	1.1
2040	1.0	1.2	1.5	1.6
2050	1.3	1.6	2.0	2.3
2060	1.6	2.1	2.6	3.0
2070	2.0	2.5	3.3	3.7
2080	2.3	3.0	3.9	4.5
2090	2.6	3.4	4.6	5.3
2100	2.9	3.8	5.3	6.2
2110	3.3	4.4	6.1	7.3
2120	3.6	4.9	7.0	8.3
2130	3.9	5.4	7.9	9.3
2140	4.3	5.9	8.9	10.5
2150	4.6	6.4	9.9	11.7

2058 (36 yr) = 2.0 ft

2122 (100 yr) = 5.0 ft

\*The colors (blue, red, purple, green) in Step 3 Table A correspond with the colors of the graph depicted in Figure 2 (see also Figure 4.5 in *Part I: Science*<sup>17</sup>). The RSLR estimates for High tolerance for flood risk projects correspond with K14, upper end of “likely” estimates for RCP4.5 (83% chance RSLR will not exceed this value). The RSLR estimates for Medium tolerance for flood risk projects correspond with K14, 1-in-20 chance estimates for RCP 4.5. The RSLR estimates for Low tolerance for flood risk projects correspond with K14, 1-in-100 chance estimates for RCP 4.5. The RSLR estimates for Very Low tolerance for flood risk projects correspond with K14, 1-in-200 chance estimates for RCP4.5. For K14, 1-in-1000 chance estimates, see Table 4.2 in *Part I: Science*.<sup>17</sup> Note that while the Bayesian probabilities associated with RSLR projections are useful, they have some limitations as described in Box 4.3 in *Part I: Science*.<sup>17</sup>







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8419870 Seavey Island, ME Favorite Stations

Station Info

Tides/Water Levels

Meteorological Obs. ([/met.html?id=8419870](#))

Phys. Oceanography ([/physocean.html?id=8419870](#))

PORTS® ([/ports/ports.html?id=8419870](#))

OFS ([/ofs/ofs\\_station.html?stname=Seavey Island&ofs=gom&stnid=8419870&subdomain=0](#))

## Datums for 8419870, Seavey Island ME

**NOTICE:** All data values are relative to the NAVD88.

### Elevations on NAVD88

**Station:** 8419870, Seavey Island, ME

**Status:** Accepted (Dec 6 2021)

**Units:** Feet

**Control Station:** 8418150 Portland, ME

**T.M.:** 0

**Epoch:** ([/datum\\_options.html#NTDE](#)) 1983-2001

**Datum:** NAVD88

Datum	Value	Description
MHHW ( <a href="#">/datum_options.html#MHHW</a> )	4.18	Mean Higher-High Water
MHW ( <a href="#">/datum_options.html#MHW</a> )	3.76	Mean High Water
MTL ( <a href="#">/datum_options.html#MTL</a> )	-0.32	Mean Tide Level
MSL ( <a href="#">/datum_options.html#MSL</a> )	-0.25	Mean Sea Level
DTL ( <a href="#">/datum_options.html#DTL</a> )	-0.26	Mean Diurnal Tide Level
MLW ( <a href="#">/datum_options.html#MLW</a> )	-4.39	Mean Low Water
MLLW ( <a href="#">/datum_options.html#MLLW</a> )	-4.71	Mean Lower-Low Water
NAVD88 ( <a href="#">/datum_options.html</a> )	0.00	North American Vertical Datum of 1988
STND ( <a href="#">/datum_options.html#STND</a> )	-6.98	Station Datum
GT ( <a href="#">/datum_options.html#GT</a> )	8.89	Great Diurnal Range
MN ( <a href="#">/datum_options.html#MN</a> )	8.16	Mean Range of Tide

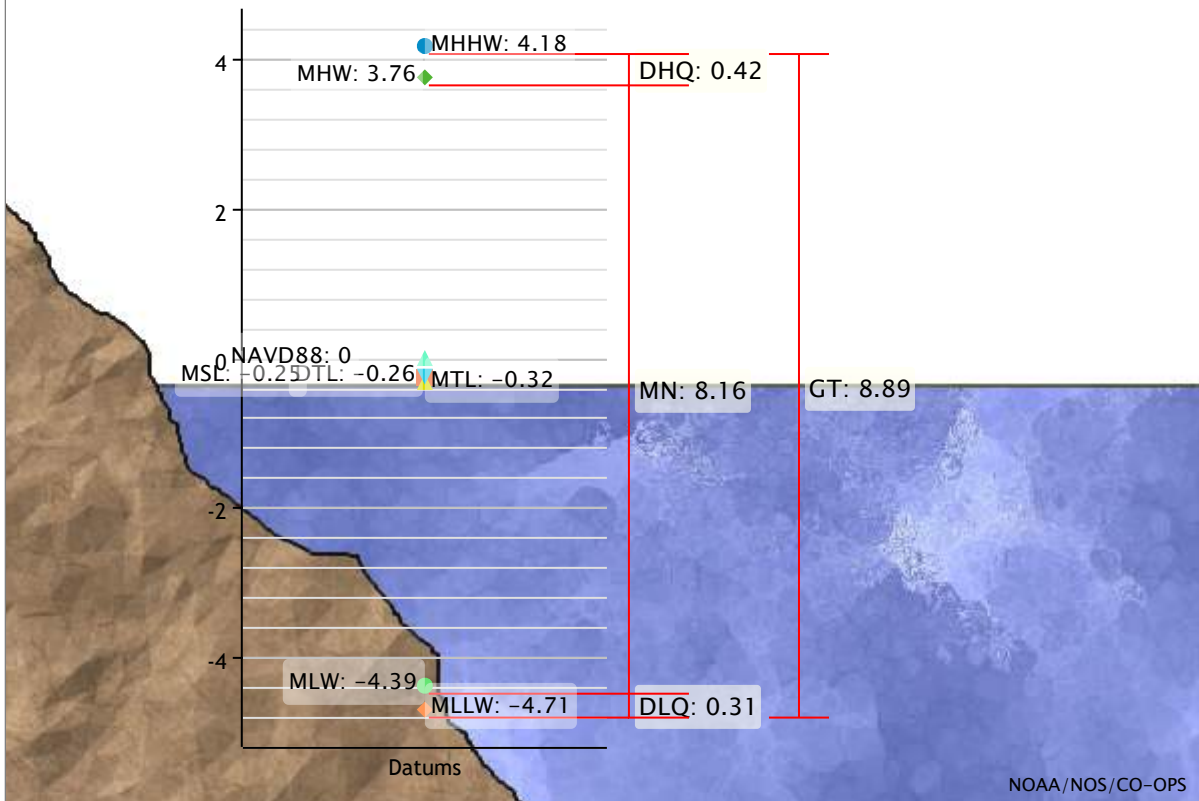
<b>Datum</b>	<b>Value</b>	<b>Description</b>
DHQ (/datum_options.html#DHQ)	0.42	Mean Diurnal High Water Inequality
DLQ (/datum_options.html#DLQ)	0.31	Mean Diurnal Low Water Inequality
HWI (/datum_options.html#HWI)	3.92	Greenwich High Water Interval (in hours)
LWI (/datum_options.html#LWI)	10.04	Greenwich Low Water Interval (in hours)
Max Tide (/datum_options.html#MAXTIDE)	7.89	Highest Observed Tide
Max Tide Date & Time (/datum_options.html#MAXTIDEDT)	02/07/1978 10:42	Highest Observed Tide Date & Time
Min Tide (/datum_options.html#MINTIDE)	-7.98	Lowest Observed Tide
Min Tide Date & Time (/datum_options.html#MINTIDEDT)	11/30/1955 00:00	Lowest Observed Tide Date & Time
HAT (/datum_options.html#HAT)	5.87	Highest Astronomical Tide
HAT Date & Time	11/15/2016 16:18	HAT Date and Time
LAT (/datum_options.html#LAT)	-6.51	Lowest Astronomical Tide
LAT Date & Time	01/14/2036 23:00	LAT Date and Time

### **Tidal Datum Analysis Periods**

07/01/2020 - 06/30/2021

# Datums for 8419870, Seavey Island, ME

All figures in feet relative to NAVD88



Showing datums for

8419870 Seavey Island, ME

Datum

NAVD88

Data Units  Feet

Meters

Epoch  Present (1983-2001)

Superseded (1960-1978)

Submit

Show nearby stations

## Products available at 8419870 Seavey Island, ME

### TIDES/WATER LEVELS

[Water Levels \(/waterlevels.html?id=8419870\)](/waterlevels.html?id=8419870)  
[NOAA Tide Predictions \(/noaatidepredictions.html?id=8419870\)](/noaatidepredictions.html?id=8419870)  
[Harmonic Constituents \(/harcon.html?id=8419870\)](/harcon.html?id=8419870)  
[Sea Level Trends \(/sltrends/sltrends\\_station.shtml?id=8419870\)](/sltrends/sltrends_station.shtml?id=8419870)  
[Datums \(/datums.html?id=8419870\)](/datums.html?id=8419870)  
[Bench Mark Sheets \(/benchmarks.html?id=8419870\)](/benchmarks.html?id=8419870)  
[Extreme Water Levels \(/est/est\\_station.shtml?stnid=8419870\)](/est/est_station.shtml?stnid=8419870)  
[Reports \(/reports.html?id=8419870\)](/reports.html?id=8419870)

### METEOROLOGICAL/OTHER

[Meteorological Observations \(/met.html?id=8419870\)](/met.html?id=8419870)  
[Water Temp/Conductivity](#)

### PORTS®

[Portsmouth PORTS® \(/ports/index.html?port=pm\)](/ports/index.html?port=pm)  
[PORTS® product page for Seavey Island \(/ports/ports.html?id=8419870\)](/ports/ports.html?id=8419870)

### OPERATIONAL FORECAST SYSTEMS

[Gulf of Maine \(/ofs/gomofs/gomofs.html\)](/ofs/gomofs/gomofs.html)  
[OFS product page for Seavey Island](#)

### INFORMATION

[Station Home Page \(/stationhome.html?id=8419870\)](/stationhome.html?id=8419870)  
[Data Inventory \(/inventory.html?id=8419870\)](/inventory.html?id=8419870)  
[Measurement Specifications \(/measure.html\)](/measure.html)

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## Website Owner: Center for Operational Oceanographic Products and Services

[National Oceanic and Atmospheric Administration \(http://www.noaa.gov\)](http://www.noaa.gov)  
[National Ocean Service \(http://oceanservice.noaa.gov\)](http://oceanservice.noaa.gov)  
[Privacy Policy \(/privacy.html\)](/privacy.html)  
[Disclaimer \(/disclaimers.html\)](/disclaimers.html)  
[Take Our Survey \(/survey.html\)](/survey.html)  
[Freedom of Information Act \(https://www.noaa.gov/foia-freedom-of-information-act\)](https://www.noaa.gov/foia-freedom-of-information-act)  
[Contact Us \(/contact.html\)](/contact.html)



**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.

<b>1. Impaired Waters</b>	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*	<b>X</b>	
<b>2. Wetlands</b>	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?		<b>X</b>
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 <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> . The book <a href="#">Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.</a>		<b>X</b>
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	N/A	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.)		<b>X</b>
2.5 The overall project site is more than 40 acres?		<b>X</b>
2.6 What is the area of the previously filled wetlands?	N/A	
2.7 What is the area of the proposed fill in wetlands?		
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	N/A	
<b>3. Wildlife</b>	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: <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> USFWS IPAC website: <a href="https://ecos.fws.gov/ipac/location/index">https://ecos.fws.gov/ipac/location/index</a>		<b>X</b>

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: <ul style="list-style-type: none"> <li>• PDF: <a href="https://wildlife.state.nh.us/wildlife/wap-high-rank.html">https://wildlife.state.nh.us/wildlife/wap-high-rank.html</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>		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	N/A
<b>4. Flooding/Floodplain Values</b>	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
<b>5. Historic/Archaeological Resources</b>		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) 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**	INCLUDED	

\*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.







## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:  
Project Code: 2022-0008667  
Project Name: 105 Bartlett Street - Proposed Multi-Family Development

February 16, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

---

## **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

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## Project Summary

Project Code: 2022-0008667

Event Code: None

Project Name: 105 Bartlett Street - Proposed Multi-Family Development

Project Type: Commercial Development

Project Description: Construction of two (2) multi-family buildings and one (1) mixed-used building including 152 residential units, commercial space, and garage parking.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.07287705,-70.77045978831826,14z>



Counties: Rockingham County, New Hampshire

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## Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

### Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:

February 16, 2022

Project code: 2022-0008667

Project Name: 105 Bartlett Street - Proposed Multi-Family Development

Subject: Consistency letter for the '105 Bartlett Street - Proposed Multi-Family Development' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Colter Krzcuik:

The U.S. Fish and Wildlife Service (Service) received on February 16, 2022 your effects determination for the '105 Bartlett Street - Proposed Multi-Family Development' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause “take”<sup>[1]</sup> of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action’s effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate



You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

---

## Action Description

You provided to IPaC the following name and description for the subject Action.

### 1. Name

105 Bartlett Street - Proposed Multi-Family Development

### 2. Description

The following description was provided for the project '105 Bartlett Street - Proposed Multi-Family Development':

Construction of two (2) multi-family buildings and one (1) mixed-used building including 152 residential units, commercial space, and garage parking.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.07287705,-70.77045978831826,14z>



## Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

### Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

---

## Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

## Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

*No*

2. Will your activity purposefully **Take** northern long-eared bats?

*No*

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

**Automatically answered**

*No*

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at [www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html](http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html).

*Yes*

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

*No*

6. Will the action involve Tree Removal?

*Yes*

7. Will the action only remove hazardous trees for the protection of human life or property?

*No*

8. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

*No*

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9. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

*No*

---

## Project Questionnaire

**If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.**

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

**If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.**

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

**If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.**

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

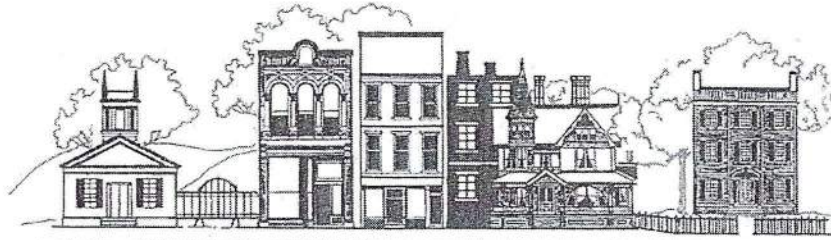
0

**If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.**

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

---



## NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

State of New Hampshire, Department of Natural and Cultural Resources 603-271-3483  
19 Pillsbury Street, Concord, NH 03301-3570 603-271-3558  
TDD Access Relay NH 1-800-735-2964 FAX 603-271-3433  
[www.nh.gov/nhdhr](http://www.nh.gov/nhdhr) [preservation@dncr.nh.gov](mailto:preservation@dncr.nh.gov)

January 11, 2019

Steven D. Riker  
Ambit Engineering, Inc.  
200 Griffin Road, Unit 3  
Portsmouth, NH 03801

Re: 105 Bartlett Street Site Improvements, Portsmouth, NH (RPR #10228)  
EPA

Dear Mr. Riker:

In accordance with Section 106 of the National Historic Preservation Act (16 U.S. C. 470), and with federal Advisory Council on Historic Preservation regulations, *Protection of Historic Properties* (36 CFR Part 800), the New Hampshire Division of Historical Resources/State Historic Preservation Office has reviewed the EPA undertaking referenced above, with respect to potential effects on properties listed, or potentially eligible for listing, in the National Register of Historic Places. The project includes infrastructure improvements and demolition of remnants of the National Register eligible Eastern Railroad Linear District (including turntable and roundhouse ruins).

David Trubey, New Hampshire Division of Historical Resources Historical Archaeologist and Review and Compliance Coordinator, has reviewed the materials submitted and made observations at a site visit of January 4, 2019. The DHR has determined that the project impact area lacks archaeological sensitivity through previous construction activities and no further archaeological studies are required.

For purposes of compliance with the federal Advisory Council on Historic Preservation regulations, *Protection of Historic Properties* (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470), this determination may be construed as a finding of "*No Historic Properties Affected*" if the work is done as described in the following stipulations:

***Stipulations: (1) All storm water features must be located outside the area in which the turntable and roundhouse ruins are located; (2) A written history to include narrative, historic photographs, and photographs taken after site clearing but before demolition of the turntable and roundhouse will be prepared by an Architectural Historian qualified under 36 CFR 61 and submitted for review to the New Hampshire Division of Historical Resources (DHR). Document will be utilized by the City of Portsmouth for future interpretive signage at the site if a walking trail is constructed. The Applicant will provide final copies (digital and archival hard copy) to the DHR, Portsmouth Public Library, and Portsmouth Athenaeum within 9 months of receipt of this correspondence.***



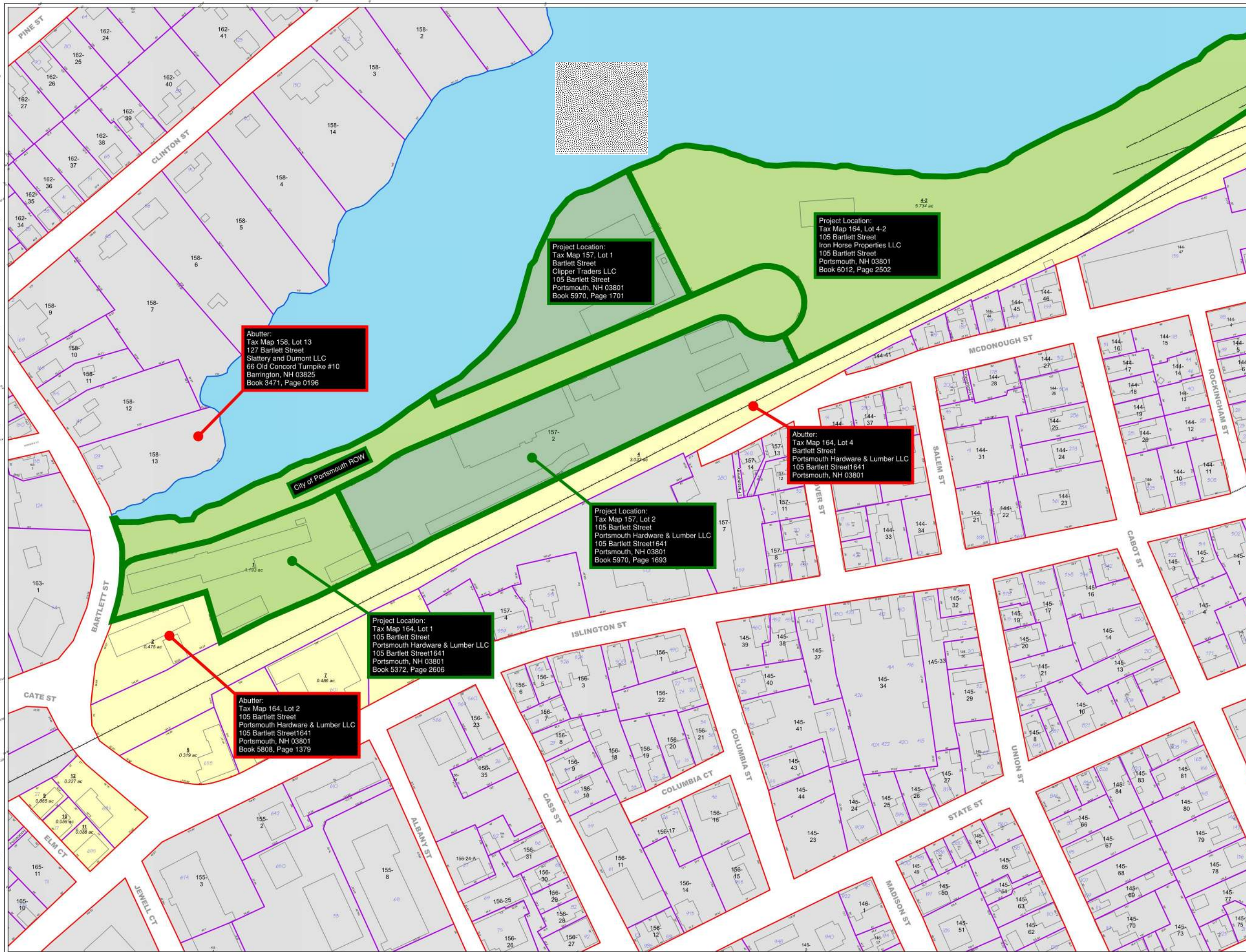
This fulfills the project sponsor's duties for "Section 106" historic preservation review under EPA's Construction General Permit, unless any additional impacts are identified or if follow-up actions as noted above should be necessary. As the federal regulatory agency for this project, the EPA is responsible for completion of any "Section 106" historic preservation review procedures which pertain to its involvement.

Sincerely,

A handwritten signature in cursive script, appearing to read "Nadine Miller".

Nadine Miller  
Deputy State Historic Preservation Officer

cc: EPA  
City of Portsmouth

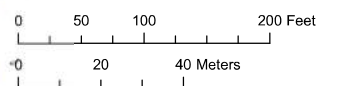


**Partial Legend**  
 See the cover sheet for the complete legend.

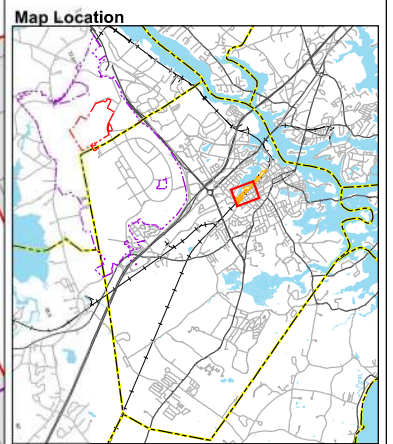
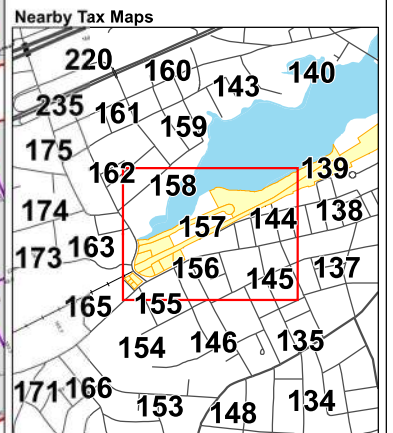
**7-5A** Lot or lot-unit number  
 2.56 ac Parcel area in acres (ac) or square feet (sf)  
 25 Address number  
 233-137 Parcel number from a neighboring map  
 68 Parcel line dimension

**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)



*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.*



Portsmouth, New Hampshire  
 2020  
**Tax Map 164**

**Abutter:**  
 Tax Map 158, Lot 13  
 127 Bartlett Street  
 Slattery and Dumont LLC  
 66 Old Concord Turnpike #10  
 Barrington, NH 03825  
 Book 3471, Page 0196

**Project Location:**  
 Tax Map 157, Lot 1  
 Bartlett Street  
 Clipper Traders LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801  
 Book 5970, Page 1701

**Project Location:**  
 Tax Map 164, Lot 4-2  
 105 Bartlett Street  
 Iron Horse Properties LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801  
 Book 6012, Page 2502

**Abutter:**  
 Tax Map 164, Lot 4  
 Bartlett Street  
 Portsmouth Hardware & Lumber LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801

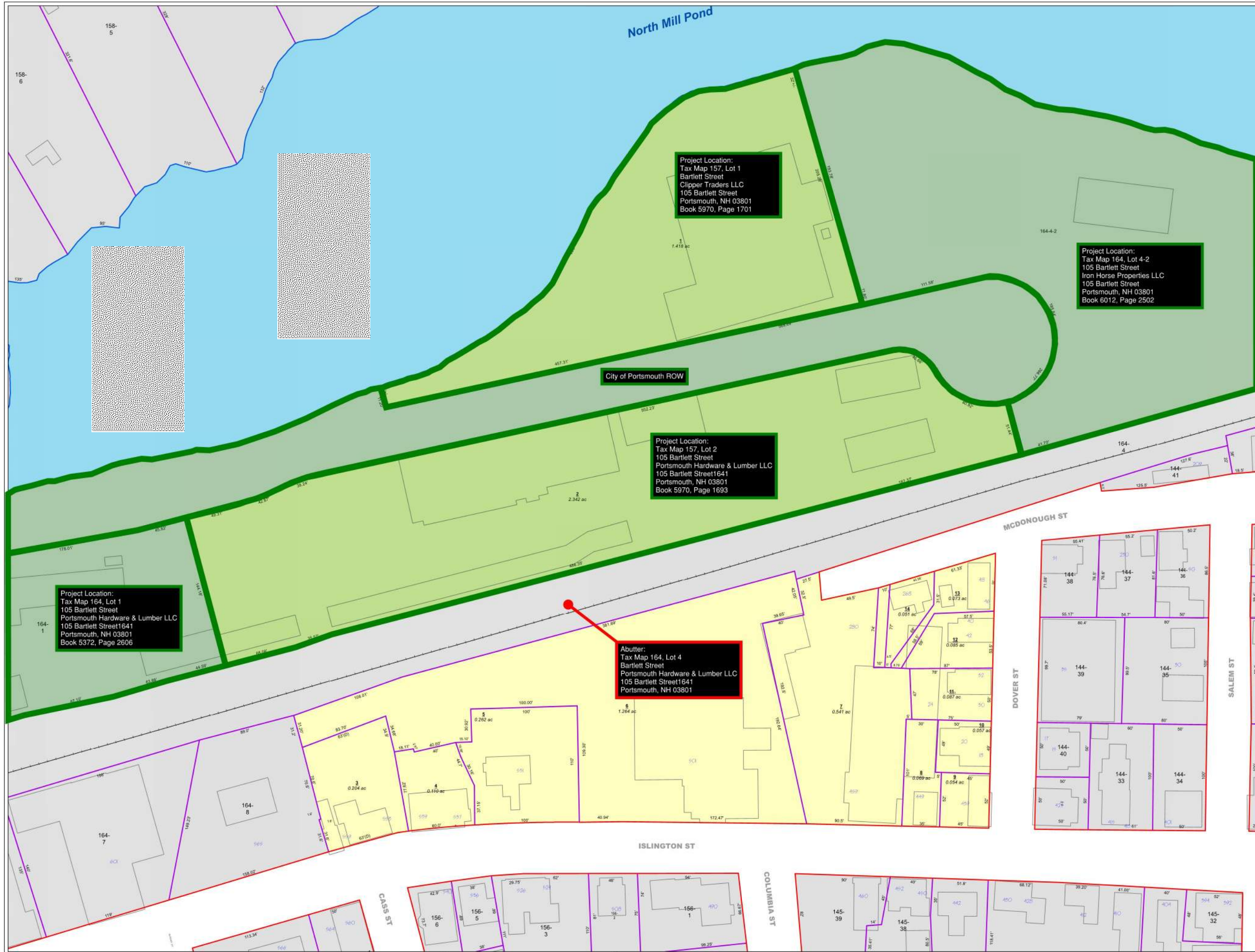
**Project Location:**  
 Tax Map 157, Lot 2  
 105 Bartlett Street  
 Portsmouth Hardware & Lumber LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801  
 Book 5970, Page 1693

**Project Location:**  
 Tax Map 164, Lot 1  
 105 Bartlett Street  
 Portsmouth Hardware & Lumber LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801  
 Book 5372, Page 2606

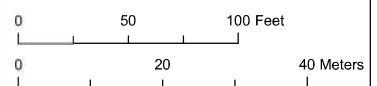
**Abutter:**  
 Tax Map 164, Lot 2  
 105 Bartlett Street  
 Portsmouth Hardware & Lumber LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801  
 Book 5808, Page 1379



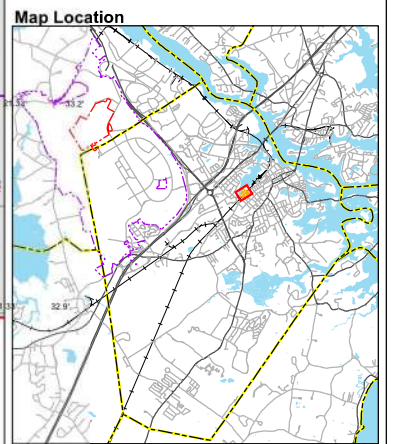
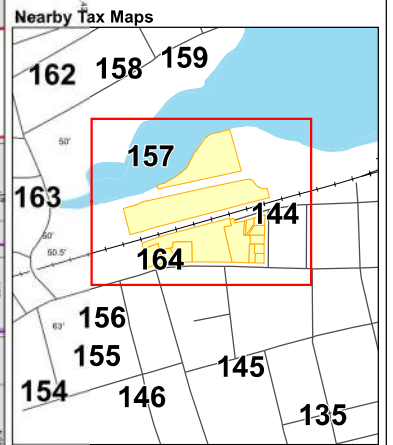




- Partial Legend**  
 See the cover sheet for the complete legend.
- 7-5A** Lot or lot-unit number
  - 2.56 ac Parcel area in acres (ac) or square feet (sf)
  - 25 Address number
  - 233-137 Parcel number from a neighboring map
  - 68' Parcel line dimension
  - SIMS AVE** Street name
  - Parcel/Parcel 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)

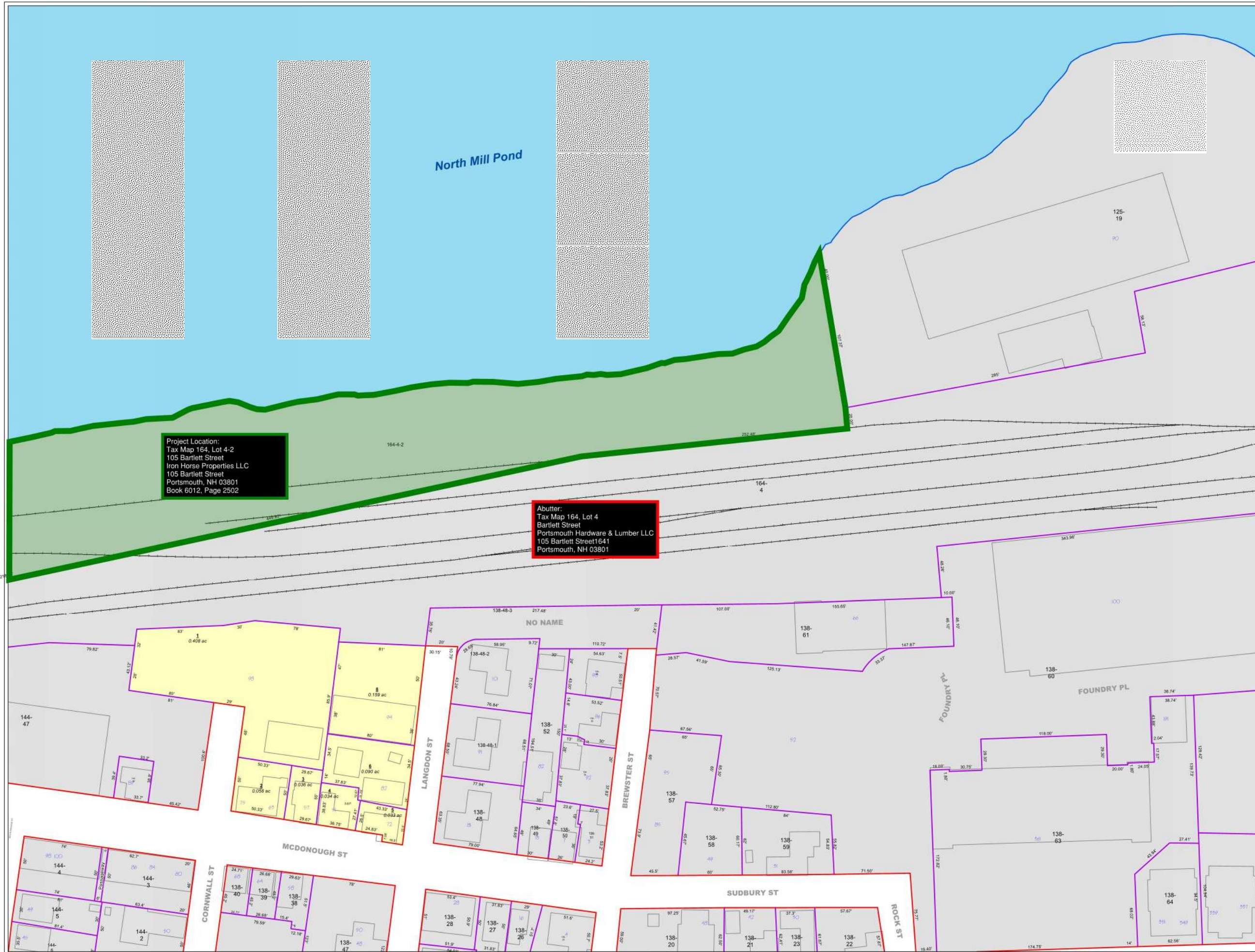


*This map is for assessment purposes only. It is not intended for legal description or conveyance. Parcels are mapped as of April 1. Building footprints are 2006 data and may not represent current structures. Streets appearing on this map may be paper (unbuilt) streets. Lot numbers take precedence over address numbers. Address numbers shown on this map may not represent posted or legal addresses.*



Portsmouth, New Hampshire  
 2020  
**Tax Map 157**

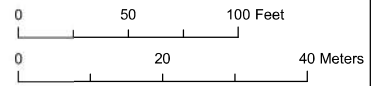




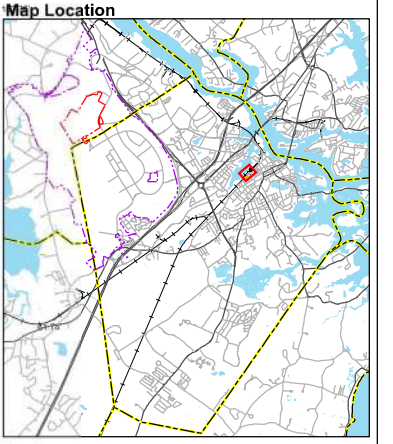
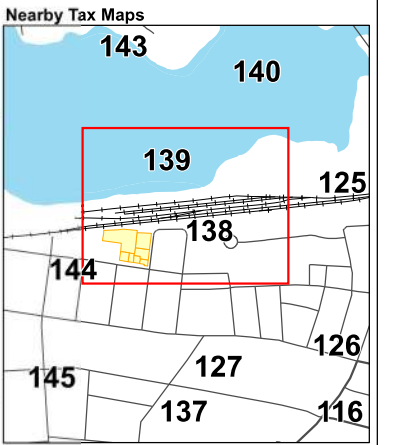
Project Location:  
 Tax Map 164, Lot 4-2  
 105 Bartlett Street  
 Iron Horse Properties LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801  
 Book 6012, Page 2502

Abutter:  
 Tax Map 164, Lot 4  
 Bartlett Street  
 Portsmouth Hardware & Lumber LLC  
 105 Bartlett Street  
 Portsmouth, NH 03801

- 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)
  - 25 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)



*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.*



Portsmouth, New Hampshire  
 2020  
**Tax Map 139**



**Abutters List**  
Proposed Multi-Family Development  
105 Bartlett Street  
Portsmouth, New Hampshire

<b><u>ABUTTERS</u></b>	<b><u>MAP #</u></b>	<b><u>LOT #</u></b>
------------------------	---------------------	---------------------

Slattery and Dumont LLC  
66 Old Concord Turnpike #10  
Barrington, NH 03825

158 13

Portsmouth Hardware & Lumber LLC  
105 Bartlett Street  
Portsmouth, NH 03801

164 2  
164 4

\*Since this abutter is one of the property owners, notification has been deemed unnecessary.

**OWNERS**

Clipper Traders LLC  
105 Bartlett Street  
Portsmouth, NH 03801

157 1

Portsmouth Hardware & Lumber LLC  
105 Bartlett Street  
Portsmouth, NH 03801

157 2  
164 1

Iron Horse Properties LLC  
105 Bartlett Street  
Portsmouth, NH 03801

164 4-2

**APPLICANTS**

Iron Horse Properties LLC  
105 Bartlett Street  
Portsmouth, NH 03801

**MUNICIPALITY**

City of Portsmouth  
Planning Department  
1 Junkins Ave  
Portsmouth, NH 03801

**ENGINEER**

Tighe & Bond, Inc.  
177 Corporate Drive  
Portsmouth, NH 03801



**PUBLIC NOTICE**  
**NOTICE OF INTENT TO FILE**

Please take notice that Iron Horse Properties, LLC, applicant, is intending to file an Amendment to a Pending Wetland Permit Application (NHDES File No. 2023-00122) with the New Hampshire Department of Environmental Services for proposed site improvements at 105 Bartlett Street in Portsmouth, New Hampshire.

The proposed development consists of three (3) multi-family apartment buildings including a total of 152 dwelling units. The project includes associated site improvements that consist of the private road cul-de-sac, surface parking, pedestrian access, utilities, lighting, landscaping and stormwater management systems. An Alteration of Terrain Permit (AoT-2026) was issued by NHDES on September 29, 2021.

The proposed project will result in 1,528 SF of permanent impacts to a small forested wetland, 209 SF of permanent impacts to the tidal wetland, and 34,639 SF of permanent impacts to the previously developed tidal buffer zone. Additionally, the project will result in 10,182 SF of temporary impacts to the previously developed tidal buffer zone.

Plans and details of this application are on file, for your review, at the City of Portsmouth Clerk's Office, 1 Junkins Avenue, Portsmouth, New Hampshire (8:00am - 4:30pm) or at the NHDES Wetlands Bureau, 29 Hazen Drive, Concord, New Hampshire (8:00am - 4:00pm).







Firm Mailing Book For Accountable Mail

Name and Address of Sender

Check type of mail or service

Adult Signature Required       Priority Mail Express

Adult Signature Restricted Delivery       Registered Mail

Certified Mail       Return Receipt for Merchandise

Certified Mail Restricted Delivery       Signature Confirmation

Collect on Delivery (COD)       Signature Confirmation Restricted Delivery

Insured Mail

Priority Mail

**\$1.85 0**

US POSTAGE  
FIRST-CLASS  
062S0006911843  
FROM 03801

receipt.  
ceipt.

USPS Tracking/Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee		
1.	<p style="text-align: center;"><b>158-13</b> <b>Slattery and Dumont LLC</b> <b>66 Old Concord Turnpike #10</b> <b>Barrington, NH 03825</b></p>			Handling Charge - if Registered and over \$50,000 in value												
2.																
3.																
4.																
5.																
6.																
7.																
8.																
<p>Total Number of Pieces Listed by Sender</p> <p>Total Number of Pieces Received at Post Office</p>		<p>Postmaster, Per (Name of receiving employee)</p>														

Handling Charge - if Registered and over \$50,000 in value

C-0960-006

E. OMMUNDSEN ON BEHALF OF C. KRZCOIK

1 TOTAL

1 x \$0.60 = \$0.60

1 x \$1.85 = \$1.85

TOTAL: \$ 2.45

Adult Signature Required

Adult Signature Restricted Delivery

Restricted Delivery

Return Receipt

Signature Confirmation

Signature Confirmation Restricted Delivery

Special Handling



# Photographic Log

**Client:** Iron Horse Properties, LLC

**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.: 1</b>	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> South
<b>Description:</b> Entrance to the site along Bartlett Street.		
 A photograph showing the entrance to a building with a sign that reads "RICCI KITCHENS". The building has a gabled roof and large glass windows. Two cars are parked in the lot to the left. The foreground shows a paved area with yellow markings and a crosswalk.		

<b>Photograph No.: 2</b>	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> Northeast
<b>Description:</b> Paved buffer and eroding banks along North Mill Pond at low tide along the commercial area in southwest portion of the site.		
 A photograph showing a paved road along a body of water (North Mill Pond) at low tide. The road is on the right, and the water is on the left. In the background, there are commercial buildings, including one with a sign that reads "RICCI HARDWARE". Several cars are parked in a lot.		

# Photographic Log

**Client:** Iron Horse Properties, LLC

**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH




# Photographic Log

**Client:** Iron Horse Properties, LLC

**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 5	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> Northeast
<b>Description:</b> Paved parking area in wetland buffer at Great Rhythm Brewing Company.		
		

<b>Photograph No.:</b> 6	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> East
<b>Description:</b> Remains of the railroad roundhouse and disturbed forest buffer northeast of the Great Rhythm Brewing Company.		
		


# Photographic Log

**Client:** Iron Horse Properties, LLC

**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 7	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> East
<b>Description:</b> Wetland dominated by Norway maple and red osier dogwood within the old railroad turntable approximately six feet below grade.		
		


<b>Photograph No.:</b> 8	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> South
<b>Description:</b> Inside the remains of the railroad turntable.		
		


# Photographic Log

**Client:** Iron Horse Properties, LLC

**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 9	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> West
<b>Description:</b> Outside wall and foundations of remains of railroad roundhouse.		
		

<b>Photograph No.:</b> 10	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> North
<b>Description:</b> Inside the remains of the railroad roundhouse.		
		



# Photographic Log

**Client:** Iron Horse Properties, LLC

**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 11	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> Northeast
<b>Description:</b> Compacted gravel are around the rear of existing 2 story brick building.		
		

<b>Photograph No.:</b> 12	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> Southwest
<b>Description:</b> Compacted gravel area around the rear of the existing 2 story brick building.		
		

# Photographic Log

**Client:** Iron Horse Properties, LLC

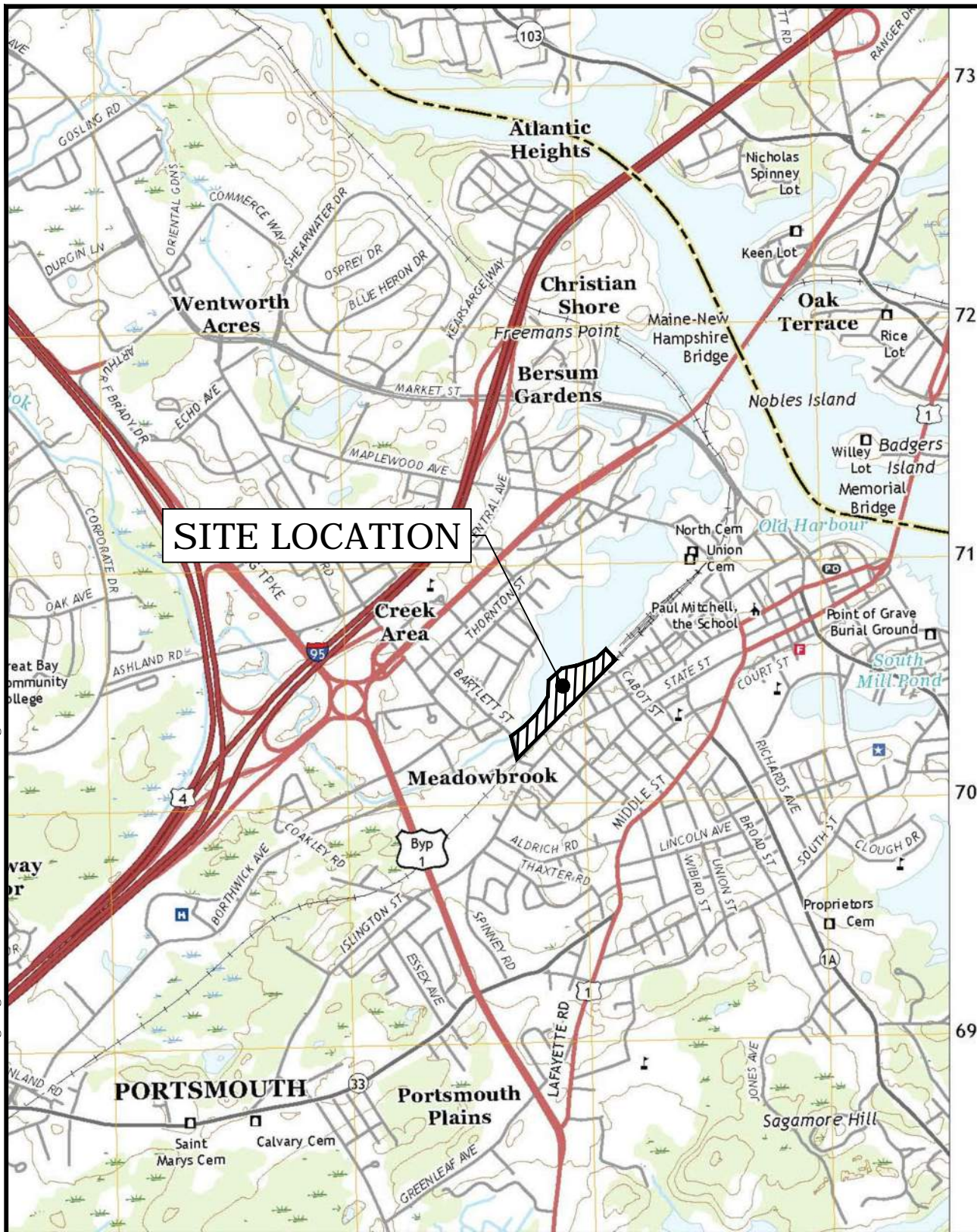
**Job Number:** C-0960-006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 13	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> South
<b>Description:</b> Compacted gravel area around the side of the existing 2 story brick building.		

<b>Photograph No.:</b> 14	<b>Date:</b> 3/25/2022	<b>Direction Taken:</b> Southwest
<b>Description:</b> Compacted gravel area in front of existing 2 story brick building, former contractor storage yard.		





**NOTE:**

1. BASED ON USGS TOPOGRAPHIC MAP FOR PORTSMOUTH, NH, ME (2018).



PROPOSED MULTI-FAMILY DEVELOPMENT  
PORTSMOUTH, NH

105 BARTLETT STREET

USGS LOCUS MAP

DATE: 12/05/2019

SCALE: 1" = 2000'

FIGURE: 1

**Tighe & Bond**  
Engineers | Environmental Specialists





*M*  
HOFFER ATTORNEY CORNELL & ROBERTS

# 18051906 12/21/2018 02:19:25 PM  
Book 5970 Page 1701 Page 1 of 7  
Register of Deeds, Rockingham County

*Cathy Ann Seacy*

LCHIP	ROA434150	25.00
TRANSFER TAX	RO085122	576.00
RECORDING		34.00
SURCHARGE		2.00

**RELEASE DEED**

The **BOSTON AND MAINE CORPORATION**, a corporation duly organized and existing under the laws of the State of Delaware, with offices at Iron Horse Park, North Billerica, Middlesex County, Massachusetts (the "Grantor") in consideration of Thirty-Eight Thousand Three Hundred Eighty-One and 00/100 Dollars (\$38,381.00) paid to it by **CLIPPER TRADERS, LLC**, with a mailing address of 105 Bartlett Street, Portsmouth, New Hampshire 03801 (the "Grantee") hereby grants to the Grantee all the Grantor's right, title and interest, without any warranties or covenants of title whatsoever, in a certain parcel of land, and the buildings, bridges, structures, crossings, fixtures and improvements thereon, if any, situated in Portsmouth, County of Rockingham, State of New Hampshire (the "Premises") described as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND  
MADE A PART HEREOF BY THIS REFERENCE.

This conveyance is subject to the following reservations, conditions, covenants and agreements:

1. This conveyance is made without granting any right of way, either by necessity or otherwise, over any remaining land or location of the Grantor.
2. ~~The Grantor hereby reserves a permanent, exclusive right of way and easement in, on, over, under, across and through the Premises for the purpose of accessing, constructing, installing, operating, maintaining, modifying, repairing, replacing, relocating and removing a telecommunications system or other system for transmission of intelligence or information by any means, whether now existing or hereafter devised, including such poles, pipes, wires, fibers, fiber optic cables, repeater stations, attachments, appurtenances, structures or other equipment and property of any description necessary or useful for the same~~

~~(the "Telecommunications Easement"). The Grantor further reserves the right to freely lease, license, mortgage, assign, pledge and otherwise alienate the Telecommunications Easement. The Grantee hereby covenants with the Grantor to recognize the Telecommunications Easement and, without the payment of any further consideration, to execute, acknowledge and deliver such instruments suitable for recording with the registry of deeds as the Grantor may reasonably require to acknowledge title to the Telecommunications Easement in the Grantor. The Grantor covenants to reasonably repair and restore the surface of the easement area after any work.~~

~~3. The Grantor excepts from this conveyance any and all railroad tracks, railroad track materials (including, but not limited to, ties, connections, switches and ballast) and/or related equipment of any description located in whole or in part within the Premises (the "Trackage") and this conveyance is subject to the right of the Grantor to enter the Premises from time to time and at any and all times within the ninety (90) day period commencing with and subsequent to the date of delivery of this deed, with such men, equipment and materials as, in the reasonable opinion of the Principal Engineering Officer of the Grantor, are necessary for the removal of the Trackage. Days during the months of December, January, February and March shall not be included in the aforesaid ninety (90) day period. If the Trackage is not removed from the Premises by the expiration of said ninety (90) day period, the Trackage shall be deemed abandoned by the Grantor and shall then become the property of the Grantee.~~

~~4. The Grantor excepts from this conveyance any and all advertising signs and/or billboards located upon the Premises which are not owned by the Grantor. Furthermore, this conveyance is subject to the right of the owners of said signs and/or billboards to go upon the Premises and remove them within ninety (90) days from the date of delivery of this deed.~~

~~5. By the acceptance of this deed and as part consideration therefor, the Grantee hereby assumes any and all agreements, covenants, obligations and liabilities of the Grantor in respect to any underground facilities, drainage culverts, walls, crossings and/or other structures of any nature and description located in whole or in part within the Premises.~~

~~6. By the acceptance of this deed and as part consideration therefor, the Grantee agrees to irrevocably waive, give up and renounce any and all claims or causes of action against the Grantor in respect of claims, suits and/or enforcement actions (including any administrative or judicial proceedings and any remedial, removal or response actions) ever asserted, threatened, instituted or requested by any person and/or governmental~~

agency on account of: (a) any release of oil or hazardous materials or substances of any description on, upon or into the Premises in contravention of any ordinance, law or statute (including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9601, et seq., as amended); and (b) any and all damage to real or personal property, natural resources and/or harm or injury to persons alleged to have resulted from such release of oil or hazardous materials or substances.

7. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to build and forever maintain fences (together with any necessary gates), suitable to the Principal Engineering Officer of the Grantor, along the boundaries of the Premises which are common to remaining land or location of the Grantor (the "Fences"), if Fences are ever required in the sole and reasonable opinion of said Principal Engineering Officer; provided, however, that such requirement shall be subject to Grantee's receipt of all necessary, final and unappealable, municipal permits and approvals to erect such fence on or immediately adjacent (within 2 feet) to the common property boundary.

8. This conveyance is subject to the following restriction for the benefit of other land or location of the Grantor, to wit: that from the date of delivery of this deed, the Grantor shall not be liable to the Grantee or any lessee or user of the Premises (or any part thereof) for any damage to any buildings or property upon them caused by fire, whether communicated directly or indirectly by or from locomotive engines of any description upon the railroad operated by the Grantor, or otherwise.

9. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to make no use of the Premises which, in the sole and reasonable opinion of the Principal Engineering Officer of the Grantor, adversely affects, increases or decreases drainage to, from, upon or in any remaining land or location of the Grantor. The Grantee agrees to indemnify and save the Grantor harmless from and against any and all loss, cost, damage or expense including, but not limited to, the cost of defending all claims and/or suits for property damage, personal injury or death arising out of or in any way attributable to any breach of the foregoing covenant

10. ~~The Grantor excepts from this conveyance any and all overhead, surface or underground signal and communication line facilities of the Grantor located within the limits of the Premises and this conveyance is subject to the Grantor's use of any such facilities in their present locations and entry upon the Premises from time to time to maintain, repair, replace, renew, relay or remove such facilities.~~



11. Whenever used in this deed, the term "Grantor" shall not only refer to the **BOSTON AND MAINE CORPORATION**, but also its successors, assigns and affiliates and the term "Grantee" shall not only refer to the above-named Grantee, but also the Grantee's successors, assigns and grantees, as the case maybe.

12. The several exceptions, reservations, conditions, covenants and agreements contained in this deed shall be deemed to run with the land and be binding upon the Grantee forever. In addition to the acceptance and recording of this deed, the Grantee hereby signifies assent to the said several exceptions, reservations, conditions, covenants and agreements, by joining in its execution.

IN WITNESS WHEREOF, the said BOSTON AND MAINE CORPORATION has caused this release deed to be executed in its name and its corporate seal to be hereto affixed by David A. Fink, its President, thereunto duly authorized this 17<sup>th</sup> day of December, 2018.

GRANTOR:  
BOSTON AND MAINE CORPORATION

  
Witness

By:   
David A. Fink, President



COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss.

Dec. 17, 2018

On this 17<sup>th</sup> day of December, 2018, before me, the undersigned notary public, personally appeared David A. Fink, President as aforesaid, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.



  
Notary Public  
My Commission Expires:

GRANTEE:  
CLIPPER TRADERS, LLC

Kevin  
Witness

By: Edward R. Hayes  
Edward R. Hayes, Manager

STATE OF NEW HAMPSHIRE

Rockingham, ss.

December 21, 2018

The foregoing instrument was acknowledged before me on this 21<sup>st</sup> day of December, 2018, by Edward R. Hayes, as Manager of Clipper Traders, LLC, duly authorized.

Kevin  
Justice of the Peace/Notary Public  
My Commission Expires: \_\_\_\_\_



EXHIBIT "A"

To be transferred from Boston and Maine Corporation to  
Clipper Traders, LLC  
Portsmouth, NH

Beginning at a spike at the base of a bent iron pipe at the northeasterly corner of land now or formerly of Clipper Traders, LLC; thence running across land now or formerly of the Boston and Maine Corporation the following five (5) courses: S 46°54'17" E a distance of 11.80 feet to a point; thence S 46°49'03" W a distance of 457.31 feet; thence N 46°49'43" W a distance of 11.20 feet; thence continuing on the last bearing 12 feet, more or less, to the mean high water line of North Mill Pond, so called, thence turning and running in a northeasterly direction along the mean high water line said North Mill Pond 41 feet more or less to land now or formerly of Clipper Traders, LLC; thence turning and running along land of Clipper traders a distance of 74 feet, more or less, to an iron rod; thence continuing along the land now or formerly of said Clipper Traders, LLC the following two (2) courses, N 52°50'28" E a distance of 170.00 feet to an iron rod; thence N 43°16'48" E a distance of 175.00 feet to a spike at the base of a bent iron pipe and the point of beginning. The above described parcel of land containing 5,483 square feet, more or less, is shown on a plan prepared by Ambit Engineering, Inc., dated DECEMBER 2018, recorded with the Rockingham County Registry of Deeds in Plan Book ~~\_\_\_\_\_~~ Plan D 41242.

*(M)*  
HOEFNE PHTOLNIX GORMLEY + ROBERTS.

# 18051905 12/21/2018 02:19:24 PM  
Book 5970 Page 1693 Page 1 of 8  
Register of Deeds, Rockingham County

*Cathy Ann Seacy*

LCHIP	ROA434149	25.00
TRANSFER TAX	RO085121	11,600.00
RECORDING		38.00
SURCHARGE		2.00



**RELEASE DEED**

The **BOSTON AND MAINE CORPORATION**, a corporation duly organized and existing under the laws of the State of Delaware, with offices at Iron Horse Park, North Billerica, Middlesex County, Massachusetts (the "Grantor") in consideration of Seven Hundred Seventy-Three Thousand Three Hundred Thirty-Nine and 00/100 Dollars (\$773,339.00) paid to it by **PORTSMOUTH LUMBER & HARDWARE, LLC**, with a mailing address of 105 Bartlett Street, Portsmouth, New Hampshire 03801 (the "Grantee") hereby grants to the Grantee all the Grantor's right, title and interest, without any warranties or covenants of title whatsoever, in a certain parcel of land, and the buildings, bridges, structures, crossings, fixtures and improvements thereon, if any, situated in Portsmouth, County of Rockingham, State of New Hampshire (the "Premises") described as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND  
MADE A PART HEREOF BY THIS REFERENCE.

This conveyance is subject to the following reservations, conditions, covenants and agreements:

1. This conveyance is made without granting any right of way, either by necessity or otherwise, over any remaining land or location of the Grantor.
2. ~~The Grantor hereby reserves a permanent, exclusive right of way and easement in, on, over, under, across and through the Premises for the purpose of accessing, constructing, installing, operating, maintaining, modifying, repairing, replacing, relocating and removing a telecommunications system or other system for transmission of intelligence or information by any means, whether now existing or hereafter devised, including such poles, pipes, wires, fibers, fiber optic cables, repeater stations, attachments, appurtenances, structures or other~~

~~equipment and property of any description necessary or useful for the same (the "Telecommunications Easement"). The Grantor further reserves the right to freely lease, license, mortgage, assign, pledge and otherwise alienate the Telecommunications Easement. The Grantee hereby covenants with the Grantor to recognize the Telecommunications Easement and, without the payment of any further consideration, to execute, acknowledge and deliver such instruments suitable for recording with the registry of deeds as the Grantor may reasonably require to acknowledge title to the Telecommunications Easement in the Grantor. The Grantor covenants to reasonably repair and restore the surface of the easement area after any work.~~

~~3. The Grantor excepts from this conveyance any and all railroad tracks, railroad track materials (including, but not limited to, ties, connections, switches and ballast) and/or related equipment of any description located in whole or in part within the Premises (the "Trackage") and this conveyance is subject to the right of the Grantor to enter the Premises from time to time and at any and all times within the ninety (90) day period commencing with and subsequent to the date of delivery of this deed, with such men, equipment and materials as, in the reasonable opinion of the Principal Engineering Officer of the Grantor, are necessary for the removal of the Trackage. Days during the months of December, January, February and March shall not be included in the aforesaid ninety (90) day period. If the Trackage is not removed from the Premises by the expiration of said ninety (90) day period, the Trackage shall be deemed abandoned by the Grantor and shall then become the property of the Grantee.~~

~~4. The Grantor excepts from this conveyance any and all advertising signs and/or billboards located upon the Premises which are not owned by the Grantor. Furthermore, this conveyance is subject to the right of the owners of said signs and/or billboards to go upon the Premises and remove them within ninety (90) days from the date of delivery of this deed.~~

~~5. By the acceptance of this deed and as part consideration therefor, the Grantee hereby assumes any and all agreements, covenants, obligations and liabilities of the Grantor in respect to any underground facilities, drainage culverts, walls, crossings and/or other structures of any nature and description located in whole or in part within the Premises.~~

~~6. By the acceptance of this deed and as part consideration therefor, the Grantee agrees to irrevocably waive, give up and renounce any and all claims or causes of action against the Grantor in respect of claims, suits and/or enforcement actions (including any administrative or judicial proceedings and any remedial, removal or response actions) ever asserted,~~

threatened, instituted or requested by any person and/or governmental agency on account of: (a) any release of oil or hazardous materials or substances of any description on, upon or into the Premises in contravention of any ordinance, law or statute (including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9601, et seq., as amended); and (b) any and all damage to real or personal property, natural resources and/or harm or injury to persons alleged to have resulted from such release of oil or hazardous materials or substances.

7. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to build and forever maintain fences (together with any necessary gates), suitable to the Principal Engineering Officer of the Grantor, along the boundaries of the Premises which are common to remaining land or location of the Grantor (the "Fences"), if Fences are ever required in the sole and reasonable opinion of said Principal Engineering Officer; provided, however, that such requirement shall be subject to Grantee's receipt of all necessary, final and unappealable, municipal permits and approvals to erect such fence on or immediately adjacent (within 2 feet) to the common property boundary.

8. This conveyance is subject to the following restriction for the benefit of other land or location of the Grantor, to wit: that from the date of delivery of this deed, the Grantor shall not be liable to the Grantee or any lessee or user of the Premises (or any part thereof) for any damage to any buildings or property upon them caused by fire, whether communicated directly or indirectly by or from locomotive engines of any description upon the railroad operated by the Grantor, or otherwise.

9. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to make no use of the Premises which, in the sole and reasonable opinion of the Principal Engineering Officer of the Grantor, adversely affects, increases or decreases drainage to, from, upon or in any remaining land or location of the Grantor. The Grantee agrees to indemnify and save the Grantor harmless from and against any and all loss, cost, damage or expense including, but not limited to, the cost of defending all claims and/or suits for property damage, personal injury or death arising out of or in any way attributable to any breach of the foregoing covenant

10. ~~The Grantor excepts from this conveyance any and all overhead, surface or underground signal and communication line facilities of the Grantor located within the limits of the Premises and this conveyance is subject to the Grantor's use of any such facilities in their present locations~~

~~and entry upon the Premises from time to time to maintain, repair, replace, renew, relay or remove such facilities.~~

11. Whenever used in this deed, the term "Grantor" shall not only refer to the **BOSTON AND MAINE CORPORATION**, but also its successors, assigns and affiliates and the term "Grantee" shall not only refer to the above-named Grantee, but also the Grantee's successors, assigns and grantees, as the case maybe.

12. The several exceptions, reservations, conditions, covenants and agreements contained in this deed shall be deemed to run with the land and be binding upon the Grantee forever. In addition to the acceptance and recording of this deed, the Grantee hereby signifies assent to the said several exceptions, reservations, conditions, covenants and agreements, by joining in its execution.

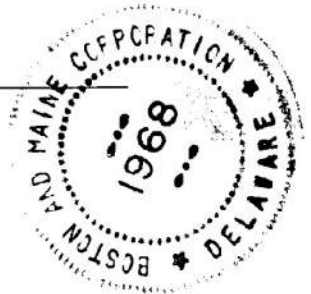


IN WITNESS WHEREOF, the said BOSTON AND MAINE CORPORATION has caused this release deed to be executed in its name and its corporate seal to be hereto affixed by David A. Fink, its President, thereunto duly authorized this 17<sup>th</sup> day of December, 2018.

GRANTOR:  
BOSTON AND MAINE CORPORATION

  
Witness

By:   
David A. Fink, President



COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss.

DEC. 17, 2018

On this 17<sup>th</sup> day of December, 2018, before me, the undersigned notary public, personally appeared David A. Fink, President as aforesaid, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.



  
Notary Public  
My Commission Expires:

**GRANTEES:  
PORTSMOUTH LUMBER & HARDWARE, LLC**

[Signature]  
Witness

By: [Signature]  
Edward R. Hayes, Manager

**STATE OF NEW HAMPSHIRE**

Rockingham, ss.

December 21, 2018

The foregoing instrument was acknowledged before me on this 21<sup>st</sup> day of December, 2018, by Edward R. Hayes, as Manager of Portsmouth Lumber & Hardware, LLC, duly authorized.

[Signature]  
Justice of the Peace/Notary Public  
My Commission Expires: \_\_\_\_\_



EXHIBIT "A"

To be transferred from Boston and Maine Corporation to  
Portsmouth Lumber and Hardware, LLC  
Portsmouth, NH

Beginning at a point on the northeasterly side of Bartlett Street, so called, said point being located 39.83 feet left of Station 2970+18.15 on the Boston and Maine Corporation Centerline of Location; thence running along the northeasterly side of said Bartlett Street N 13°40'31" W a distance of 66.68 feet to a point; thence turning and running along land now or formerly of Portsmouth Lumber and Hardware, LLC the following ten (12) courses, on a curve turning to the left with an arc length of 111.58 feet, with a radius of 993.54 feet, said curve having a chord bearing of N 46°41'16" E, with a chord length of 111.52 feet; thence on a curve turning to the left with an arc length of 40.77 feet, with a radius of 993.54 feet, said curve having a chord bearing of N 42°17'42" E, with a chord length of 40.77 feet; thence on a curve turning to the left with an arc length of 47.40 feet, with a radius of 1101.05 feet, said curve having a chord bearing of N 39°52'54" E, with a chord length of 47.40 feet; thence on a curve turning to the right with an arc length of 12.23 feet, with a radius of 1370.56 feet, said curve having a chord bearing of N 38°54'14" E, with a chord length of 12.23 feet; thence on a curve turning to the right with an arc length of 56.34 feet, with a radius of 1370.56 feet, said curve having a chord bearing of N 40°20'14" E, with a chord length of 56.34 feet; thence N 41°30'53" E a distance of 170.76 feet; thence N 48°29'11" W a distance of 42.16 feet; S 53°33'53" W a distance of 121.62 feet; N 38°21'53" W a distance of 11.17 feet; thence on a curve turning to the right with an arc length of 42.05 feet, with a radius of 816.13 feet, said curve having a chord bearing of S 62°52'35" W, with a chord length of 42.04 feet; thence turning and running over and across land now or formerly of said Boston and Maine Corporation the following eighteen (18) courses, N 48°38'22" E a distance of 160.53 feet; thence N 44°10'56" E a distance of 45.82 feet; thence N 44°29'34" E a distance of 49.31 feet; thence on a curve turning to the left with an arc length of 42.87 feet, with a radius of 200.00 feet, said curve having a chord bearing of N 38°21'07" E, with a chord length of 42.79 feet; thence on a curve turning to the right with an arc length of 38.24 feet, with a radius of 150.00 feet, said curve having a chord bearing of N 39°30'52" E, with a chord length of 38.14 feet; thence N 46°49'03" E a distance of 552.23 feet; thence on a curve turning to the right with an arc length of 45.66 feet, with a radius of 35.00 feet, said curve having a chord bearing of N 84°11'20" E, with a chord length of 42.49 feet; thence on a curve turning to the left with an arc length of 80.92 feet, with a radius of 60.00 feet, said curve having a chord bearing of N 82°55'23" E, with a chord length of 74.93 feet; thence S 45°30'58" E a distance of 51.44 feet; thence S 44°29'02" W a distance of 182.37 feet; thence S 44°19'01" W a distance of 486.35 feet; thence S 40°03'53" W a distance of 35.57 feet; thence S 44°17'25" W a distance of 112.65 feet (being 68.06 feet and 44.59 feet); thence S 43°15'05" W a distance of 63.86 feet; thence S 46°55'09" W a distance of 87.10 feet; thence S 43°22'17" W a distance of 147.08 feet (being 86.86 feet and 60.22 feet); thence S 39°31'55" W a distance of 38.45 feet; thence S 45°20'50" W a distance of 138.59 feet to the northeasterly side of said Bartlett Street and the point of beginning. The

above described parcel of land containing 110,477 square feet, more or less, is shown on a plan prepared by Ambit Engineering, Inc., dated December 2018, recorded with the Rockingham County Registry of Deeds in Plan ~~Book \_\_\_\_\_~~ Plan D41242 and excludes any property previously conveyed to the Grantee by deed from Ricci Supply Company, Inc. dated October 30, 2012 and recorded in the Rockingham County Registry of Deeds at Book 5372, Page 2606, being Parcels 2 and 3 of said deed.

Return to:



After recording return to:  
**Bosen & Associates, PLLC**  
96 Chestnut Street  
Portsmouth, NH 03801



**WARRANTY DEED**

KNOW ALL MEN BY THESE PRESENTS: That, **Ricci Supply Company, Inc.**, a New Hampshire corporation of 105 Bartlett Street, Portsmouth, NH 03801, for consideration paid grant(s) to **Portsmouth Lumber & Hardware, LLC**, a New Hampshire limited liability Company, of with an address of c/o Bosen & Associates, PLLC 96 Chestnut Street, Portsmouth, NH 03801, with **WARRANTY COVENANTS**:

Parcel 1:

A certain piece or parcel of land situated in Portsmouth, County of Rockingham and State of New Hampshire located on the Easterly side of Bartlett Street, so called, in Portsmouth, and being 3 parcels of land as shown on a plan entitled "Subdivision of Land, Portsmouth, New Hampshire, for George and Pauline J. Frisbee" dated December, 1976, John W. Durgin, Civil Engineers, said plan being recorded in the Rockingham County Registry of Deeds as Plan #C-6587, and said parcels being bounded and described as follows:

Beginning in the Northwesterly corner of said parcel at land now or formerly of the Boston & Maine Railroad; thence running North 53° 52' 15" East, 55.91 feet to a point; thence running by a curve to the right having a radius of 448.97 feet a distance of 94.55 feet, more or less, to a point; thence running by a curve to the left having a radius of 816.11 feet a distance of 58.22 feet, more or less to a set iron pin; thence turning and running South 35° 58' 45" East a distance of 13.19 feet to a set iron pin; thence turning and running North 54° 01' 15" East a distance of 121.62 feet, more or less, to land of the Boston & Maine Railroad; thence turning and running South 48° 01' 45" East a distance of 42.16 feet to a set iron pin at land of the Boston & Maine Railroad; thence turning and running South 41° 58' 15" West, by and along land of the Boston & Maine Railroad a distance of 132 feet, more or less, to a set iron pin; thence continuing South 41° 58' 15" West a distance of 38.76 feet to a point; thence turning and running by a curve to the left having a radius of 1,370.60 feet a distance of 56.34 feet to a set iron pin at land now or formerly of Ricci Construction Company a distance of 27 feet to a set drill hole; thence turning and running South 45° 56' 05" West a distance of 102.50 feet to a point ; thence turning and running North 41° 10' 40" West a distance of 10 feet to a point; thence turning and running South 49° 15' 25" West by and along said land of Frisbee a distance of 65.69 feet to a point on the Southerly sideline of Bartlett Street; thence turning and running by a curve to the left having a radius of 288.61 feet by and along the Easterly sideline of Bartlett Street a distance of 116.21 feet to a set iron pin.

055827

2012 OCT 31 PM 2:09

ROCKINGHAM COUNTY  
REGISTRY OF DEEDS

This deed is given subject to and together with the right to use in common with others the 15 foot right of way as shown on said plan.

Meaning and intending to describe and convey all of the premises described in Deed from George E. Frisbee dated November 15, 1984 and recorded in the Rockingham County Registry of Deeds in Book 2520, Page 1564.

The above description is a re-draft of the same description set forth in the deed recorded at Book 2520, Page 1564. That description inadvertently included Parcel #2 on the aforesaid plan which parcel had previously been conveyed to Arthur W. and Carol J. Frisbee, by deed dated January 21, 1977 and recorded in the Rockingham County Registry of Deeds at Book 2274, Page 1241.

Parcel 2:

A certain piece or parcel of land situated in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at remaining land of the Boston and Maine Railroad at a point 124.02 feet North 43° 03' 05" West from Station 2975 + 36.23 on the center line of location of the main line "East Route", so called, of the Portland Division of said railroad; thence running by said remaining land of said Railroad on six (6) courses as follows: North 43° 03' 05" West 52.60 feet, North 46° 56' 55" East 308.00 feet, South 43° 03' 05" East 65.02 feet, South 43° 30' 15" West 40.29 feet, Southwesterly on a curve to the right having a radius of 383.07 feet, 99.58 feet and South 58° 23' 55" West 70.28 feet to the point of beginning, be all of said measurement more or less, said parcel containing about 20,949 square feet and being shown upon plan marked "Land in Portsmouth, NH Boston and Maine Railroad-to-Erminio A. Ricci J. F. Kerwin Eng'r. of Design May, 1957", recorded in the Rockingham County Registry of Deeds.

Together with a right of way to Bartlett Street as set forth in deeds recorded at Book 1435, Page 485 and Book 1436, Page 371.

And this conveyance is made subject to such other restrictions, conditions and covenants as described in Deed of Boston and Maine Railroad to Erminio A. Ricci dated June 21, 1957 and recorded in the Rockingham County Registry of Deeds at Book 1435, Page 485.

Meaning and intending to describe and convey the same premises from Erminio A. Ricci dated June 28, 1957 and recorded in the Rockingham County Registry of Deeds at Book 1436, Page 371.

Parcel 3:

A certain piece or parcel of land located off Bartlett Street, Portsmouth, County of Rockingham and State of New Hampshire, and being further bounded and described as follows:

Beginning at land of the Boston and Maine Railroad at a point 43° 03' 05" West, ninety three and six hundredths (93.06) feet from Station 2978 plus 44.79 on the center line of location of Portland Main Line (East) Boston Division of said Railroad; thence running North 43° 03' 05" West by land of Erminio A. Ricci, sixty five and two hundredths (65.02) feet to a point eight

(8.00) feet Southeasterly from the Easterly track of a side track of said Railroad; thence turning and running North 46° 56' 55" East one hundred and thirty two (132.00) feet to a point; thence turning and running South 43° 03' 05" East forty-nine (49.00) feet to a point; thence turning and running South 40° 01' 49" West one hundred thirty- two and ninety-six hundredths (132.96) feet to the point of beginning, the last three (3) courses all being by remaining land of said Railroad, be all of said measurements more or less, and containing about seven thousand five hundred and twenty five (7525) square feet of land as shown on a plan entitled A Land of Portsmouth, NH Boston and Maine Railroad – to – Erminio A. Ricci, J.F. Kewin Asst. Chief Engineer, Apr. 1960", which has been recorded in the Rockingham County Registry of Deeds at Plan #02612.

Subject to the conditions and exceptions as set forth in the deed from Boston and Maine Railroad to Erminio A. Ricci dated June 30, 1961 and recorded in the Rockingham County Registry of Deeds at Book 1595, Page 87.

Meaning and intending to describe and convey the same premises conveyed to the Grantor herein by Deed from Joanne Grasso, Robert A. Ricci, Sr., Alice E. Hayes and Margaret Gagne dated February 12, 1999 and recorded in the Rockingham County Registry of Deeds in Book 3368, Page 2165.

Reference is made to a Deed from Henry M. Tidgwell and Lynn B. Tidgwell dated May 15, 2012 and recorded in the Cumberland County Registry of Deeds in Book 25942, Page 298.

Executed this 30 day of October, 2012.

Ricci Supply Company, Inc.

ER Hayes, President  
By: Edward R. Hayes, President

STATE of NEW HAMPSHIRE  
COUNTY of ROCKINGHAM

The foregoing instrument was acknowledged before me this 30 day of October, 2012 by Edward R. Hayes, President of Ricci Supply Company, Inc. a New Hampshire corporation on behalf of the corporation.

**CHRISTOPHER P. MULLIGAN**  
Justice of the Peace - New Hampshire  
My Commission Expires January 30, 2013

[Signature]  
Notary Public/Justice of the Peace  
Commission expiration:



(M)  
Heffle Phoenix Gamble + Roberts  
PO Box 4480  
Portsmouth NH 03802-04480

*Cathy Ann Seacy*

LCHIP	ROA452140	25.00
TRANSFER TAX	RO089141	5,969.00
RECORDING		34.00
SURCHARGE		2.00

RELEASE DEED

The **BOSTON AND MAINE CORPORATION**, a corporation duly organized and existing under the laws of the State of Delaware, with offices at Iron Horse Park, North Billerica, Middlesex County, Massachusetts (the "Grantor") in consideration of Three Hundred Ninety-Seven Thousand Eight Hundred Fifty-Three and 50/100 Dollars (\$397,853.50) paid to it by **IRON HORSE PROPERTIES, LLC** with a mailing address of 105 Bartlett Street, Portsmouth, New Hampshire 03801, (the "Grantee") hereby grants to the Grantee all the Grantor's right, title and interest, without any warranties or covenants of title whatsoever, in a certain parcel of land, and the buildings, bridges, structures, crossings, fixtures and improvements thereon, if any, situated in Portsmouth, County Rockingham, State of New Hampshire (the "Premises") described as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND  
MADE A PART HEREOF BY THIS REFERENCE.

This conveyance is subject to the following reservations, conditions, covenants and agreements:

1. This conveyance is made without granting any right of way, either by necessity or otherwise, over any remaining land or location of the Grantor.
2. ~~The Grantor hereby reserves a permanent, exclusive right of way and easement in, on, over, under, across and through the Premises for the purpose of accessing, constructing, installing, operating, maintaining, modifying, repairing, replacing, relocating and removing a telecommunications system or other system for transmission of intelligence or information by any means, whether now existing or hereafter devised, including such poles, pipes, wires, fibers, fiber optic cables, repeater stations, attachments, appurtenances, structures or other equipment and property of any description necessary or useful for the same~~



~~(the "Telecommunications Easement"). The Grantor further reserves the right to freely lease, license, mortgage, assign, pledge and otherwise alienate the Telecommunications Easement. The Grantee hereby covenants with the Grantor to recognize the Telecommunications Easement and, without the payment of any further consideration, to execute, acknowledge and deliver such instruments suitable for recording with the registry of deeds as the Grantor may reasonably require to acknowledge title to the Telecommunications Easement in the Grantor. The Grantor covenants to reasonably repair and restore the surface of the easement area after any work.~~

3. The Grantor excepts from this conveyance any and all railroad tracks, railroad track materials (including, but not limited to, ties, connections, switches and ballast) and/or related equipment of any description located in whole or in part within the Premises (the "Trackage") and this conveyance is subject to the right of the Grantor to enter the Premises from time to time and at any and all times within the ninety (90) day period commencing with and subsequent to the date of delivery of this deed, with such men, equipment and materials as, in the reasonable opinion of the Principal Engineering Officer of the Grantor, are necessary for the removal of the Trackage. Days during the months of December, January, February and March shall not be included in the aforesaid ninety (90) day period. If the Trackage is not removed from the Premises by the expiration of said ninety (90) day period, the Trackage shall be deemed abandoned by the Grantor and shall then become the property of the Grantee.

~~4. The Grantor excepts from this conveyance any and all advertising signs and/or billboards located upon the Premises which are not owned by the Grantor. Furthermore, this conveyance is subject to the right of the owners of said signs and/or billboards to go upon the Premises and remove them within ninety (90) days from the date of delivery of this deed.~~

5. By the acceptance of this deed and as part consideration therefor, the Grantee hereby assumes any and all agreements, covenants, obligations and liabilities of the Grantor in respect to any underground facilities, drainage culverts, walls, crossings and/or other structures of any nature and description located in whole or in part within the Premises.

6. By the acceptance of this deed and as part consideration therefor, the Grantee agrees to irrevocably waive, give up and renounce any and all claims or causes of action against the Grantor in respect of claims, suits and/or enforcement actions (including any administrative or judicial proceedings and any remedial, removal or response actions) ever asserted, threatened, instituted or requested by any person and/or governmental

agency on account of: (a) any release of oil or hazardous materials or substances of any description on, upon or into the Premises in contravention of any ordinance, law or statute (including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9601, et seq., as amended); and (b) any and all damage to real or personal property, natural resources and/or harm or injury to persons alleged to have resulted from such release of oil or hazardous materials or substances.

7. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to build and forever maintain fences (together with any necessary gates), suitable to the Principal Engineering Officer of the Grantor, along the boundaries of the Premises which are common to remaining land or location of the Grantor (the "Fences"), if Fences are ever required in the sole and reasonable opinion of said Principal Engineering Officer; provided, however, that such requirement shall be subject to Grantee's receipt of all necessary, final and unappealable, municipal permits and approvals to erect such fence on or immediately adjacent (within 2 feet) to the common property boundary.

8. This conveyance is subject to the following restriction for the benefit of other land or location of the Grantor, to wit: that from the date of delivery of this deed, the Grantor shall not be liable to the Grantee or any lessee or user of the Premises (or any part thereof) for any damage to any buildings or property upon them caused by fire, whether communicated directly or indirectly by or from locomotive engines of any description upon the railroad operated by the Grantor, or otherwise.

9. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to make no use of the Premises which, in the sole and reasonable opinion of the Principal Engineering Officer of the Grantor, adversely affects, increases or decreases drainage to, from, upon or in any remaining land or location of the Grantor. The Grantee agrees to indemnify and save the Grantor harmless from and against any and all loss, cost, damage or expense including, but not limited to, the cost of defending all claims and/or suits for property damage, personal injury or death arising out of or in any way attributable to any breach of the foregoing covenant.

10. ~~The Grantor excepts from this conveyance any and all overhead, surface or underground signal and communication line facilities of the Grantor located within the limits of the Premises and this conveyance is subject to the Grantor's use of any such facilities in their present locations and entry upon the Premises from time to time to maintain, repair, replace, renew, relay or remove such facilities.~~


11. Whenever used in this deed, the term "Grantor" shall not only refer to the **BOSTON AND MAINE CORPORATION**, but also its successors, assigns and affiliates and the term "Grantee" shall not only refer to the above-named Grantee, but also the Grantee's successors, assigns and grantees, as the case maybe.

12. The several exceptions, reservations, conditions, covenants and agreements contained in this deed shall be deemed to run with the land and be binding upon the Grantee forever. In addition to the acceptance and recording of this deed, the Grantee hereby signifies assent to the said several exceptions, reservations, conditions, covenants and agreements, by joining in its execution.

IN WITNESS WHEREOF, the said BOSTON AND MAINE CORPORATION has caused this release deed to be executed in its name and its corporate seal to be hereto affixed by David A. Fink, its President, thereunto duly authorized this 25<sup>TH</sup> day of June, 2019.

GRANTOR:  
BOSTON AND MAINE CORPORATION

  
Witness

By:   
David A. Fink, President



COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss.

6/25, 2019

On this 25<sup>TH</sup> day of JUNE, 2019, before me, the undersigned notary public, personally appeared David A. Fink, President as aforesaid, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.



  
Notary Public  
My Commission Expires: 8-10-23

GRANTEE:  
IRON HORSE PROPERTIES, LLC

Kevin B  
Witness

By: E.R. Hayes

STATE OF NEW HAMPSHIRE

Rockingham, ss.

June 28, 2019

On this 28<sup>th</sup> day of June, 2019, before me, the undersigned notary public, personally appeared Edward R. Hayes, Manager as aforesaid, proved to me through satisfactory evidence of identification, which was a New Hampshire driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Kevin B  
Notary Public  
My Commission Expires:



EXHIBIT "A"

Boston and Maine Corporation  
to  
Iron Horse Properties, LLC

Conveyance of Land  
in  
Portsmouth, NH

Beginning at a point located 84.90 feet left of Station 2997+56.71 on the Boston and Maine Corporation Centerline of Location; thence turning and running over and across land now or formerly of said Boston and Maine Corporation the following three (2) courses, S 43°02'53" W a distance of 252.48 feet to a point; thence S 36°51'07" W a distance of 449.80 feet to a point at land of Iron Horse Properties, LLC, said point being 36.35 feet left of Station 2990+57.06 on the Boston and Maine Corporation Centerline of Location; thence turning and running along land of Iron Horse Properties, LLC N 48°48'48" W a distance of 105.59 feet to an iron rod, and continuing along the same course 34 feet +/- to the mean high water line of the North Mill Pond; thence turning and running 787 feet more or less along the mean high water line of said North Mill Pond to a point at land of the David F. Mahoney Marital QTIP Trust of 1999 at the mean high water line; thence turning and running along land of the Mahoney Trust S 50°34'45" E a distance of 40 feet more or less to an iron rod set; thence continuing along land of the Mahoney Trust S 50°34'45" E a distance of 107.37 feet to a point at land of the Boston and Maine Corporation; thence running across land of the Boston and Maine Corporation S 46°57'07" E a distance of 20.00 feet to the point of beginning. The above described parcel of land having an area of 72,337 square feet, more or less, as shown on plan entitled "Lot Line Relocation Plan Tax Map 164 – Lots 4 & 4-2" dated April 2019, prepared by Ambit Engineering, Inc. and recorded with Rockingham County Registry of Deeds as plan number D-41570.

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**Owner's Letter of Authorization**

This letter is to authorize Iron Horse Properties, LLC (Applicant/Owner) to represent the interest of Clipper Traders, LLC (owner) in all site design and permitting matters for the proposed development project located at 105 Bartlett Street in Portsmouth, New Hampshire on parcels of land identified as Tax Map 157 Lot 1. This authorization shall include any required signatures for local, state and federal permit applications.

E.R. Hayer  
Signature

Edward Hayer, member  
Print Name *C.T.*

15 Apr 20  
Date

[Signature]  
Witness

Jan Lichtner  
Print Name

4/15/20  
Date

**Owner's Letter of Authorization**

This letter is to authorize Iron Horse Properties, LLC (Applicant/Owner) to represent the interest of Portsmouth Lumber & Hardware, LLC (owner) in all site design and permitting matters for the proposed development project located at 105 Bartlett Street in Portsmouth, New Hampshire on parcels of land identified as Tax Map 164 Lot 1 and Tax Map 157 Lot 2. This authorization shall include any required signatures for local, state and federal permit applications.

E.H. Hayer  
Signature

Edward Hayer, Mgr.  
Print Name P.L.H.

15 APR 20  
Date

[Signature]  
Witness

Jan Lichtenstein  
Print Name

4/15/20  
Date



**Agent Letter of Authorization**

I, Edward Hayes, Member, of Iron Horse Properties, LLC (Applicant/Owner) hereby give Tighe & Bond (site/civil Engineer) permission to be my agent in all site design and permitting matters for the proposed development project located at 105 Bartlett Street in Portsmouth, New Hampshire on parcels of land identified as Tax Map 164 Lot 1 & Lot 4-2 and Tax Map 157 Lot 1 & Lot 2. This authorization shall include any required signatures for local, state and federal permit applications.

E.P. Hayes  
Signature

Edward Hayes,  
Print Name *member*  
*I.H.P.*

15 APR 20  
Date

[Signature]  
Witness

Jan Lichtenstein  
Print Name

15 APR 20  
Date

New Hampshire Natural Heritage Bureau  
NHB DataCheck Results Letter

---

**To:** Colter Krzcuik, Tighe and Bond  
177 Corporate Drive

Portsmouth, NH 03801

**From:** NH Natural Heritage Bureau

**Date:** 4/11/2022 (valid until 4/11/2023)

**Re:** Review by NH Natural Heritage Bureau of request submitted 3/29/2022

**Permits:** NHDES - Alteration of Terrain Permit, NHDES - Wetland Standard Dredge & Fill  
- Major

**NHB ID:** NHB22-1202

**Applicant:** Iron Horse Properties, LLC,  
Rob Simmons

**Location:** Portsmouth  
105 Bartlett Street

**Project**

**Description:** The re-development of an existing property into a multi-use and multi-family residential complex.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

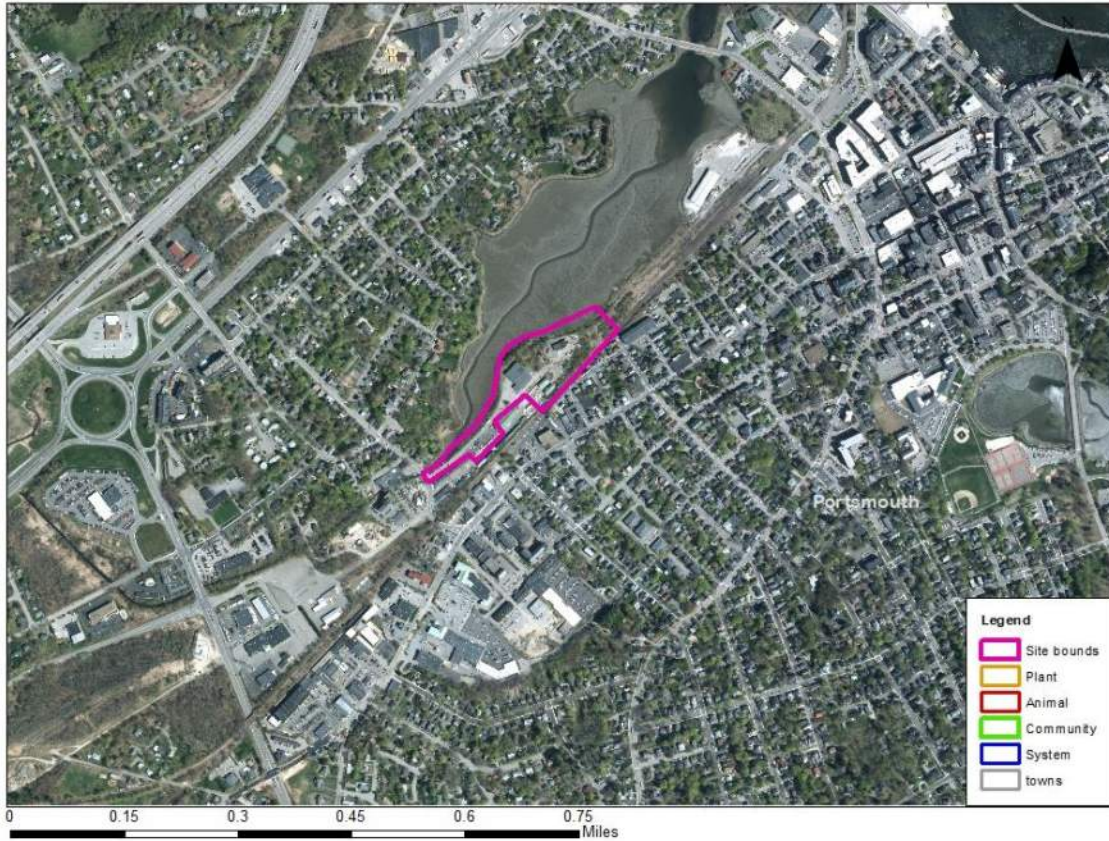
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 2022-03-29 10:56:56 AM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

# New Hampshire Natural Heritage Bureau NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: **NHB22-1202**

**NHB22-1202**



## Neil A. Hansen

---

**From:** Jeremy Degler  
**Sent:** Tuesday, June 1, 2021 12:42 PM  
**To:** Neil A. Hansen; Patrick M. Crimmins  
**Cc:** Leonard Lord  
**Subject:** FW: NHFG TEWHA Review: NHB21-0540\_Multi-Family Dev Portsmouth\_AoT 210405-047

Good afternoon –

Please see below for the Fish & Game comments for the project at 105 Bartlett Street. They've requested that their conditions be incorporated into the sheet plans and provided for final review.

Let me know if you have any questions,

**Jeremy Degler, PWS, CWS** | Project Environmental Scientist

**Tighe & Bond** | 177 Corporate Drive | Portsmouth, NH 03801

Direct: 603.294.9211 | Cell: 603.732.7906

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**Tighe&Bond**

---

**From:** Doperalski, Melissa <Melissa.J.Doperalski@wildlife.nh.gov>  
**Sent:** Monday, May 31, 2021 9:44 PM  
**To:** Jeremy Degler <JDegler@TigheBond.com>  
**Cc:** McCarthy, Bethann <Bethann.M.McCarthy@des.nh.gov>; Price, David <DAVID.A.PRICE@des.nh.gov>; Giallongo, Stefanie <Stefanie.M.Giallongo@des.nh.gov>  
**Subject:** NHFG TEWHA Review: NHB21-0540\_Multi-Family Dev Portsmouth\_AoT 210405-047

[ Caution - External Sender ]

Jeremy,

The New Hampshire Fish and Game has completed our review of the threatened and endangered wildlife and habitat assessment (TEWHA) report dated March 2021 and prepared by Tighe & Bond, for the removal of all existing structures and the subsequent development of two (2) multi-family apartment buildings with basement level parking and one (1) mixed-use building with first floor office and amenity space and upper story apartments on +/- 12 acres located at 105 Bartlett Street on five properties identified on tax maps as Map 157, Lots 1 and 2 (1.42 and 2.34 acres, respectively), Map 164, Lots 1 and 4-2 (1.19 and 5.73 acres, respectively), and a private roadway lot (1.60 acres) in Portsmouth, New Hampshire (Site).

NHFG provided comments on the wetlands application for this proposed project that included the applicant's proposed conservation measures below:

Due to the presence of shrub thicket habitat and food sources, sweeps for protected species should be conducted prior to work commencement if conducted during the nesting periods for the species identified as potentially utilizing the site for feeding or breeding. If any erosion control blankets are used, they should be made of biodegradable, wildlife friendly netting to help avoid wildlife from becoming entangled in the materials. There should be no sumps in detention basin outlets and catch basins adjacent to wetlands and tidal areas to avoid entrapment and mortality to wildlife. The use of welded plastic or 'biodegradable plastic' netting or thread (e.g. polypropylene) in erosion control matting should be avoided, if needed. The use of erosion control berm, white

Filtrexx Degradable Woven Silt Sock, or several 'wildlife friendly' options such as woven organic material (e.g. coco or jute matting such as North American Green SC150BN or equivalent) are readily available.

NHFG commented in addition to the above on the following (email comm. 04/01/2021):

Kim Tuttle, NHFG Biologist:

- Where sumps have been removed from detention basin outlets and catch basins adjacent to wetlands and tidal areas, they should be immediately daylighted to enable entrapped wildlife to escape.
- Because of the high density development, a natural slow release fertilizer such as Pro Gro 5-3-4 or similar should be specified in the plans to protect water quality where fertilizer is needed. Please confirm that this has been included in the plans. Natural fertilizers should be specified for the long-term lawn care program for the development and the use of chemical pesticides, fungicides, and herbicides should be prohibited to reduce indirect impacts to tidal waters.

Based on the NHB datacheck results letter and the information provided in the assessment and associated plans, NHFG agrees with the TEWHA that if all conservation measures are incorporated as described, the project design will not jeopardize the continued existence of state or federally threatened and endangered. **We request the following recommended permit conditions be incorporated into the sheet plans as requested and provided to NHDES cc NHFG for final review. Please update highlighted text below.**

**New Hampshire Fish and Game AoT Permit Conditions Related to Threatened and Endangered Species:**

- The shrub thicket habitat shall be surveyed for protected species prior to work commencement by an experienced wildlife biologist if conducted during the nesting periods for the species identified as potentially utilizing the site for feeding or breeding.
- No sumps shall be included in catch basins for the protection of wildlife.
- Due to the proximity of the site to North Mill Pond, the use of fertilizers shall be avoided to extent possible. If fertilizer is necessary, a natural slow release nitrogen fertilizer shall be used.
- All manufactured erosion and sediment control products, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, and inlet protection, check dams, sediment traps, and silt fence installed in accordance with Env-Wq 1506.04, shall not contain welded plastic, plastic, or multi-filament or monofilament polypropylene netting or mesh.
- 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](mailto:NHFGreview@wildlife.nh.gov). Email subject line: **NHBXX-XXXX, PROJECT NAME, Wildlife Species Observation**. Photographs shall be provided for verification as feasible; and
- The New Hampshire Fish and Game Department shall have access to the property during the term of the permit.

NHFG has completed its project review consistent with the requirements of RSA 212-A and Env-Wq 1503.19(h). No further coordination with NHFG is requested if the above recommended permit conditions are incorporated into the project plan set/project design, and there are no additional plan/design modifications.

Please let me know if you have any questions.

Thank you,  
Melissa

**Melissa Doperalski**

Certified Wildlife Biologist®  
Nongame and Endangered Wildlife Program  
New Hampshire Fish and Game Department  
11 Hazen Drive  
Concord, New Hampshire 03301

[Melissa.doperalski@wildlife.nh.gov](mailto:Melissa.doperalski@wildlife.nh.gov)

Phone: 603-271-1738

<http://www.wildlife.state.nh.us/nongame/index.html>



Check out reptiles and amphibians of NH!

<http://www.wildlife.state.nh.us/nongame/reptiles-amphibians.html>

Report your sightings of reptiles and amphibians in 3 ways:

1) Email details of observation or completed form to [RAARP@wildlife.nh.gov](mailto:RAARP@wildlife.nh.gov)

2) Enter your observation online at <http://nhwildlifesightings.unh.edu>.

3) Mail your reporting slip <http://www.wildlife.state.nh.us/nongame/documents/raarp-report-form.pdf>





# 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.:** **Iron Horse Properties, LLC**

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.

<b>SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)</b>	
ADJACENT LAND USE: Roads, commercial buildings with lawns and parking lots, abandoned buildings, railroad	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 0 ft	
<b>SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Leonard Lord, PhD, CWS	
DATE(S) OF SITE VISIT(S): 10/29/19, 12/2/2019	DELINEATION PER ENV-WT 406 COMPLETED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
CONFIRM THAT THE EVALUATION IS BASED ON: <input checked="" type="checkbox"/> Office and <input checked="" type="checkbox"/> Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): <input checked="" type="checkbox"/> USACE Highway Methodology. <input checked="" type="checkbox"/> Other scientifically supported method (enter name/ title): Maine Citizens Guide to Evaluating, Restoring, and Managing Tidal Marshes (Bryan et al., 1997)	

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

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<b>SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>	
WETLAND ID: [REDACTED]	LOCATION: (LAT/ LONG) 43°04'23.7"N / 70°46'13.6"W [REDACTED]
WETLAND AREA: N/A	DOMINANT WETLAND SYSTEMS PRESENT: Mudflats, Rocky Shore, High Salt Marsh along the site
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? N/A	COWARDIN CLASS: E2US3N, E2RS2N, EEM1N
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No if not, where does the wetland lie in the drainage basin? Bottom	IS THE WETLAND PART OF: <input type="checkbox"/> A wildlife corridor or <input type="checkbox"/> A habitat island?  IS THE WETLAND HUMAN-MADE? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ARE VERNAL POOLS PRESENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIANT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
PROPOSED WETLAND IMPACT TYPE: Redevelopment of upland buffer	PROPOSED WETLAND IMPACT AREA: 245 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".

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“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	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Ecological Integrity: Rationale not included in Highway Methodology	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Highly developed buffer, filling, impaired water quality
2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Education Potential: N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No access
3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fish & Aquatic Life: 1, 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Mudflat supports fish, shellfish, waterfowl but impaired water quality and no shellfish harvesting
4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flood Storage: N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Groundwater Recharge (only): N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Noteworthiness (RTE):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No rare species at site
7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Nutrient Trapping/Retention: N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
8	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Production Export: 1,4,5,6,10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Export of nutrients as food and in sediments but low ecological integrity
9	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Scenic Quality: 2,6,8,	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Scenic vistas surrounded by highly developed areas.
10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sediment Trapping: N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
11	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Shoreline Anchoring: 2,3,10,12	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Shoreline is fill with bricks and rocks that provide anchoring
12	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Uniqueness/Heritage: 1,3,14,17,19,22, 27	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Contributes to the character of the area. Scenic views in urban setting. Low ecological integrity.
13	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wetland Based Recreation: 2,5,7,8,9,10,	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Provides boating and fishing opportunities. Somewhat offset by low ecological integrity.

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14	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water Dependent Wildlife: 8,12,18,21,	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Mudflats are important for wildlife habitat. Somewhat offset by low ecological integrity
----	--	---------------------------------------	--	--

**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 3<sup>rd</sup> 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	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
4	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**SECTION 6 - STREAM RESOURCES SUMMARY**

DESCRIPTION OF STREAM: [REDACTED]	STREAM TYPE (ROSGEN): [REDACTED]
HAVE FISHERIES BEEN DOCUMENTED? <input type="checkbox"/> Yes <input type="checkbox"/> No	DOES THE STREAM SYSTEM APPEAR STABLE? <input type="checkbox"/> Yes <input type="checkbox"/> No
OTHER KEY ON-SITE FUNCTIONS OF NOTE: [REDACTED]	

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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	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
13	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
14	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> 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.

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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.

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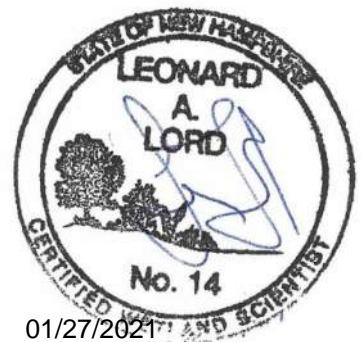
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Cathartes  
105 Bartlett Street Project  
Portsmouth, NH

# WETLAND DELINEATION AND ASSESSMENT OF FUNCTIONS AND VALUES



April 2020  
Last Revised: January 2021

01/27/2021

**Tighe&Bond**  
Engineers | Environmental Specialists

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## 1.0 Introduction

The purpose of this report is to characterize wetlands and buffers in the vicinity of a proposed multi-family development at 105 Bartlett Street in Portsmouth, NH. The site is long and narrow and is located between an active railroad and North Mill Pond. It includes commercial buildings with paved and gravel parking areas, abandoned railroad structures, disturbed forest, and a dense shrub thicket. The area is highly disturbed, being originally filled by the railroad in the late 1800s.

## 2.0 Methods

On October 29 and December 2, 2019, Tighe & Bond reviewed and assessed 2,000+/- linear feet of tidal wetlands and buffers along the North Mill Pond. The review was limited to the vicinity of a proposed multi-family development, extending from Bartlett Street to an area opposite Cornwall Street, which runs roughly perpendicular to the parcel.

The wetland delineation review was based on criteria specified in the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (January 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (January 2012). The Highest Observable Tide Line was reviewed based on the definition found in NH Department of Environmental Services Wetland Rules, Env-Wt 101.49/Env-Wt 602.23. Wetlands were classified based on *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979).

The Highest Observable Tide Line (HOTL) had been previously delineated by another consulting firm in 2017. This line was reviewed by exporting the 2017 surveyed line into ArcGIS to overlay on an aerial photographic base map. This base map was then uploaded to an iPad and paired with a Trimble R1 submeter GPS for in-field verification. Using the iPad and GPS as a guide, the line was then evaluated in the field. The HOTL was deemed accurate and the previous 2017 delineation was accepted by Tighe & Bond. A previously unidentified freshwater wetland was also found within a six-foot +/- deep abandoned railroad turntable. Tighe & Bond delineated this area with sequentially numbered flagging and located the wetland boundary using the GPS technology described above.

Functions and values were assessed in the vicinity of the proposed project. Assessment methodologies were adapted from the *Maine Citizens Guide to Evaluating, Restoring, and Managing Tidal Marshes* (Bryan et al., 1997) and *The Highway Methodology Workbook Supplement—Wetland Functions and Values: A Descriptive Approach*, NAEPP-360-1-30a, US Army Corps of Engineers, New England Division, September 1999.

Photographs of the wetlands and buffers are provided in Appendix A.

## 3.0 North Mill Pond

North Mill Pond is a 79+/- acre tidal pond at the outlet of Hodgson Brook. It receives tidal flows under Maplewood Avenue at the northeast end of the pond. The pond consists predominantly of exposed mudflats at low tide, and is classified as Estuarine, Intertidal, Unconsolidated Shore, Mud, Regularly Flooded (E2US3N). A narrow band of salt marsh reaching up to 35+/- feet wide was identified between the mudflats and upland (Photo 1). The marsh is dominated by smooth cordgrass (*Spartina alterniflora*), with species such as



saltmeadow cordgrass (*Spartina patens*), sea lavender (*Limonium carolinianum*), and seaside goldenrod (*Solidago sempervirens*) more dominant toward the upland edge. This marsh area was classified as Estuarine, Intertidal, Emergent, Persistent, Regularly Flooded (E2EM1N).

North Mill Pond provides several important wetland functions and values, though many have been degraded by development and human activity. The following functions and values were assessed for the wetland in the vicinity of the proposed project.

### **3.1 Ecological Integrity**

Ecological Integrity relates to how much the wetland has retained its native biotic and abiotic features and how these may have been degraded by human influences.

The Ecological Integrity of North Mill Pond has been compromised due to the presence of a tidal restriction, development of the upland buffer, water quality degradation, and filling along the project site. Efforts have been made in recent years to improve water quality entering the pond, improve tidal flushing, and restore some of the salt marshes. The peripheral salt marsh appears to be healthy and is comprised of native species along the project area.

### **3.2 Wildlife, Finfish, and Shellfish Habitat**

The Wildlife, Finfish, and Shellfish Habitat function is the suitability of the habitat to support wildlife.

North Mill Pond contains extensive mudflats and a healthy but narrow peripheral salt marsh that contribute to wildlife habitat value. However, this value has been compromised by all the factors affecting Ecological Integrity described above. The area is likely to support a variety of wildlife, including migratory birds, finfish, and shellfish. Wildlife Action Plan mapping (Appendix B) depicts several small areas of the highest ranked wildlife value habitat around the pond. These high value habitats include two salt marsh areas in the vicinity of the proposed project; one directly across from the project and another just to the northeast of it.

### **3.3 Recreational and Commercial Potential**

Recreational and Commercial Potential is the suitability of the wetland to support activities such as hiking, boating, hunting, bird watching, and shellfish harvesting.

North Mill Pond has the potential for use by small boats during high tide, though access appears to be limited to a boat launch on Marsh Lane, north of Maplewood Avenue. Shellfish harvesting is not allowed within the mudflats. Bird watching is a potential activity but public access is limited. There is an informal trail that runs through the proposed project area between Bartlett Street and Maplewood Avenue across private property that could be used for bird watching, but public access is not currently guaranteed. There is no visitor center, formally maintained trails, or access for disabled persons that would make this a more valuable area for recreation.

### **3.4 Aesthetic Quality**

Aesthetic Quality refers to the ability of the wetland to provide interesting views and natural vistas.

The areas surrounding North Mill Pond are highly developed commercial and residential areas. There are few public viewing areas, but in locations where the pond can be seen it generally offers wide vistas and aesthetically pleasing views.

### 3.5 Educational Potential

Educational Potential consists of the ability of the wetland to serve as an outdoor classroom.

There is no safe public access to North Mill Pond near the project site. In addition to being private property, the project site has dangerous construction debris and steep banks to the pond, further diminishing the educational potential of this wetland.

### 3.6 Noteworthiness

Noteworthiness includes important qualities of the wetland not identified in previous functions, such as historic sites or unique natural features.

This area of North Mill Pond is noteworthy as it contains a salt marsh in a developed setting, which adds to its importance aesthetically and as part of the character of the area. In addition, the adjacent uplands have been proposed as part of the North Mill Pond Greenways project, which was presented to stakeholders in January 2019. (<https://www.cityofportsmouth.com/planportsmouth/north-mill-pond-trail-and-greenway>).

The wetland itself is not known for having any important historical features in the vicinity of the project area, though there have been historic structures and activities along its banks. The project area has some significance as the site of an old railroad yard with a turntable and roundhouse.

## 4.0 North Mill Pond Tidal Buffer

The North Mill Pond 100-foot tidal buffer can be divided into three zones within the project area: 1) a commercial area, including the Ricci Supply and Ace Hardware complex, the Great Rhythm Brewery building, a former railroad machine shop, and all the paved and unpaved impervious surfaces associated with those buildings; 2) the disturbed forest directly northeast and northwest of Great Rhythm Brewery, including the area around the old railroad turntable and roundhouse remains; and 3) the shrub thicket extending along the narrow portion of the parcel to the northeast. These areas all include historic filling 2-16 feet deep associated with railroad activities. The fill includes coal, coal ash, and possible slag.

### 4.1 Commercial Area Buffer

The commercial area (Photos 1-3) is comprised almost completely of impervious surfaces. These include buildings, paved and compact gravel parking lots, and a narrow strip of vegetation 10-20 feet wide extending down a steep bank to the tidal wetland. The vegetation includes lawn and species associated with disturbed sites such as staghorn sumac (*Rhus typhina*), autumn olive (*Elaeagnus umbellata*), black cherry (*Prunus serotina*), and Asiatic bittersweet (*Celastrus orbiculatus*). This area has little to offer in the way of functions and values other than contributing to stabilization of steep eroding

banks along the wetland. Runoff from this area likely contributes to the degraded water quality in North Mill Pond.

#### 4.2 Disturbed Forest Buffer

The disturbed forested area northeast and southwest of Great Rhythm Brewery (Photos 4-6) is dominated by Norway Maple (*Acer platanoides*), black cherry, and staghorn sumac. The area includes significant rubble and debris as well as the railroad turntable and roundhouse remains. This area provides some screening for wildlife using the North Mill Pond and provides cover and food for small mammals and birds. However, it is dominated by invasive vegetation, and is highly disturbed by human activity.

#### 4.3 Shrub Thicket Buffer

The shrub thicket northeast of the commercial area (Photos 7-8) is dominated by autumn olive with lesser amounts of staghorn sumac and other shrub species. This area provides wildlife habitat for small mammals and birds as well as screening for wildlife using North Mill Pond. Though invasive, the autumn olive provides prolific fruits utilized by birds and other frugivores. Bedding, clothing, campfire remains, trash, and other evidence suggests that this densely vegetated area has been used as camp sites by homeless individuals.

#### 4.4 Buffer Impacts and Mitigation

The proposed project will not include any work within the 25-foot buffer to North Mill Pond. In addition, a 50-foot easement from the mean high water will be granted to the City of Portsmouth by the developer to build the North Mill Pond Trail and Greenway, which will provide improvements to the buffer, including invasive species management and revegetation with native species. Installation of the trail and greenway would result in improved functions and values of the wetland and buffer including: Ecological Integrity, Recreation Potential, Aesthetic Quality, and possibly Educational Potential. Existing impacts to the 100-foot buffer will be reduced from the trail and greenway improvements through the removal and restoration of impervious surfaces.

**Table 4.1**

105 Bartlett Street Multi-Family Development Buffer Impact Reductions

Overall Buffer Impact Area		
Wetland Buffer Setback	Existing Impact	Proposed Impact
0 - 25 FT	12,788 SF	6,788 SF
25 - 50 FT	30,479 SF	22,089 SF
50 - 100 FT	66,844 SF	52,443 SF
<b>Total Impact</b>	<b>110,111 SF</b>	<b>81,320 SF</b>
<b>NET BUFFER IMPROVEMENT</b>		<b>28,792 SF</b>

## 5.0 Excavated Palustrine Forested Wetland

A small wetland was delineated by Tighe & Bond within the base of the six-foot +/- deep, concrete walled railroad roundtable (Photos 9-10) within the disturbed forested area. The soils in this wetland are poorly drained marine silts and clays. The vegetation is dominated

by Norway maple and red osier dogwood (*Cornus sericea*). Nearby test pits identified approximately two to four feet of fill in the vicinity of the structure. Therefore, it is likely this wetland was at least partly excavated into native marine sediments during construction of the turntable. It is unclear if this area was originally a wetland or if the wetland was created by the excavation. This wetland was classified as Palustrine, Forested, Deciduous, Saturated (PFO1B). The small size of the wetland and its location within a man-made structure in a highly disturbed landscape has resulted in this system providing negligible wetland functions and values.

## 6.0 Summary

Two wetlands were delineated and evaluated on the site:

North Mill Pond is a 79+/- acre tidal wetland with expansive mud flats (E2US3N) and a narrow fringe of salt marsh (E2EM1N). Wetland functions and values are primarily Wildlife, Finfish, and Shellfish Habitat, as well as Aesthetic Quality and Noteworthiness. It is noteworthy as an important aesthetic component of the area and as an important potential site for a greenways trail project. It also has compromised but improving Ecological Integrity and some Recreation Potential. Upland buffers to the wetland have been compromised by development and invasive species, but limited vegetation does provide some screening for wildlife in the wetland.

A small excavated forested wetland (PFO1B) was identified within the old railroad turntable, approximately six feet below existing grade within a concrete wall. The small size of the wetland and its location within a man-made structure in a highly disturbed landscape has resulted in this system providing negligible wetland functions and values.

**Tighe&Bond**

**APPENDIX A**


# Appendix A- Photographic Log

**Client:** Cathartes

**Job Number:** C-0960006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 1	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Northeast
<b>Description:</b> Salt marsh fringe along North Mill Pond at low tide opposite a commercial area in southwest portion of the site.		
		


<b>Photograph No.:</b> 2	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Northeast
<b>Description:</b> Paved buffer and eroding banks along North Mill Pond at low tide along the commercial area in southwest portion of the site.		
		


# Appendix A- Photographic Log

**Client:** Cathartes

**Job Number:** C-0960006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 3	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Northeast
<b>Description:</b> Compact gravel drive and old railroad repair shop at the northern end of the commercial area with impervious surfaces.		
		

<b>Photograph No.:</b> 4	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Northeast
<b>Description:</b> Buffer fill slope with rubble adjacent to a narrow salt marsh along the disturbed forest just northwest of the Great Rhythm Brewing Company.		
		

# Appendix A- Photographic Log

**Client:** Cathartes

**Job Number:** C-0960006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 5	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Southwest
--------------------------	-----------------------	-----------------------------------

**Description:** Lawn and disturbed forest buffer northwest of the Great Rhythm Brewing Company.



<b>Photograph No.:</b> 6	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> East
--------------------------	-----------------------	------------------------------

**Description:** Remains of the railroad roundhouse and disturbed forest buffer northeast of the Great Rhythm Brewing Company.





# Appendix A- Photographic Log

**Client:** Cathartes

**Job Number:** C-0960006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 7	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Northeast
--------------------------	-----------------------	-----------------------------------

**Description:** Shrub thicket and existing informal trail at the northeast end of the proposed project area.



<b>Photograph No.:</b> 8	<b>Date:</b> 10/29/19	<b>Direction Taken:</b> Northeast
--------------------------	-----------------------	-----------------------------------

**Description:** Evidence of use as camp sites by homeless individuals within the shrub thicket at the northeast end of the project area.



# Appendix A- Photographic Log

**Client:** Cathartes

**Job Number:** C-0960006

**Site:** 105 Bartlett St., Portsmouth, NH

<b>Photograph No.:</b> 9	<b>Date:</b> 12/2/19	<b>Direction Taken:</b> South
--------------------------	----------------------	-------------------------------

**Description:** Wetland dominated by Norway maple and red osier dogwood within the old railroad turntable approximately six feet below grade.



<b>Photograph No.:</b> 10	<b>Date:</b> 12/2/19	<b>Direction Taken:</b> n/a
---------------------------	----------------------	-----------------------------

**Description:** Poorly drained marine silts and clays observed in the bottom of the old railroad turntable.



**Tighe&Bond**

**APPENDIX B**

# 2015 HIGHEST RANKED WILDLIFE HABITAT BY ECOLOGICAL CONDITION

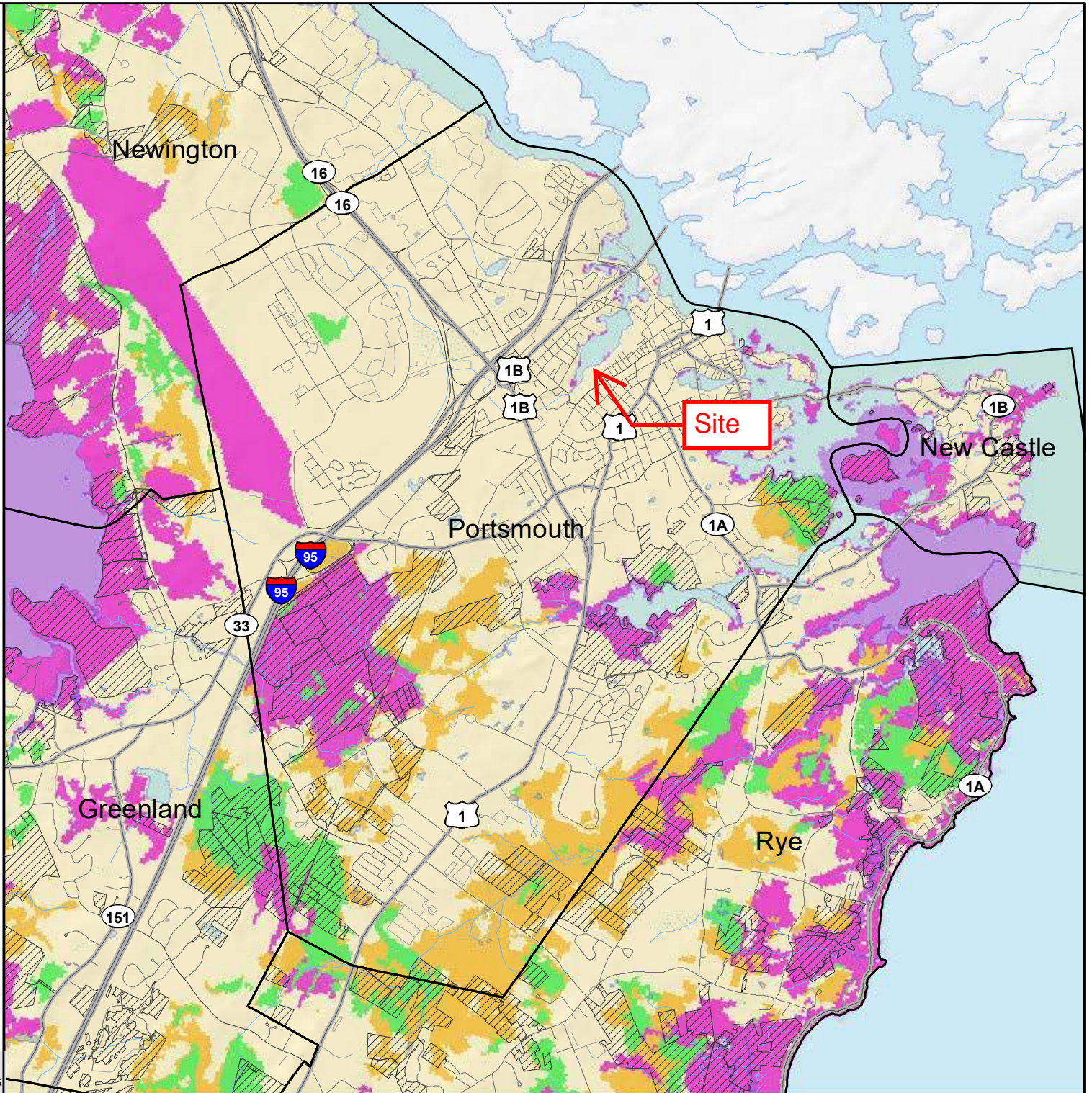
 Highest Ranked Habitat in New Hampshire

 Highest Ranked Habitat in the Biological Region

Biological region = TNC ecoregional subsection for terrestrial habitats or Aquatic Resource Mitigation region for wetlands and floodplain forest.

 Supporting Landscapes

 Conservation or public



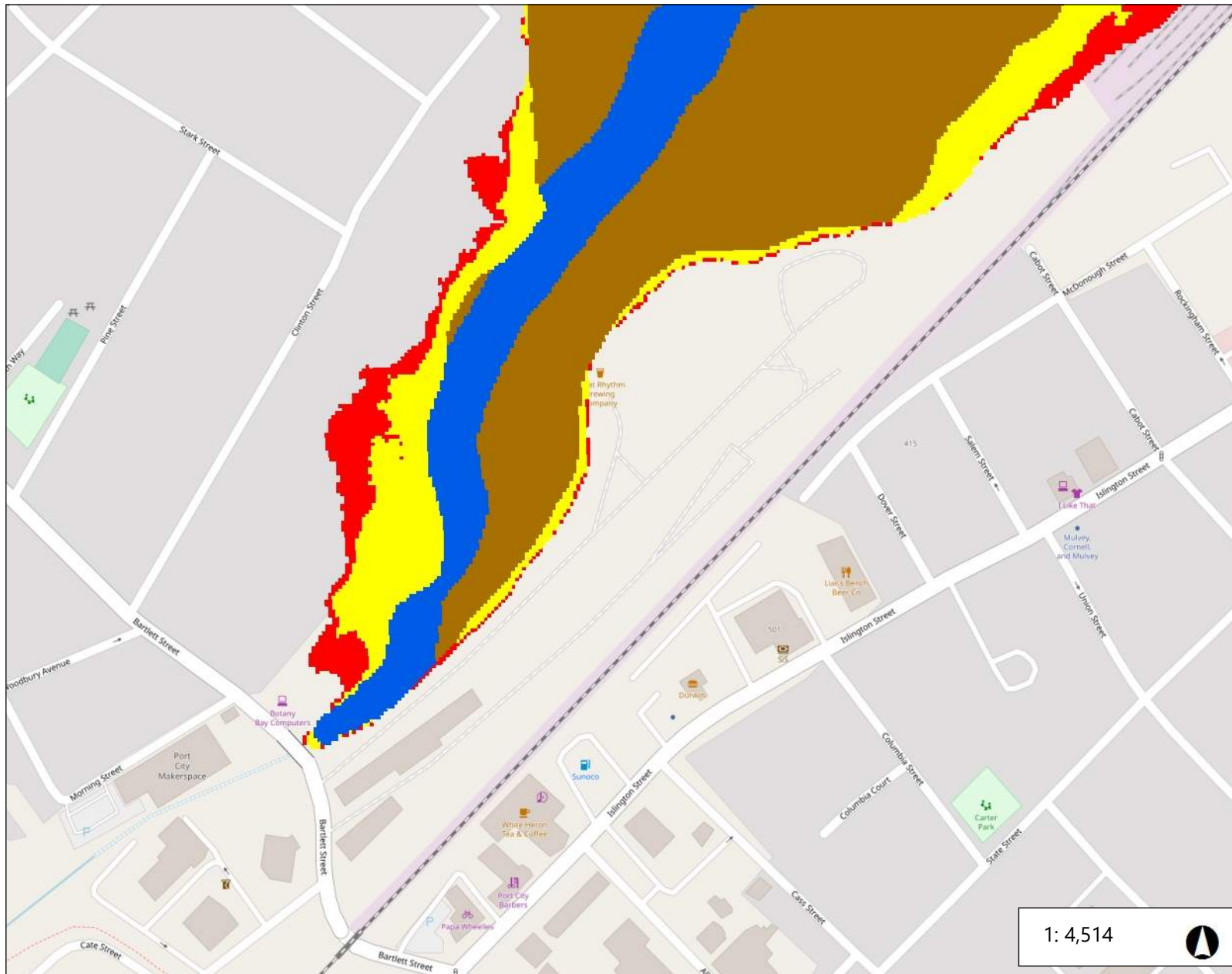
Base map data provided by NH GRANIT at UNH September 2019. Intended for planning use only.



0 1 2 Kilometers

0 1 2 Miles



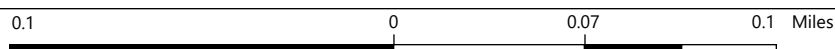


Legend

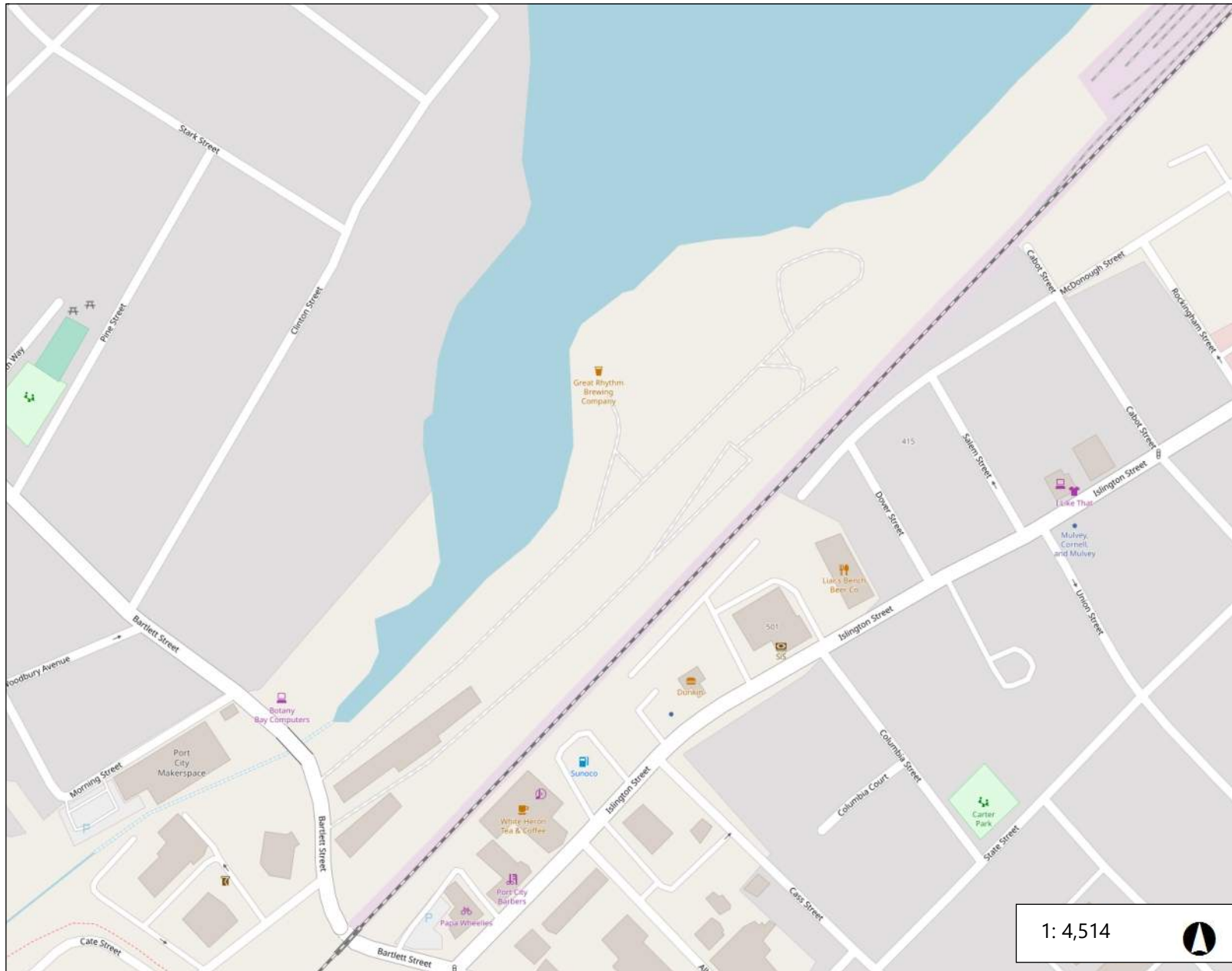
Predicted Marsh Migration 205

- Freshwater wetland
- Tidal wetland
- Transitional salt marsh
- Salt marsh
- Mud flat
- Inland open water
- Tidal water

1:4,514



Notes



Legend

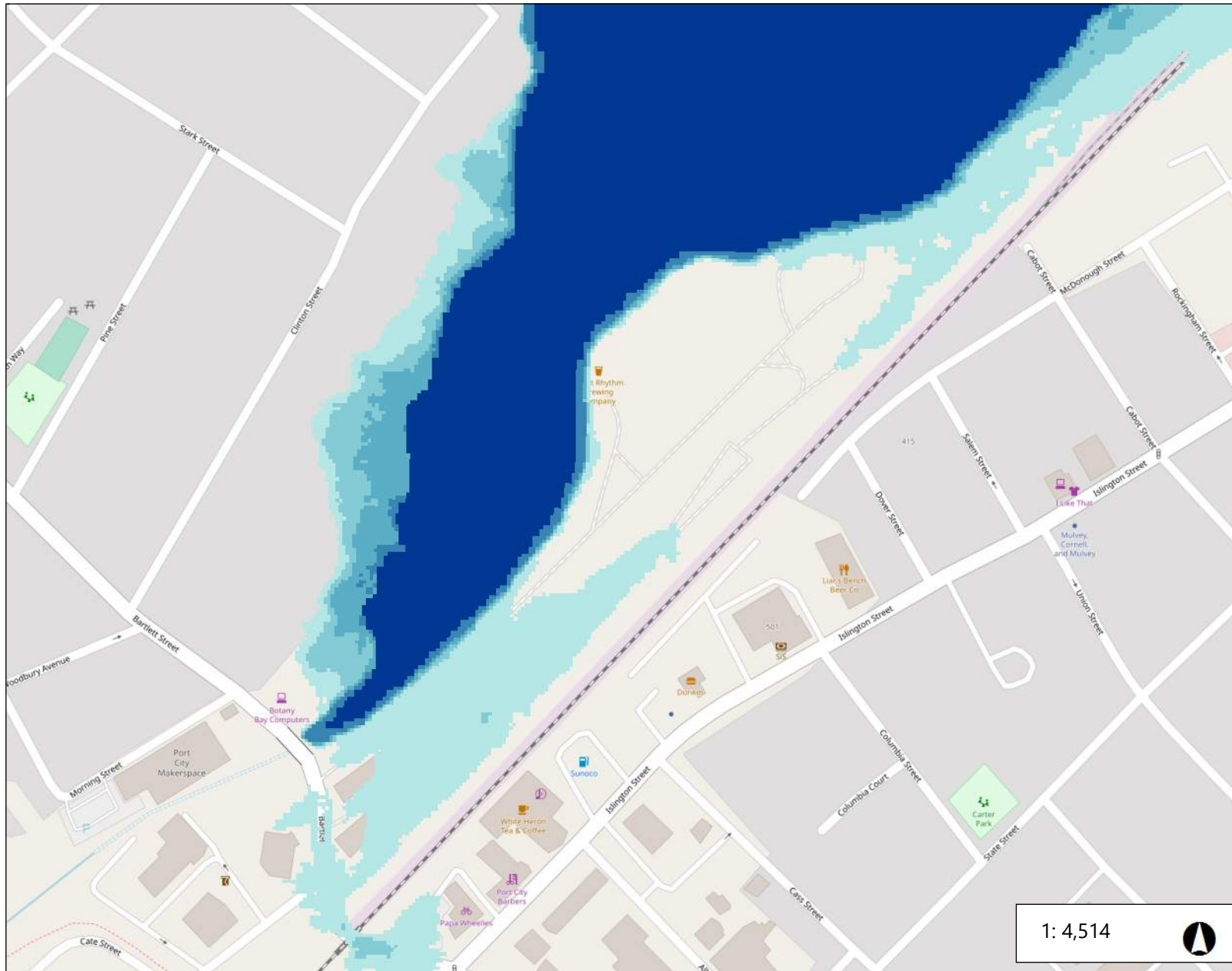
-  Oyster Restoration Sites
-  Aquaculture Sites - 2015
-  Eelgrass 2017
-  Eelgrass 2016
-  Eelgrass 2006
-  Eelgrass 1996
-  Eelgrass 1986

1: 4,514



0.1 0 0.07 0.1 Miles

Notes



Legend

MHW + 6-ft SLR

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

1: 4,514



0.1 0 0.07 0.1 Miles

Notes

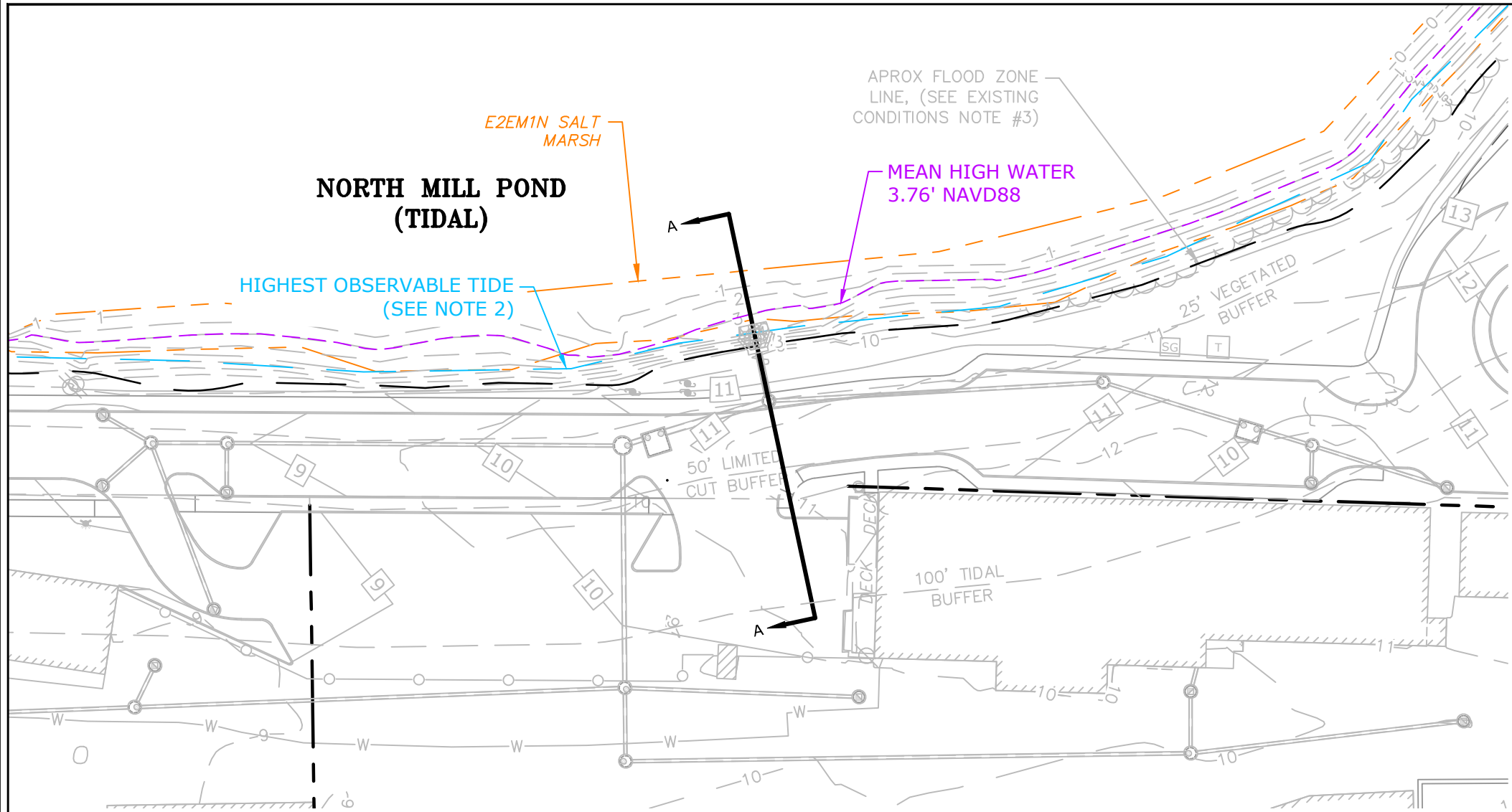




**PROPOSED MULTI-FAMILY DEVELOPMENT  
105 BARTLETT STREET  
PORTSMOUTH, NEW HAMPSHIRE**

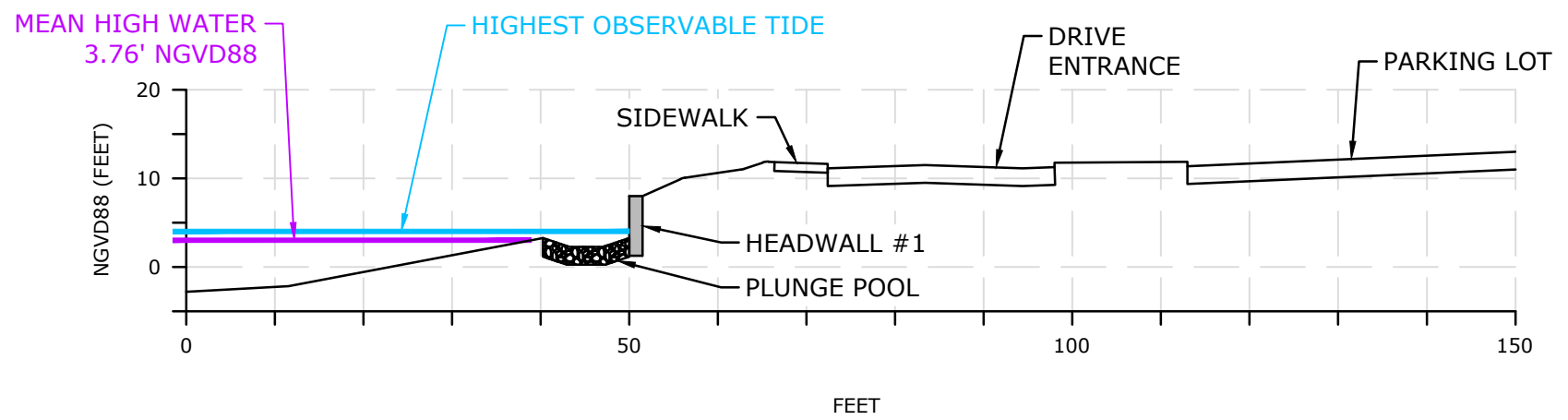
---

**OUTFALL 1 - ELEVATION VIEW**



**PLAN VIEW**  
50 SCALE

GRAPHIC SCALE



**SECTION A-A**  
20 SCALE

GRAPHIC SCALE

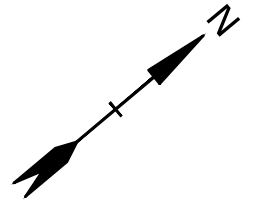
TIDAL DATUMS (FEET)

	NAVD88
HOTL:	7.89
MHHW:	4.18
MHW:	3.76
MTL:	-0.32
MLW:	-4.39
MLLW:	-4.71

PREDICTED SLR 2122: 5.0 FT

NOTES:

- UNLESS OTHERWISE NOTED, DATUMS ARE FROM NOAA FOR SEAVEY ISLAND
- HIGHEST OBSERVABLE TIDE LINE WAS FIELD DELINEATED AND IS APPROXIMATE.



Last Save Date: March 29, 2023 9:01 AM By: NWILCOX  
 Plot Date: Wednesday, March 29, 2023 Plotted By: Noah Wilcox  
 TSS File Location: J:\C\0960\06\105 Bartlett Street\Drawings\Figures\AutoCAD\Sheet\C-0960-006\_C-SITE.dwg Layout: Tab: ELEV.1



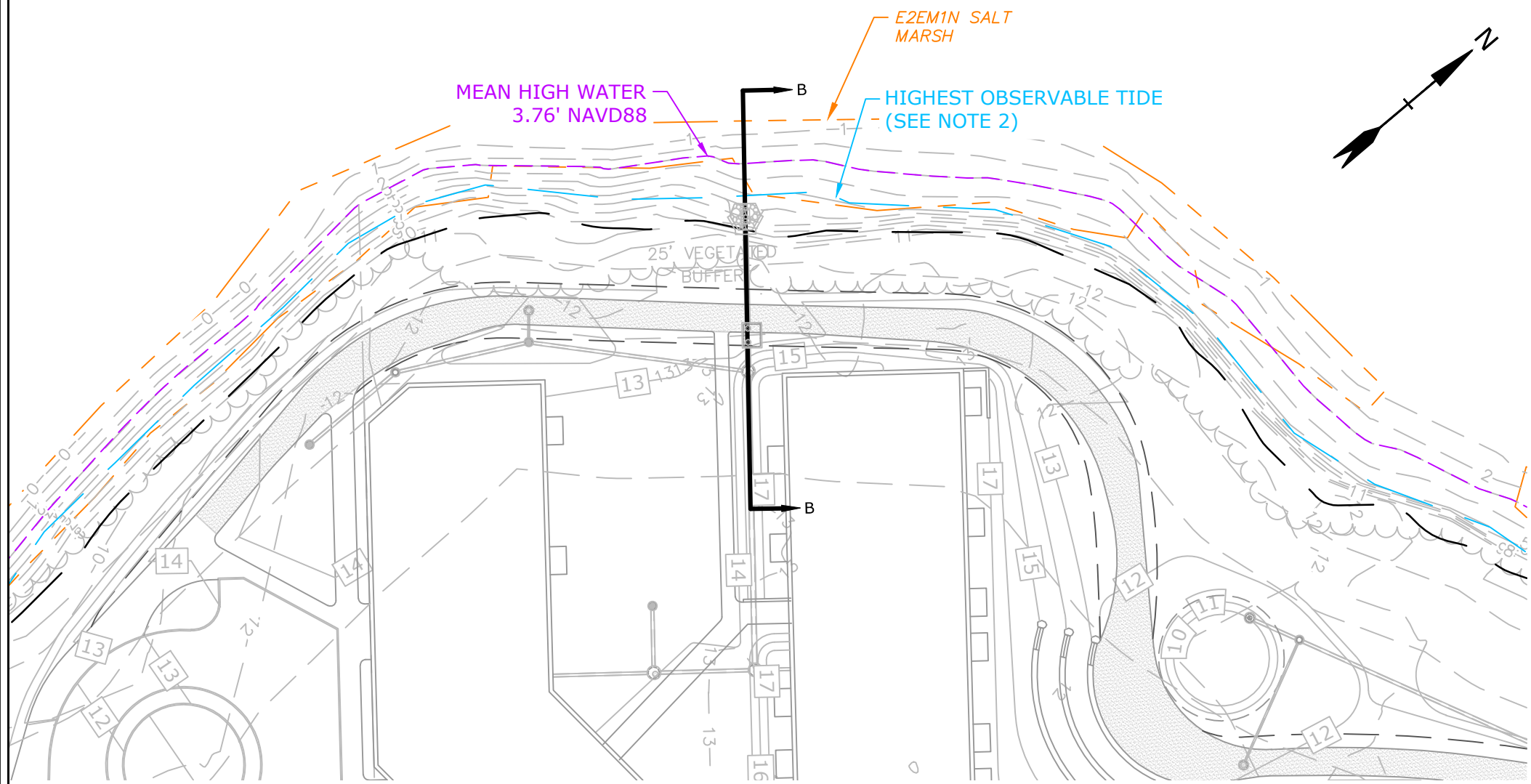
March 29, 2023  
 C-0960-006\_C-SITE.dwg



**PROPOSED MULTI-FAMILY DEVELOPMENT  
105 BARTLETT STREET  
PORTSMOUTH, NEW HAMPSHIRE**

---

**OUTFALL 2 - ELEVATION VIEW**



**PLAN VIEW**  
50 SCALE

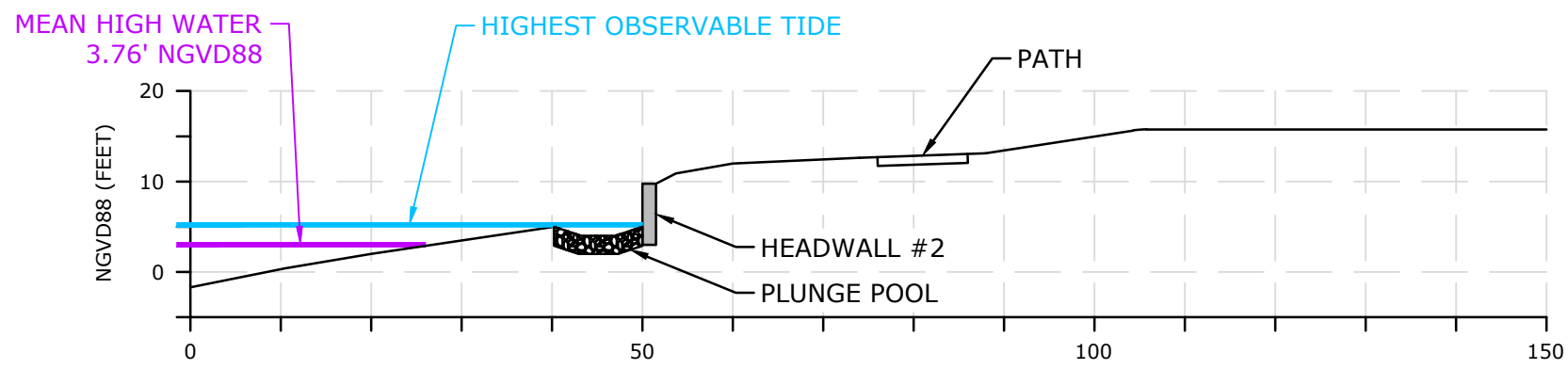
GRAPHIC SCALE

TIDAL DATUMS (FEET)

	NAVD88
HOTL:	7.89
MHHW:	4.18
MHW:	3.76
MTL:	-0.32
MLW:	-4.39
MLLW:	-4.71

PREDICTED SLR 2122: 5.0 FT

- NOTES:
1. UNLESS OTHERWISE NOTED, DATUMS ARE FROM NOAA FOR SEAVEY ISLAND
  2. HIGHEST OBSERVABLE TIDE LINE WAS FIELD DELINEATED AND IS APPROXIMATE.



**SECTION B-B**  
20 SCALE

GRAPHIC SCALE



March 29, 2023  
C-0960-006\_C-SITE.dwg

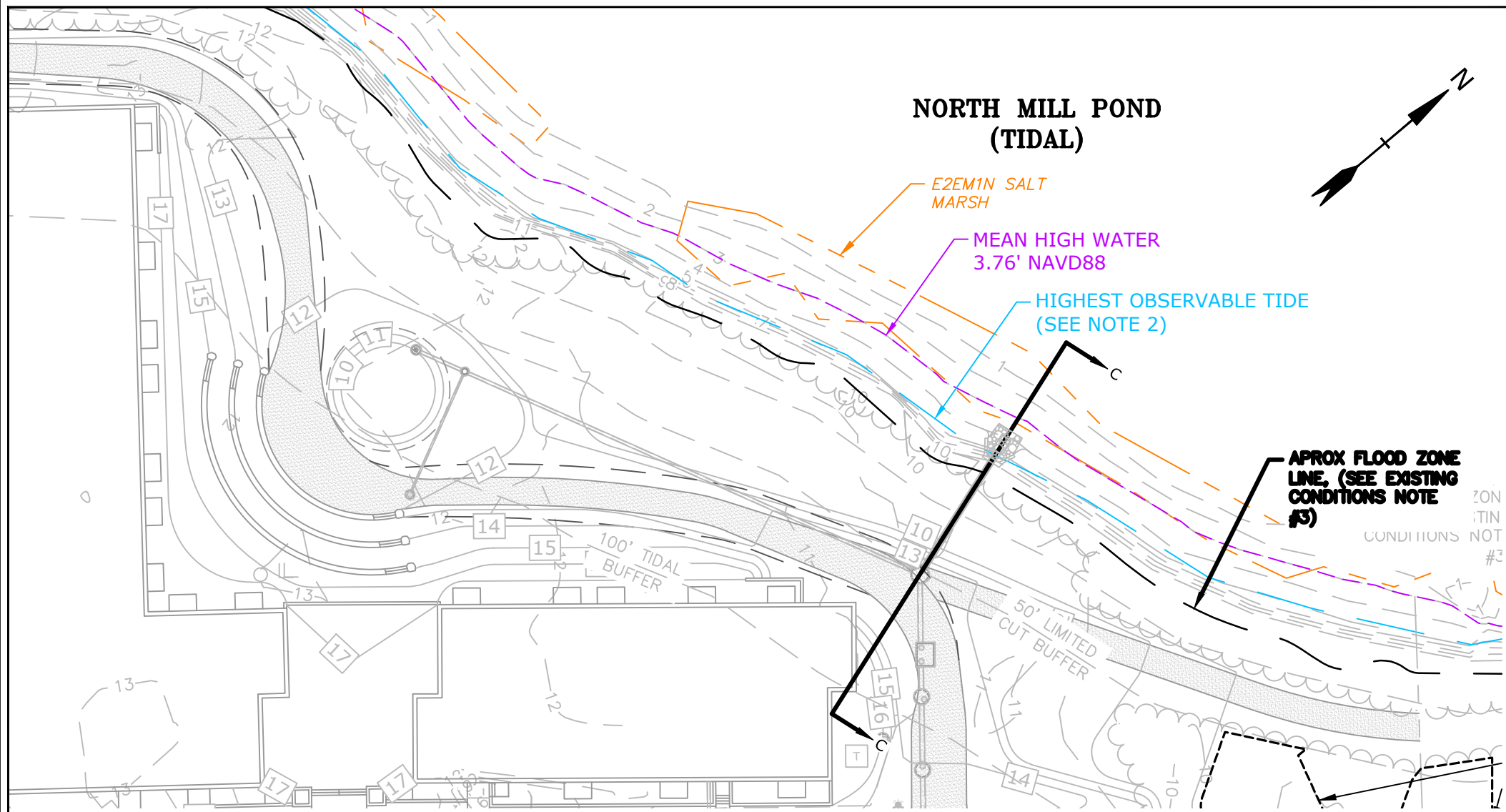
Last Save Date: March 29, 2023 9:01 AM By: NWILCOX  
 Plot Date: Wednesday, March 29, 2023 Plotted By: Noah Wilcox  
 TSS File Location: J:\C\0960\006\_105 Bartlett Street\Drawings - Figures\AutoCAD Sheet\C-0960-006\_C-SITE.dwg Layout: Tab: ELEV 2



**PROPOSED MULTI-FAMILY DEVELOPMENT  
105 BARTLETT STREET  
PORTSMOUTH, NEW HAMPSHIRE**

---

**OUTFALL 3 - ELEVATION VIEW**



**PLAN VIEW**  
50 SCALE

0      50'      100'

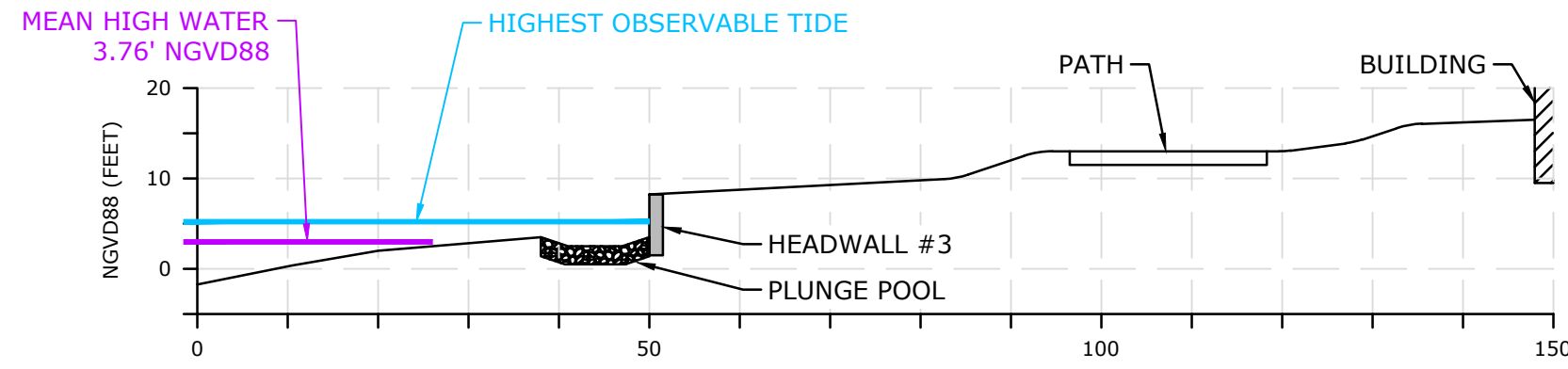
GRAPHIC SCALE

TIDAL DATUMS (FEET)

	NAVD88
HOTL:	7.89
MHHW:	4.18
MHW:	3.76
MTL:	-0.32
MLW:	-4.39
MLLW:	-4.71

PREDICTED SLR 2122: 5.0 FT

- NOTES:
- UNLESS OTHERWISE NOTED, DATUMS ARE FROM NOAA FOR SEAVEY ISLAND
  - HIGHEST OBSERVABLE TIDE LINE WAS FIELD DELINEATED AND IS APPROXIMATE.



**SECTION C-C**  
20 SCALE

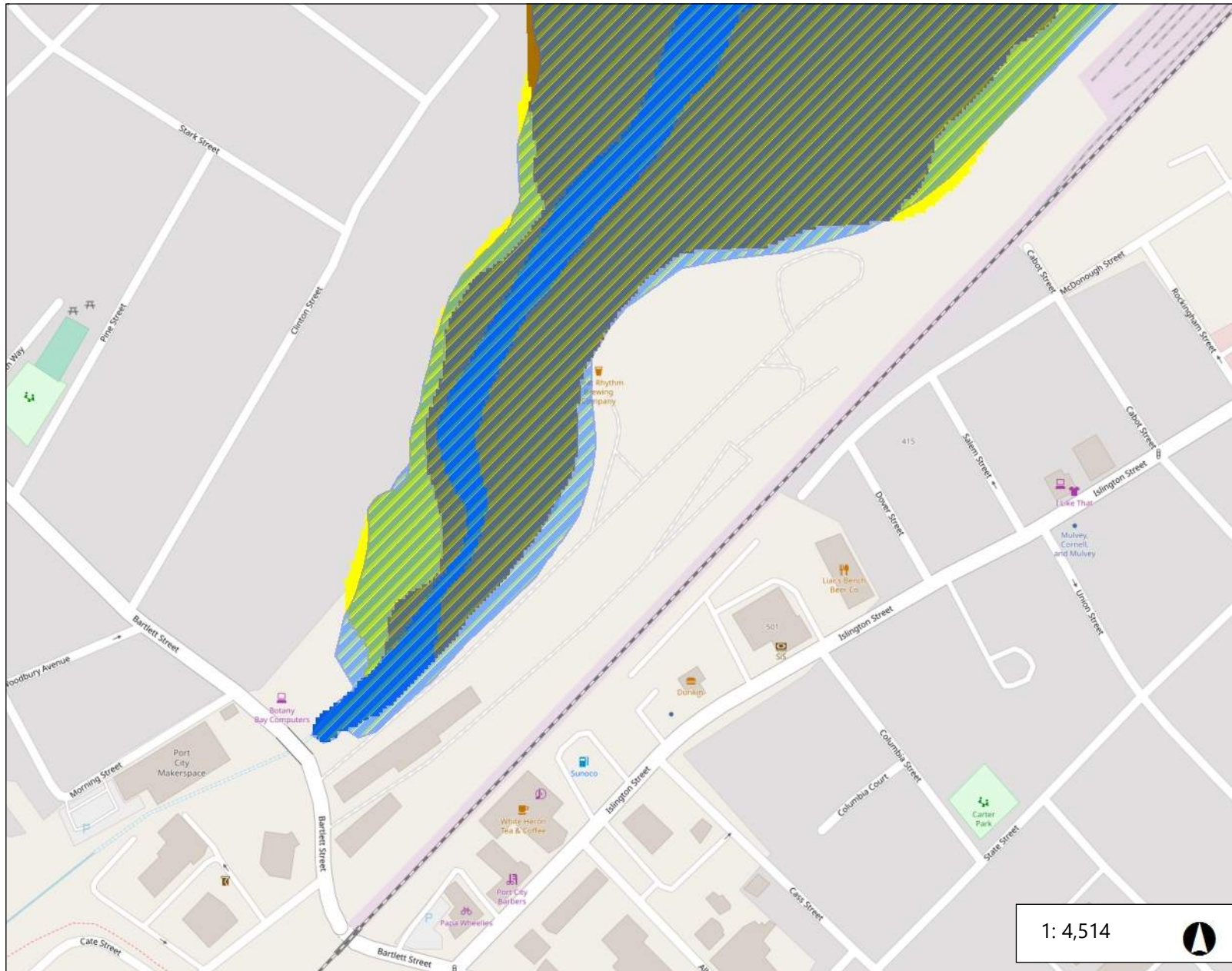
0      20'      40'

GRAPHIC SCALE



Last Save Date: March 29, 2023 9:01 AM By: NWILCOX  
Plot Date: Wednesday, March 29, 2023 Plotted By: Noah Wilcox  
TSS File Location: J:\C\0960\006\105 Bartlett Street\Drawings\Figures\AutoCAD\Sheet\C-0960-006\_C-SITE.dwg Layout: Tab: ELEV 3





Legend

- Flood Plain Wetlands Adjacent
- Prime Wetlands with 100 ft Buffer
- Prime Wetlands
- Sand Dunes**
  - backdune
  - foredune
  - interdune
  - other
- Tidal Waters / Tidal Wetlands**
  - Tidal wetland
  - Transitional salt marsh
  - Salt marsh
  - Mud flat
  - Tidal water

1:4,514



0.1 0 0.07 0.1 Miles

Notes



## EFH Mapper Report

### EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

[Greater Atlantic Regional Office](#)  
[Atlantic Highly Migratory Species Management Division](#)

### Query Results



Degrees, Minutes, Seconds: Latitude = 43° 4' 25" N, Longitude = 71° 13' 48" W  
 Decimal Degrees: Latitude = 43.074, Longitude = -70.770





















The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

### \*\*\* WARNING \*\*\*

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

### EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Sea Scallop	ALL	New England	Amendment 14 to the Atlantic Sea Scallop FMP
		Atlantic Wolffish	ALL	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Atlantic Herring	Juvenile Adult Larvae	New England	Amendment 3 to the Atlantic Herring FMP
		Atlantic Cod	Larvae Adult Eggs	New England	Amendment 14 to the Northeast Multispecies FMP

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Pollock	Juvenile Eggs Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Smooth Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		White Hake	Adult Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Thorny Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Atlantic Mackerel	Eggs Larvae Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
		Atlantic Butterfish	Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11

### Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

### HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

### EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

**Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.**

**\*\*For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)**

**Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.**

**\*\*For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)**

**All spatial data is currently available for the Mid-Atlantic and New England councils,**

**Secretarial EFH,**

Bigeye Sand Tiger Shark,

Bigeye Sixgill Shark,

Caribbean Sharpnose Shark,

Galapagos Shark,

Narrowtooth Shark,

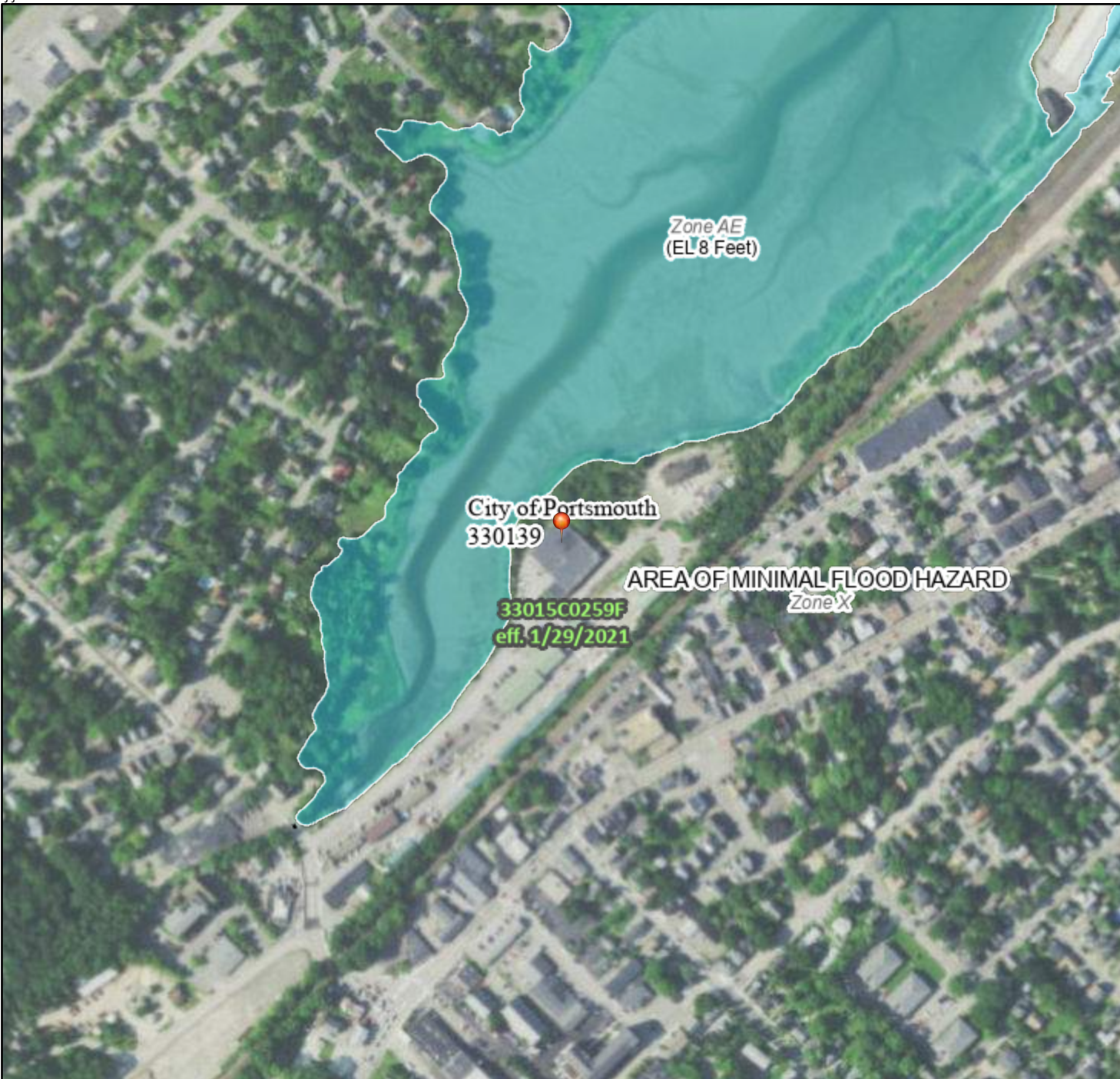
Sevengill Shark,

Sixgill Shark,

Smooth Hammerhead Shark,

Smalltail Shark

ff 1



## LEGEND

- L.W.K.R.W. %D.H.P.R.R.G.O.H.D.V.L.R.Q. %  
=F.C.H.\$ 9 \$
- L.W.K.%R.U.F.S.W.K. =F.C.H.\$ 9 \$
- S.H.O.D.V.R.U.P.R.R.G.O
- S.O.O.O.D. &O.O.P.H.I.O.R.R.G.E.P.U.G. S.H.D.V./R. O.O.O.O.D. F.O.O.P.H.I.O.R.R.G.Z.W.K.D.H.U.D.H.G.S.W.K.O.H.V.W.O.O.R.Q.H.I.R.R.W. R.U. Z.W.K.G.U.L.O.D.U.H.D.V./R. O.H.V.W.O.O.R.Q.H.V.T.O.U.E.O.H.C.H.;
- X.W.X.H.&Q.L.V.L.R.Q./S.O.O.O.D. &O.O.P.H.I.O.R.R.G.E.P.U.G. =F.C.H.;
- S.H.D.Z.W.K.S.G.H.G.P.R.R.G.S.L.N.G.H.W.R. H.H. G.H.R.V.H. =F.C.H.;
- S.H.D.Z.W.K.P.R.R.G.S.L.N.G.H.W.R.H.H. =F.C.H.;
- S.H.D.R. Q.L.E.D. P.R.R.G.E.P.U.G. =F.C.H.;
- (I.H.F.W.L.Y.H.V)
- S.H.D.R. G.H.W.H.U.E.Q.G.P.R.R.G.E.P.U.G. =F.C.H.;
- S.O.O.O.D. &O.Y.H.U.W. R.U. S.V.R.U.R.P.Z.U.
- H.H.L.N.H. R.U. P.R.R.G.O.O.
- S.U.R.V. S.F.W.L.R.Q./Z.W.K.S.O.O.O.D. &O.O.P.H.D.V.H.U. S.U.I.D.F.H.O.H.D.V.L.R.Q.
- S.F.W.D.D. T.U.D.Q.H.F.W.
- %D.H.P.R.R.G.O.H.D.V.L.R.Q.L.Q.H. %
- L.E.W. R. S.V.X.G.
- X.U.L.V.L.F.V.L.R.Q.%R.O.O.E.U.A.
- S.F.W.D.D. T.U.D.Q.H.F.W. %D.H.O.L.Q.H.
- S.U.R.L.O.H.%D.H.O.L.Q.H.
- S.U.R.U.D.S.K.F.H.D.V.X.U.H.
- L.L.W.O.D. D.V.D.S.O.L.O.E.O.H.
- R.L.L.W.O.D. D.V.D.S.O.L.O.E.O.H.
- S.E.S.S.-G.
- 7.K.H.S.Q.G. V.S.O.D.H.G.R.Q.W.K.H.E.S.L.V. D.Q.D.S.S.U.R.L.B.W.H. S.R.L.Q.V. V.O.H.F.W.H.G.E.W.K.H.X.H.U. D.O.G.G.R.H.V. Q.R.W. U.H.U.H. D.Q.D.W.K.R.U.L.W.D.V.L.Y.H.S.U.R.S.U.W.O.R.F.D.V.L.R.Q.

7.K.L.V.E.S.F.F.S.O.L.H.V.Z.W.K.S.V.W.D.O.O.E.U.G./I.R.U. W.K.H.X.H.R. G.L.L.W.O.D. I.O.R.R.G.E.S./L.I.L.W.L.V.Q.R.W. Y.R.L.G.D.V. G.H.V.U.L.E.H.G.S.O.R.Z. 7.K.H.E.D.V.E.S.V.K.R.O.F.F.S.O.L.H.V.Z.W.K.S.V.E.D.H.E.S. D.F.F.U.D.R. W.D.O.O.E.U.G./

7.K.H.I.O.R.R.G.K.O.P.U.G.L.Q.R.U.B.M.L.R.Q.L.V. G.U.L.Y.H.G.L.U.H.F.W.O.I.U.R.P.W.K.H. D.V.K.R.U.L.W.D.V.L.Y.H.%Z.E.V.H.U.L.F.H.V. S.U.R.L.G.H.G.E.S. 7.K.L.V.E.S. Z.V.H.S.R.U.W.H.G.R.Q. D.V. \$ D.O.G.G.R.H.V. Q.R.W. U.H.O.H.F.W. F.O.O.H.V. R.U. D.P.Q.G.F.O.W.V. V.E.H.I.X.Q.V. V.R.W.K.L.V. G.D.V.H.D.O.G. W.L.F. 7.K.H.%D.O.G.H.I.F.W.L.Y.H.L.Q.R.U.B.M.L.R.Q.E.F.O.O.H.R.U. E.F.F.F.V.S.H.U.V.H.G.G.E.Q.Z.E.D.V.D.R.Y.H.U. W.L.F.

7.K.L.V.E.S.L.B.H.L.V.Y.R.L.G.L.I. W.K.H.R.Q.H.R.U. R.U.H.R. W.K.H.I.R.O.O.R.Z.Q.I.E.S. H.O.H.P.O.W.V.G.R.Q.R.W. D.S.S.-D.U. E.D.V.E.S.L.B.H.U. I.O.R.R.G.F.O.H.O.D.E.H.O.V. O.H.H.G.E. V.D.O.H.E.D.U. E.S.F.U.H.D.V.L.R.Q.C.D.V.H. F.F.Q.L.W.L.G.Q.V.L.I.L.H.U.V. )S.S.O.O.H. Q.H.E.U. D.O.G.)S.H.I.F.W.L.Y.H.G.D.V.H. D.S.L.B.H.V.I.R.U. X.C.E.S.S.-G.D.O.G.X.C.R.G.U.Q.J.G.D.U.H.V. F.O.O.Q.R.W. E.H.X.H.G.I.R.U. U.H.K.O.D.V.R.U.S.U.S.R.V.H.



C-0960-006  
March 29, 2023

Ms. Lori Sommer, Wetland Mitigation Coordinator  
New Hampshire DES Wetlands Bureau  
29 Hazen Drive  
PO Box 95  
Concord, New Hampshire 03302

Re: **NHDES Wetland Impact Permit – Preliminary Mitigation Proposal  
Iron Horse Properties, LLC, 105 Bartlett Street Portsmouth, NH**

Dear Ms. Sommer:

On behalf of Iron Horse Properties, LLC, we are pleased to provide the following information relative to a Mitigation Proposal associated with the Wetland Impact Permit Application for the above reference project:

- Summary of Wetland and Buffer Functions and Mitigation Memo, dated March 30, 2021;
- Wetland Buffer Impact and Mitigation Plan, dated March 29, 2023;
- ARM Fund Calculator Form;

As per our pre-application meetings on March 18, 2021, and March 22, 2022, the proposed Multi-Family Development project at 105 Bartlett Street in Portsmouth will require a Wetland Impact Permit. The project is proposing to impact 209 SF of tidal wetland, 34,639 SF of tidal buffer, and 1,528 SF of forested wetland which will require mitigation for a total mitigation area of 36,376 SF. As described in the Wetland Permit Application, the 100-foot tidal buffer on these parcels can be divided into three zones within the project area: 1) a commercial area, including the Ricci Supply and Ace Hardware complex, the Great Rhythm Brewery building, a former railroad machine shop, and all the paved and unpaved impervious surfaces associated with those buildings; 2) the disturbed forest directly northeast and northwest of Great Rhythm Brewery, including the area around the old railroad turntable and roundhouse remains; and 3) the shrub thicket extending along the narrow portion of the parcel to the northeast. These areas all include historic filling 2-16 feet deep associated with railroad activities.

The proposed project will provide improvements to the buffer, including invasive species management and revegetation with native species. Installation of the North Mill Pond trail and greenway would result in improved functions and values of the wetland and buffer including: Ecological Integrity, Recreation Potential, Aesthetic Quality, and possibly Educational Potential. Existing impacts to the 100-foot buffer will be reduced by the trail and greenway improvements through the removal and restoration of impervious surfaces. A detailed description of the proposed restoration and enhancement of the buffer and be found in the enclosed Summary of Wetland and Buffer Functions and Mitigation Memo.

The result of the proposed mitigation will be 22,384 SF of restored previously disturbed tidal buffer area and 47,157 SF of previously disturbed tidal buffer enhancement area. The previously disturbed tidal buffer enhancement area will count towards mitigation at a 10:1 ratio. As such, the applicant respectfully proposes the following mitigation for the 36,376 SF of impact:



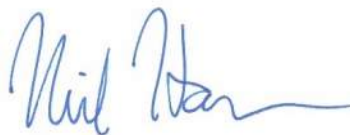
- 22,384 SF of restored previously disturbed tidal buffer area be counted toward the mitigation of the wetland buffer impact counted at a 1:1 ratio.
- 47,157 SF of previously disturbed tidal buffer enhancement area be counted towards mitigation at a 10:1 ratio, for an effective mitigation area of 4,716 SF.
- The balance of the previously disturbed tidal buffer and forested impacts, 9,276 SF, will be mitigated through a contribution to the ARM fund in the amount of \$59,688.93.

We look forward to working with you on this Mitigation Proposal. If you have any questions or need any additional information, please contact Neil Hansen by phone at (603) 294-9213 or by email at [nahansen@tighebond.com](mailto:nahansen@tighebond.com).

Sincerely,  
**TIGHE & BOND, INC.**



Patrick M. Crimmins, PE  
Vice President



Neil A. Hansen, PE  
Project Manager

Enclosures

Cc: Iron Horse Properties, LLC (via e-mail)

J:\C\C0960 Cathartes\C-0960-006 105 Bartlett Street\Report\_Evaluation\Applications\NHDES\Wetlands\Mitigation\C-0960-006 Mitigation Proposal.docx

## 105 Bartlett Street, Portsmouth – Summary of Wetland and Buffer Functions and Mitigation

**To:** Lori Sommer, NHDES  
Stefanie Giallongo, NHDES  
David Price, NHDES

**FROM:** Leonard A. Lord, PhD, CSS, CWS

**DATE:** March 30, 2021

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North Mill Pond is a 79+/- acre tidal wetland that includes expansive mud flats (E2US3N) with a narrow fringe of salt marsh (E2EM1N) along the project area. The upland buffer to this wetland has been highly degraded by development, impervious areas, trash, and rundown buildings. Below is a summary of the wetland and buffer functions and impact mitigation. Evaluation of these functions was primarily based on criteria adapted from the *Maine Citizens Guide to Evaluating, Restoring, and Managing Tidal Marshes* (Bryan et al., 1997).

For more information and photographs, please refer to the Tighe & Bond Wetland Delineation and Assessment of Functions and Values report included with the Wetland Impact Permit Application packet. For quantification of wetland and buffer impacts as well as quantification of proposed mitigation, please refer to the Wetland Buffer Impact Plan.

### Ecological Integrity

- Existing Function at North Mill Pond: Compromised due to tidal restriction, development of the upland buffer, water quality degradation, and filling.
- Existing Function at Project Upland Buffer: Compromised due to development, rundown buildings, compaction and impervious surfaces, trash, invasive species, and filling/grading.
- Proposed Function Enhancement: The upland buffer will be enhanced by removing rundown buildings, upgrading the development, removal of trash, and removal of invasive species. Native plantings will be installed as part of the landscape plan and much of the area within 50 feet of the mean high water line will be seeded with a conservation/wildlife seed mix, with mowing occurring annually to discourage reestablishment of invasive species.
- Proposed Function Restoration: The project will result in a net reduction in impervious surfaces. Restoring impervious surfaces restores vegetation, reduces runoff to the tidal wetland, provides improved water quality treatment of runoff, allows for increased wetland screening for wildlife, and restores available wildlife habitat.

### Wildlife, Finfish, and Shellfish Habitat

- Existing Function at North Mill Pond: Despite having compromised Ecological Integrity, North Mill Pond likely supports a variety of wildlife, including migratory birds, finfish, and shellfish. Salt marshes are among the Wildlife Action Plan highest ranked wildlife value habitats. There is a narrow band of salt marsh along the project area and larger salt marsh areas to the northeast and across the pond.
- Existing Function at Project Upland Buffer: The upland buffer in the project area has highly degraded Ecological Integrity. The vegetated portions of the buffer currently help support the wildlife habitat functions at North Mill Pond by providing screening and providing some water quality renovation of runoff. In addition, the pockets of



dense forest and shrubland vegetation are likely to provide habitat for small mammals and songbirds. Though limited in area and compromised by invasive species, the site does include a variety (four) of identified vegetation types, which would increase the potential to support a diversity of species. The vegetation types include a narrow Mixed Sapling/Shrub Thicket, a Norway Maple Grove, a Quaking Aspen Gray Birch Grove, and an Autumn Olive Thicket.

- Proposed Function Enhancement: Enhancement of Wildlife, Finfish, and Shellfish Habitat will be achieved through the methods and reasons described for enhancing Ecological Integrity.
- Proposed Function Restoration: Restoration of Wildlife, Finfish, and Shellfish Habitat associated with the upland buffer will be achieved through the methods and reasons described for restoring Ecological Integrity. This involves the restoration and revegetation of impermeable surfaces.

### **Recreational and Commercial Potential**

- Existing Function at North Mill Pond: North Mill Pond has potential for use by small boats during high tides, is not suitable for shellfish harvesting, and is not suitable for hunting. There is potential for birdwatching, but there is currently no public access at the project site except in the commercial parking lot at the southwest end of the project. However, views of North Mill Pond and potential bird habitat from the parking lot are very limited and compromised by vehicular traffic, noise, and activity as compared to the northeastern end of the site.
- Existing Function at Project Upland Buffer: There is no Recreational or Commercial Potential associated with the upland buffer other than an informal walking trail used by local residents.
- Proposed Function Enhancement: Since there will be no attempt to enhance the existing bird watching or other recreational activities from the commercial parking lot, there will be no enhancement of this function.
- Proposed Function Restoration: The project will create and restore recreational opportunities by providing a public greenway trail that will allow for birdwatching and recreational enjoyment of the North Mill Pond and upland buffer. Expansive views of the North Mill Pond and associated bird habitat from the northern portion of the site will be made open to the public.

### **Aesthetic Quality**

- Existing Function at North Mill Pond: The areas surrounding North Mill Pond are highly developed commercial and residential areas. There are few public viewing areas, but in locations where the pond can be seen it generally offers wide vistas and aesthetically pleasing views. There are no public viewing areas at the project site other than at the commercial parking lot at the southwest end of the project. However, views of North Mill Pond from the parking lot are very limited and compromised by vehicular traffic, noise, and human activity as compared to the northeastern end of the site.
- Existing Function at Project Upland Buffer: The upland buffer is highly degraded aesthetically. It is full of trash and rundown buildings at its northern end and is a highly developed commercial area at its southern end. There is essentially no aesthetic quality to the buffer.
- Proposed Function Enhancement: Since there will be no attempt to enhance existing aesthetics associated the public viewing or North Mill Pond from the commercial parking lot, there will be no enhancement of this function for the pond.

- **Proposed Function Restoration:** The project will create and restore aesthetic enjoyment of North Mill Pond through all the ways the Ecological Integrity will be restored and enhanced. The upland buffer will be cleaned up, rundown buildings will be removed, and a public greenway trail will be created that will allow for strolling and multiple viewing opportunities along the North Mill Pond and upland buffer. Expansive views of the North Mill Pond visible from the northern portion of the site that are not currently available will be made open to the public.

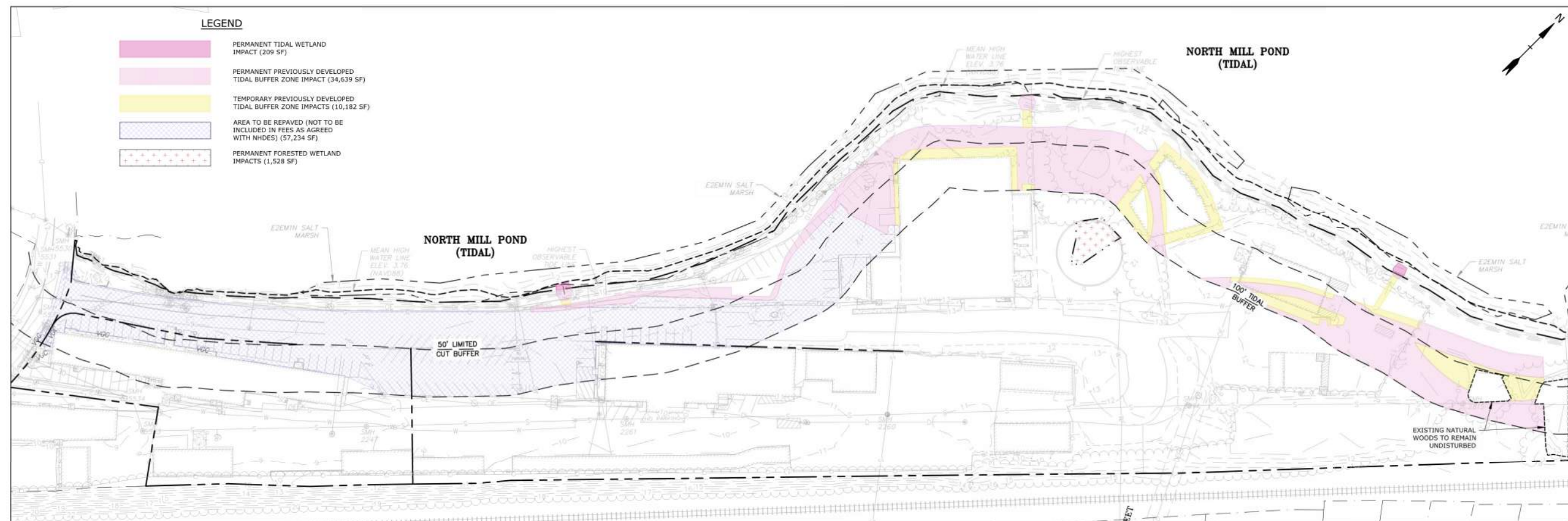
### **Educational Potential**

- **Existing Function at North Mill Pond:** There is no safe public access to North Mill Pond near the project site. In addition to being private property, the southern portion of the site is a commercial parking lot, and the northern portion of the project site has dangerous trash and building debris. Access to the North Mill Pond is also limited by steep banks, further diminishing the educational potential of this wetland.
- **Existing Function at Project Upland Buffer:** Same as for North Mill Pond.
- **Proposed Function Enhancement:** Since there is currently no access for Educational Potential, this function does not exist and cannot be enhanced.
- **Proposed Function Restoration:** By restoring the upland buffer and providing access along a greenway trail, some educational potential will be achieved. Although there will be no direct access to the North Mill Pond provided from the trail, there will be multiple viewing points, including views of the pond, salt marsh, and mudflats from the project site. The trail will also connect to other nearby habitats including more extensive salt marsh, shrublands, and native grassland (little bluestem, *Schizachyrium scoparium*).

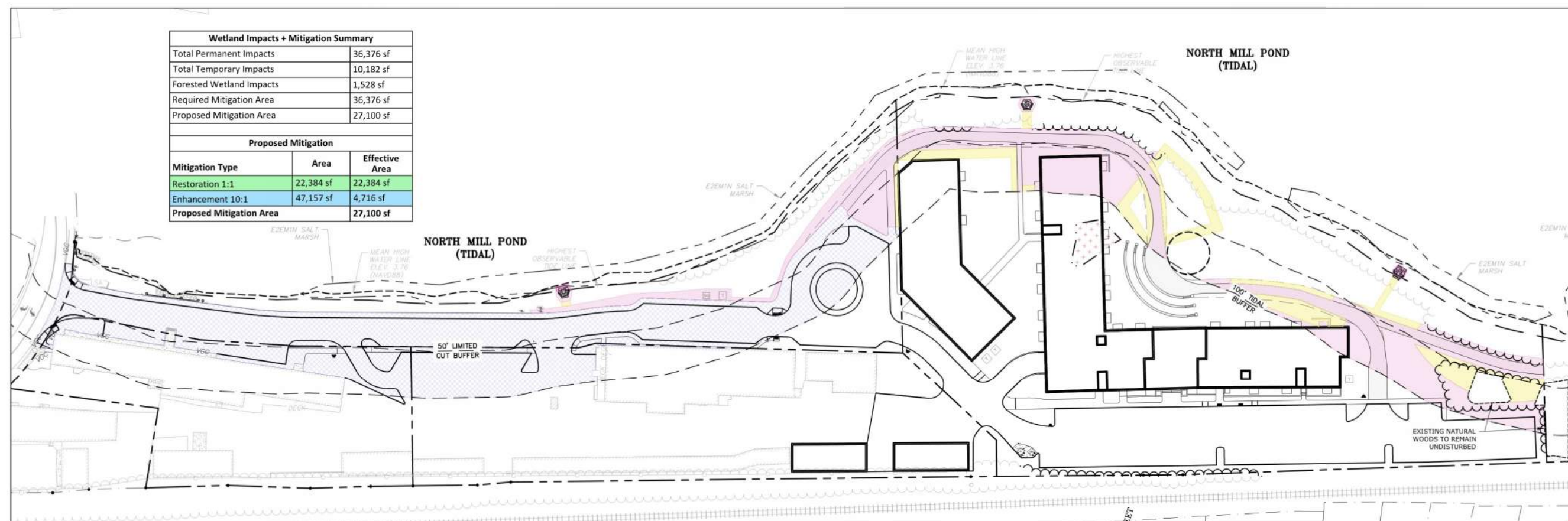
### **Noteworthiness**

- **Existing Function at North Mill Pond:** This area of North Mill Pond does not include any rare species, though the larger salt marsh to the northeast and across the pond are considered as highly ranked wildlife habitat, which is noteworthy. In addition, the pond provides for some open vistas in a developed setting, which adds to its importance aesthetically and as part of the character of the area.
- **Existing Function at Project Upland Buffer:** The upland buffer is somewhat noteworthy as an old railroad yard, but it has been so degraded that this diminishes its noteworthiness.
- **Proposed Function Enhancement:** Restoring and enhancing the upland buffer while providing a greenway trail will enhance the character of the area and provide recreational, educational, and aesthetic opportunities to the public that would not otherwise be readily available.
- **Proposed Function Restoration:** Since noteworthiness is an existing function, it will be enhanced by the project, rather than restored.





**PROPOSED IMPACT TO PREVIOUSLY DISTURBED TIDAL BUFFER, EXISTING CONDITIONS**



**PROPOSED IMPACT TO PREVIOUSLY DISTURBED TIDAL BUFFER, PROPOSED CONDITIONS**

**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

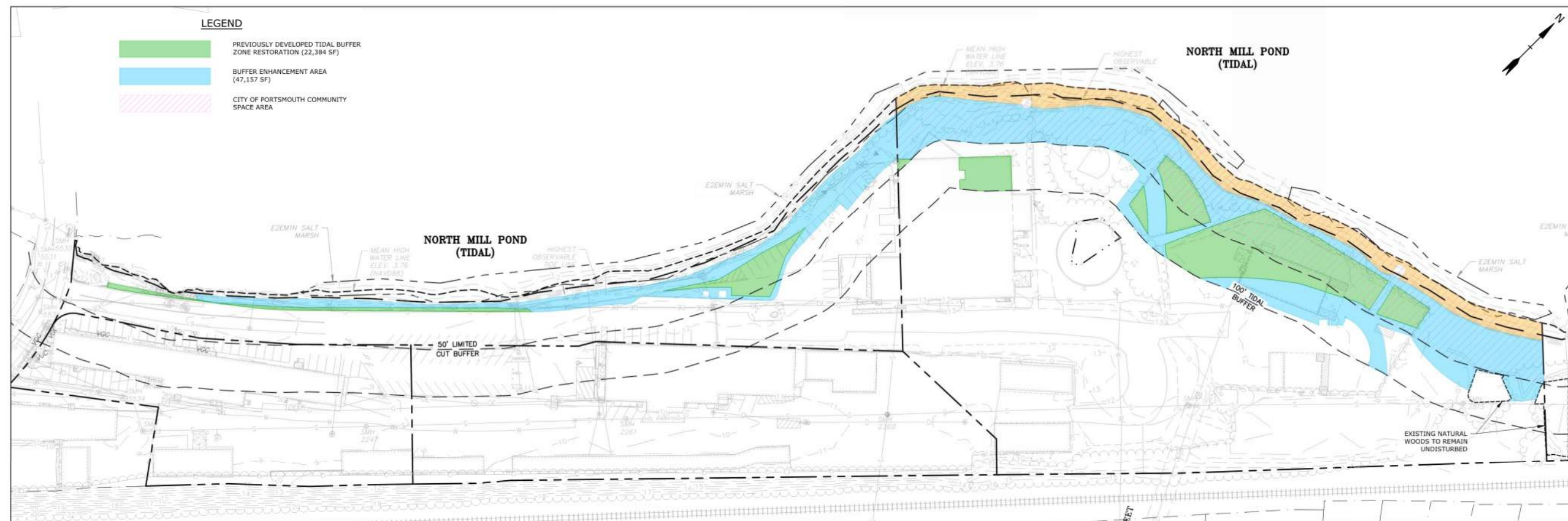
MARK	DATE	DESCRIPTION
L	3/29/2023	NHDES Wetland & Shoreland Resubmission
K	1/10/2023	NHDES Wetland & Shoreland Submission
J	9/15/2021	Revised Aot Submission
I	3/10/2021	PB Submission
H	1/20/2021	TAC Resubmission
G	11/18/2020	TAC Resubmission
F	10/28/2020	Wetland CUP Resubmission
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission

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

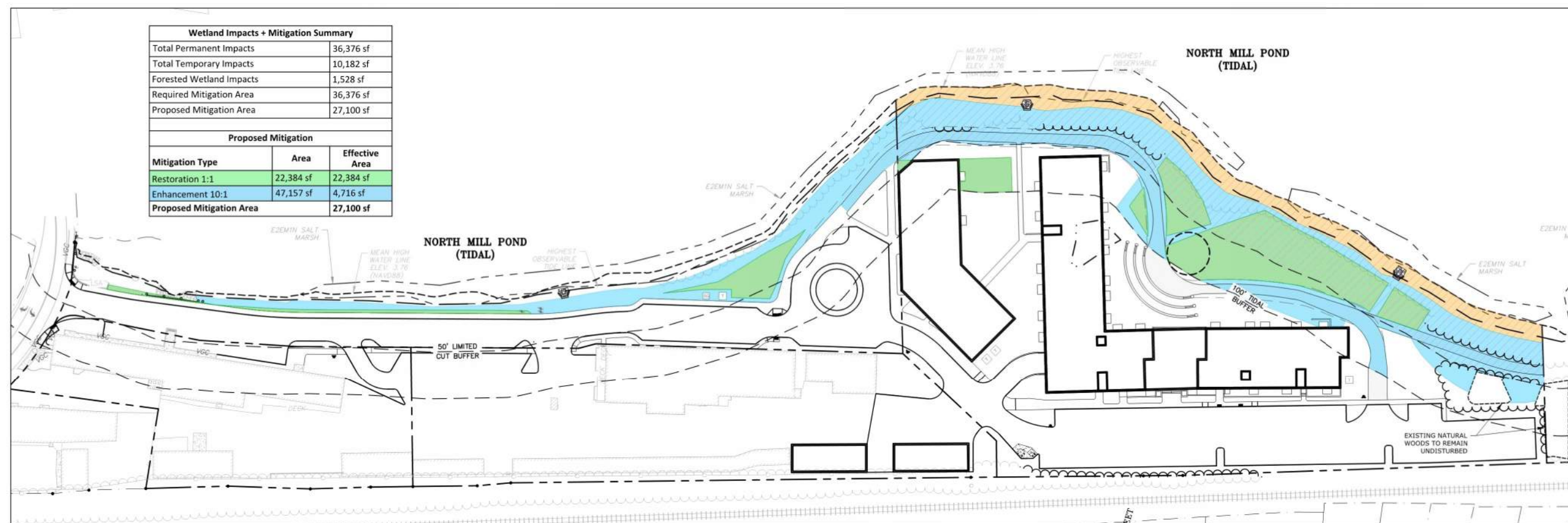
**WETLANDS BUFFER IMPACT PLAN**

SCALE: AS SHOWN





**PROPOSED MITIGATION OF PREVIOUSLY DISTURBED TIDAL BUFFER, EXISTING CONDITIONS**



**PROPOSED MITIGATION OF PREVIOUSLY DISTURBED TIDAL BUFFER, PROPOSED CONDITIONS**

Wetland Impacts + Mitigation Summary		
Total Permanent Impacts	36,376 sf	
Total Temporary Impacts	10,182 sf	
Forested Wetland Impacts	1,528 sf	
Required Mitigation Area	36,376 sf	
Proposed Mitigation Area	27,100 sf	
Proposed Mitigation		
Mitigation Type	Area	Effective Area
Restoration 1:1	22,384 sf	22,384 sf
Enhancement 10:1	47,157 sf	4,716 sf
<b>Proposed Mitigation Area</b>	<b>27,100 sf</b>	

**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

MARK	DATE	DESCRIPTION
L	3/29/2023	NHDES Wetland & Shoreland Resubmission
K	1/10/2023	NHDES Wetland & Shoreland Submission
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E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission

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

**WETLANDS BUFFER MITIGATION PLAN**

SCALE: AS SHOWN



2022 VALUES

TOWN	LAND VALUE	NHDES AQUATIC RESOURCE MITIGATION FUND WETLAND PAYMENT CALCULATION ***INSERT AMOUNTS IN YELLOW CELLS***	
Plainfield	3154		
Plaistow	53267		
Plymouth	7923		
Portsmouth	53267	<b>1 Convert square feet of impact to acres:</b>	
Randolph	954	INSERT SQ FT OF IMPACT	Square feet of impact 9276.00
Raymond	23309		43560.00
Richmond	1456		Acres of impact = 0.2129
Rindge	10261		
Rochester	29642		
Rollinsford	32458	<b>2 Determine acreage of wetland construction:</b>	
Roxbury	761		Forested wetlands: 0.3194
Rumney	4204		Tidal wetlands: 0.6388
Rye	53267		All other areas: 0.3194
Salem	53267		
Salisbury	2413		
Sanbornton	11075	<b>3 Wetland construction cost:</b>	
Sandown	37557		Forested wetlands: \$32,726.15
Sandwich	5002		
Sargent's			Tidal Wetlands: \$65,452.30
Purchase	494		All other areas: \$32,726.15
Seabrook	53267		
Second College			
Grant	494	<b>4 Land acquisition cost (See land value table):</b>	
Sharon	1729	INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)	Town land value: 53267
Shelburne	583		Forested wetlands: \$17,014.62
Somersworth	43798		Tidal wetlands: \$34,029.25
South Hampton	15895		All other areas: \$17,014.62
Springfield	3452	<b>5 Construction + land costs:</b>	
Stark	789		Forested wetland: \$49,740.77
Stewartstown	1242		Tidal wetlands: \$99,481.55
Stoddard	4934		All other areas: \$49,740.77
Strafford	8396		
Stratford	494	<b>6 NHDES Administrative cost:</b>	
Stratham	53267		Forested wetlands: \$9,948.15
Success	494		Tidal wetlands: \$19,896.31
Sugar Hill	8401		All other areas: \$9,948.15
Sullivan	1665		
Sunapee	53267	***** TOTAL ARM PAYMENT*****	
Surry	3226		Forested wetlands: \$59,688.93
Sutton	7136		
Swanzey	8224		Tidal wetlands: \$119,377.86
Tamworth	4771		All other areas: \$59,688.93
Temple	4371		
Thompson & Meserve's			
Purchase	494		
Thornton	5115		
Tilton	35234		
Troy	3430		
Tuftsboro	30222		
Unity	3136		
Wakefield	27165		
Walpole	8528		
Warner	3312		
Warren	852		
Washington	5420		
Waterville			
Valley	1737		
Weare	11359		
Webster	6440		
Wentworth	1477		
Wentworth's Location	494		
Westmoreland	2753		
Whitefield	2975		
Wilmot	4608		
Wilton	11438		
Winchester	3171		
Windham	53267		
Windsor	2522		
Wolfeboro	41723		
Woodstock	2321		





# PROPOSED MULTI-FAMILY DEVELOPMENT

105 BARTLETT STREET  
PORTSMOUTH, NEW HAMPSHIRE

JANUARY 2, 2020

LAST REVISED: MARCH 29, 2023

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	3/29/2023
1 OF 5	LOT LINE RELOCATION PLAN	01/19/2021
2 OF 5	LOT LINE RELOCATION PLAN	01/19/2021
3 OF 5	LOT LINE RELOCATION PLAN	01/19/2021
4 OF 5	LOT LINE RELOCATION PLAN	01/19/2021
5 OF 5	LOT LINE RELOCATION PLAN	01/19/2021
C-101	OVERALL EXISTING CONDITIONS AND DEMOLITION PLAN	12/28/2022
C-101.1	EXISTING CONDITIONS AND DEMOLITION PLAN	12/28/2022
C-101.2	EXISTING CONDITIONS AND DEMOLITION PLAN	12/28/2022
C-102	OVERALL SITE PLAN	3/29/2023
C-102.1	SITE PLAN	3/29/2023
C-102.2	SITE PLAN	3/29/2023
C-102.3	BASEMENT LEVEL SITE PLAN	12/28/2022
C-103.1	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	3/29/2023
C-103.2	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	3/29/2023
C-104.1	UTILITIES PLAN	3/29/2023
C-104.2	UTILITIES PLAN	3/29/2023
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	12/28/2022
C-502	DETAILS SHEET	12/28/2022
C-503	DETAILS SHEET	12/28/2022
C-504	DETAILS SHEET	12/28/2022
C-505	DETAILS SHEET	12/28/2022
C-506	DETAILS SHEET	12/28/2022
C-507	DETAILS SHEET	12/28/2022
C-508	DETAILS SHEET	12/28/2022
C-509	DETAILS SHEET	12/28/2022
L-1	SITE LANDSCAPE PLAN	3/28/2023
L-2	FOUNDATION PLANTING PLAN	3/28/2023



LOCATION MAP  
SCALE: 1" = 2000'

**PREPARED BY:**

**Tighe & Bond**

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

**APPLICANT:**

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

**OWNERS:**

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

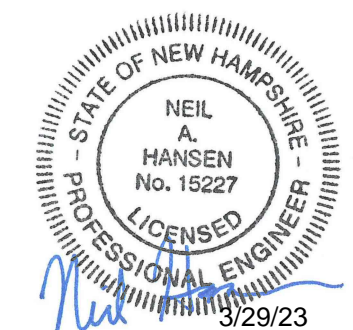
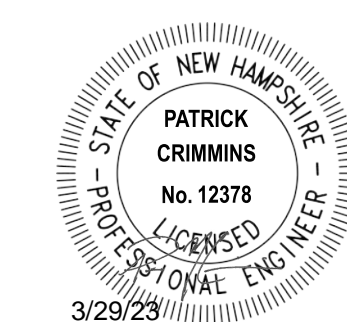
TAX MAP 164, LOT 4-2  
IRON HORSE PROPERTIES, LLC  
105 BARTLETT STREET  
PORTSMOUTH, NH 03801

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

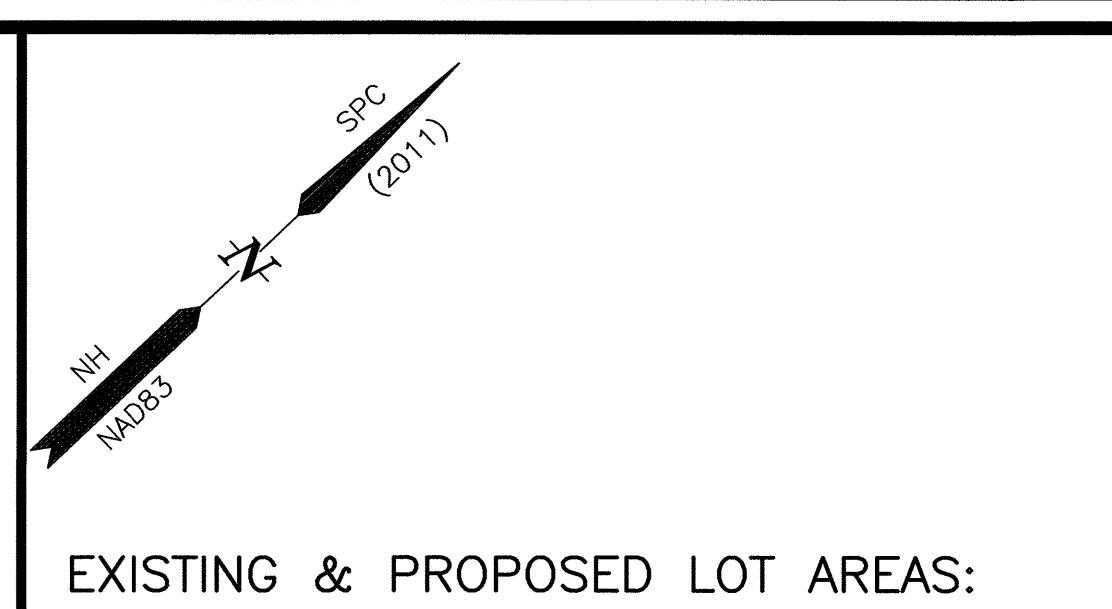
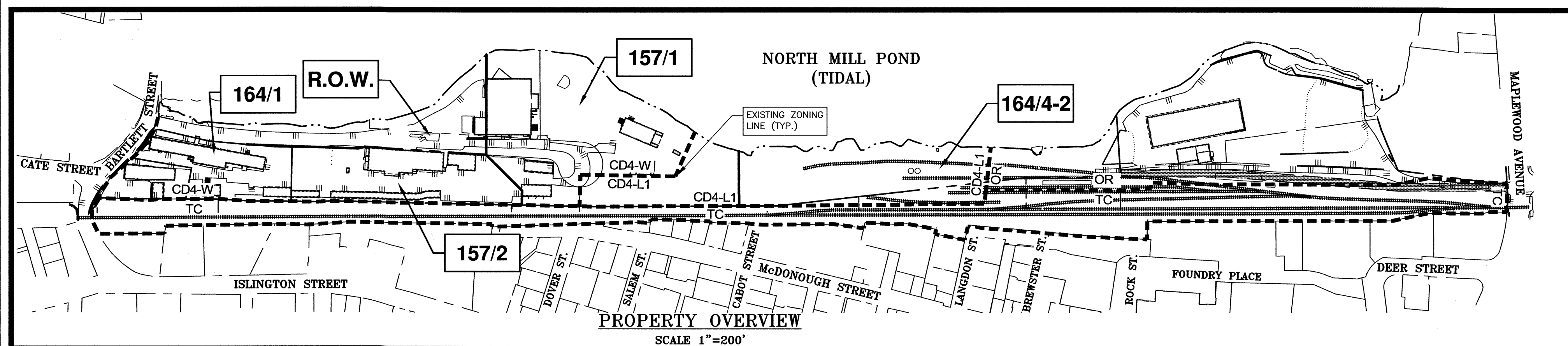
**SURVEYOR:**

AMBIT ENGINEERING, INC.  
200 GRIFFIN ROAD - UNIT 3  
PORTSMOUTH, NEW HAMPSHIRE 03801

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	APPROVED	4/15/2021
LOT LINE REVISION PERMIT	APPROVED	4/15/2021
CONDITIONAL USE PERMIT - SHARED PARKING	APPROVED	4/15/2021
CONDITIONAL USE PERMIT - WETLAND BUFFER	APPROVED	4/15/2021
STATE		
NHDES - ALTERATION OF TERRAIN PERMIT	APPROVED	9/29/2021
NHDES - WETLAND PERMIT	PENDING	
NHDES - SHORELAND PERMIT	PENDING	
NHDES - SEWER CONNECTION PERMIT	PENDING	
FEDERAL		
EPA - NPDES CGP	PENDING	



**NHDES WETLAND & SHORELAND  
UPDATED SUBMISSION  
COMPLETE SET 28 SHEETS**



EXISTING	PROPOSED
MAP 157 LOT 1 61,781± S.F. 1.4183± ACRES	205,804± S.F. 4.7246± ACRES
MAP 157 LOT 2 102,003 S.F. 2.3417 ACRES	81,645 S.F. 1.8743 ACRES
MAP 164 LOT 1 51,952 S.F. 1.1927 ACRES	52,289 S.F. 1.2004 ACRES
MAP 164 LOT 4-2 249,771± S.F. 5.7340± ACRES	119,519± S.F. 2.7454± ACRES
RIGHT-OF-WAY EXISTING 69,624± S.F. 1.5980± ACRES	PROPOSED 75,792± S.F. 1.7399± ACRES

**PLAN REFERENCES:**

- 1) LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO ERMINIO A.RICCI, SCALE : 1" = 40', APRIL 1960 RCRD 1595/091.
- 2) LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO ERMINIO A.RICCI, SCALE : 1" = 40', MAY 1957 RCRD 02612.
- 3) EASEMENT OF LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO UNITED STATES OF AMERICA, SCALE 1" = 20', MAY 1957, RCRD 02633.
- 4) LAND IN PORTSMOUTH, N.H. VITO P. MASSARO TO PORT CITY BEVERAGE CO, SCALE 1" = 40', APRIL 1949, RCRD 01448.
- 5) LAND IN PORTSMOUTH, N.H. MARY E. MORAN TO BOSTON AND MAINE RAILROAD, SCALE 1" = 40', MARCH 1920, RCRD 00540.
- 6) PLAN OF LAND OF MARY E. MORAN ON BARTLETT AND ISLINGTON STREETS PORTSMOUTH, N.H., PREPARED BY JOHN W. DURGIN, SCALE 1" = 20', MAY 1920, RCRD 08.
- 7) DRAINAGE EASEMENT GEORGE E. FRISBEE TO THE CITY OF PORTSMOUTH, N.H., PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES, SCALE : 1" = 20', JUNE 1981, RCRD B-10456.
- 8) LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO PORTSMOUTH FACTORY BUILDING ASSOCIATION, SCALE 1" = 20' OCTOBER 1923, RCRD 00356.
- 9) NH ELECTRIC CO. PLAN SHOWING AREA RESERVED FOR TRANSFORMER SUBSTATION ON PROPERTY OF CONTINENTAL SHOE CORP. PORTSMOUTH, N.H., SCALE 1" = 30', 11-27-53, RCRD 1303/378.
- 10) BOSTON AND MAINE RAILROAD PLAN TO ACCOMPANY AGREEMENT BETWEEN BOSTON AND MAINE RAILROAD AND CONCORD AND PORTSMOUTH RAILROAD COVERING RELOCATION OF TRACKS OF CONCORD AND PORTSMOUTH RAILROAD IN PORTSMOUTH, N.H. OCCASIONED BY CONSTRUCTION OF NEW HIGHWAY AND BRIDGE BY MAINE - NEW HAMPSHIRE INTERSTATE BRIDGE AUTHORITY, SCALE 1" = 500', DECEMBER 1936, RCRD 0934.
- 11) LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO CITY CONCRETE CO., INC., SCALE 1" = 80', JANUARY 1955, RCRD 02897.
- 12) LAND IN PORTSMOUTH, N.H. BOSTON AND MAIN RAILROAD TO ALL STATE REALTY CORPORATION, SCALE 1" = 50', FEBRUARY 1961, RCRD 160.
- 13) LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO VITO P. MASSARO, SCALE 1" = 40', APRIL 1949, RCRD 01450.
- 14) DRAINAGE EASEMENT STUART AND PAULA BOXER AND ARANOSIAN OIL COMPANY TO THE CITY OF PORTSMOUTH, N.H., PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES, SCALE: 1" = 20', JUNE 1981, RCRD B-10455.
- 15) CONDOMINIUM PLAN ISLINGTON PLACE PREPARED FOR ANCHOR BUILDING ASSOCIATES, PREPARED BY KIMBALL CHASE COMPANY, INC., SCALE 1" = 20', 12-10-86, RCRD D-15826.
- 16) PLAN OF LOT 565-581 ISLINGTON STREET PORTSMOUTH, N.H., PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, SCALE 1" = 10', DECEMBER 1949 REVISED JANUARY 1963, RCRD B28.
- 17) SUBDIVISION OF LAND PORTSMOUTH, N.H. FOR GEORGE AND PAULINE J. FRISBEE, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS PROFESSIONAL ASSOCIATION, SCALE" 1" = 30', DECEMBER 1976, RCRD C-6587.
- 18) RIGHT OF WAY AND TRACK MAP BOSTON AND MAINE R.R. OPERATED BY THE BOSTON AND MAINE R.R. STATION 2966+20 TO STATION 3019+0, SCALE 1" = 100', JUNE 30, 1914, VAL V3NH 55.
- 19) PLAN OF LAND FOR DEER STREET ASSOCIATES DEER AND BRIDGE STREETS AND MAPLEWOOD AVENUE PORTSMOUTH, N.H. COUNTY OF ROCKINGHAM, PREPARED BY AMBIT SURVEY, SCALE: 1" = 30', SEPTEMBER 1993.
- 20) PROPOSED EASEMENTS-- BARTLETT STREET BARTLETT SEWER SEPERATION PROJECT OVER LAND OF PAN AM RAILWAYS PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., SCALE : 1" = 20', DATED 10-01-2007 RCRD D-35477.

- 21) SEWER AND STORM DRAIN EASEMENT PLAN 105 BARTLETT STREET PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCEL 164-001 & 164-003 EASEMENT OWNER CITY OF PORTSMOUTH, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., SCALE 1" = 20', DATED 01/05/2012, RCRD D-37763.
- 22) EASEMENT PLAN TAX MAP 164 - LOT 4 BOSTON & MAINE CORPORATION TO THE CITY OF PORTSMOUTH OFF BREWSTER STREET CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE, PREPARED BY AMBIT ENGINEERING, INC. SCALE: 1" = 30', DATED SEPTEMBER 2012, RCRD D-37720.
- 23) STANDARD BOUNDARY SURVEY TAX MAP 157 - LOTS 7,8,10,11,12,13,14 AND 15 WASHBURN REALTY, INC. AND WASHBURN PLUMBING AND HEATING SUPPLY COMPANY, INC. FOR JAY McSHARRY 449 & 459 ISLINGTON STREET AND 18, 30, 40, & 46 DOVER STREET AND 268 & 280 MCDONOUGH STREET CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE, PREPARED BY AMBIT ENGINEERING, INC., SCALE 1" = 20', DATED JANUARY 2012, NOT RECORDED.
- 24) SITE REDEVELOPMENT NED & BILL PROPERTIES 621-627 ISLINGTON STREET PORTSMOUTH, N.H., PREPARED BY AMBIT ENGINEERING, INC., SCALE 1" = 10', DATED MARCH 2006, NOT RECORDED.
- 25) PLAN OF LAND FOR SAGAMORE ENTERPRISES 653 ISLINGTON STREET COUNTY OF ROCKINGHAM PORTSMOUTH N.H., PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES, SCALE 1" = 10', DATED SEPTEMBER 21, 1988, RCRD D-18742.
- 26) STATION MAP - LANDS BOSTON AND MAINE R.R. OPERATED BY THE BOSTON AND MAINE R.R. STATION 2966+20 TO STATION 3019+0, OFFICE OF VALUATION ENGINEER. BOSTON, MASS, SCALE 1" = 100', JUNE 30, 1914 VAL V3NH SL55.
- 27) STATION MAP - LANDS CONCORD AND PORTSMOUTH R.R. OPERATED BY THE BOSTON AND MAINE R.R. STATION 0+0 TO STATION 33+0, OFFICE OF VALUATION ENGINEER. BOSTON, MASS, SCALE 1" = 100', JUNE 30, 1914 VAL V3NH SL55A.
- 28) SUBDIVISION PLAN TAX MAP 157 - LOTS 1 & 2 TAX MAP 164 - LOTS 1, 2, 3, & 4 OWNER OF RECORD TAX MAP 157, LOT 2 & TAX MAP 164, LOTS 1, 2, & 3: PORTSMOUTH LUMBER AND HARDWARE, LLC OWNER OF RECORD TAX MAP 157, LOT 1: CLIPPER TRADERS, LLC OWNER OF RECORD TAX MAP 164, LOT 4: BOSTON AND MAINE CORPORATION PROPERTY LOCATED AT: 105 BARTLETT STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED FEBRUARY 2018, FINAL REVISION DATE 2018. R.C.R.D. PLAN D-41241.
- 29) LAND TRANSFER PLAN TAX MAP 164 - LOT 4 LAND OF: BOSTON AND MAINE CORPORATION TO BE CONVEYED TO: PORTSMOUTH LUMBER AND HARDWARE, LLC & CLIPPER TRADERS, LLC PROPERTY LOCATED AT 105 BARTLETT STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED DECEMBER 2018, FINAL REVISION DATE DECEMBER 13, 2018. R.C.R.D. PLAN D-41242.
- 30) WATERLINE EASEMENT PLAN OVER TAX MAP 164 - LOT 4 LAND OF BOSTON AND MAINE CORPORATION FOR BENEFIT OF PORTSMOUTH LUMBER AND HARDWARE, LLC & CLIPPER TRADERS, LLC. OFF MCDONOUGH STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED DECEMBER 2018, FINAL REVISION DATE DECEMBER 19, 2018. R.C.R.D. PLAN B-41243.
- 31) LOT LINE RELOCATION PLAN TAX MAP 164 - LOTS 4 & 4-2 OWNERS OF RECORD TAX MAP 164 LOT 4: BOSTON AND MAINE CORPORATION, OWNER OF RECORD TAX MAP 164 LOT 4-2: IRON HORSE PROPERTIES, LLC, PROPERTY LOCATED BETWEEN BARTLETT STREET & MAPLEWOOD AVENUE, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED APRIL 2019, FINAL REVISION DATE MAY 30, 2019. R.C.R.D. PLAN D-41570.
- 32) PROPOSED EASEMENT PLAN TAX MAP 164 - LOT 4 OWNER OF RECORD BOSTON AND MAINE CORPORATION TO BENEFIT IRON HORSE PROPERTIES, LLC, PROPERTY LOCATED BETWEEN BARTLETT STREET & MAPLEWOOD AVENUE, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED JUNE 2019, FINAL REVISION DATE JUNE 27, 2019. R.C.R.D. PLAN D-41578.

**ZONING DISTRICT DIMENSIONAL REQUIREMENTS:**

OFFICE RESEARCH (OR)\*:  
\*PARCELS ARE SUBJECT TO EXCEPTIONS TO DIMENSIONAL STANDARDS AS OUTLINED IN CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.532.10 & 10.532.20, MODIFIED DIMENSIONS LISTED BELOW

MIN. LOT AREA: 2 ACRES  
FRONTAGE: 200 FEET  
SETBACKS: FRONT 70 FEET, SIDE 50 FEET, REAR 50 FEET  
MAXIMUM STRUCTURE HEIGHT: 70 FEET (45 FEET WITHIN 200 FEET OF NORTH MILL POND)  
MAXIMUM STRUCTURE COVERAGE: 50%  
MINIMUM OPEN SPACE: 20%

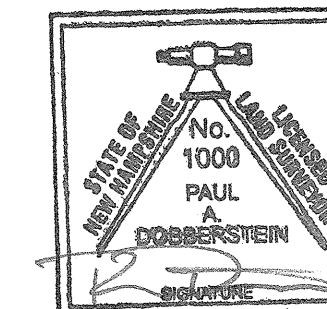
CHARACTER DISTRICT CD4-L1:  
MIN. LOT AREA: 3,000 S.F.  
FRONTAGE: NO REQUIREMENT  
SETBACKS: FRONT (MAX.) 15 FEET (PRIMARY), FRONT (MAX.) 12 FEET (SECONDARY), SIDE 5-20 FEET, REAR 5 FEET  
MAXIMUM STRUCTURE HEIGHT: 20-30 FEET  
MAXIMUM STRUCTURE COVERAGE: 60%  
MAXIMUM BUILDING FOOTPRINT: 2,500-3,500 S.F.  
MINIMUM OPEN SPACE: 25%  
MAXIMUM BLOCK LENGTH: 80-100 FEET  
BUILDING SEPARATION: 15-30 FEET  
VIEW CORRIDORS: SEE ZONING ORDINANCE

CHARACTER DISTRICT CD4-W:  
MIN. LOT AREA: 5,000 S.F.  
FRONTAGE: NO REQUIREMENT  
SETBACKS: FRONT (MAX.) 10 FEET (PRIMARY), FRONT (MAX.) 15 FEET (SECONDARY), SIDE NO REQUIREMENT, REAR 5 FEET  
MAXIMUM STRUCTURE HEIGHT: 45 FEET  
MAXIMUM STRUCTURE COVERAGE: 60%  
MAXIMUM BUILDING FOOTPRINT: 15,000-20,000 S.F.  
MINIMUM OPEN SPACE: 15%  
MINIMUM FRONT LOT LINE BUILDOUT: 50%

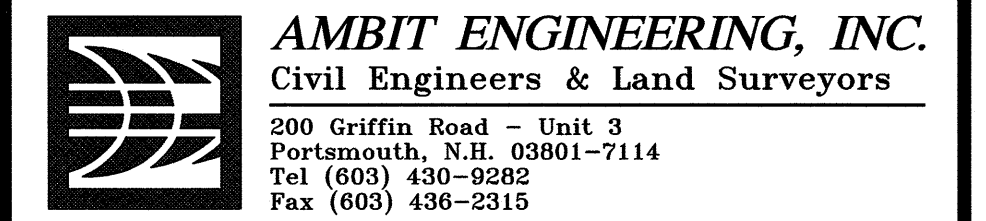
TRANSPORTATION CORRIDOR (TC):  
NO DIMENSIONAL OR USE REQUIREMENTS DEFINED IN ORDINANCE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."  
PAUL A. DOBBERSTEIN, LLS  
1/20/2021  
DATE

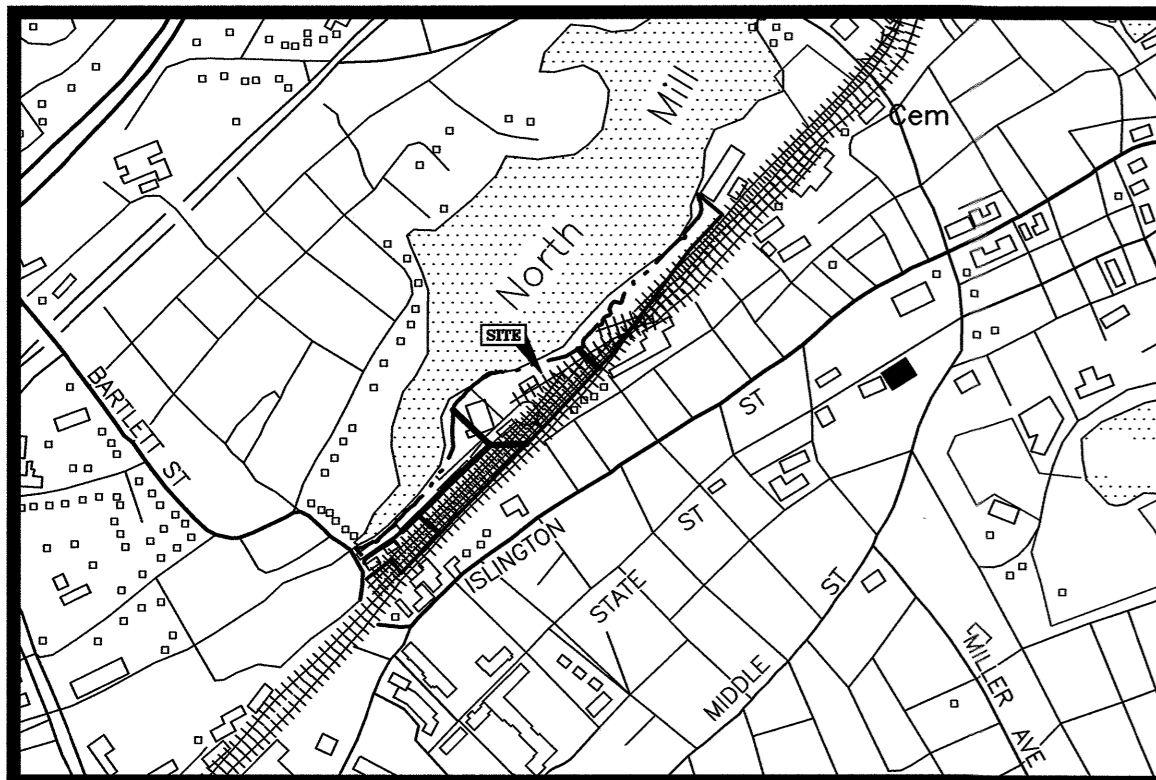


**NOTES:**

- 1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 157 LOTS 1 & 2, MAP 164 AS LOTS 1 & 4-2, AND A RIGHT-OF-WAY WITH NO ASSESSOR'S MAP DESIGNATION.
- 2) OWNERS OF RECORD:  
MAP 157 LOT 1  
CLIPPER TRADERS, LLC  
105 BARTLETT STREET  
PORTSMOUTH, NH 03801  
5598/2725 & 5970/1701  
MAP 157 LOT 2 & MAP 164 LOT 1  
PORTSMOUTH LUMBER & HARDWARE, LLC  
105 BARTLETT STREET  
PORTSMOUTH, NH 03801  
5372/2606, 5808/1379, 5540/2567, & 5970/1693  
MAP 164 LOT 4-2  
IRON HORSE PROPERTIES, LLC  
105 BARTLETT STREET  
PORTSMOUTH, NH 03801  
5970/1686 & 6012/2502  
RIGHT-OF-WAY  
CLIPPER TRADERS, LLC, PORTSMOUTH LUMBER & HARDWARE, LLC, & IRON HORSE PROPERTIES, LLC  
5970/1708
- 3) PORTIONS OF THE SUBJECT PARCELS ARE IN A SPECIAL FLOOD HAZARD AREA ZONE AE (EL.9) AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.
- 4) PARCELS ARE LOCATED IN CHARACTER DISTRICT 4W (CD4-W), CHARACTER DISTRICT 4-L1 (CD4-L1), AND OFFICE RESEARCH (OR) ZONING DISTRICTS.
- 5) THE PURPOSE OF THIS PLAN IS TO SHOW A LOT LINE RELOCATION BETWEEN THE SUBJECT PARCELS IN THE CITY OF PORTSMOUTH.
- 6) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.3").
- 7) HORIZONTAL DATUM AND BASIS OF BEARINGS IS THE NH STATE PLANE COORDINATE SYSTEM NAD 83 (2011). BASIS OF HORIZONTAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS.

NO.	DESCRIPTION	DATE
1	REVISE PROPOSED LOT LINE	1/19/21
0	ISSUED FOR COMMENT	6/22/20

**LOT LINE RELOCATION PLAN**  
**TAX MAP 157 - LOTS 1 & 2**  
**TAX MAP 164 - LOTS 1 & 4-2**  
TAX MAP 157 LOT 1:  
**CLIPPER TRADERS, LLC**  
OWNER OF RECORD  
TAX MAP 157 LOT 2 & TAX MAP 164 LOT 1:  
**PORTSMOUTH LUMBER & HARDWARE, LLC**  
OWNER OF RECORD  
TAX MAP 164 LOT 4-2:  
**IRON HORSE PROPERTIES, LLC**  
OWNER OF RECORD  
RIGHT-OF-WAY (NO TAX MAP DESIGNATION):  
**IRON HORSE PROPERTIES, LLC,**  
**PORTSMOUTH LUMBER & HARDWARE, LLC,**  
**& CLIPPER TRADERS, LLC**  
PROPERTY LOCATED BETWEEN:  
**BARTLETT STREET & MAPLEWOOD AVENUE**  
**CITY OF PORTSMOUTH**  
**COUNTY OF ROCKINGHAM**  
**STATE OF NEW HAMPSHIRE**



LOCATION MAP SCALE 1"=1,000'

**LENGTH TABLE**

LINE	BEARING	DISTANCE
L3	N59°39'51"E	2'±

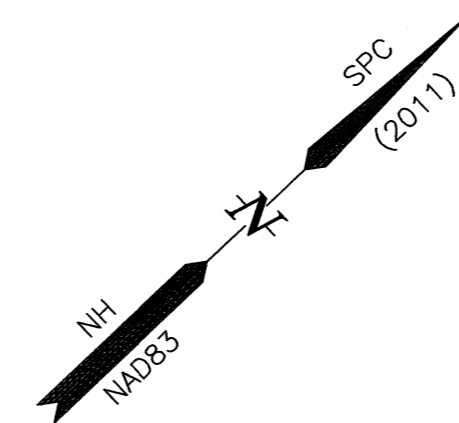
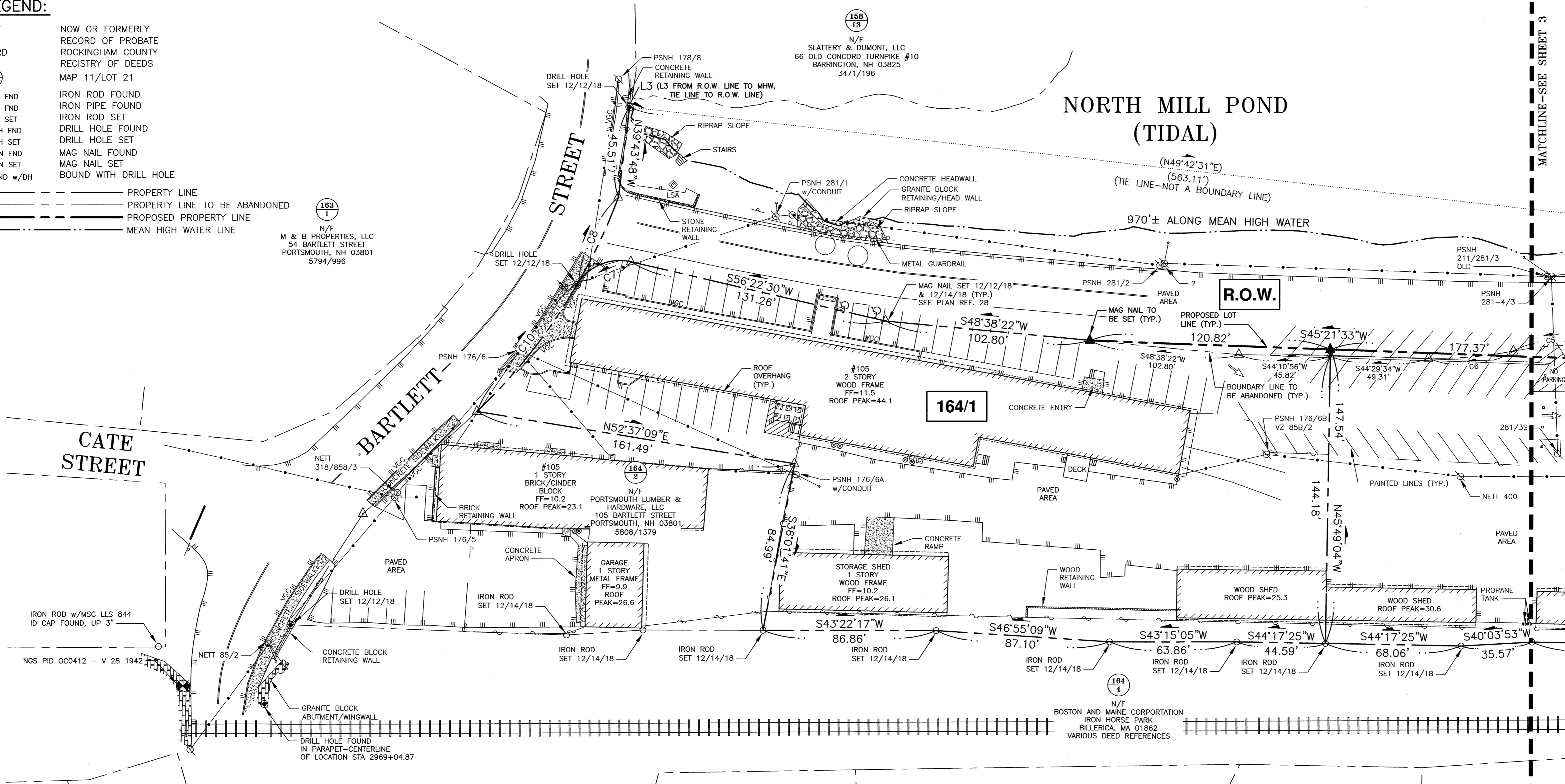
**CURVE TABLE**

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C5	150.00'	38.24'	38.14'	S39°30'52"W	14°36'24"
C6	200.00'	42.87'	42.79'	S38°21'07"W	12°16'55"
C7	25.00'	31.80'	29.70'	S19°56'09"W	72°52'42"
C8	288.61'	48.94'	48.88'	N21°21'40"W	9°42'56"
C10	288.61'	80.91'	80.65'	N08°28'19"W	16°03'46"

**LEGEND:**

- N/F NOW OR FORMERLY
- RP RECORD OF PROBATE
- RCRD ROCKINGHAM COUNTY
- REGISTRY OF DEEDS
- (11/21) MAP 11/LOT 21
- IR FND IRON ROD FOUND
- IP FND IRON PIPE FOUND
- IR SET IRON ROD SET
- DH FND DRILL HOLE FOUND
- DH SET DRILL HOLE SET
- △ MN FND MAG NAIL FOUND
- ▲ MN SET MAG NAIL SET
- BND w/DH BOUND WITH DRILL HOLE
- PROPERTY LINE
- - - PROPERTY LINE TO BE ABANDONED
- · - · - PROPOSED PROPERTY LINE
- - - MEAN HIGH WATER LINE

N/F  
 M & B PROPERTIES, LLC  
 54 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5794/996



MATCHLINE - SEE SHEET 3

**NOTES:**

- 1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 157 LOTS 1 & 2, MAP 164 AS LOTS 1 & 4-2, AND A RIGHT-OF-WAY WITH NO ASSESSOR'S MAP DESIGNATION.
- 2) OWNERS OF RECORD:  
 MAP 157 LOT 1  
 CLIPPER TRADERS, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5598/2725 & 5970/1701  
  
 MAP 157 LOT 2 & MAP 164 LOT 1  
 PORTSMOUTH LUMBER & HARDWARE, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5372/2606, 5808/1379, 5540/2567, & 5970/1693  
  
 MAP 164 LOT 4-2  
 IRON HORSE PROPERTIES, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5970/1686 & 6012/2502  
  
 RIGHT-OF-WAY  
 CLIPPER TRADERS, LLC, PORTSMOUTH LUMBER & HARDWARE, LLC, & IRON HORSE PROPERTIES, LLC  
 5970/1708
- 3) PORTIONS OF THE SUBJECT PARCELS ARE IN A SPECIAL FLOOD HAZARD AREA ZONE AE (EL-9) AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.
- 4) PARCELS ARE LOCATED IN CHARACTER DISTRICT 4W (CD4-W), CHARACTER DISTRICT 4-L1 (CD4-L1), AND OFFICE RESEARCH (OR) ZONING DISTRICTS.
- 5) THE PURPOSE OF THIS PLAN IS TO SHOW A LOT LINE RELOCATION BETWEEN THE SUBJECT PARCELS IN THE CITY OF PORTSMOUTH.
- 6) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.3').
- 7) HORIZONTAL DATUM AND BASIS OF BEARINGS IS THE NH STATE PLANE COORDINATE SYSTEM NAD 83 (2011). BASIS OF HORIZONTAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS.
- 8) SEE SHEET 1 OF 5 FOR OVERALL PROPERTY VIEW, EXISTING AND PROPOSED LOT AREAS, PLAN REFERENCES, AND DIMENSIONAL REQUIREMENTS.

NO.	DESCRIPTION	DATE
1	REVISE PROPOSED LOT LINE	1/19/21
0	ISSUED FOR COMMENT	6/22/20

**LOT LINE RELOCATION PLAN**  
 TAX MAP 157 - LOTS 1 & 2  
 TAX MAP 164 - LOTS 1 & 4-2

TAX MAP 157 LOT 1:  
**CLIPPER TRADERS, LLC**  
 OWNER OF RECORD

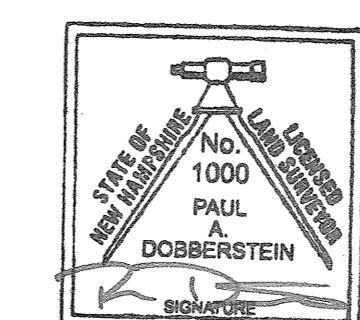
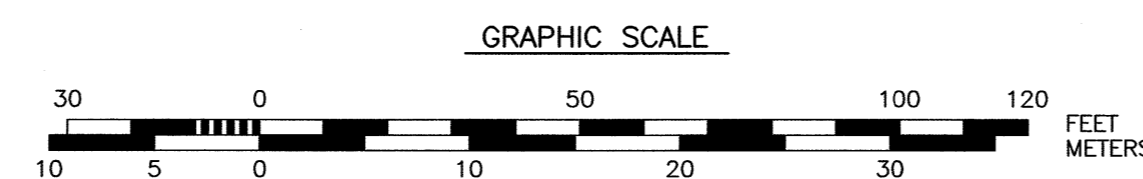
TAX MAP 157 LOT 2 & TAX MAP 164 LOT 1:  
**PORTSMOUTH LUMBER & HARDWARE, LLC**  
 OWNER OF RECORD

TAX MAP 164 LOT 4-2:  
**IRON HORSE PROPERTIES, LLC**  
 OWNER OF RECORD

RIGHT-OF-WAY (NO TAX MAP DESIGNATION):  
**IRON HORSE PROPERTIES, LLC,**  
**PORTSMOUTH LUMBER & HARDWARE, LLC,**  
**& CLIPPER TRADERS, LLC**  
 PROPERTY LOCATED BETWEEN:  
**BARTLETT STREET & MAPLEWOOD AVENUE**  
 CITY OF PORTSMOUTH  
 COUNTY OF ROCKINGHAM  
 STATE OF NEW HAMPSHIRE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

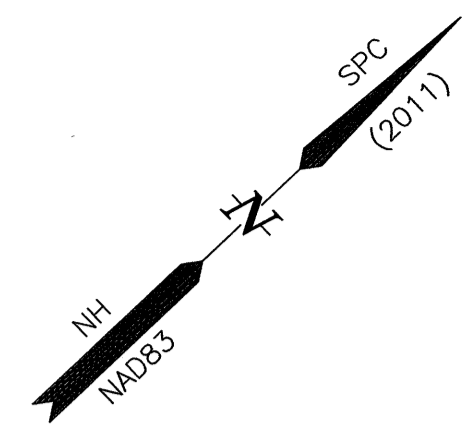


"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

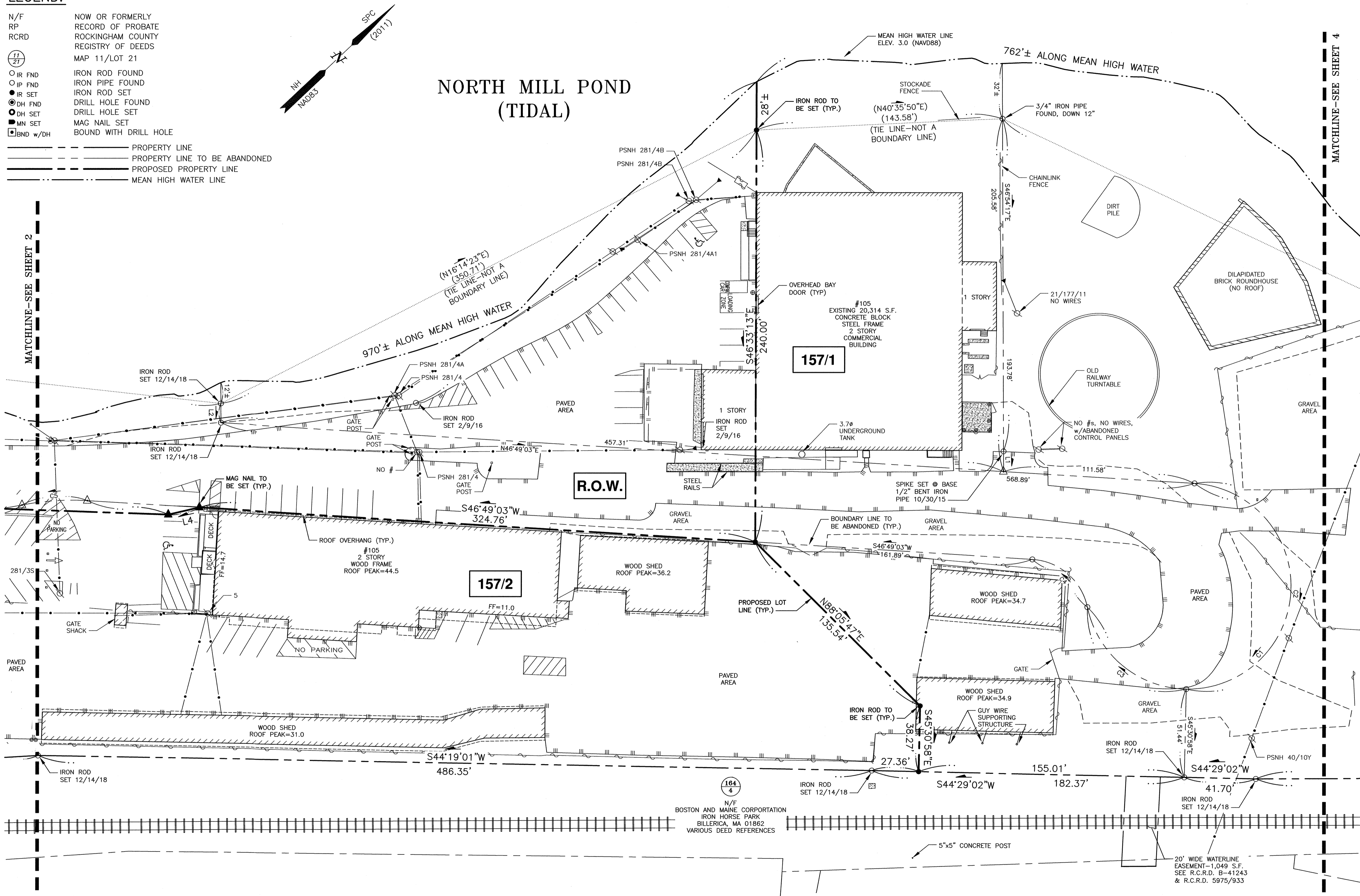
PAUL A. DOBBERSTEIN, LLS  
 DATE 1/20/2021

**LEGEND:**

- N/F NOW OR FORMERLY
- RP RECORD OF PROBATE
- RCRD ROCKINGHAM COUNTY
- REGISTRY OF DEEDS
- MAP 11/LOT 21
- IR FND IRON ROD FOUND
- IP FND IRON PIPE FOUND
- IR SET IRON ROD SET
- DH FND DRILL HOLE FOUND
- DH SET DRILL HOLE SET
- MN SET MAG NAIL SET
- BND w/DH BOUND WITH DRILL HOLE
- PROPERTY LINE
- PROPERTY LINE TO BE ABANDONED
- PROPOSED PROPERTY LINE
- MEAN HIGH WATER LINE



**NORTH MILL POND (TIDAL)**



**AMBIT ENGINEERING, INC.**  
 Civil Engineers & Land Surveyors  
 200 Griffin Road - Unit 3  
 Portsmouth, N.H. 03801-7114  
 Tel (603) 430-9282  
 Fax (603) 436-2815

- NOTES:**
- 1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 157 LOTS 1 & 2, MAP 164 AS LOTS 1 & 4-2, AND A RIGHT-OF-WAY WITH NO ASSESSOR'S MAP DESIGNATION.
  - 2) OWNERS OF RECORD:  
 MAP 157 LOT 1  
 CLIPPER TRADERS, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5598/2725 & 5970/1701  
  
 MAP 157 LOT 2 & MAP 164 LOT 1  
 PORTSMOUTH LUMBER & HARDWARE, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5372/2606, 5808/1379, 5540/2567, & 5970/1693  
  
 MAP 164 LOT 4-2  
 IRON HORSE PROPERTIES, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
 5970/1686 & 6012/2502  
  
 RIGHT-OF-WAY  
 CLIPPER TRADERS, LLC, PORTSMOUTH LUMBER & HARDWARE, LLC, & IRON HORSE PROPERTIES, LLC  
 5970/1708
  - 3) PORTIONS OF THE SUBJECT PARCELS ARE IN A SPECIAL FLOOD HAZARD AREA ZONE AE (EL.9) AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.
  - 4) PARCELS ARE LOCATED IN CHARACTER DISTRICT 4W (CD4-W), CHARACTER DISTRICT 4-L1 (CD4-L1), AND OFFICE RESEARCH (OR) ZONING DISTRICTS.
  - 5) THE PURPOSE OF THIS PLAN IS TO SHOW A LOT LINE RELOCATION BETWEEN THE SUBJECT PARCELS IN THE CITY OF PORTSMOUTH.
  - 6) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.3').
  - 7) HORIZONTAL DATUM AND BASIS OF BEARINGS IS THE NH STATE PLANE COORDINATE SYSTEM NAD 83 (2011). BASIS OF HORIZONTAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS.
  - 8) SEE SHEET 1 OF 5 FOR OVERALL PROPERTY VIEW, EXISTING AND PROPOSED LOT AREAS, PLAN REFERENCES, AND DIMENSIONAL REQUIREMENTS.

NO.	DESCRIPTION	DATE
1	REVISE PROPOSED LOT LINE	1/19/21
0	ISSUED FOR COMMENT	6/22/20

**LOT LINE RELOCATION PLAN  
 TAX MAP 157 - LOTS 1 & 2  
 TAX MAP 164 - LOTS 1 & 4-2**

TAX MAP 157 LOT 1:  
**CLIPPER TRADERS, LLC**  
 OWNER OF RECORD

TAX MAP 157 LOT 2 & TAX MAP 164 LOT 1:  
**PORTSMOUTH LUMBER & HARDWARE, LLC**  
 OWNER OF RECORD

TAX MAP 164 LOT 4-2:  
**IRON HORSE PROPERTIES, LLC**  
 OWNER OF RECORD

RIGHT-OF-WAY (NO TAX MAP DESIGNATION):  
**IRON HORSE PROPERTIES, LLC,  
 PORTSMOUTH LUMBER & HARDWARE, LLC,  
 & CLIPPER TRADERS, LLC**

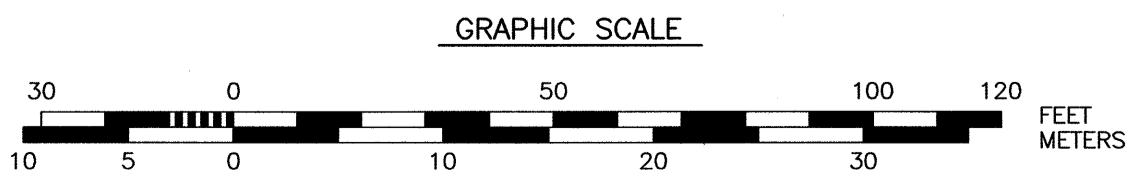
PROPERTY LOCATED BETWEEN:  
 BARTLETT STREET & MAPLEWOOD AVENUE  
 CITY OF PORTSMOUTH  
 COUNTY OF ROCKINGHAM  
 STATE OF NEW HAMPSHIRE

**LENGTH TABLE**

LINE	BEARING	DISTANCE
L1	S46°54'17"E	11.80'
L2	S46°49'43"E	11.20'
L3	N59°39'51"E	2'±
L4	S30°20'37"W	18.60'

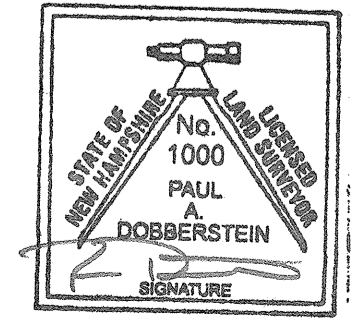
**CURVE TABLE**

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	60.00'	266.77'	95.37'	S05°48'40"E	254°44'33"
C2	60.00'	185.84'	119.97'	S44°26'53"E	177°28'07"
C3	60.00'	80.92'	74.93'	S82°55'23"W	77°16'26"



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

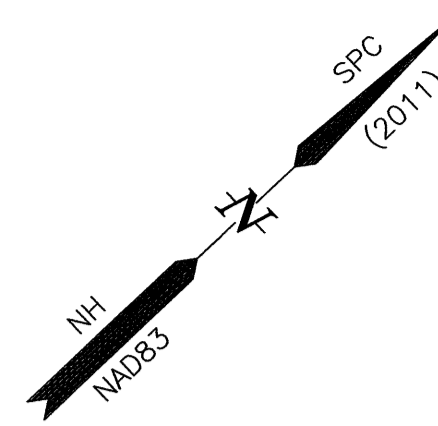


"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

PAUL A. DOBBERSTEIN, LLS  
 DATE 1/20/2021

**LEGEND:**

- |      |  |
|------|--|
| N/F  | NOW OR FORMERLY                        |
| RP   | RECORD OF PROBATE                      |
| RCRD | ROCKINGHAM COUNTY<br>REGISTRY OF DEEDS |
|      | MAP 11/LOT 21                          |
|      | IRON ROD FOUND                         |
|      | IRON PIPE FOUND                        |
|      | IRON ROD SET                           |
|      | DRILL HOLE FOUND                       |
|      | DRILL HOLE SET                         |
|      | MAG NAIL FOUND                         |
|      | MAG NAIL SET                           |
|      | BOUND WITH DRILL HOLE                  |
|      | PROPERTY LINE                          |
|      | PROPERTY LINE TO BE ABANDONED          |
|      | PROPOSED PROPERTY LINE                 |
|      | MEAN HIGH WATER LINE                   |

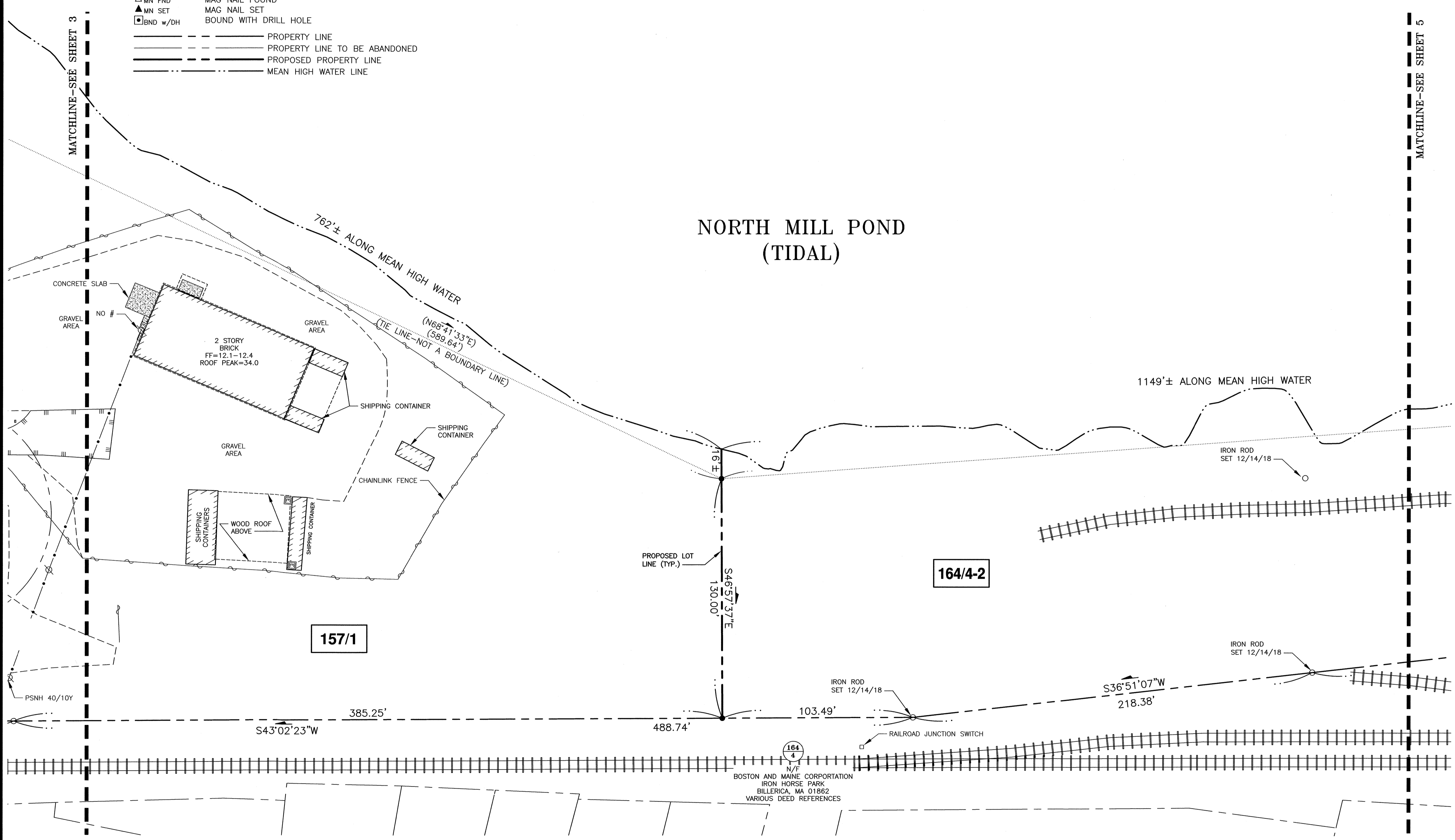


**NOTES:**

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 105 BARTLETT STREET  
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 5598/2725 & 5970/1701  
  
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 5372/2606, 5808/1379, 5540/2567, & 5970/1693  
  
 MAP 164 LOT 4-2  
 IRON HORSE PROPERTIES, LLC  
 105 BARTLETT STREET  
 PORTSMOUTH, NH 03801  
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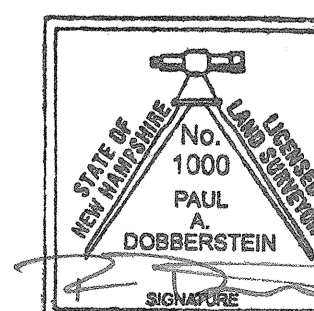
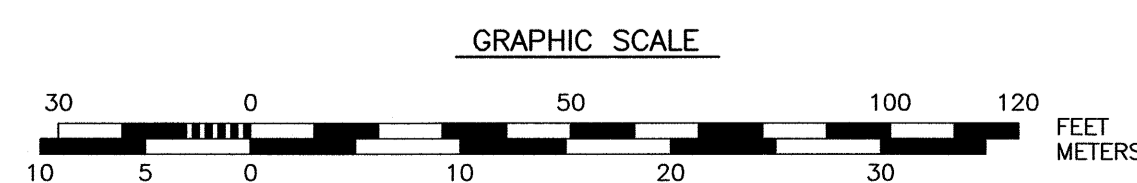
NO.	DESCRIPTION	DATE
1	REVISE PROPOSED LOT LINE	1/19/21
0	ISSUED FOR COMMENT	6/22/20

**LOT LINE RELOCATION PLAN**  
**TAX MAP 157 - LOTS 1 & 2**  
**TAX MAP 164 - LOTS 1 & 4-2**  
 TAX MAP 157 LOT 1:  
**CLIPPER TRADERS, LLC**  
 OWNER OF RECORD  
 TAX MAP 157 LOT 2 & TAX MAP 164 LOT 1:  
**PORTSMOUTH LUMBER & HARDWARE, LLC**  
 OWNER OF RECORD  
 TAX MAP 164 LOT 4-2:  
**IRON HORSE PROPERTIES, LLC**  
 OWNER OF RECORD  
 RIGHT-OF-WAY (NO TAX MAP DESIGNATION):  
**IRON HORSE PROPERTIES, LLC,**  
**PORTSMOUTH LUMBER & HARDWARE, LLC,**  
**& CLIPPER TRADERS, LLC**  
 PROPERTY LOCATED BETWEEN:  
**BARTLETT STREET & MAPLEWOOD AVENUE**  
 CITY OF PORTSMOUTH  
 COUNTY OF ROCKINGHAM  
 STATE OF NEW HAMPSHIRE



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



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PAUL A. DOBBERSTEIN, LLS DATE 1/20/2021

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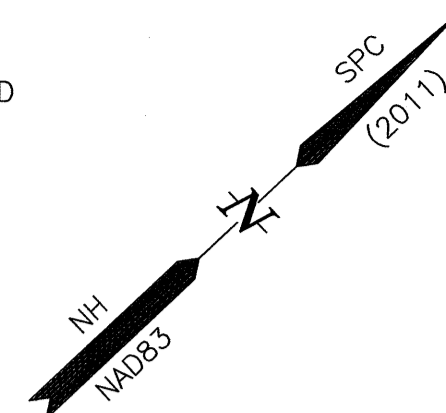
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NO.	DESCRIPTION	DATE
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0	ISSUED FOR COMMENT	6/22/20
REVISIONS		

**LOT LINE RELOCATION PLAN**  
**TAX MAP 157 - LOTS 1 & 2**  
**TAX MAP 164 - LOTS 1 & 4-2**  
 TAX MAP 157 LOT 1:  
**CLIPPER TRADERS, LLC**  
 OWNER OF RECORD  
 TAX MAP 157 LOT 2 & TAX MAP 164 LOT 1:  
**PORTSMOUTH LUMBER & HARDWARE, LLC**  
 OWNER OF RECORD  
 TAX MAP 164 LOT 4-2:  
**IRON HORSE PROPERTIES, LLC**  
 OWNER OF RECORD  
 RIGHT-OF-WAY (NO TAX MAP DESIGNATION):  
**IRON HORSE PROPERTIES, LLC,**  
**PORTSMOUTH LUMBER & HARDWARE, LLC,**  
**& CLIPPER TRADERS, LLC**  
 PROPERTY LOCATED BETWEEN:  
**BARTLETT STREET & MAPLEWOOD AVENUE**  
**CITY OF PORTSMOUTH**  
**COUNTY OF ROCKINGHAM**  
**STATE OF NEW HAMPSHIRE**

**LEGEND:**

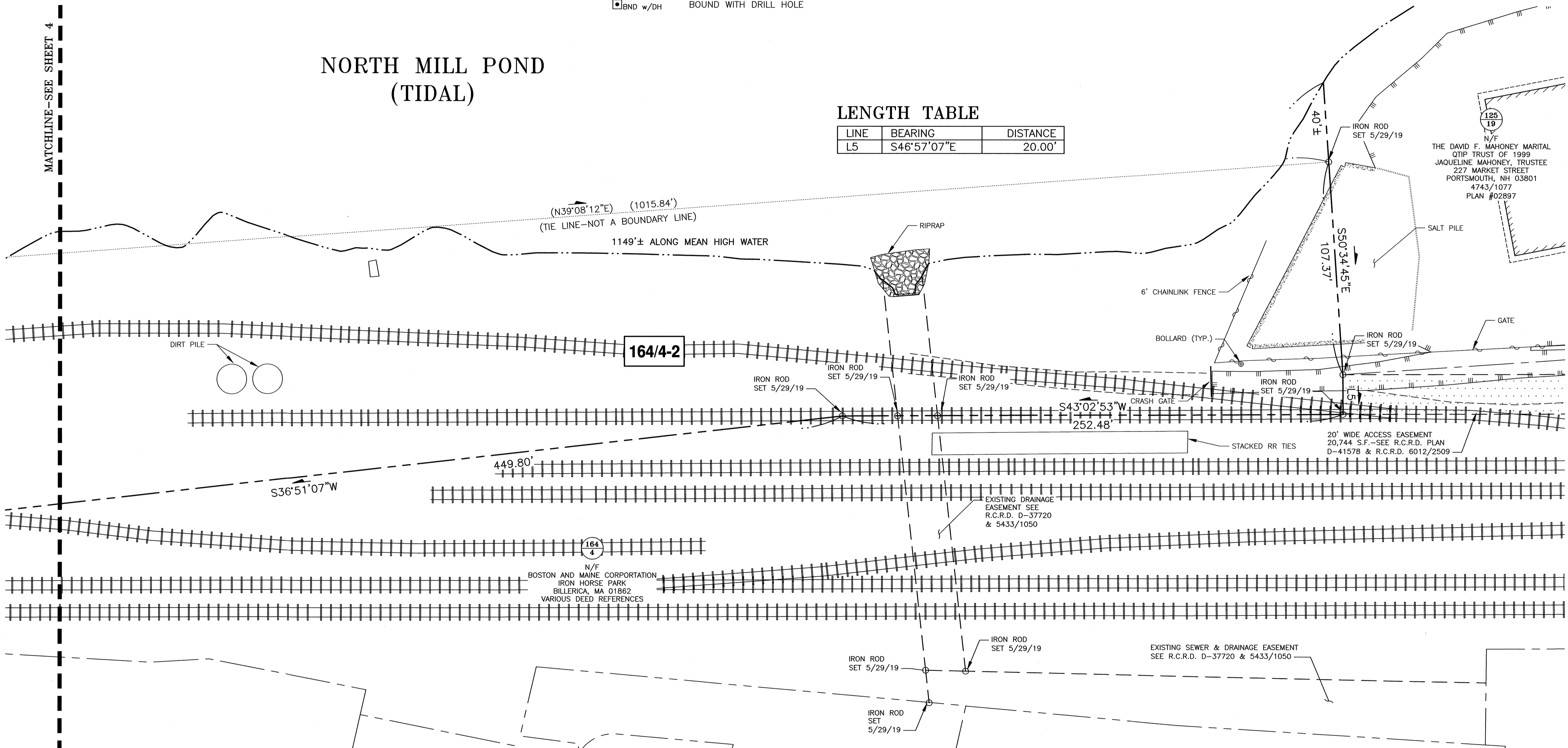
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|------------|-----------------------|-----|-------------------------------|
| N/F        | NOW OR FORMERLY       | --- | PROPERTY LINE                 |
| RP         | RECORD OF PROBATE     | --- | PROPERTY LINE TO BE ABANDONED |
| RCD        | ROCKINGHAM COUNTY     | --- | PROPOSED PROPERTY LINE        |
|            | REGISTRY OF DEEDS     | --- | MEAN HIGH WATER LINE          |
| (11/21)    | MAP 11/LOT 21         |     |                               |
| ○ IR FND   | IRON ROD FOUND        |     |                               |
| ○ IP FND   | IRON PIPE FOUND       |     |                               |
| ● IR SET   | IRON ROD SET          |     |                               |
| ⊙ DH FND   | DRILL HOLE FOUND      |     |                               |
| ⊙ DH SET   | DRILL HOLE SET        |     |                               |
| ▲ MN FND   | MAG NAIL FOUND        |     |                               |
| ▲ MN SET   | MAG NAIL SET          |     |                               |
| □ BND w/DH | BOUND WITH DRILL HOLE |     |                               |



**NORTH MILL POND (TIDAL)**

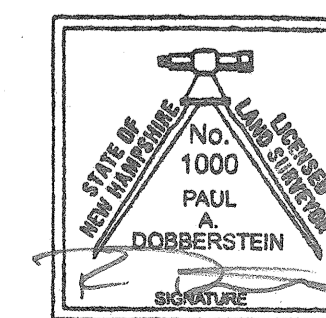
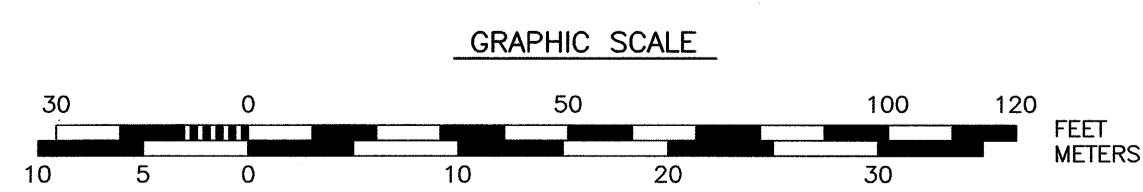
**LENGTH TABLE**

LINE	BEARING	DISTANCE
L5	S46°57'07"E	20.00'

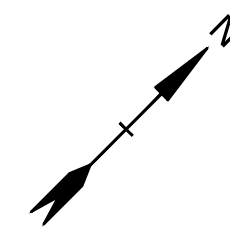


APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



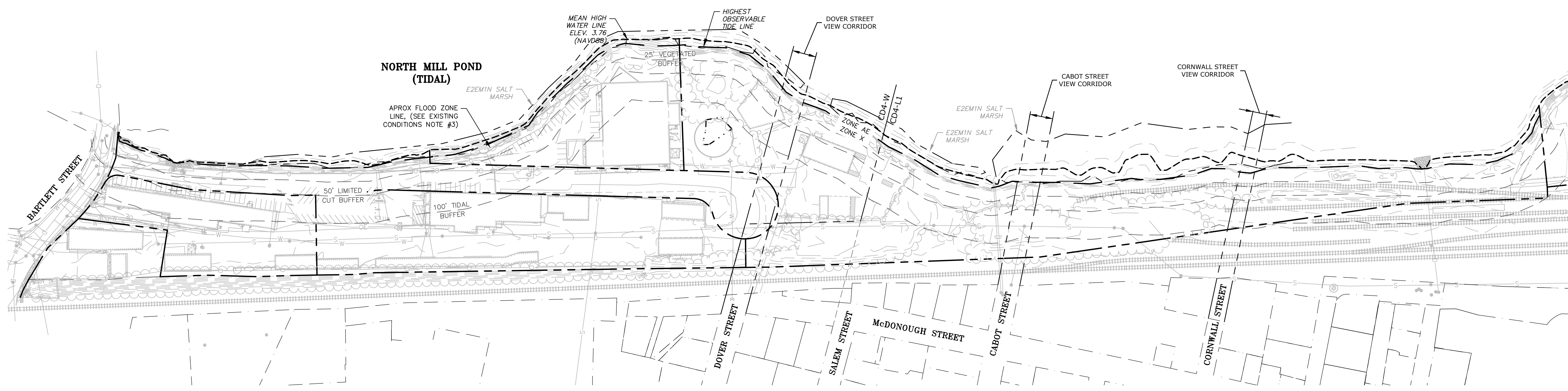
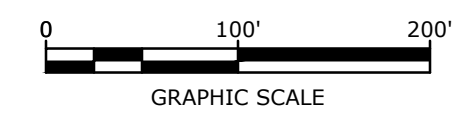
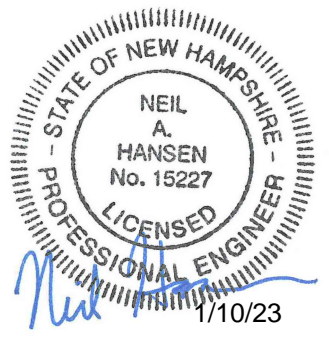
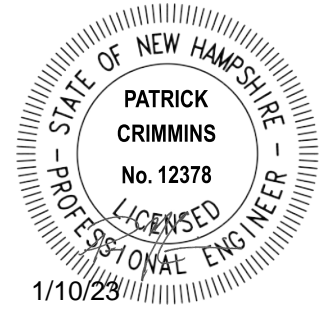
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 PAUL A DOBBERSTEIN, LLS  
 DATE 1/20/2021



**LEGEND**

- BUILDING
- BUILDING OVERHANG
- BUILDING HATCH/TEXT
- CURB
- EDGE OF PAVEMENT
- RETAINING WALL
- STONE WALL
- CHAIN LINK FENCE
- FENCE LINE
- TREELINE
- PAVEMENT MARKING
- TRAFFIC SIGN
- MAJOR CONTOURS
- MINOR CONTOURS
- STORM DRAIN LINE
- SANITARY SEWER LINE
- WATER LINE
- UNDERGROUND ELECTRIC LINE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND GAS LINE
- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- HYDRANT
- WATER GATE VALVE
- UTILITY POLE
- TELEPHONE STRUCTURE
- GAS GATE VALVE
- BOLLARD
- GAS SHUTOFF
- WATER SHUTOFF

- EXISTING CONDITIONS PLAN NOTES:**
1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY AMBIT ENGINEERING, INC., DATED 3/5/2018.
  2. HIGHEST OBSERVABLE TIDE LINE (HOTL) DELINEATION ORIGINALLY PREFORMED BY STEVEN D. RIKER, CWS, ON 8/8/2017, AND FIELD LOCATED BY AMBIT ENGINEERING, INC. ON 8/9/2017. ON OCTOBER 29 AND DECEMBER 2, 2019, LEONARD LORD, PHD, CSS, CWS OF TIGHE & BOND REVIEWED AND ASSESSED 2,000+/- LINEAR FEET OF TIDAL WETLANDS AND BUFFERS ALONG THE NORTH MILL POND. THE WETLAND DELINEATION REVIEW WAS BASED ON CRITERIA SPECIFIED IN THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JANUARY 1987), AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION (JANUARY 2012). THE HIGHEST OBSERVABLE TIDE LINE WAS REVIEWED BASED ON THE DEFINITION FOUND IN NH DEPARTMENT OF ENVIRONMENTAL SERVICES WETLAND RULES, ENV-WT 101.49/ENV-WT 602.23. THE HOTL WAS DEEMED ACCURATE AND THE PREVIOUS 2017 DELINEATION WAS ACCEPTED BY TIGHE & BOND. WETLANDS WERE CLASSIFIED BASED ON CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES (COWARDIN ET AL., 1979).
  3. FLOOD HAZARD ZONES: "AE ELEV. 9" (SPECIAL FLOOD HAZARD AREA) AND "X" (NOT A SPECIAL FLOOD HAZARD AREA), PER FIRM MAP #33015C0259E, DATED 5/17/05.



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

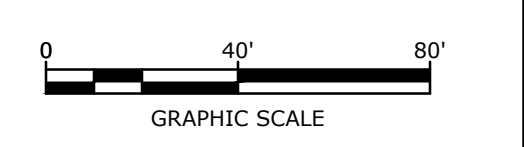
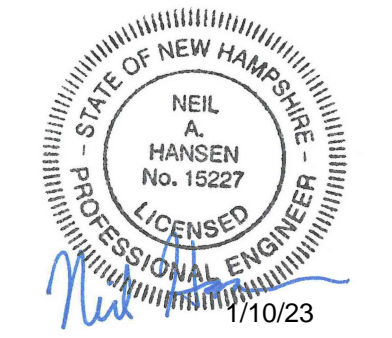
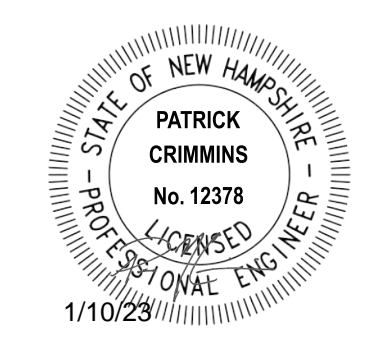
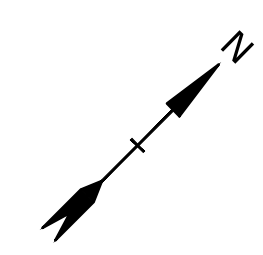
MARK	DATE	DESCRIPTION
K	12/28/2022	NHDES Wetland & Shoreland Submission
J	9/15/2021	Revised AoT Submission
I	3/10/2021	PB Submission
H	1/20/2021	TAC Resubmission
G	11/18/2020	TAC Resubmission
F	10/28/2020	Wetland CUP Resubmission
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

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

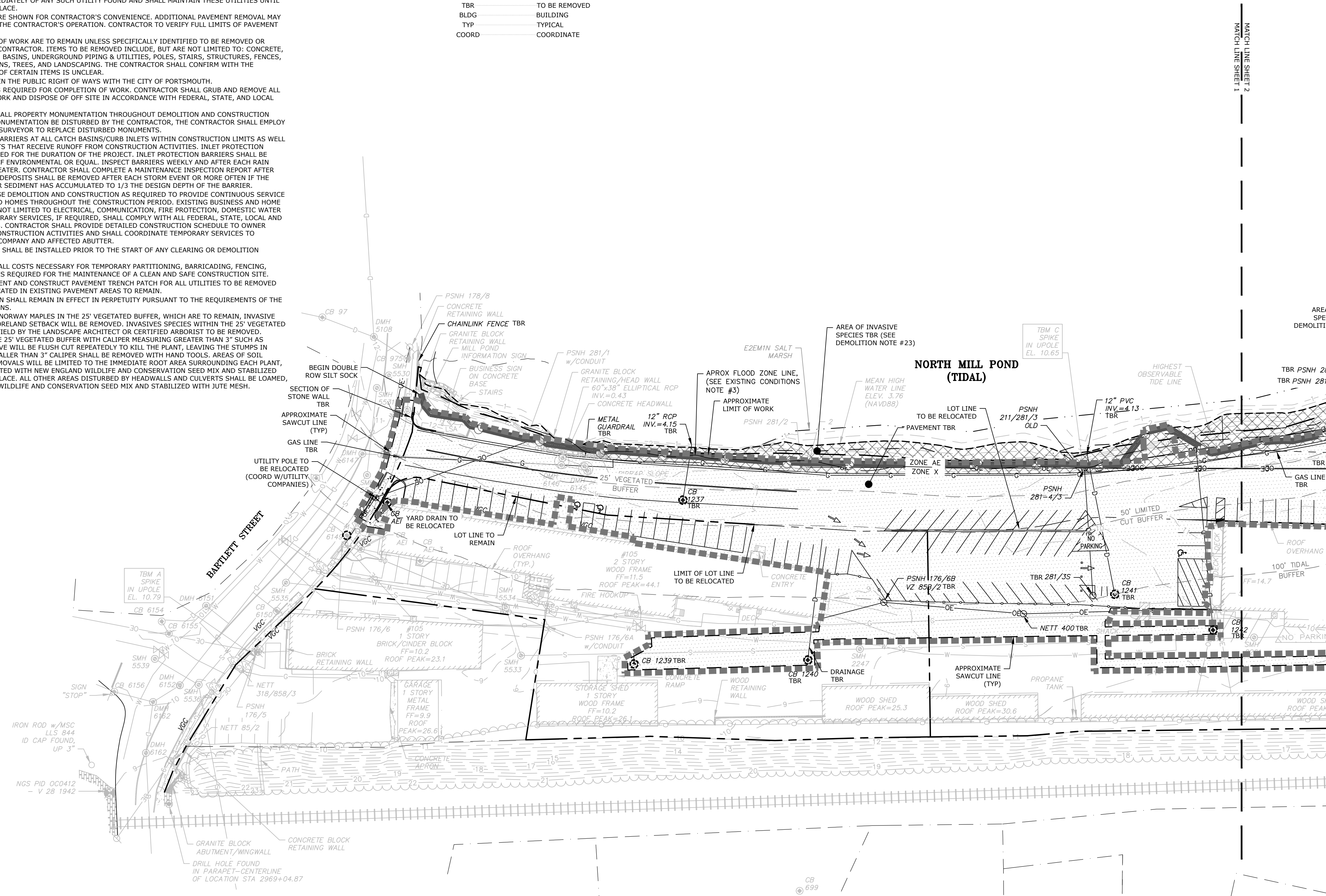
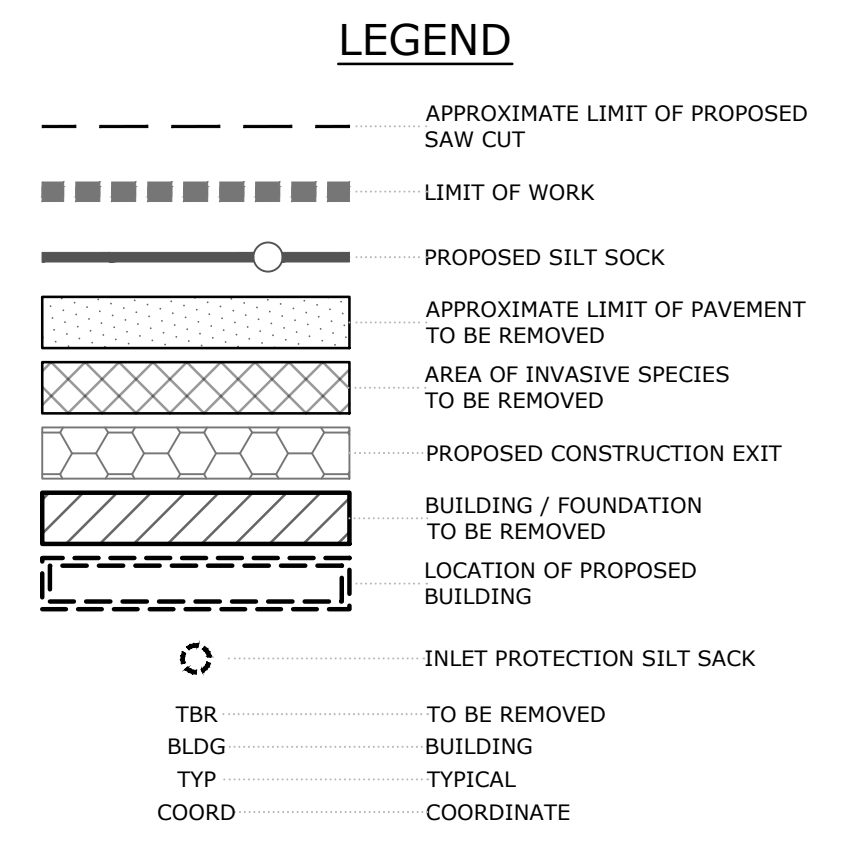
**OVERALL EXISTING CONDITIONS PLAN**

SCALE: AS SHOWN

Last Saved: 12/23/2022 11:23am By: Ckrzouk  
 Plotted On: Dec 28, 2022 11:23am By: Ckrzouk  
 Tighe & Bond: C:\Users\krzouk\OneDrive\Documents\CAD\Drawings - Figures\AutoCAD\Sheet\C-0960-006\_C-SITE.dwg



- DEMOLITION NOTES:**
1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
  2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
  3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
  4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
  5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
  6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
  7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
  8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
  10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
  11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
  12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
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  14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
  15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
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**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

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

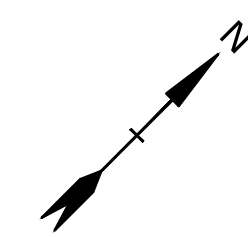
**EXISTING CONDITIONS AND DEMOLITION PLAN**

SCALE: AS SHOWN

C-101.1

Last Saved: 12/23/2022 11:23am By: Ckrzouk  
 Plotted On: Dec 28, 2022 11:23am  
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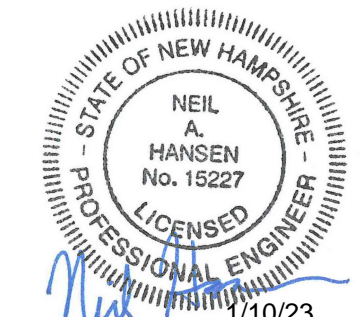
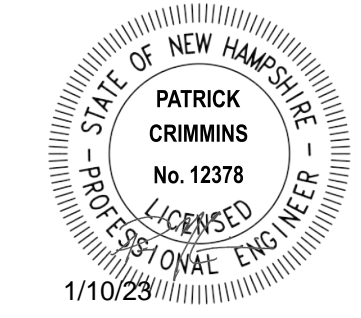


**LEGEND**

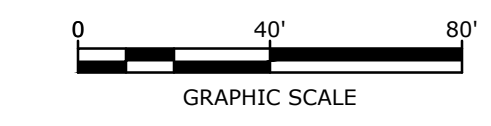
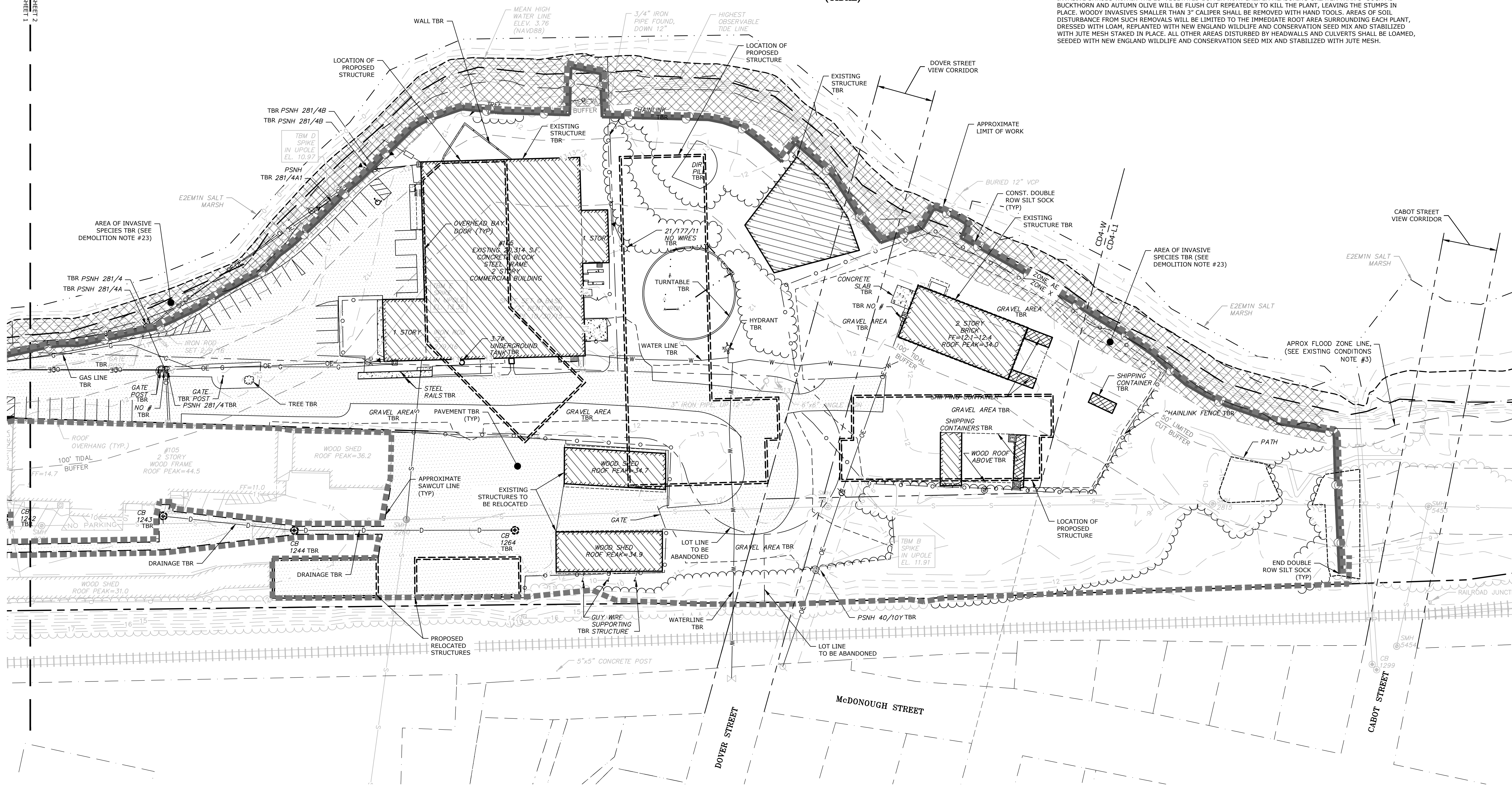
- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- PROPOSED SILT SOCK
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- AREA OF INVASIVE SPECIES TO BE REMOVED
- PROPOSED CONSTRUCTION EXIT
- BUILDING / FOUNDATION TO BE REMOVED
- LOCATION OF PROPOSED BUILDING
- INLET PROTECTION SILT SACK
- TBR TO BE REMOVED
- BLDG BUILDING
- TYP TYPICAL
- COORD COORDINATE

- DEMOLITION NOTES:**
- 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.
  - 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.
  - 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.
  - COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
  - 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.
  - 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 ADJUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
  - THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
  - 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.
  - UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
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**NORTH MILL POND (TIDAL)**



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

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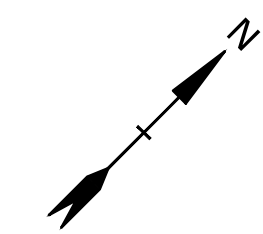
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	CJK
CHECKED:	NAH
APPROVED:	PMC

**EXISTING CONDITIONS AND DEMOLITION PLAN**

SCALE: AS SHOWN

**C-101.2**

Last Saved: 12/23/2022 11:23am By: Ckrzouk  
 Plotted On: Dec 28, 2022 11:23am  
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**SITE DATA:**  
 PROJECT LOCATION: TAX MAP 157, LOT 1  
 TAX MAP 157, LOT 2  
 TAX MAP 164, LOT 1  
 TAX MAP 164, LOT 4-2

SITE ZONING DISTRICT: 105 BARTLETT STREET  
 PORTSMOUTH, NEW HAMPSHIRE  
 CHARACTER DISTRICT 4 (CD4-W)  
 CHARACTER DISTRICT 4 (CD4-L1)  
 WEST END INCENTIVE OVERLAY DISTRICT

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

PROPOSED GROUND FLOOR USES:  
 BUILDING A & B: RESIDENTIAL  
 BUILDING C: RESIDENTIAL & AMENITY SPACE

**DEVELOPMENT STANDARDS**

BUILDING PLACEMENT (PRINCIPAL BUILDING):	REQUIRED (CD4-W)	PROPOSED (CD4-W)
MAX PRINCIPAL FRONT YARD:	10 FT	0 FT
MINIMUM SIDE YARD:	15 FT <sup>(1)</sup>	<6 FT <sup>(2)</sup>
MINIMUM REAR YARD:	5 FT	214.54 FT
FRONT LOT LINE BUILDOUT:	50% MIN	54%

BUILDING AND LOT OCCUPATION:	REQUIRED (CD4-W)	PROPOSED (CD4-W)
MAXIMUM BUILDING BLOCK LENGTH:	200 FT	185 FT
MAXIMUM FAÇADE MODULATION LENGTH:	80 FT	<80 FT
MAXIMUM ENTRANCE SPACING:	50 FT	<50 FT
MAXIMUM BUILDING COVERAGE:	80% <sup>(3)</sup>	±20.9%
MAXIMUM BUILDING FOOTPRINT:	20,000 SF <sup>(4)</sup>	19,214 SF
MINIMUM LOT AREA:	5,000 SF	205,804 SF
MINIMUM LOT AREA PER DWELLING UNIT:	NR <sup>(5)</sup>	58.1%
MINIMUM OPEN SPACE:	15%	14,300 SF
MAXIMUM GROUND FLOOR GFA PER USE:	15,000 SF	14,300 SF

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

**BUILDING FORM (PRINCIPAL BUILDING):**

BUILDING HEIGHT:	REQUIRED (CD4-W)	PROPOSED (CD4-W)
BUILDING HEIGHT:	4 STORIES <sup>(1)</sup>	4 STORIES, 49'-2"
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 IN	<36 IN
MINIMUM GROUND STORY HEIGHT:	9 FT <sup>(3)</sup>	12 FT
MINIMUM SECOND STORY HEIGHT:	N/A	
FAÇADE GLAZING:		
SHOPFRONT FAÇADE:	70% MIN	>70%
OTHER FAÇADE TYPES:	20% TO 50%	
ALLOWED ROOF TYPES:	FLAT, GABLE, HIP, GAMBREL, OR MANSARD	FLAT
ROOF PITCH, IF ANY:		
GABLE:	6:12 - 12:12	
HIP:	3:12 MIN	
MANSARD/GAMBREL:	6:12 - 30:12	
ALLOWED BUILDING TYPES:	APARTMENT BUILDING	APARTMENT BUILDING

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

**COMMUNITY SPACE:**

44,154 SF	47,703 SF
20%	23%

**ZONING VARIANCES:**

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

**OFF-STREET PARKING REQUIREMENTS:**

**PARKING SPACES REQUIRED:**

DWELLING UNITS:	BUILDING A, 16 UNITS	16 SPACES
500 SF TO 750 SF 1.0 SPACES PER UNIT	BUILDING B, 31 UNITS	31 SPACES
	BUILDING C, 17 UNITS	17 SPACES
<b>TOTAL MINIMUM PARKING SPACES REQUIRED =</b>		<b>64 SPACES</b>

OVER 750 SF 1.3 SPACES PER UNIT	BUILDING A, 20 UNITS	26.0 SPACES
	BUILDING B, 39 UNITS	50.7 SPACES
	BUILDING C, 29 UNITS	37.7 SPACES
<b>TOTAL MINIMUM PARKING SPACES REQUIRED =</b>		<b>114.4 SPACES</b>

**VISITORS:**

1 SPACE FOR EVERY 5 DWELLING UNITS	152 UNITS	31 SPACES
<b>TOTAL MINIMUM PARKING SPACES REQUIRED =</b>		<b>210 SPACES</b>

**TOTAL PARKING SPACES PROVIDED:**

TOTAL PARKING SPACES PROVIDED = 95 SPACES (SURFACE PARKING)  
 53 SPACES (BUILDING A, UNDERGROUND)  
 42 SPACES (BUILDING B, UNDERGROUND)  
 20 SPACES (PRIVATE ROADWAY)<sup>(1)</sup>  
 210 SPACES

ADA SPACES REQUIRED = 9 SPACES  
 ADA SPACES PROVIDED = 9 SPACES (4 SPACES INCLUDED IN SURFACE PARKING COUNT OF 95, 4 SPACES INCLUDED IN BASEMENT PARKING COUNT OF 95, 1 SPACE INCLUDED IN PRIVATE ROADWAY COUNT OF 20)

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

**PARKING STALL LAYOUT:**

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

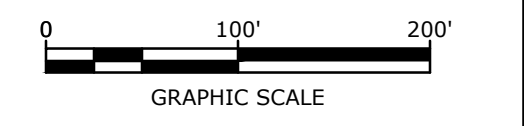
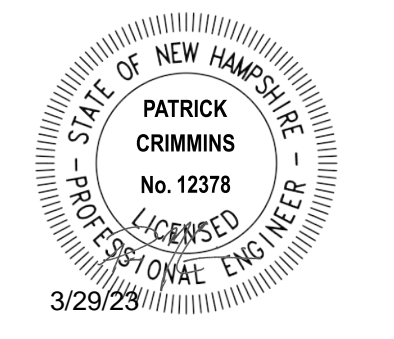
**BIKE SPACES REQUIRED:**

1 BIKE SPACE / 5 DWELLING UNITS, MAXIMUM OF 30 SPACES	30 SPACES	30 SPACES*
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\*INDOOR BIKE STORAGE WILL BE PROVIDED THAT MEETS OR EXCEEDS THE REQUIREMENT.

**LEGEND**

	PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED POROUS PAVEMENT SECTION
	PROPOSED CONCRETE SIDEWALK
	PROPOSED BOLLARD
	BUILDING TYP
	COORD
	30'R
	VGC
	SGC
	MVGC



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 Portsmouth,  
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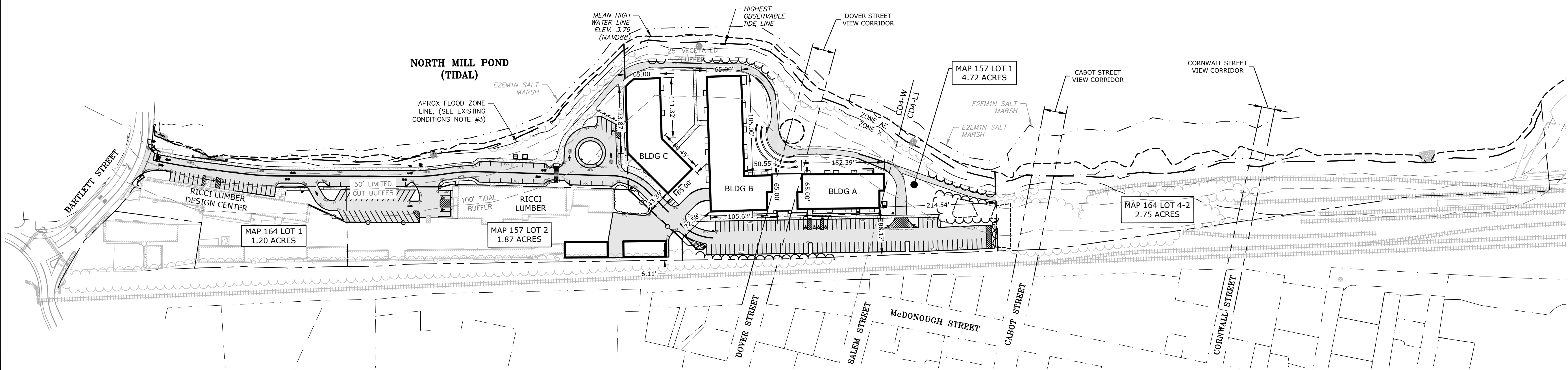
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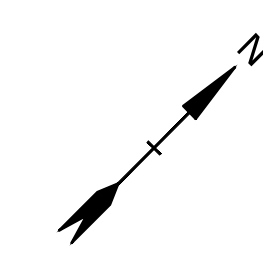
OVERALL SITE PLAN

SCALE: AS SHOWN

C-102

Last Saved: 3/29/2023  
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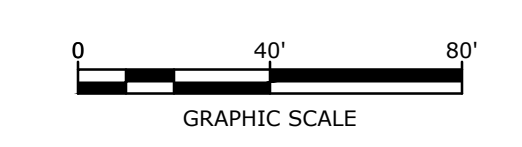
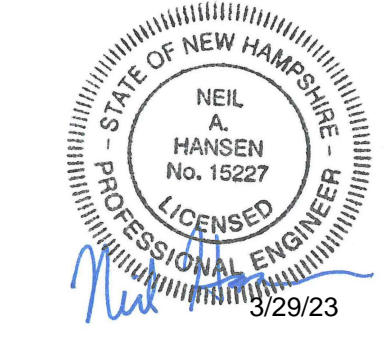
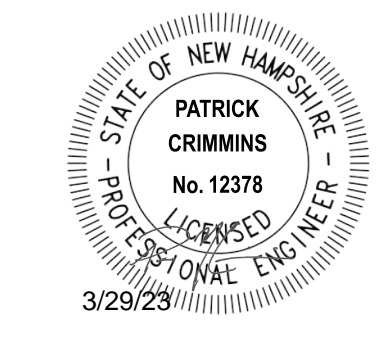
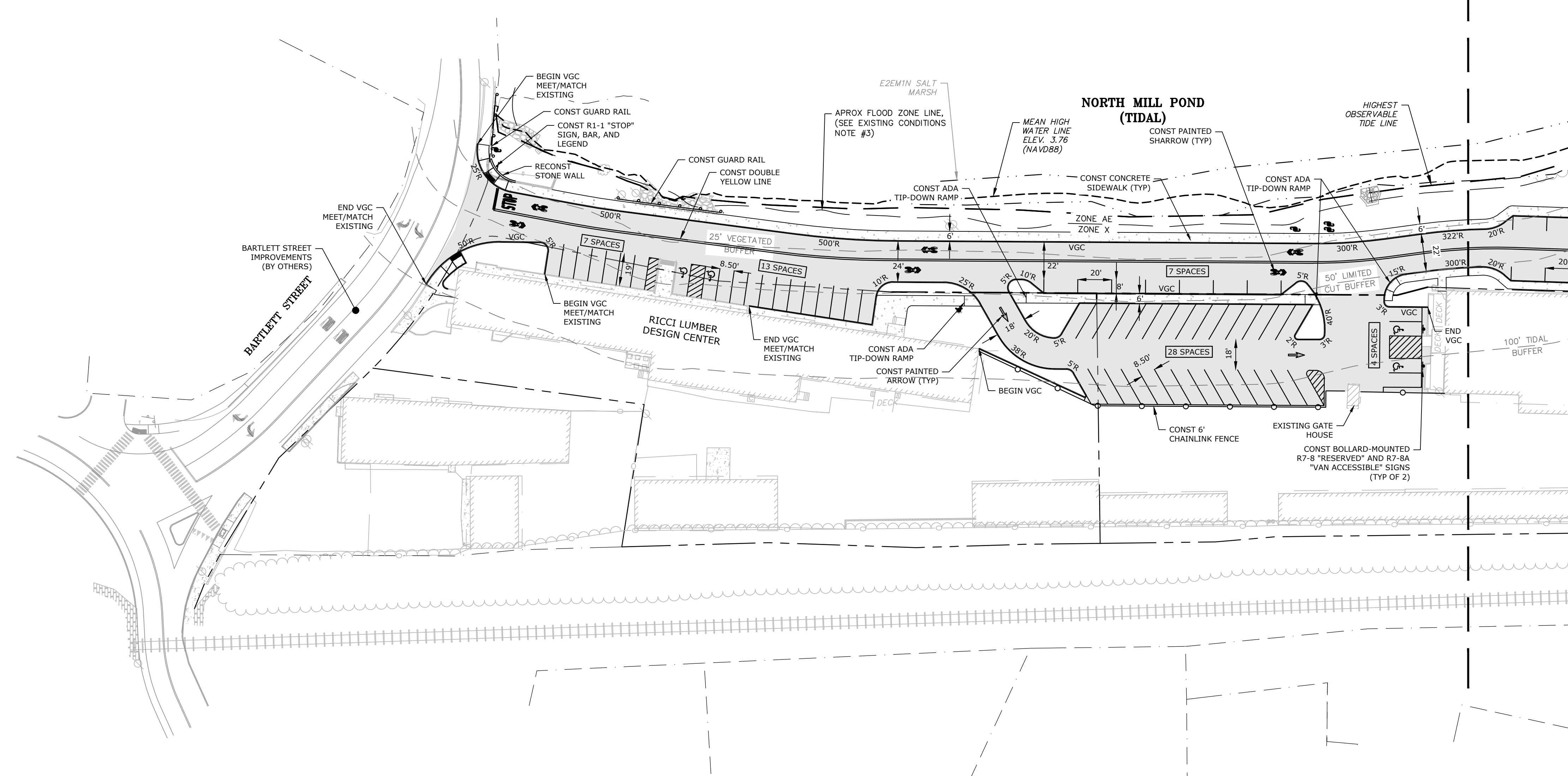




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  7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
  8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
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**LEGEND**

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



### Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

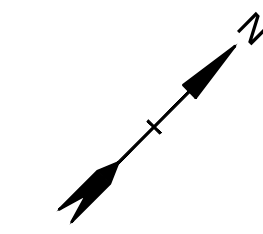
MARK	DATE	DESCRIPTION
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E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission

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

#### SITE PLAN

SCALE: AS SHOWN

C-102.1

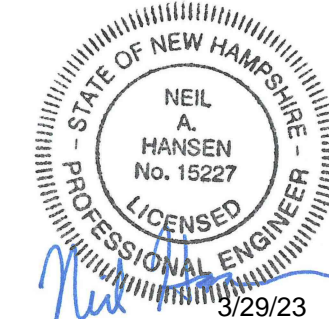
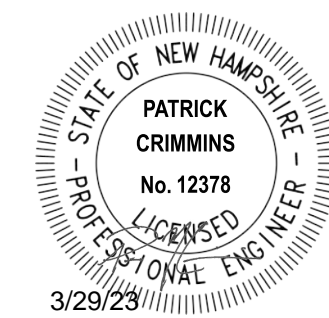


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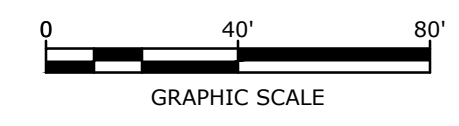
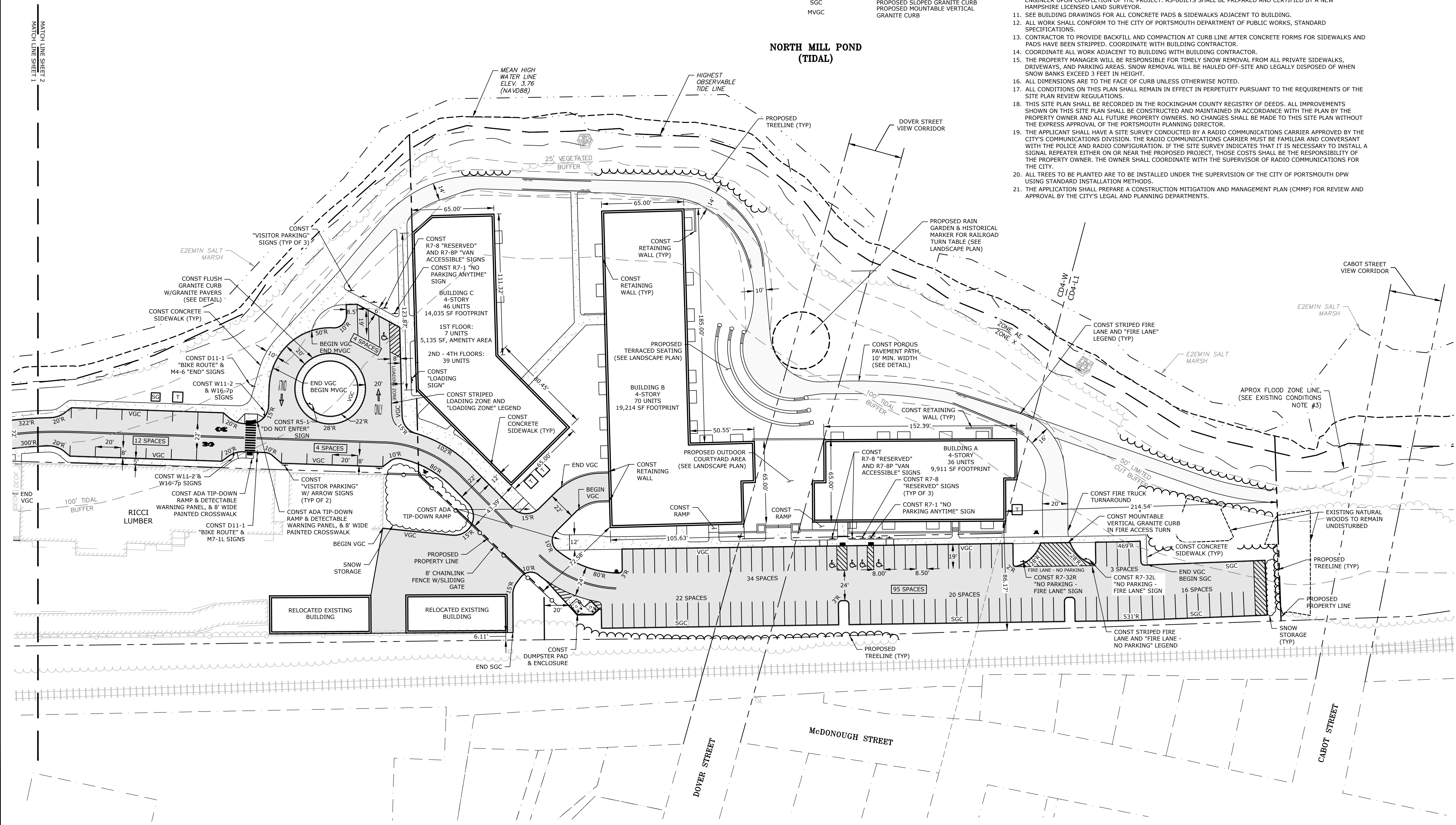
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- ==== PROPOSED EDGE OF PAVEMENT
- ===== PROPOSED CURB
- [ ] PROPOSED BUILDING
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- TYP
- COORD
- 30'R
- VGC
- SGC
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- BUILDING
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NORTH MILL POND (TIDAL)



Proposed Multi-Family Development

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

MARK	DATE	DESCRIPTION
L	3/29/2023	NHDES Wetland & Shoreland Resubmission
K	1/10/2023	NHDES Wetland & Shoreland Submission
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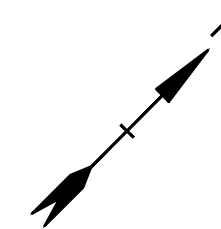
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	CHK
CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102.2

Last Saved: 3/29/2023  
 Plotted On: Mar 29, 2023 9:51am By: Ckzouik  
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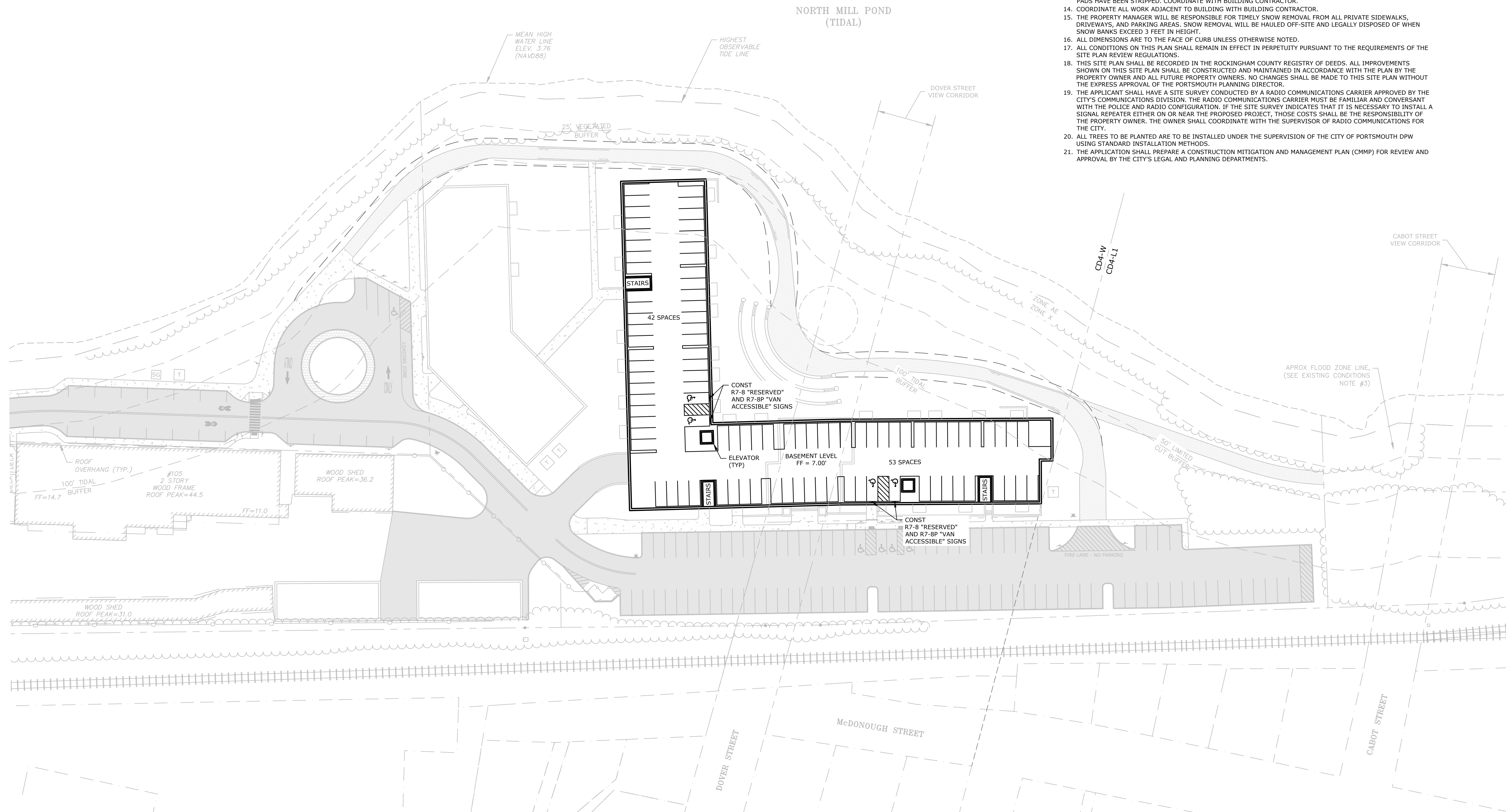
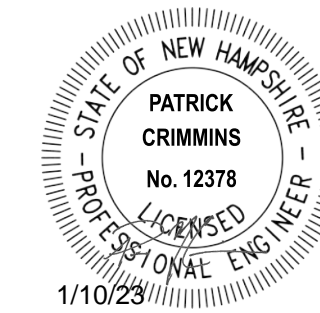


LEGEND

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Proposed Multi-Family Development

Iron Horse Properties, LLC

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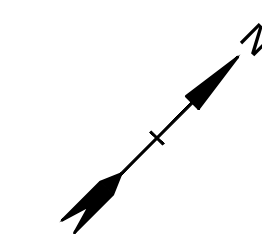
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D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission
MARK	DATE	DESCRIPTION

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

BASEMENT LEVEL SITE PLAN

SCALE: AS SHOWN

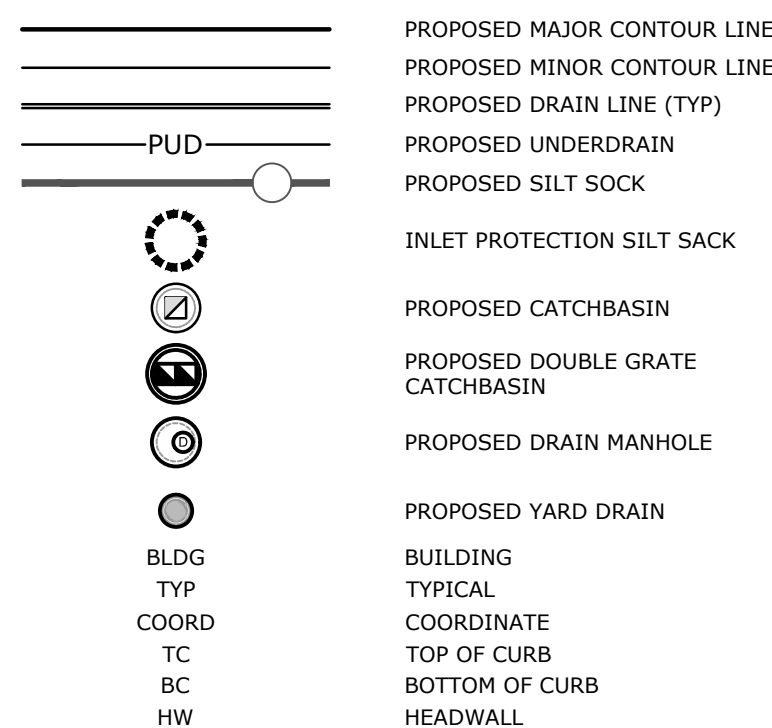
C-102.3



**GRADING AND DRAINAGE NOTES:**

- 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.
- ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
- SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
- 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.
- CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
- ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
- ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
- 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.
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- SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
- AREAS DISTURBED WITHIN THE 25' VEGETATED BUFFER BY HEADWALLS AND CULVERT CONSTRUCTION SHALL BE LOAMED, SEEDED WITH NEW ENGLAND WILDLIFE AND CONSERVATION SEED MIX AND STABILIZED WITH JUTE MESH.

**LEGEND**

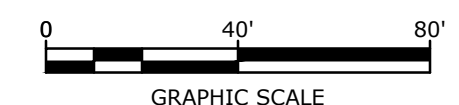
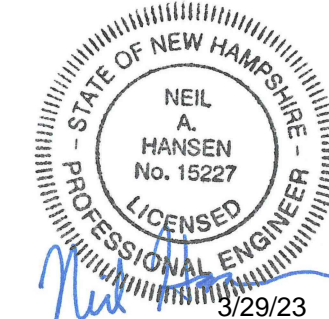
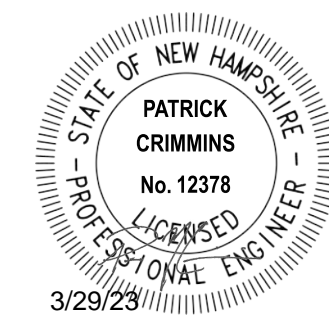
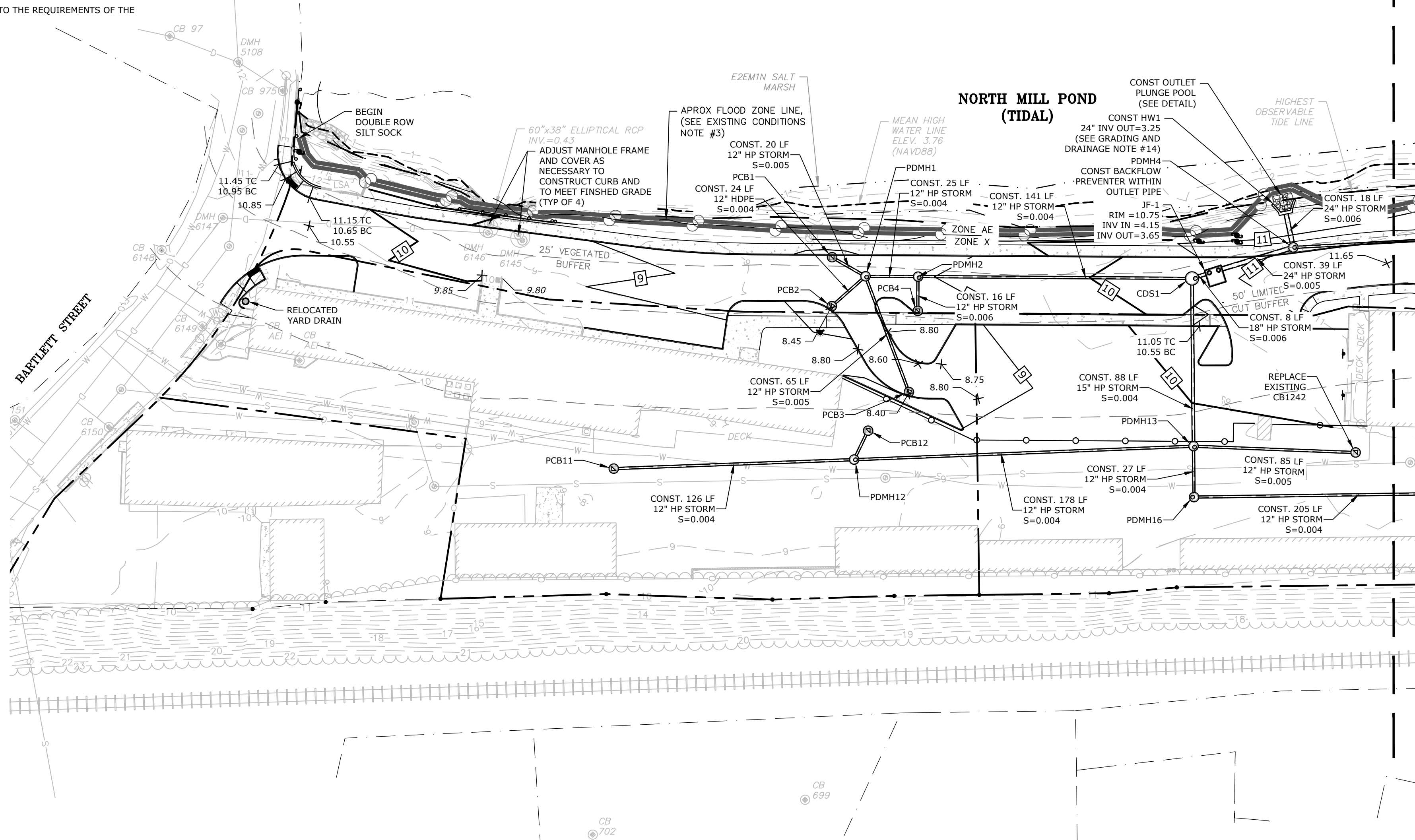


**DRAINAGE STRUCTURE TABLE**

CB1242 RIM=9.30 INV.OUT=5.80 SW	CDS3 RIM=13.75 INV.IN=4.50 SE INV.OUT=4.50 NW	PCB6 RIM=9.80 INV.OUT=6.30 SW	PCB12 RIM=8.60 INV.OUT=5.45 S	PDMH8 RIM=11.35 INV.IN=6.25 NW INV.IN=6.25 SE INV.IN=6.10 SW INV.OUT=6.00 NE	PDMH15 RIM=13.50 INV.IN=10.50 SW INV.OUT=10.40 NE	POS1 RIM=10.50 INV.OUT=7.15 E
CB1243 RIM=9.55 INV.IN=6.65 NW INV.OUT=6.55 SE	PCB1 RIM=8.50 INV.OUT=5.30 E	PCB7 RIM=10.00 INV.OUT=7.00 NE	PDMH1 RIM=8.75 INV.IN=5.20 W INV.IN=5.20 S INV.IN=5.20 SE INV.OUT=5.10 NE	PDMH9 RIM=14.05 INV.IN=4.60 SE INV.OUT=4.60 NW	PDMH16 RIM=9.70 INV.IN=5.60 NE INV.OUT=5.50 NW	PYD1 RIM=12.50 INV.OUT=7.70 N
CB1244 RIM=10.00 INV.OUT=6.85 SW	PCB2 RIM=8.45 INV.OUT=5.30 N	PCB8 RIM=10.75 INV.OUT=7.50 NW	PDMH2 RIM=8.90 INV.IN=5.00 SW INV.IN=5.00 SE INV.IN=4.90 NE	PDMH10 RIM=13.35 INV.IN=6.10 E INV.IN=5.00 W INV.IN=3.80 SE INV.OUT=3.70 N	PDMH17 RIM=15.50 INV.IN=10.10 SW INV.IN=11.50 NE INV.OUT=10.00 NW	PYD2 RIM=12.30 INV.IN=7.50 S INV.OUT=7.40 NE
CB1264 RIM=9.50 INV.OUT=6.50 NE	PCB3 RIM=8.40 INV.OUT=5.50 NW	PCB9 RIM=12.65 INV.OUT=8.65 NW	PDMH4 RIM=11.70 INV.IN=3.45 SW INV.IN=4.30 NE INV.OUT=3.35 NW	PDMH11 RIM=8.75 INV.IN=5.35 SW INV.IN=5.35 N INV.OUT=5.35 NE	PDMH18 RIM=16.30 INV.IN=9.00 SE INV.IN=6.00 SW INV.OUT=5.80 NW	PYD3 RIM=11.00 INV.IN=7.10 SW INV.IN=8.00 NW INV.OUT=7.00 NE
CDS1 RIM=10.65 INV.IN=4.30 SE INV.IN=4.30 SW INV.OUT=4.20 NE	PCB4 RIM=8.55 INV.OUT=5.10 NW	PCB10 RIM=12.15 INV.OUT=8.60 NW	PCB11 RIM=8.60 INV.OUT=5.80 NE	PDMH5 RIM=11.30 INV.IN=5.05 NE INV.OUT=4.95 SW	PDMH12 RIM=8.75 INV.IN=5.40 SE INV.IN=5.40 NE INV.IN=4.70 SW INV.OUT=4.65 NW	PYD4 RIM=13.00 INV.IN=8.00 SW INV.OUT=10.70 SE
CDS2 RIM=9.85 INV.IN=6.00 NE INV.IN=6.00 SE INV.OUT=5.90 SW	PCB5 RIM=9.60 INV.OUT=6.10 NW	PCB11 RIM=8.60 INV.OUT=5.80 NE	PDMH7 RIM=11.95 INV.IN=6.60 NW INV.IN=6.60 SW INV.IN=6.60 W INV.OUT=6.50 SE	PDMH13 RIM=9.60 INV.IN=5.40 SE INV.IN=5.40 NE INV.IN=4.70 SW INV.OUT=4.65 NW	PDMH19 RIM=11.80 INV.OUT=8.88 SE	PYD5 RIM=11.50 INV.IN=7.00 W INV.IN=7.15 S INV.OUT=7.05 E
			PDMH14 RIM=10.00 INV.IN=6.45 NE INV.IN=6.45 NW INV.OUT=6.35 SW			

**EROSION CONTROL NOTES:**

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



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

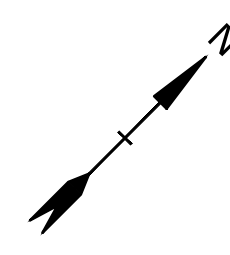
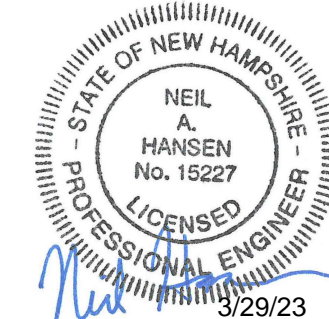
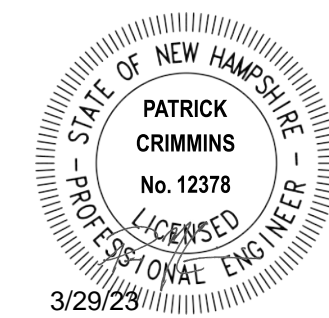
L	3/29/2023	NHDES Wetland & Shoreland Resubmission
K	1/10/2023	NHDES Wetland & Shoreland Submission
J	9/15/2021	Revised Aot Submission
I	3/10/2021	PB Submission
H	1/20/2021	TAC Resubmission
G	11/18/2020	TAC Resubmission
F	10/28/2020	Wetland CUP Resubmission
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission

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

**GRADING, DRAINAGE, AND EROSION CONTROL PLAN**

SCALE: AS SHOWN

C-103.1



**LEGEND**

- PROPOSED MAJOR CONTOUR LINE
- PROPOSED MINOR CONTOUR LINE
- PROPOSED DRAIN LINE (TYP)
- PROPOSED UNDERDRAIN
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED YARD DRAIN
- BUILDING TYP
- COORD
- TC
- BC
- HW

**DRAINAGE STRUCTURE TABLE**

CB1242 RIM=9.30 INV.OUT=5.80 SW	CDS3 RIM=13.75 INV.IN=4.50 SE INV.OUT=4.50 NW	PCB6 RIM=9.80 INV.OUT=6.30 SW	PCB12 RIM=8.60 INV.OUT=5.45 S	PDMH8 RIM=11.35 INV.IN=6.25 NW INV.IN=6.25 SE INV.IN=6.10 SW INV.OUT=6.00 NE	PDMH15 RIM=13.50 INV.IN=10.50 SW INV.IN=10.50 NW INV.OUT=10.40 NE	POS1 RIM=10.15 INV.OUT=7.15 E
CB1243 RIM=9.55 INV.IN=6.65 NW INV.OUT=6.55 SE	PCB1 RIM=8.50 INV.OUT=5.30 E	PCB7 RIM=10.00 INV.OUT=7.00 NE	PDMH1 RIM=8.75 INV.IN=5.20 W INV.IN=5.20 SE INV.IN=5.20 SE INV.OUT=5.10 NE	PDMH9 RIM=14.05 INV.IN=4.60 SE INV.OUT=4.60 NW	PDMH16 RIM=9.70 INV.IN=5.60 NE INV.OUT=5.50 NW	PYD1 RIM=12.50 INV.OUT=7.70 N
CB1244 RIM=10.00 INV.OUT=6.85 SW	PCB2 RIM=8.45 INV.OUT=5.30 N	PCB8 RIM=10.75 INV.OUT=7.50 NW	PDMH2 RIM=8.90 INV.IN=5.00 SW INV.IN=5.00 SE INV.IN=5.00 W INV.OUT=4.90 NE	PDMH10 RIM=13.35 INV.IN=6.10 E INV.IN=5.00 W INV.IN=3.80 SE INV.OUT=3.70 N	PDMH17 RIM=15.50 INV.IN=10.10 SW INV.IN=11.50 NE INV.IN=5.00 W INV.IN=8.00 NW INV.OUT=7.00 NE	PYD2 RIM=12.30 INV.IN=7.50 S INV.OUT=7.40 NE
CB1264 RIM=9.50 INV.OUT=6.50 NE	PCB3 RIM=8.40 INV.OUT=5.50 NW	PCB9 RIM=12.65 INV.OUT=8.65 NW	PDMH3 RIM=11.70 INV.IN=3.45 SW INV.IN=4.30 NE INV.OUT=3.35 NW	PDMH11 RIM=8.75 INV.IN=5.35 SW INV.IN=5.35 N INV.IN=5.35 NE INV.OUT=5.35 SE	PDMH18 RIM=16.30 INV.IN=9.00 SE INV.IN=6.00 SW INV.OUT=5.80 NW	PYD3 RIM=11.00 INV.IN=7.10 SW INV.IN=8.00 NW INV.OUT=7.00 NE
CDS1 RIM=10.65 INV.IN=4.30 SE INV.IN=4.30 SW INV.OUT=4.20 NE	PCB4 RIM=8.55 INV.OUT=5.10 NW	PCB10 RIM=12.15 INV.OUT=8.60 NW	PDMH4 RIM=11.30 INV.IN=5.05 NE INV.OUT=4.95 SW	PDMH12 RIM=8.75 INV.IN=5.40 SE INV.IN=5.40 NE INV.IN=4.70 SW INV.OUT=4.65 NW	PDMH19 RIM=11.80 INV.IN=7.00 W INV.IN=7.15 S INV.OUT=7.05 E	PYD4 RIM=13.00 INV.OUT=10.70 SE
CDS2 RIM=9.85 INV.IN=6.00 NE INV.IN=6.00 SE INV.OUT=5.90 SW	PCB5 RIM=9.60 INV.OUT=6.10 NW	PCB11 RIM=8.60 INV.OUT=5.80 NE	PDMH5 RIM=11.30 INV.IN=5.40 SE INV.IN=5.40 NE INV.IN=4.70 SW INV.OUT=6.50 SE	PDMH13 RIM=9.60 INV.IN=5.40 SE INV.IN=5.40 NE INV.IN=4.70 SW INV.OUT=6.35 SW	PDMH20 RIM=11.90 INV.OUT=8.88 N	PYD5 RIM=11.50 INV.IN=7.00 W INV.IN=7.15 S INV.OUT=7.05 E

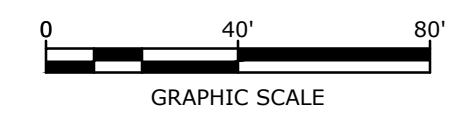
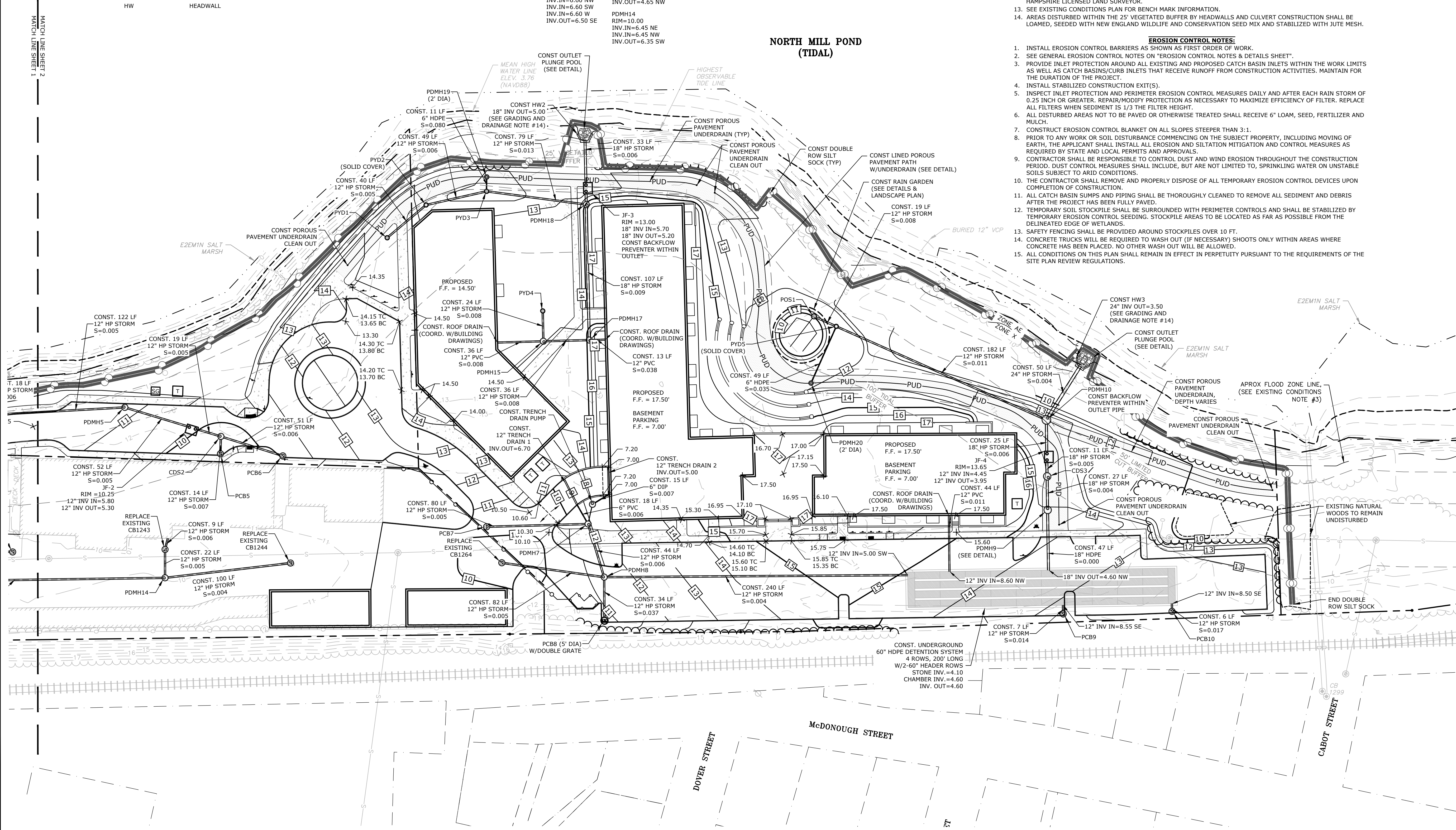
**GRADING AND DRAINAGE NOTES:**

1. COMPACTION REQUIREMENTS:  
BELOW PAVED OR CONCRETE AREAS 95%  
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 90%
2. 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.
3. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
4. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
5. ADJUST ALL MANHOLES, CATCH BASINS, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
6. 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.
7. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
9. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
10. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
11. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4" SUMPS.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
13. 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.
14. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
15. AREAS DISTURBED WITHIN THE 25' VEGETATED BUFFER BY HEADWALLS AND CULVERT CONSTRUCTION SHALL BE LOAMED, SEEDDED WITH NEW ENGLAND WILDLIFE AND CONSERVATION SEED MIX AND STABILIZED WITH JUTE MESH.

**EROSION CONTROL NOTES:**

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

**NORTH MILL POND (TIDAL)**



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

MARK	DATE	DESCRIPTION
L	3/29/2023	NHDES Wetland & Shoreland Resubmission
K	1/10/2023	NHDES Wetland & Shoreland Submission
J	9/15/2021	Revised Aot Submission
I	3/10/2021	PB Submission
H	1/20/2021	TAC Resubmission
G	11/18/2020	TAC Resubmission
F	10/28/2020	Wetland CUP Resubmission
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission

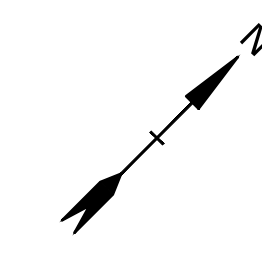
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-SITE.DWG
DRAWN BY:	CHK
CHECKED:	NAH
APPROVED:	PMC

**GRADING, DRAINAGE, AND EROSION CONTROL PLAN**

SCALE: AS SHOWN

C-103.2

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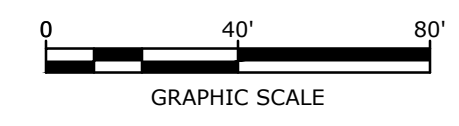
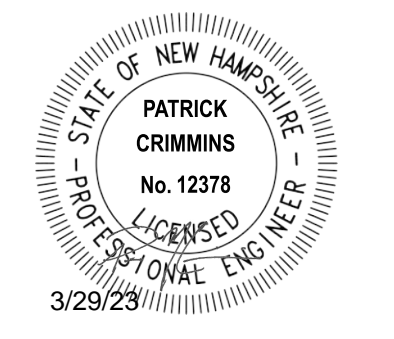
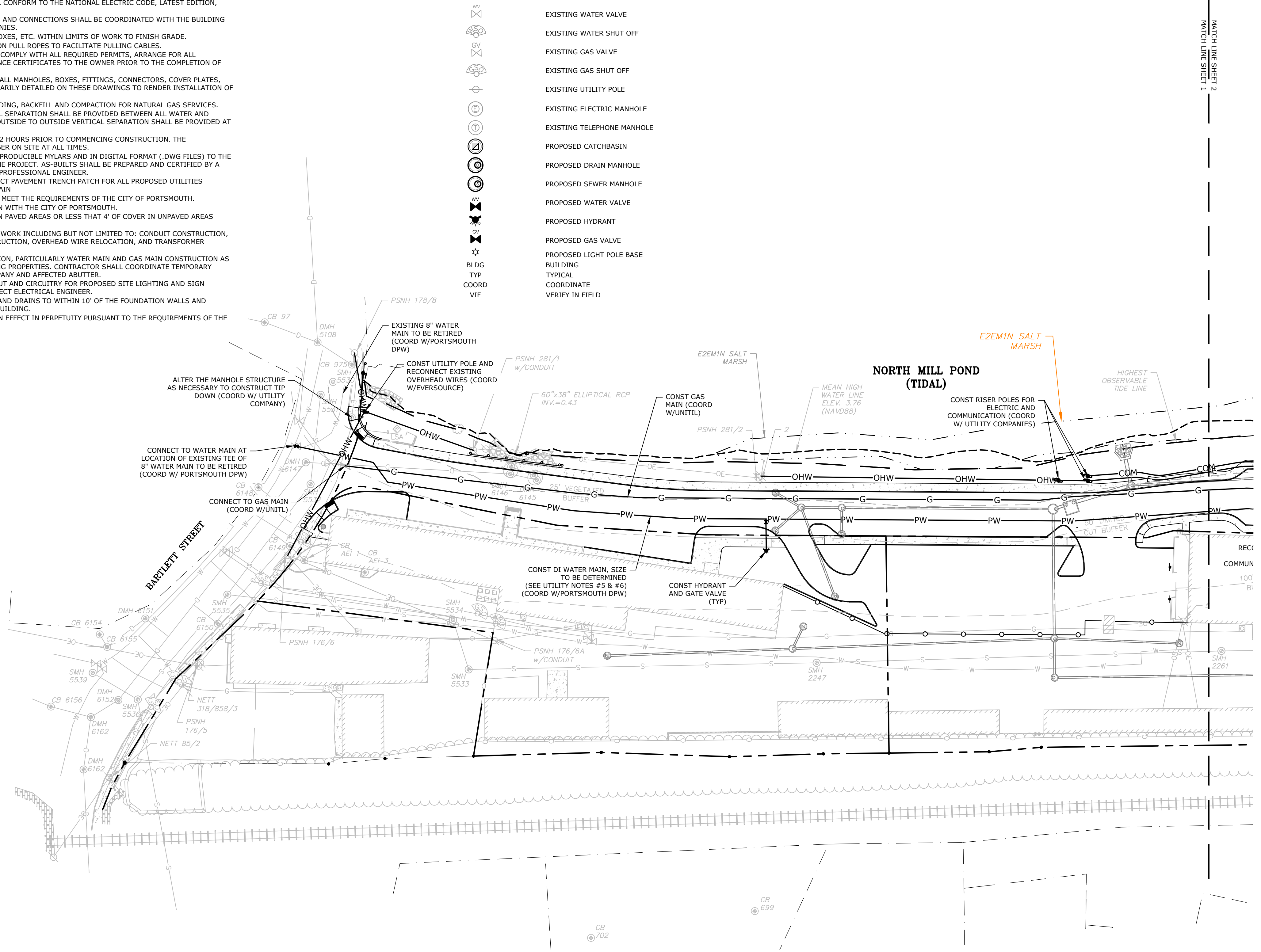


**UTILITY NOTES:**

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

**LEGEND**

- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING GAS
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITY
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED GAS
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELECOMMUNICATION
- EXISTING CATCHBASIN
- EXISTING DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER SHUT OFF
- EXISTING GAS VALVE
- EXISTING GAS SHUT OFF
- EXISTING UTILITY POLE
- EXISTING ELECTRIC MANHOLE
- EXISTING TELEPHONE MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED GAS VALVE
- PROPOSED LIGHT POLE BASE
- BUILDING
- TYPICAL
- COORDINATE
- VERIFY IN FIELD



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

MARK	DATE	DESCRIPTION
L	3/29/2023	NHDES Wetland & Shoreland Resubmission
K	1/10/2023	NHDES Wetland & Shoreland Submission
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F	10/28/2020	Wetland CUP Resubmission
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission

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

UTILITIES PLAN

SCALE: AS SHOWN

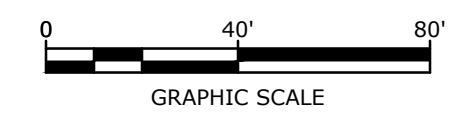
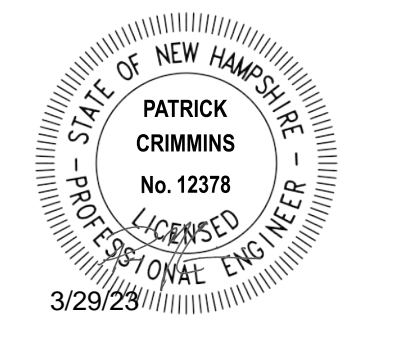
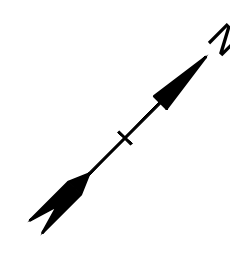
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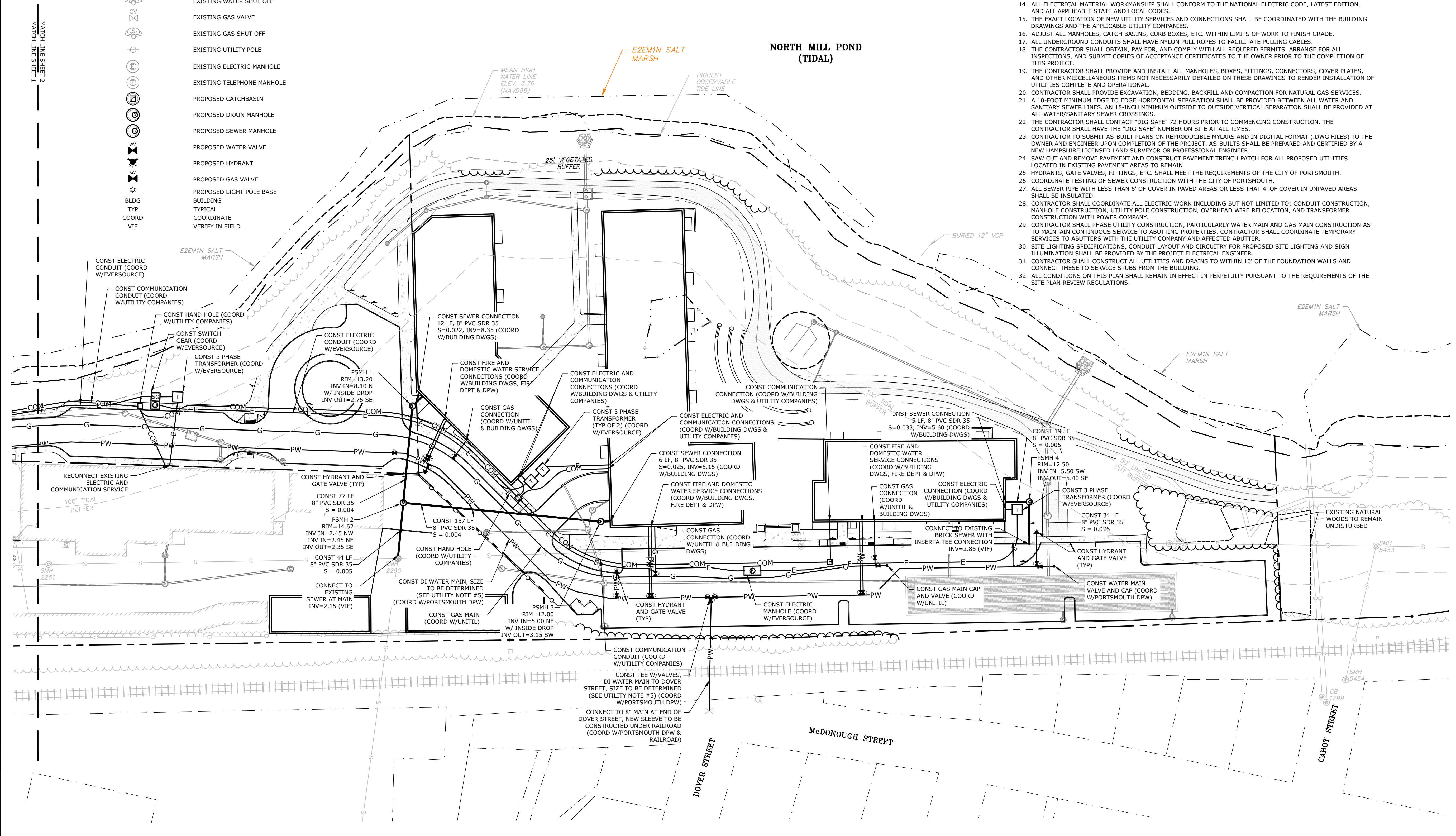
**LEGEND**

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

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



**NORTH MILL POND (TIDAL)**



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

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

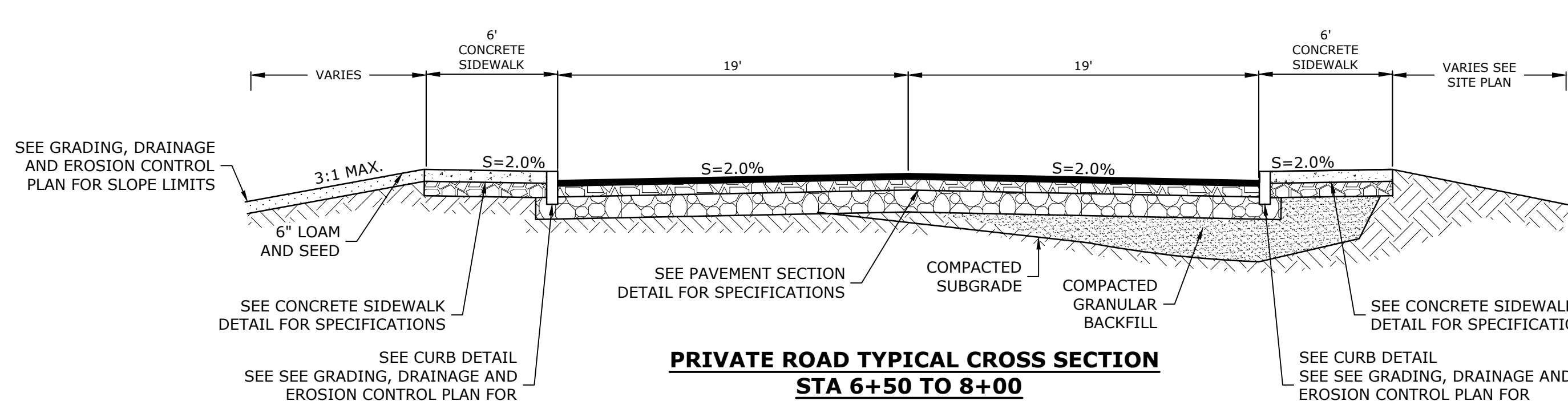
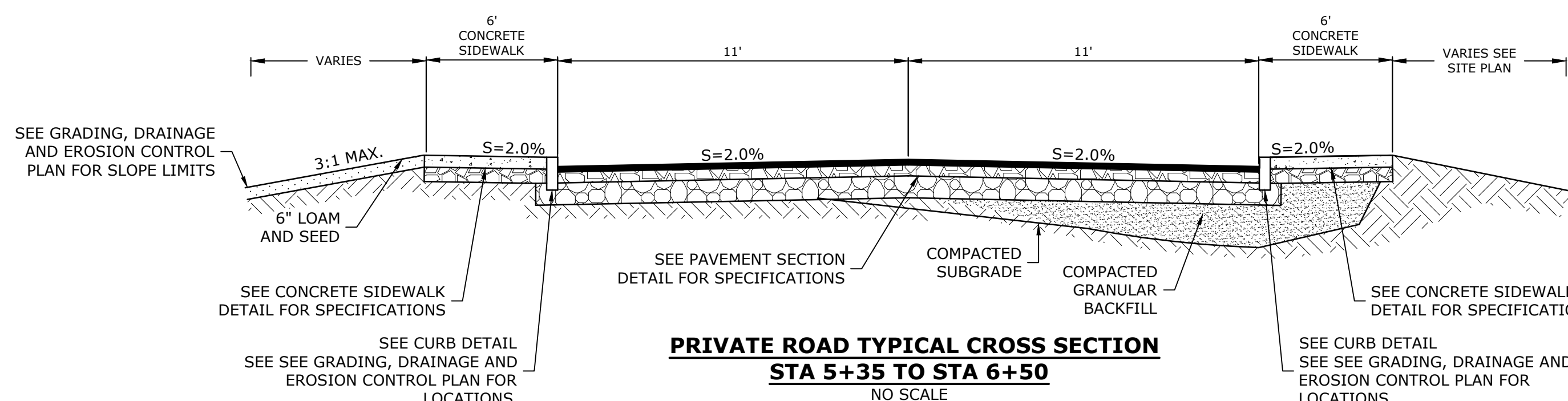
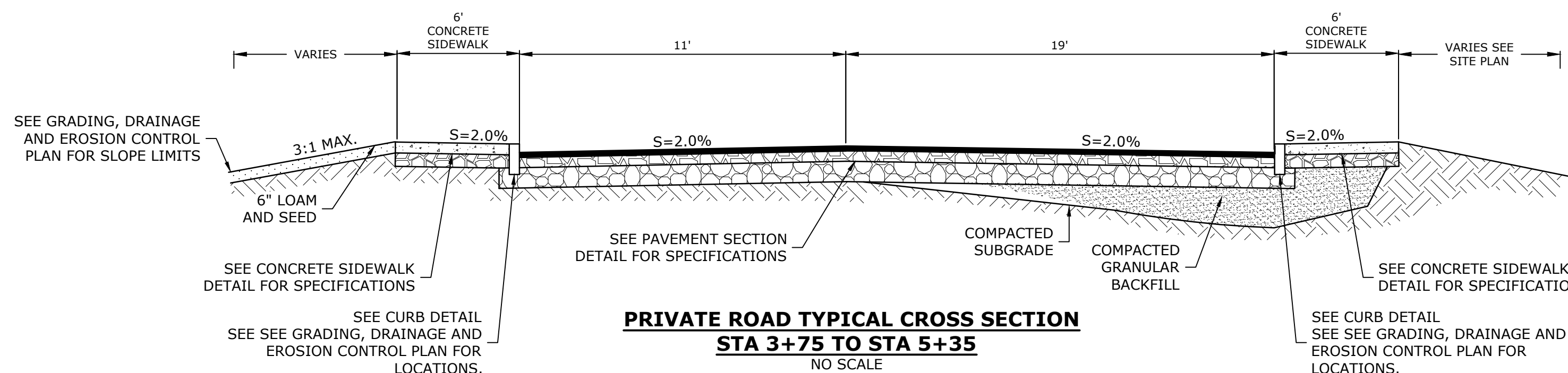
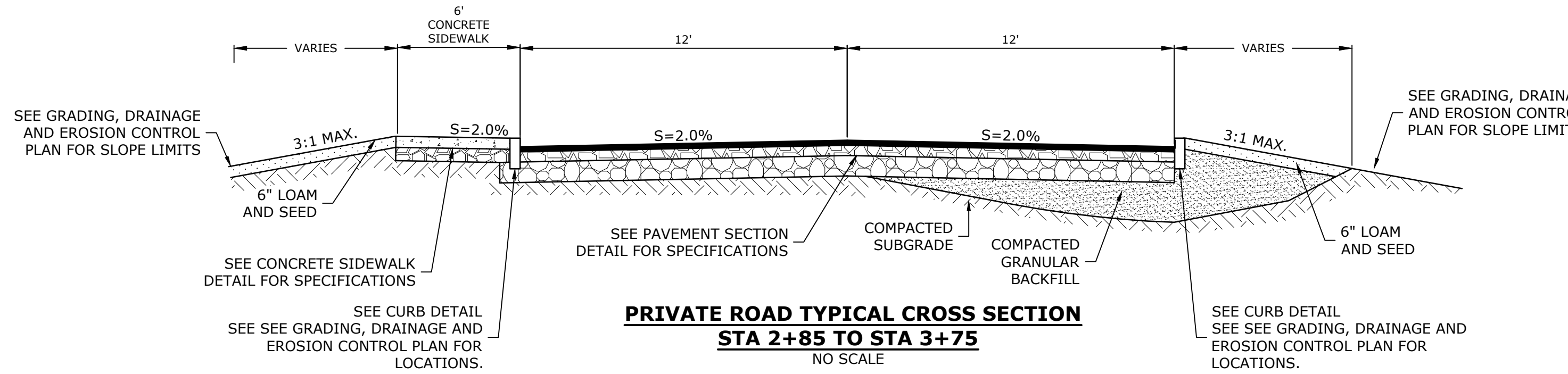
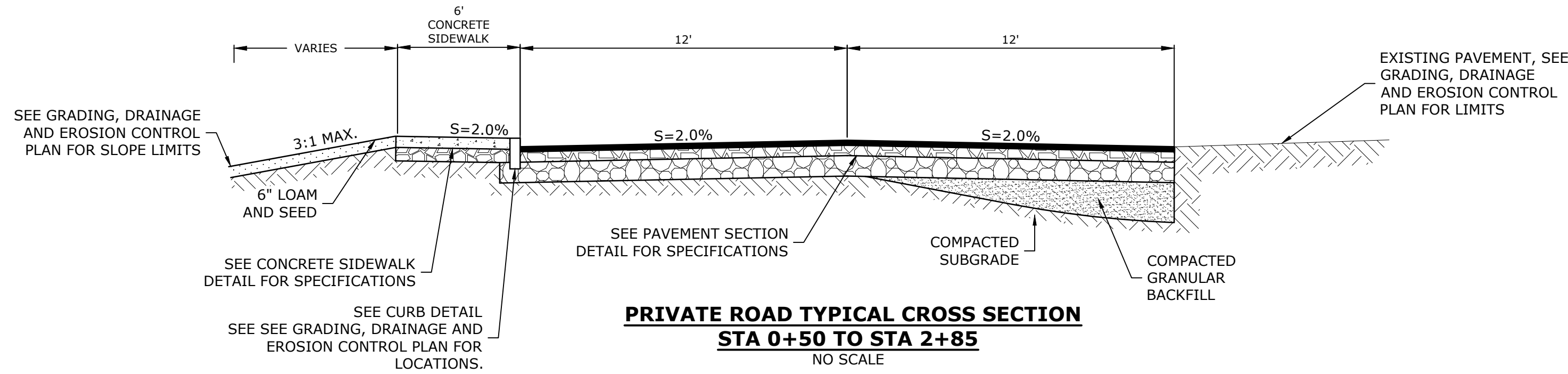
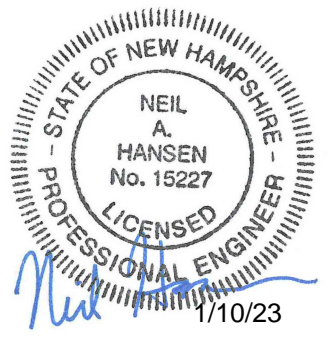
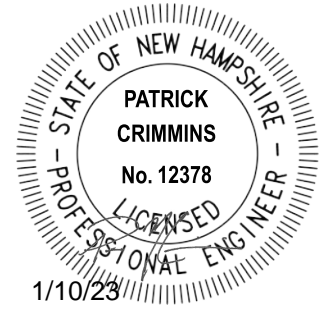
**UTILITIES PLAN**

SCALE: AS SHOWN

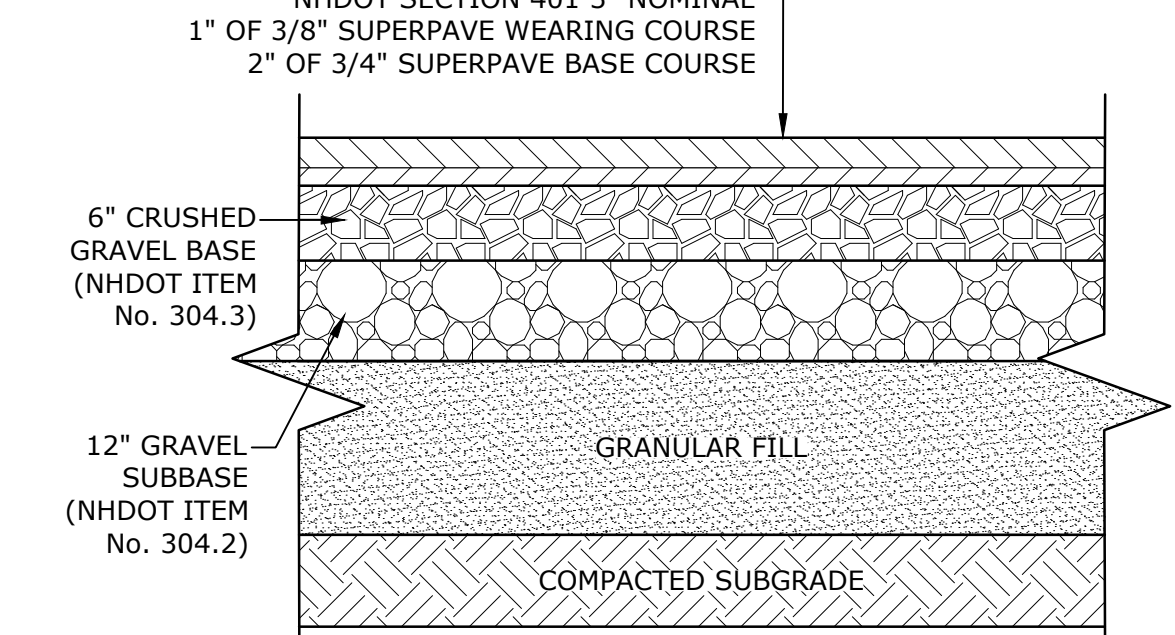
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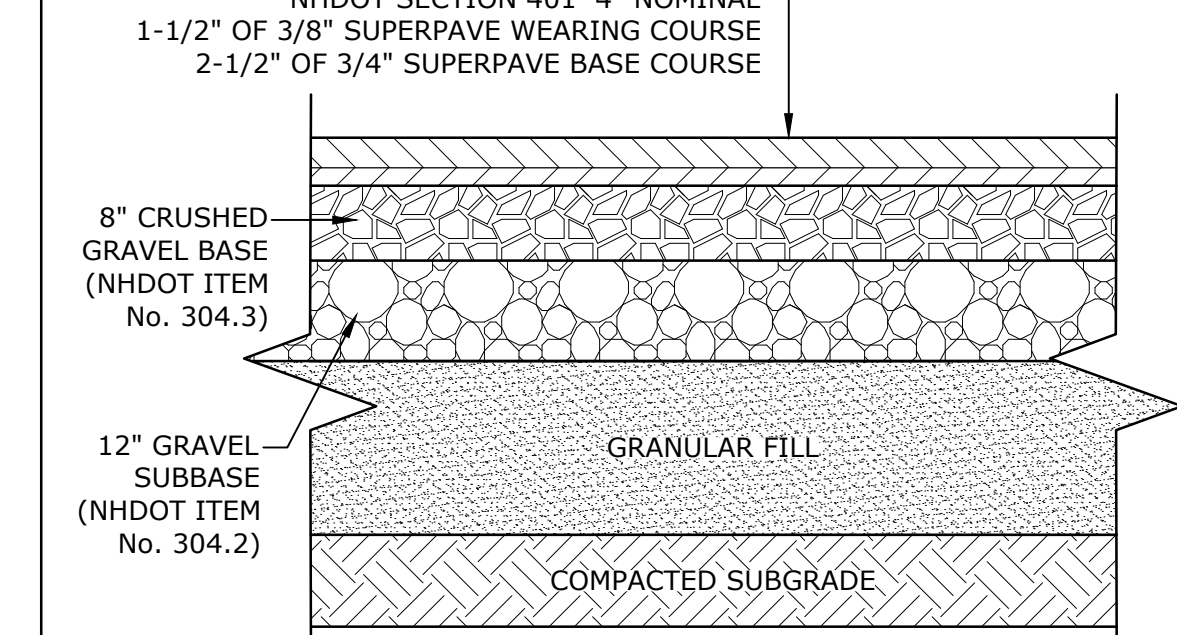


NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
6"	100	3"	100
#4	25-70	2"	95-100
#200	0-12	1"	55-85
		#4	27-52
		#200	0-12

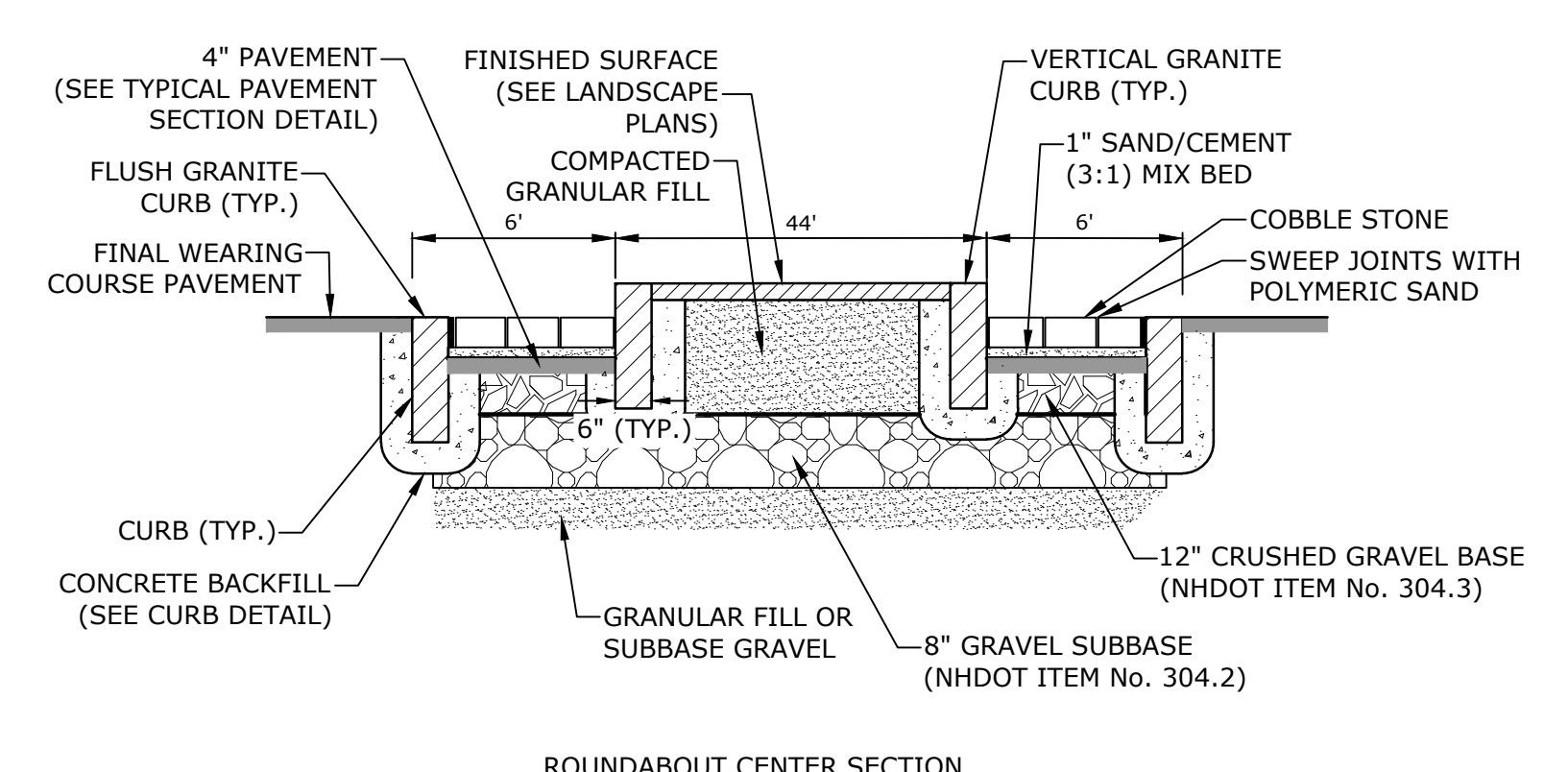
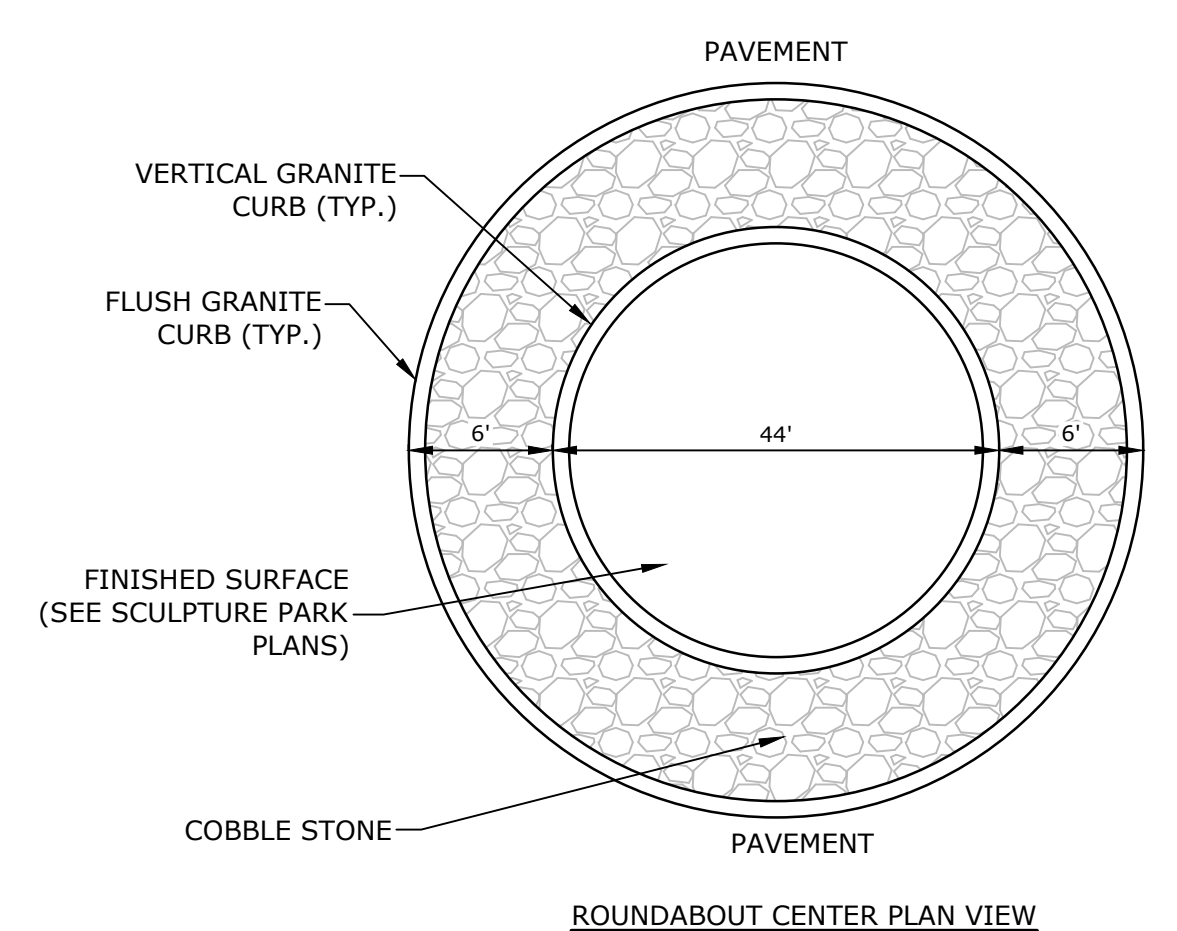


- NOTES:
- COORDINATE FINAL DESIGN SECTION WITH GEOTECHNICAL ENGINEER.
  - SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
  - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  - A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.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

NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
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6"	100	3"	100
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- NOTES:
- COORDINATE FINAL DESIGN SECTION WITH GEOTECHNICAL ENGINEER.
  - SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
  - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  - A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
  - REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.



- NOTES:
- BEDDING MATERIAL SHALL BE A SAND/CEMENT MIX THAT IS 3 PARTS SAND AND 1 PART CEMENT. SAND SHALL CONFORM WITH ASTM C33 AND CEMENT SHALL BE PORTLAND CEMENT TYPE I/TYPE II.

**ROUNDAABOUT CENTER**  
NO SCALE

**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

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

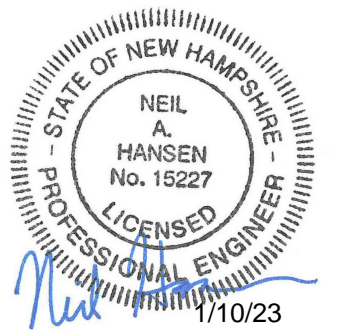
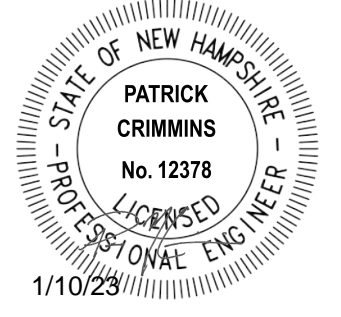
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DATE:	April 20, 2020
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DRAWN BY:	CHK
CHECKED:	NAH
APPROVED:	PMC

**DETAILS SHEET**

SCALE: AS SHOWN

**C-502**

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 Plotted On: Dec 28, 2022 11:04am By: Ckrzouk  
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**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

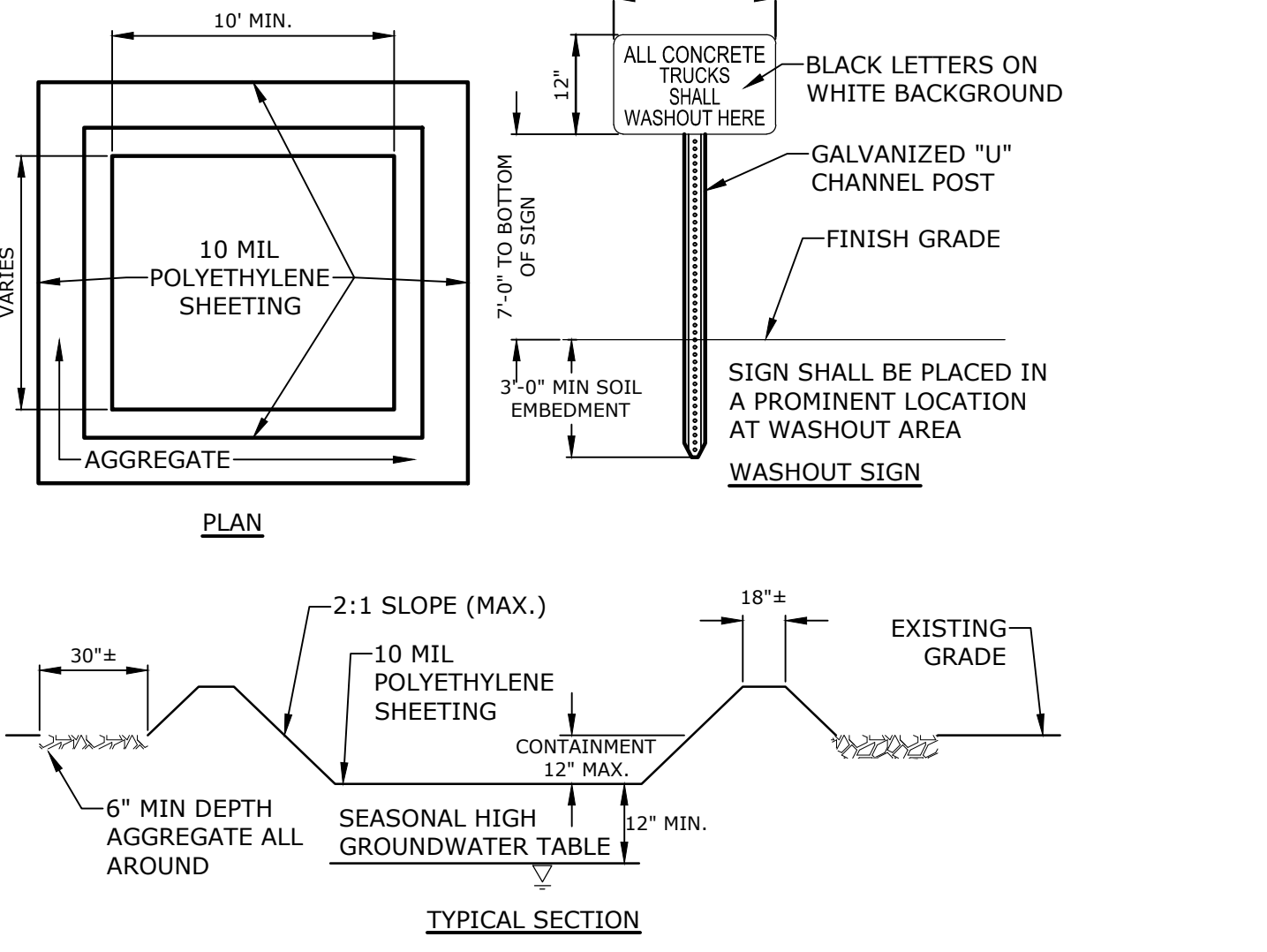
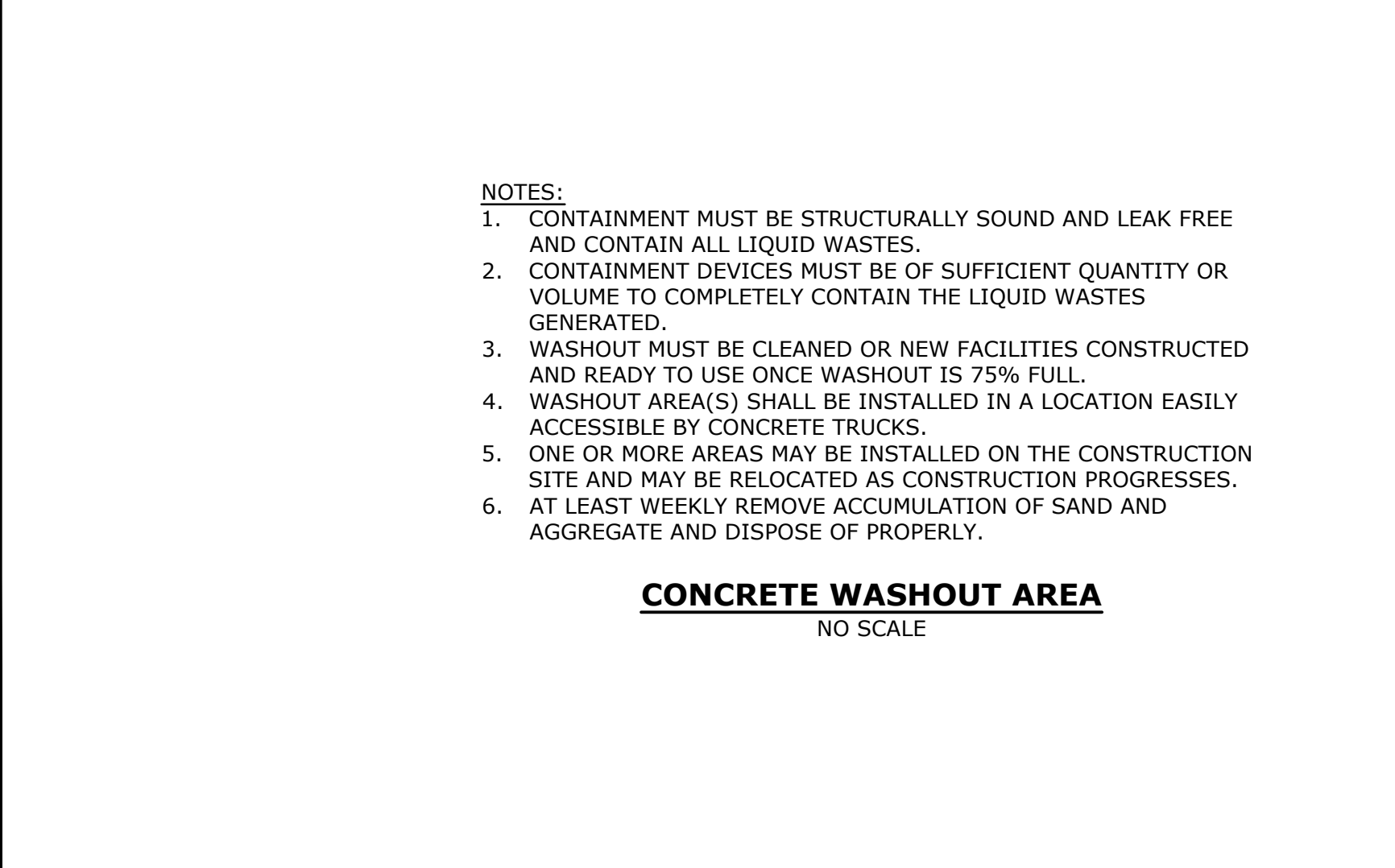
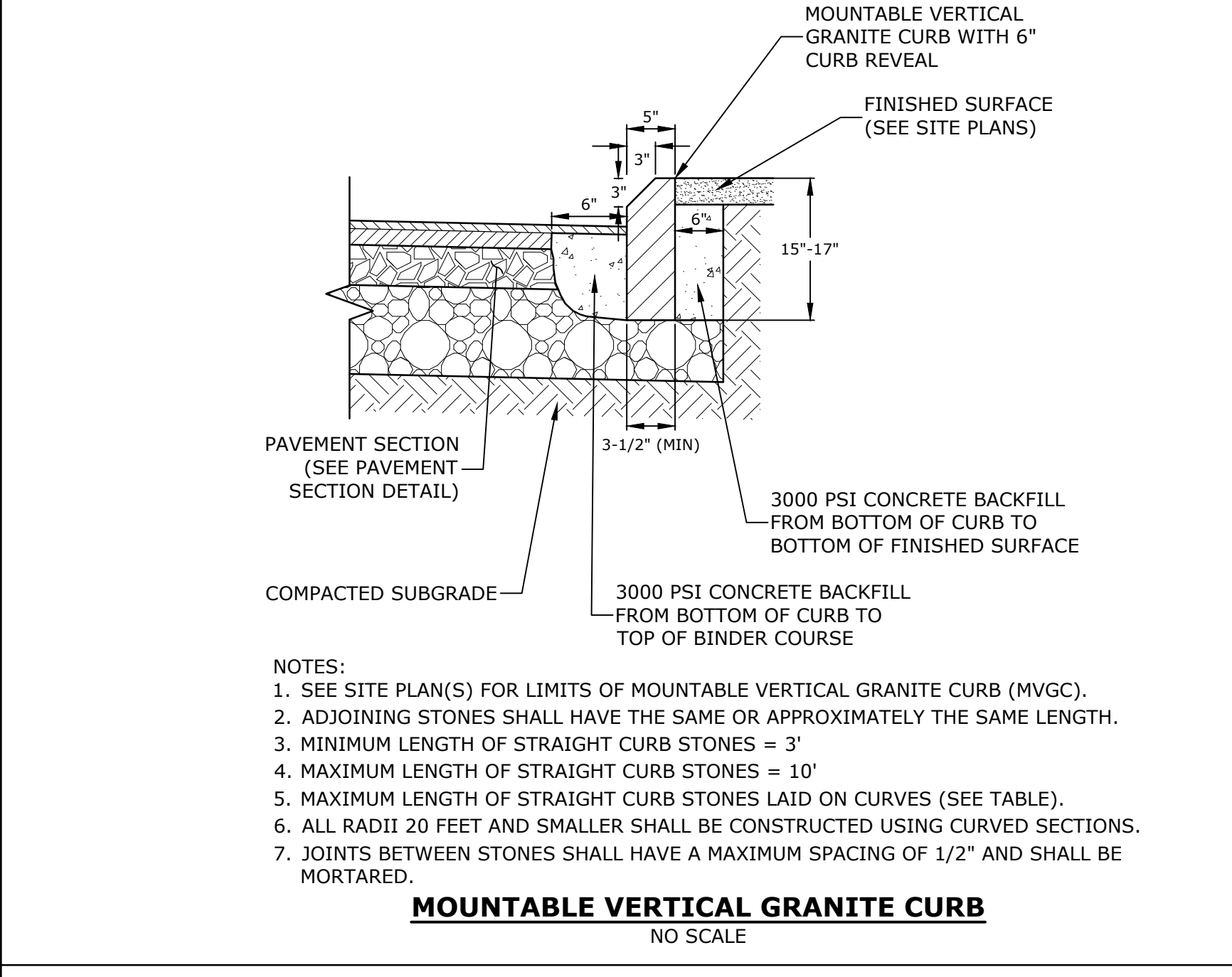
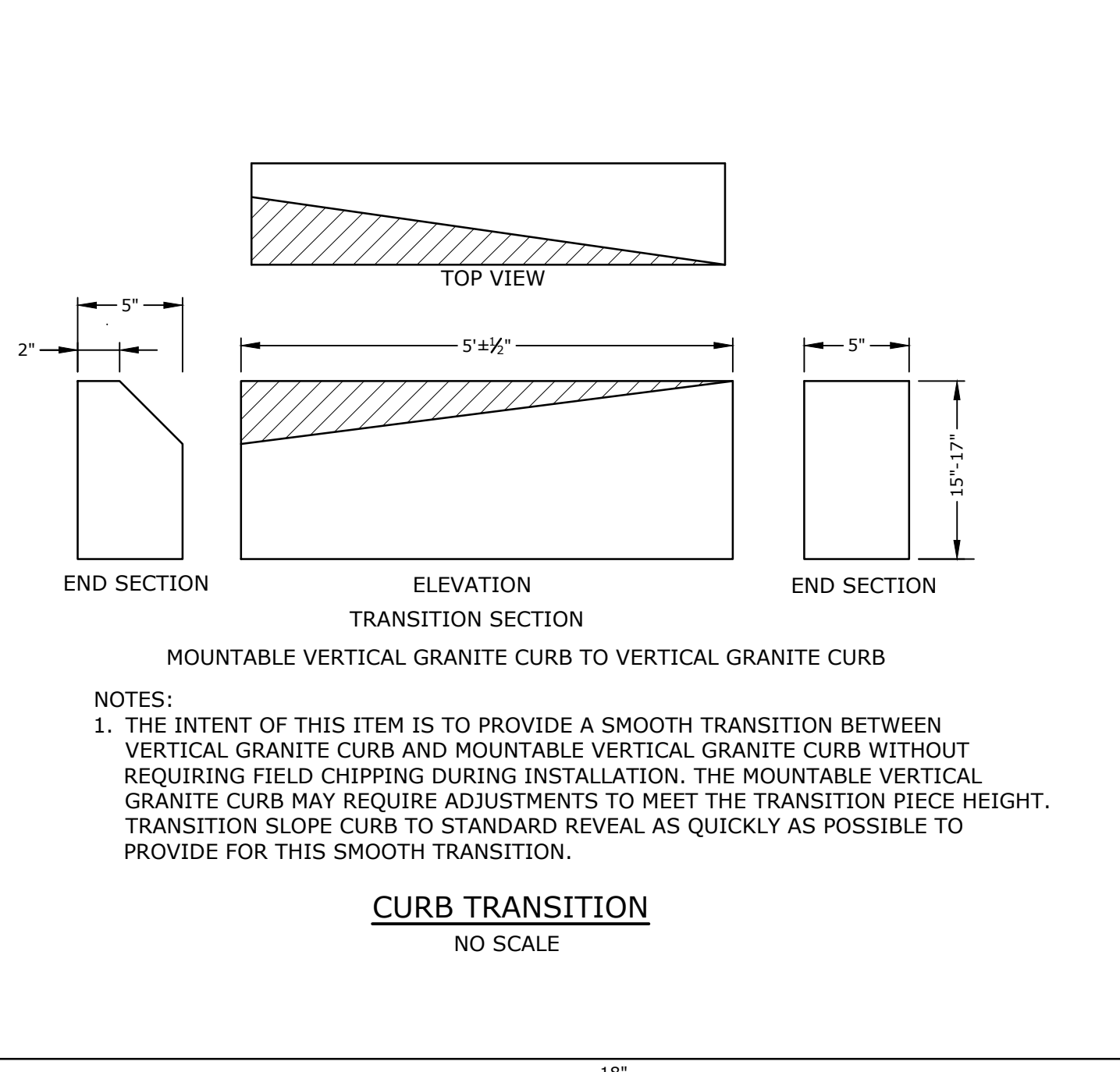
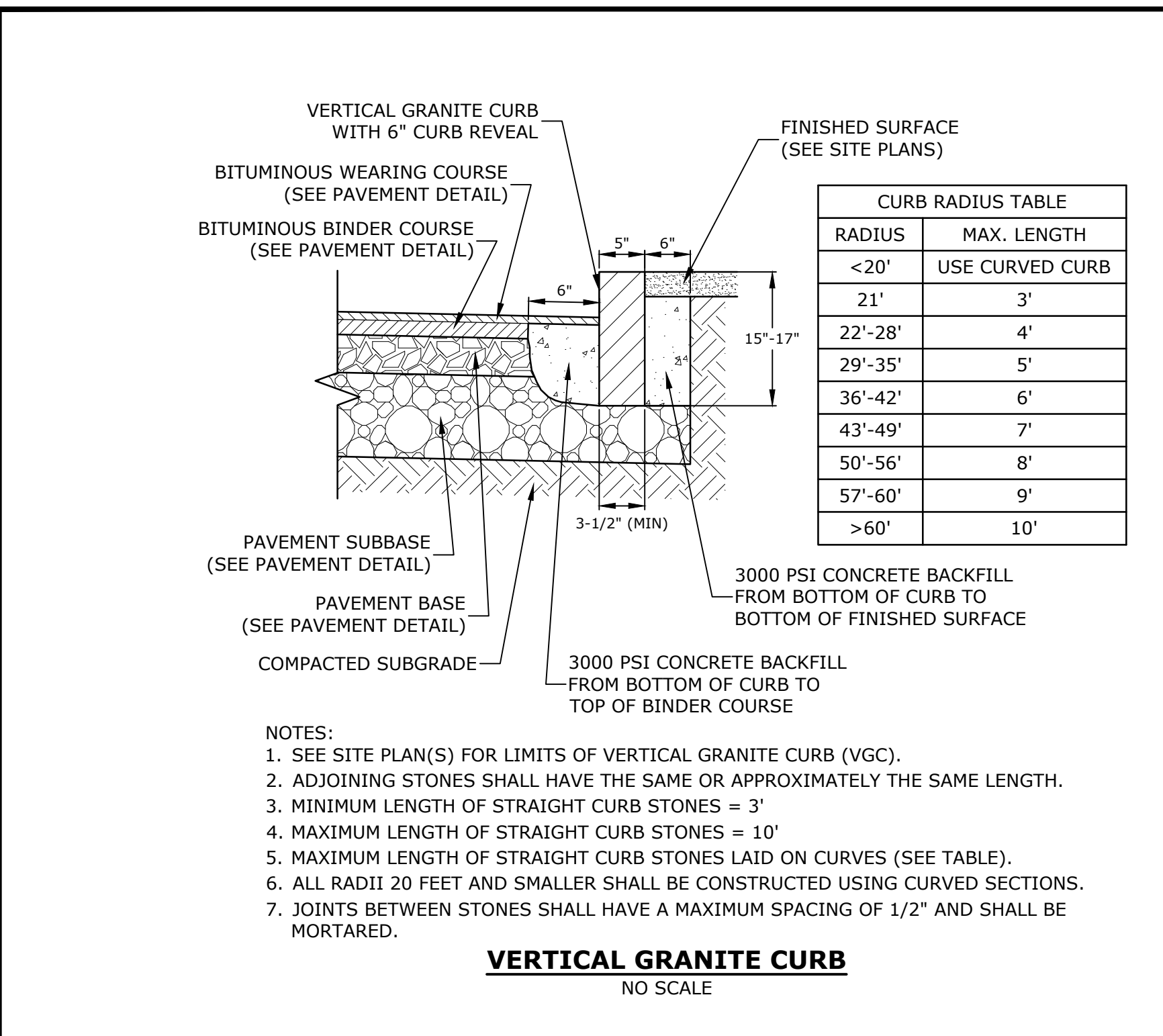
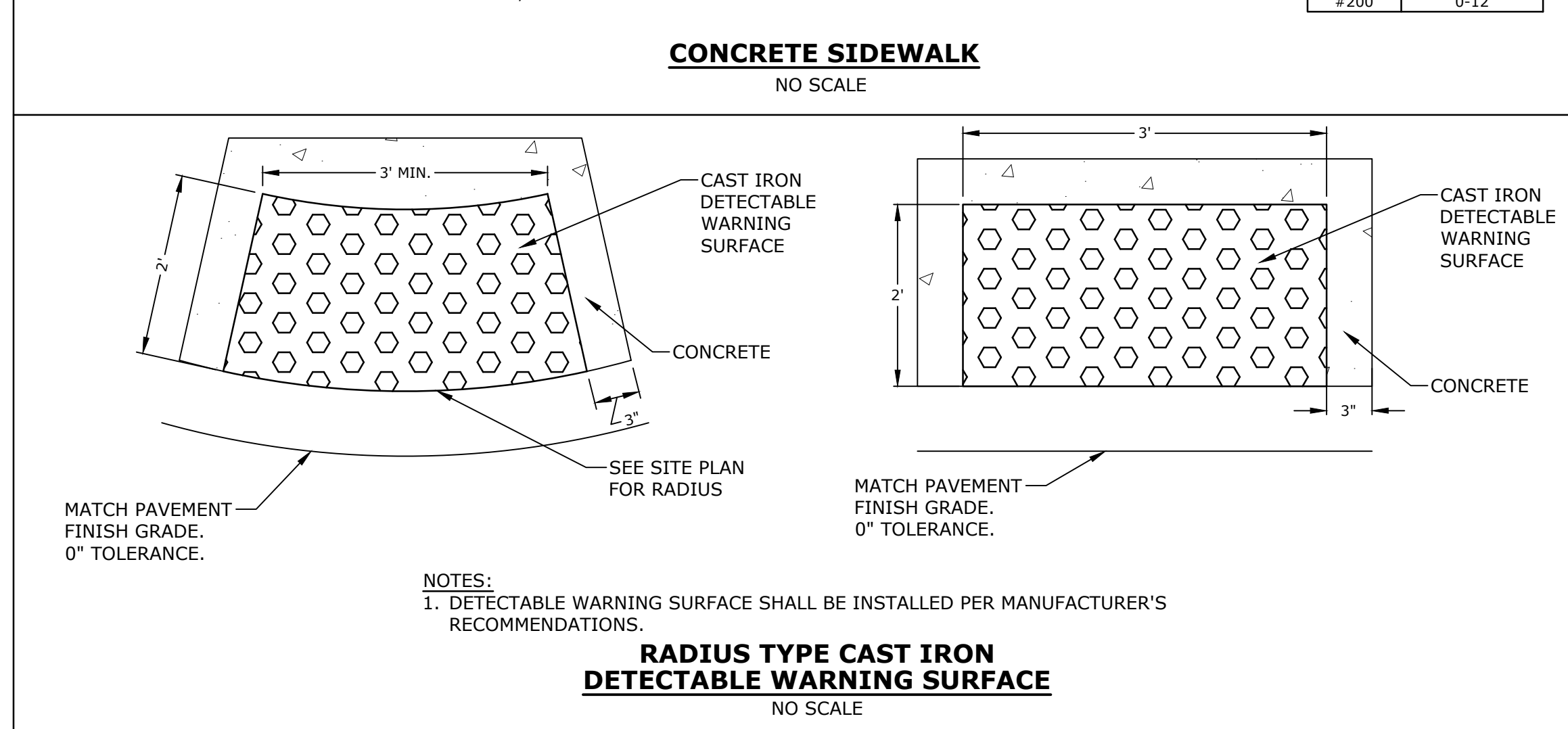
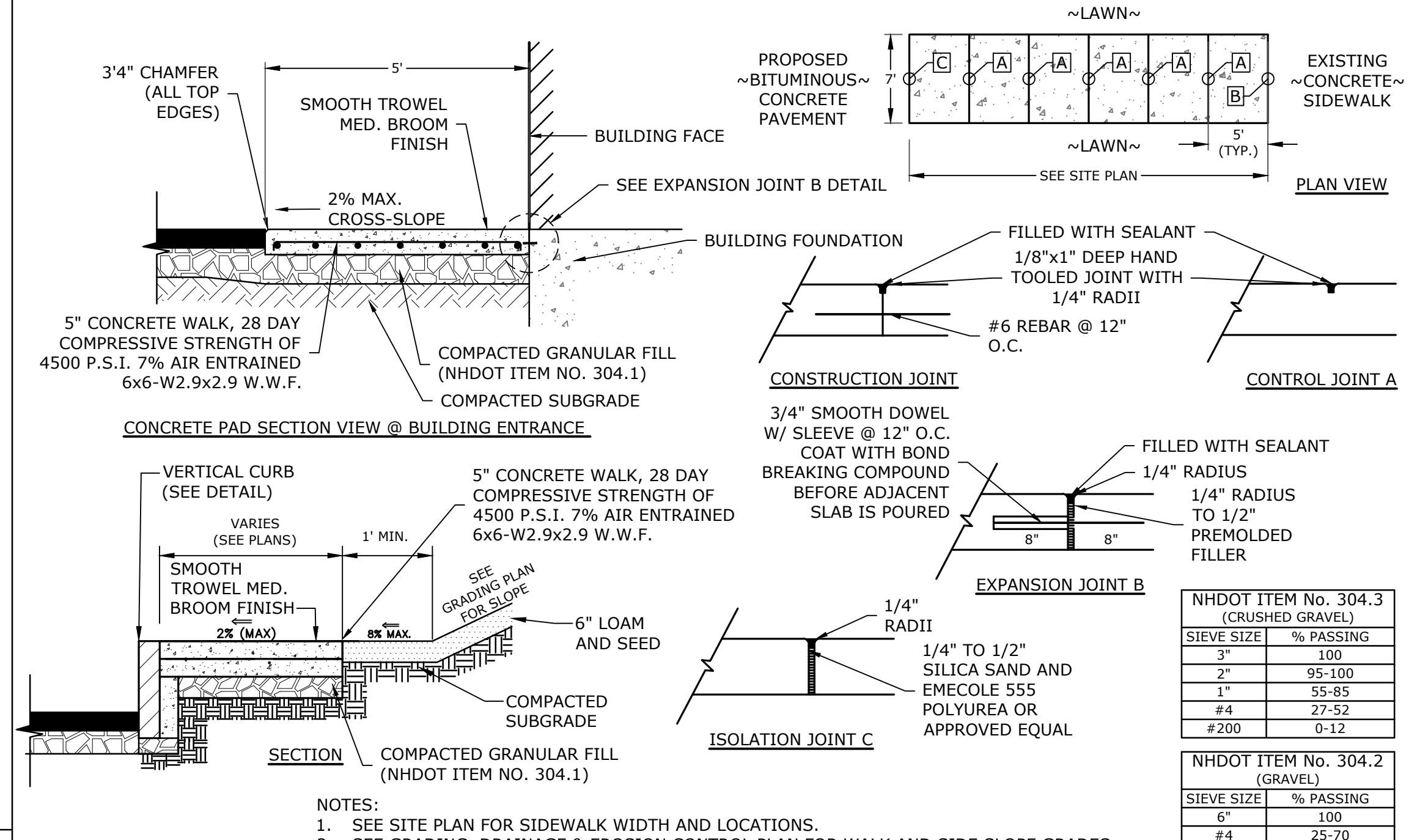
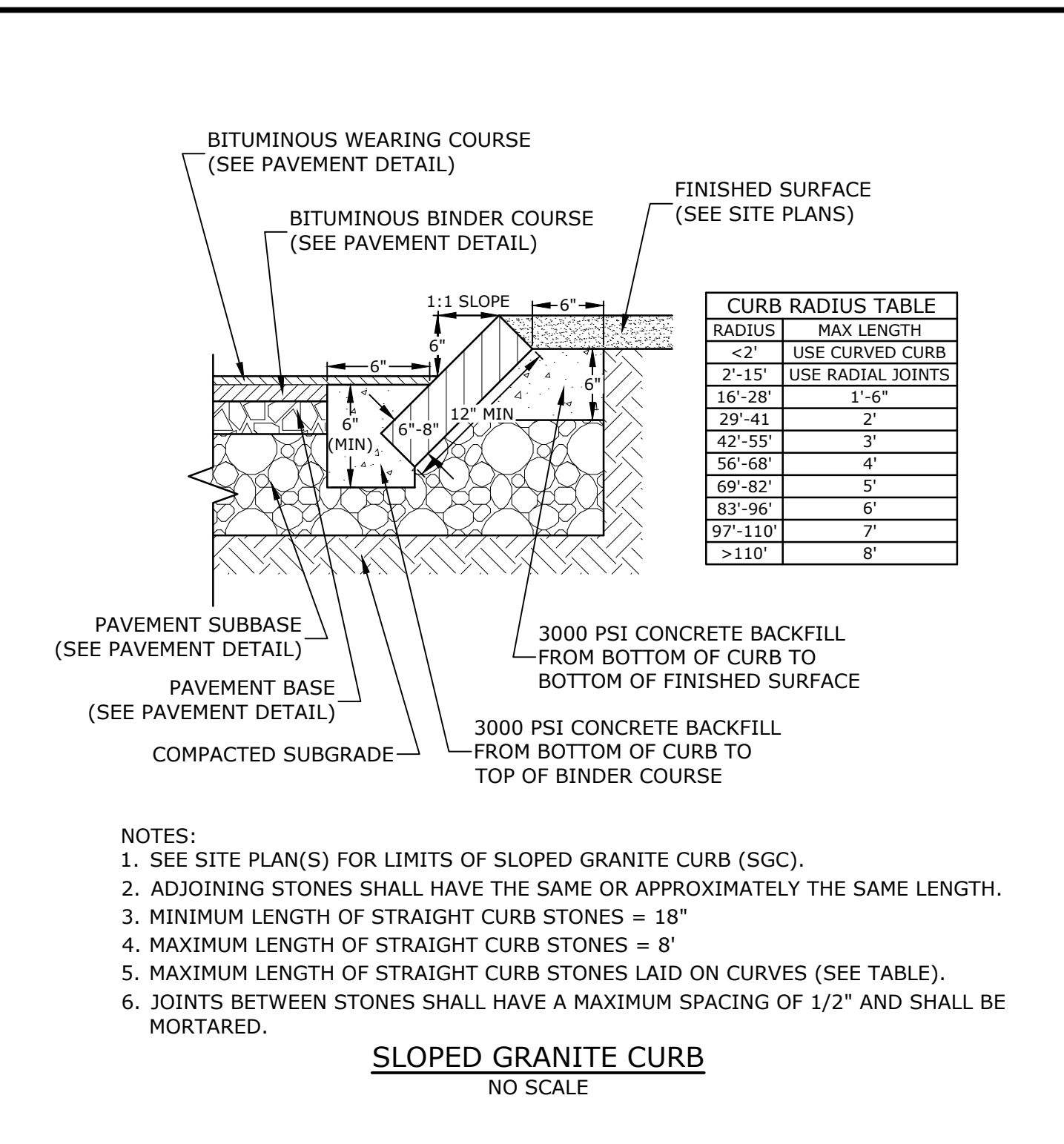
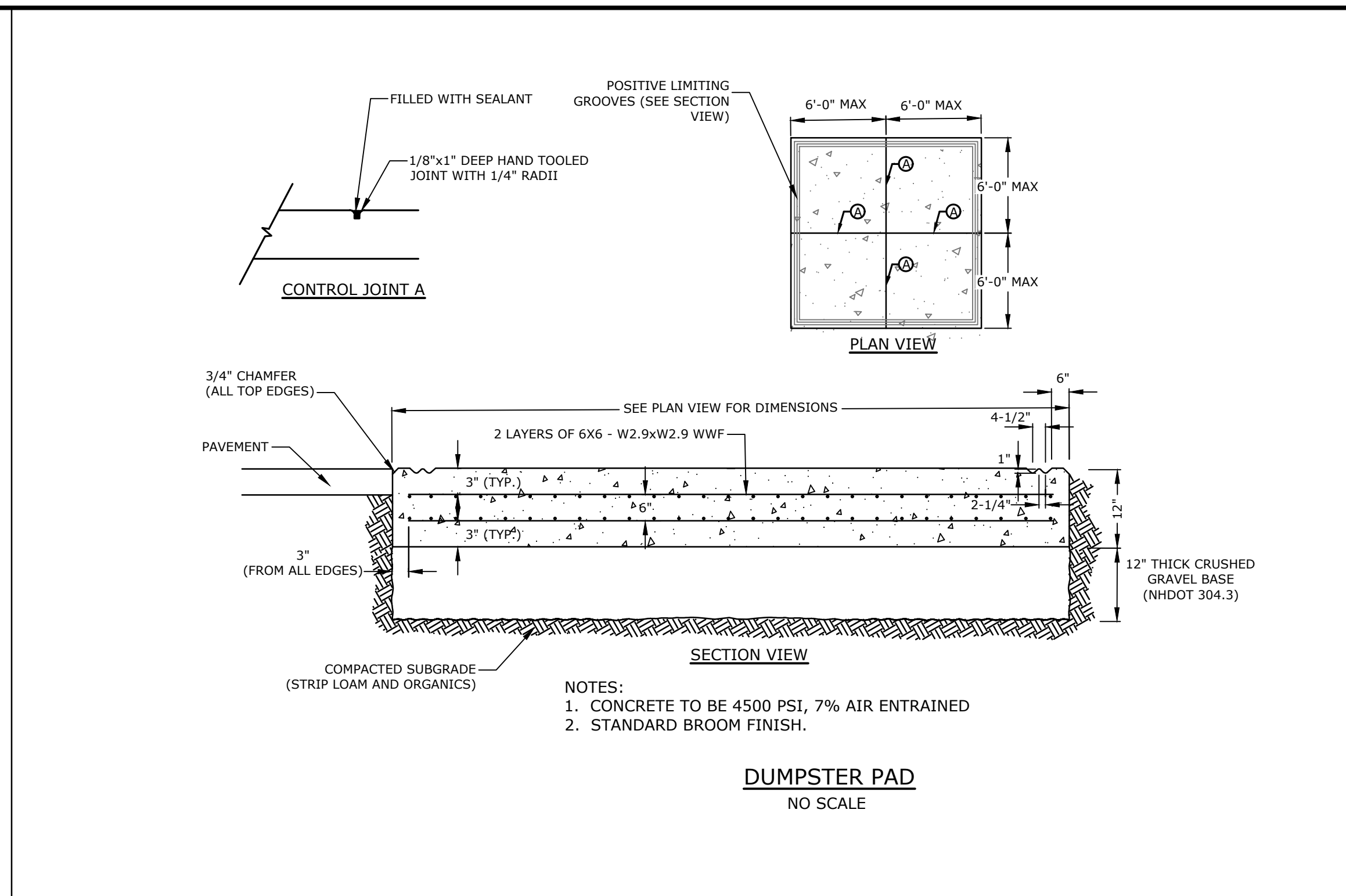
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DETAILS SHEET

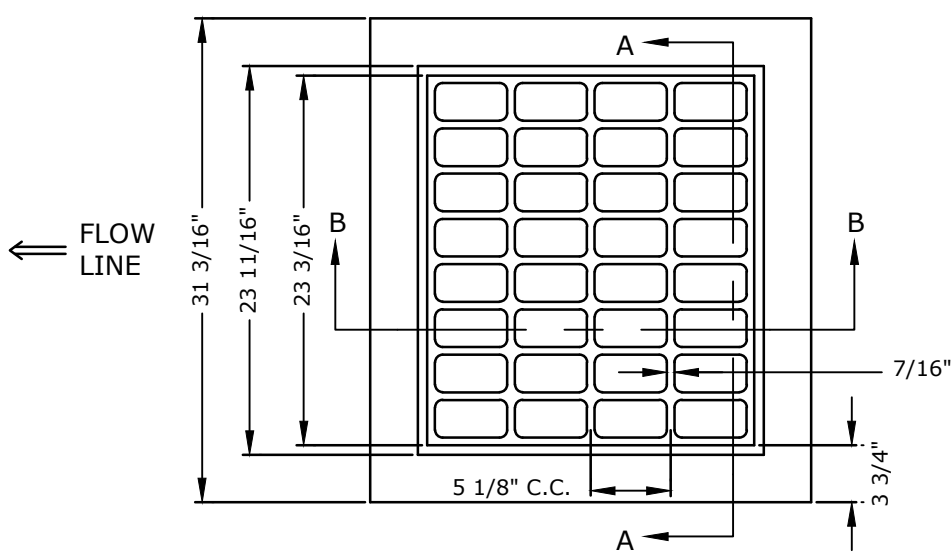
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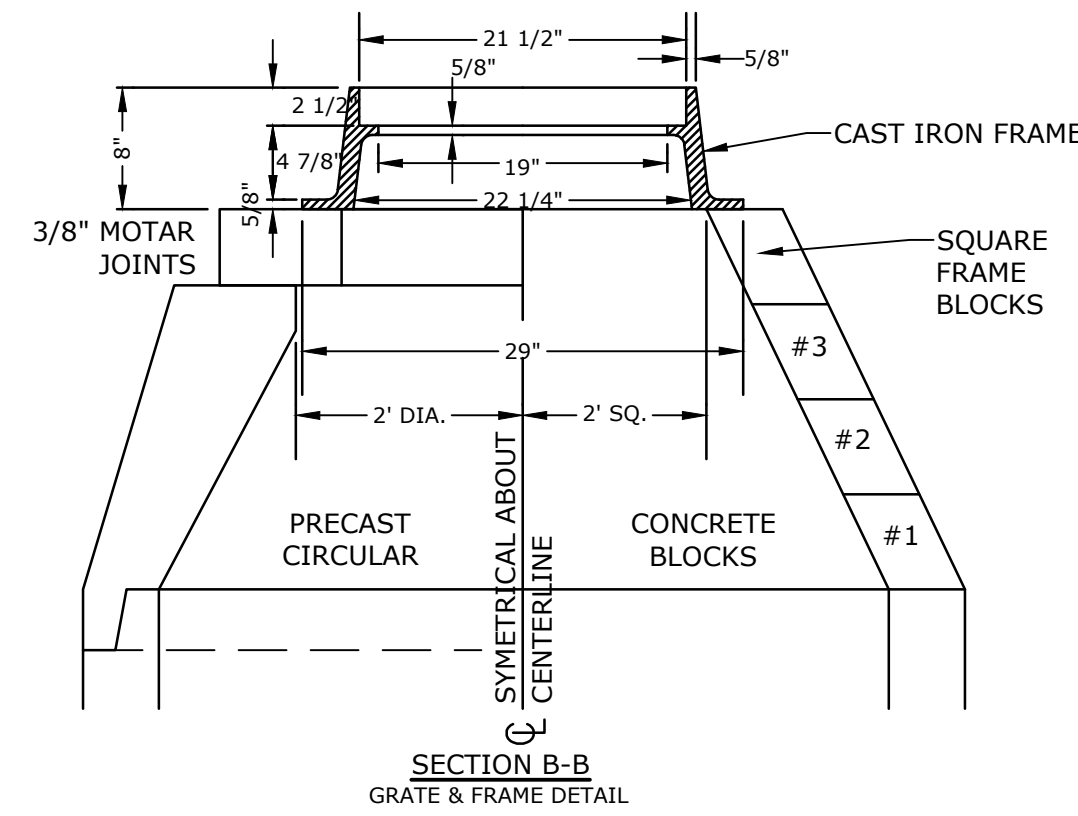
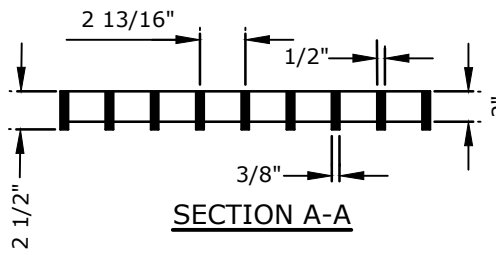


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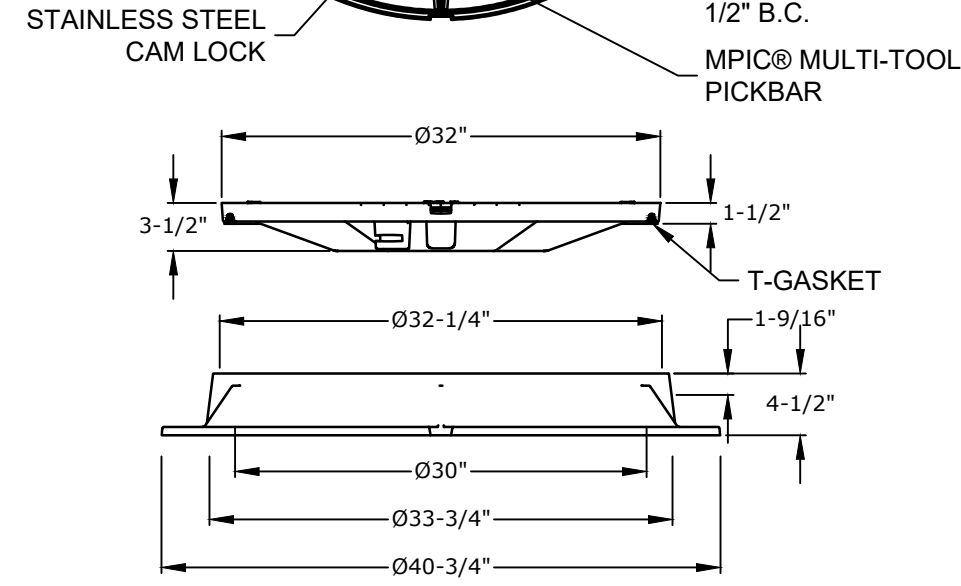
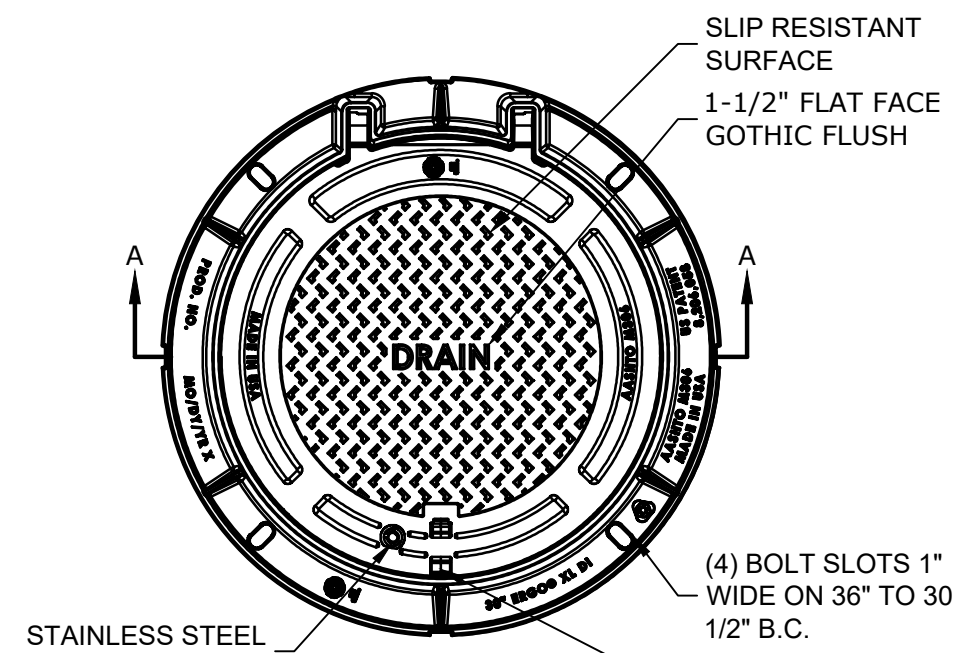




- NOTE:
1. GRATE TO BE CAST IRON (NHDOT TYPE B)
  2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

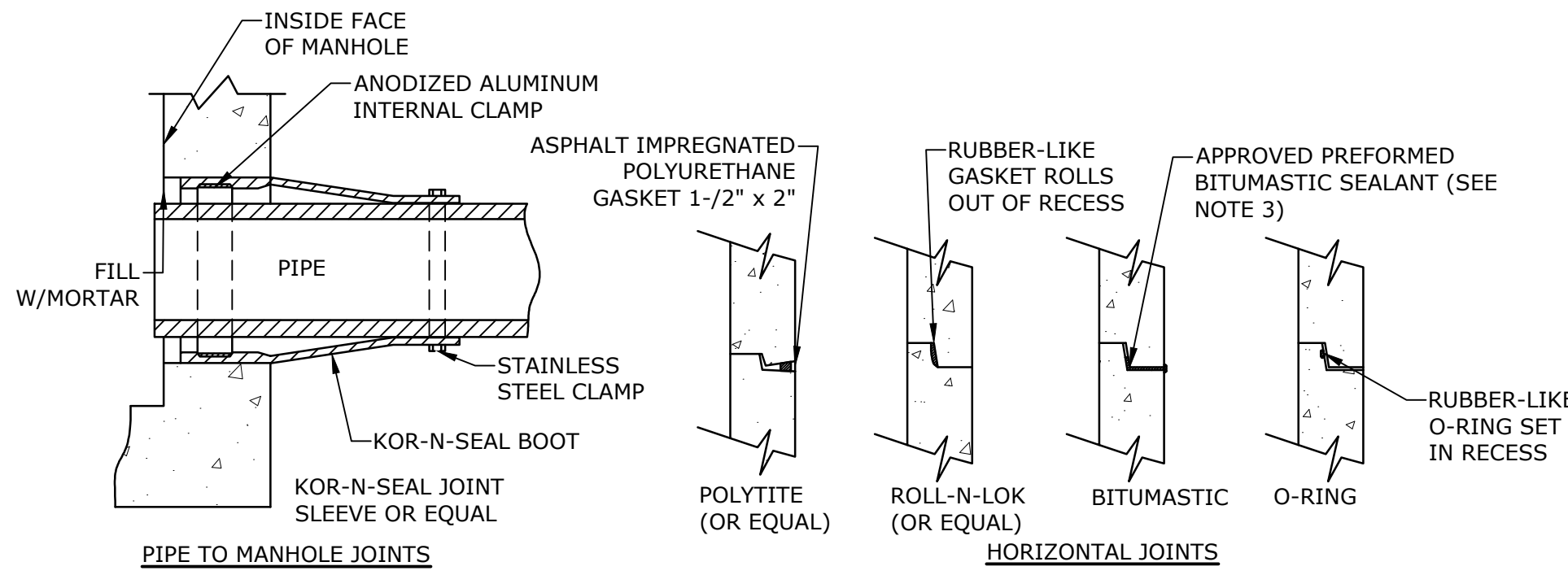


**CATCH BASIN FRAME & GRATE**  
NO SCALE



- 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 THE CENTER OF THE COVER.

**DRAIN MANHOLE FRAME & COVER**  
NO SCALE

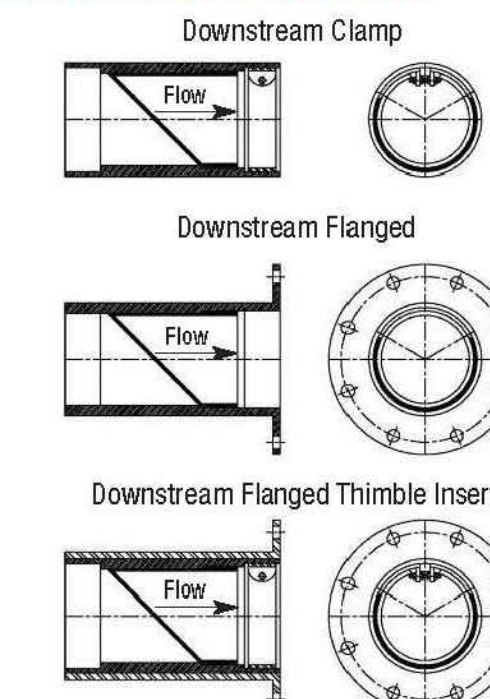


- NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
  2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
  3. FOR BITUMASTIC 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.

**MANHOLE JOINTS**  
NO SCALE

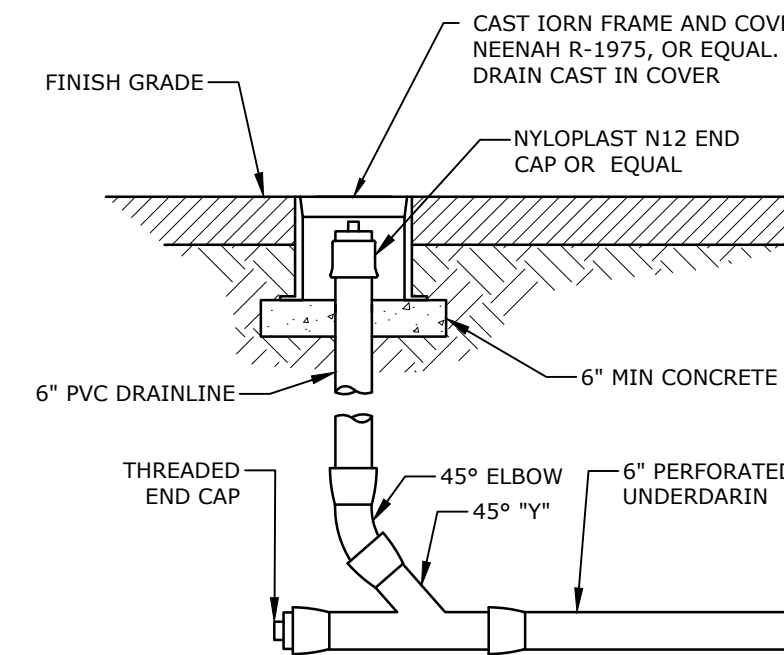
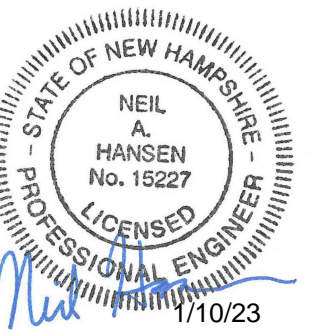
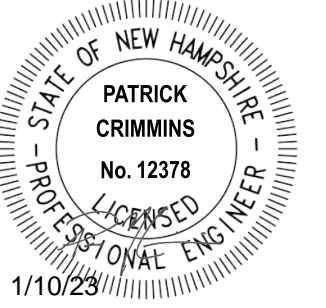
NOMINAL PIPE SIZE I.D.*	OVERALL LENGTH**		NUMBER OF CLAMPS	CUFF DEPTH		BACK PRESSURE RATING		
	Inches	Millimeters		Inches	Millimeters	Feet	Meters	
12	300	23	584	1	2	51	40	12
18	450	31	787	1	4	102	20	6
24	600	47.5	1207	2	8	203	20	6

**Mounting Styles and Configurations**

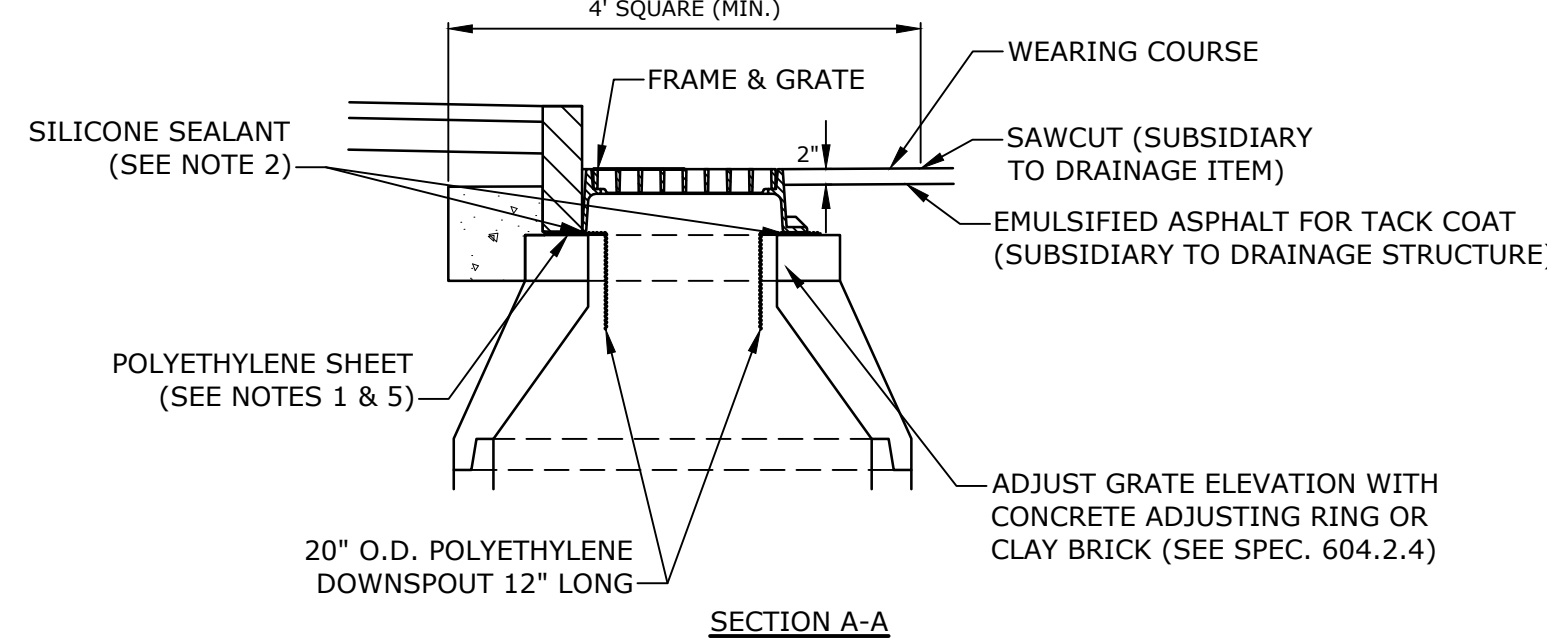
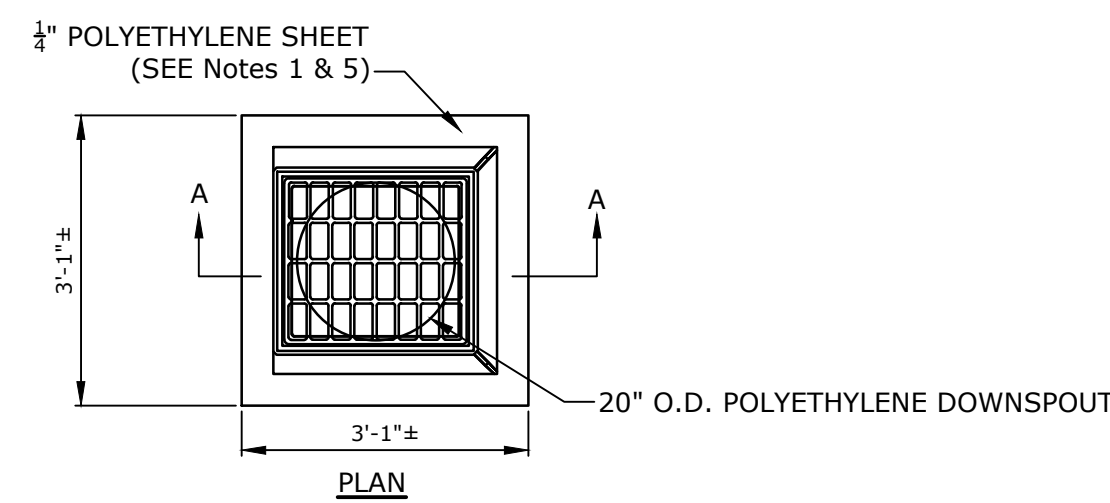


Flange shape and bolt pattern can be customized. Flangeless thimble inserts are available.

**TYPICAL BACK FLOW PREVENTER**  
NO SCALE

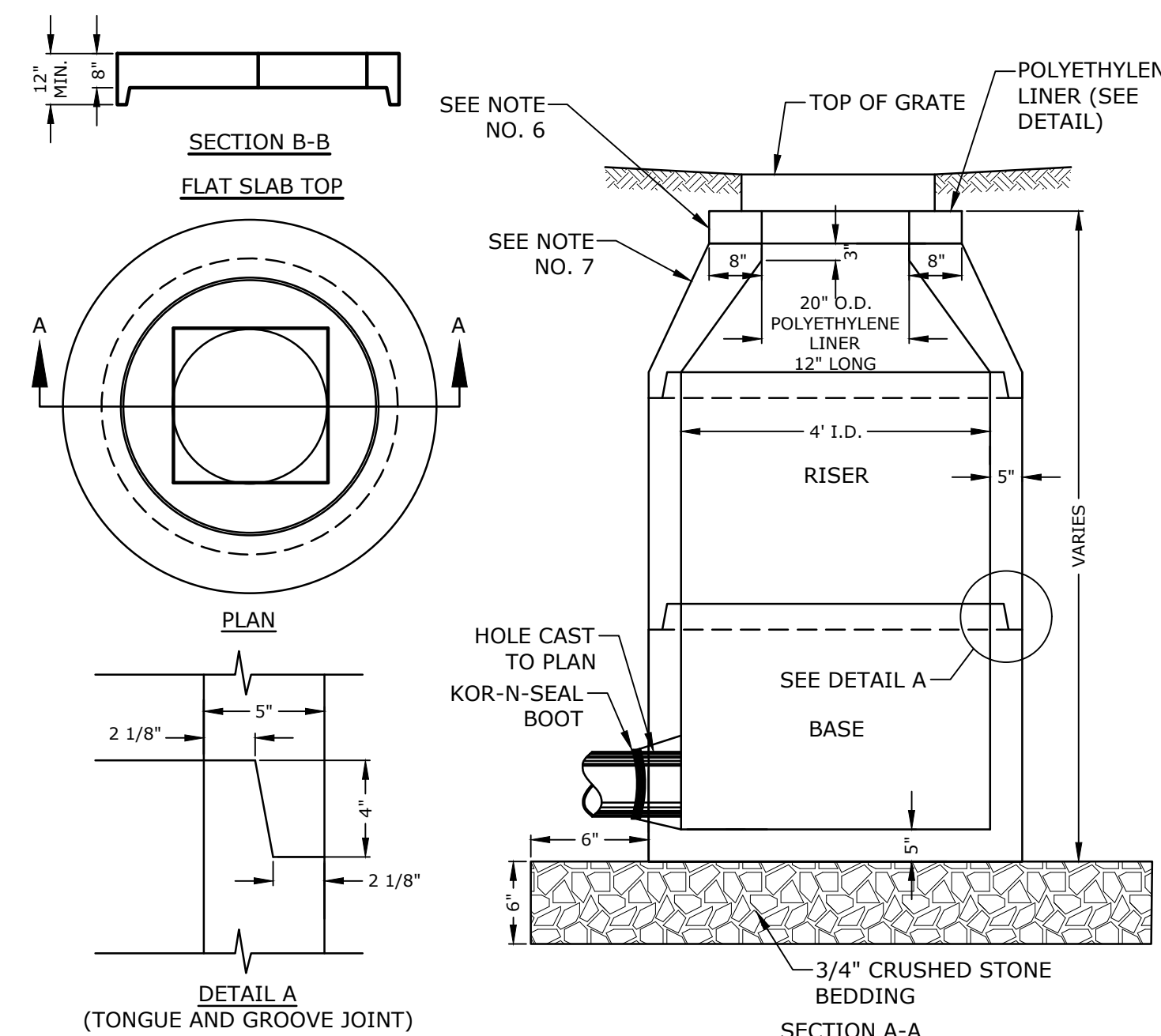


**DRAIN CLEAN-OUT**  
NO SCALE



- 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

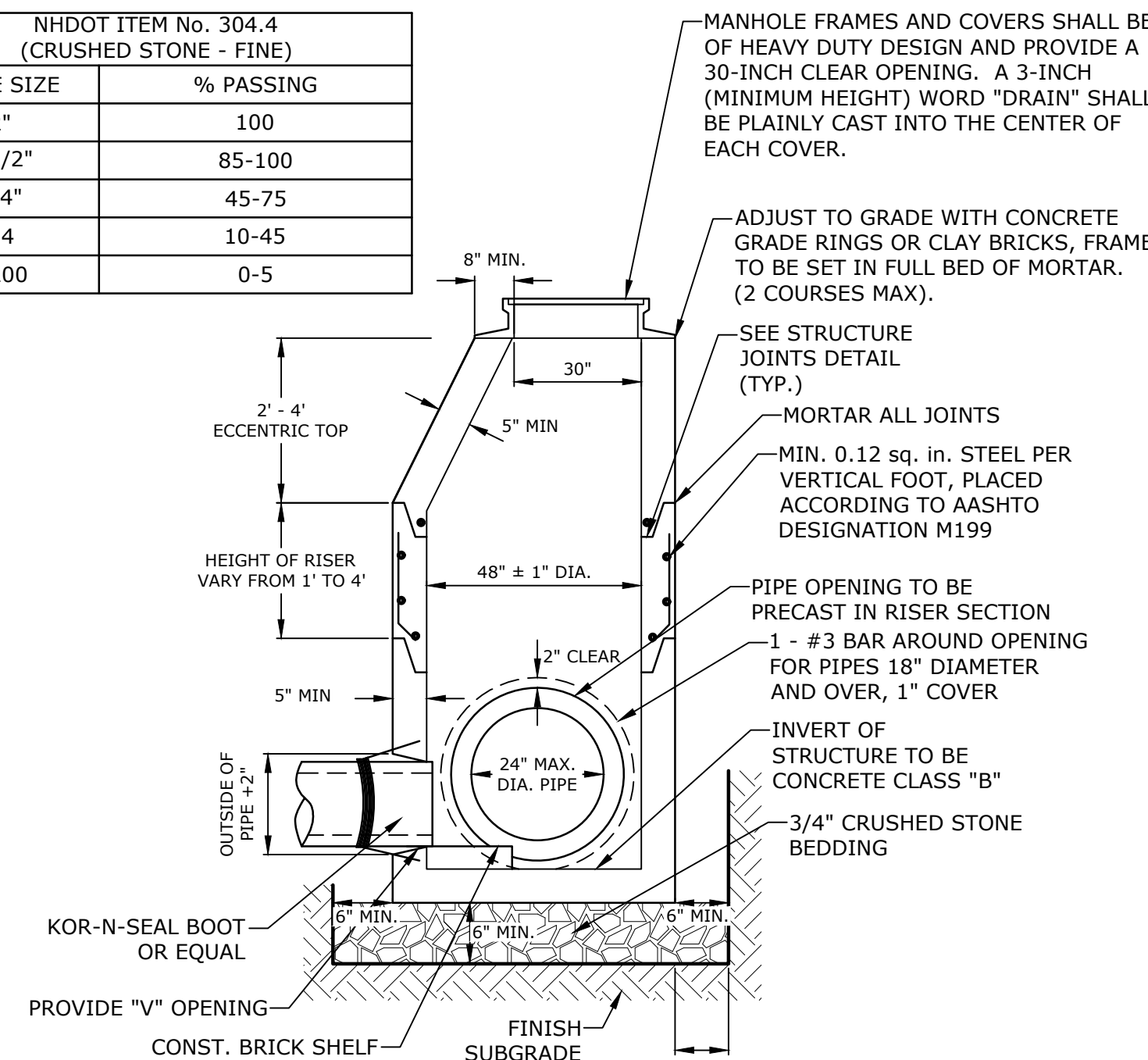
**POLYETHYLENE LINER**  
NO SCALE



- NOTES:
1. 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.

**4' DIAMETER CATCHBASIN**  
NO SCALE

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



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

**4' DIAMETER DRAIN MANHOLE**  
NO SCALE

**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

MARK	DATE	DESCRIPTION
K	12/28/2022	NHDES Wetland & Shoreland Submission
J	9/15/2021	Revised AoT Submission
I	3/10/2021	PB Submission
H	1/20/2021	TAC Resubmission
G	11/18/2020	TAC Resubmission
F	10/28/2020	Wetland CUP Resubmission
E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

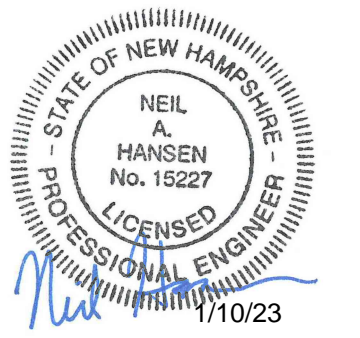
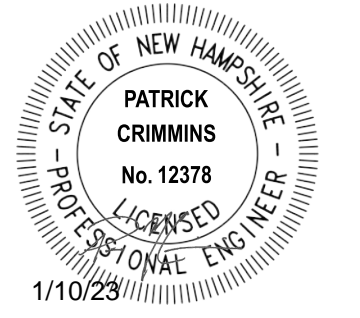
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	CIK
CHECKED:	NAH
APPROVED:	PMC

**DETAILS SHEET**

SCALE: AS SHOWN

**C-505**

Last Saved: 12/23/2022 11:07am By: Ckrzouk  
 Plotted On: Dec 28, 2022 - 11:07am By: Ckrzouk  
 Tighe & Bond: C:\Users\cbond\OneDrive\Documents\Drawings - Figures\AutoCAD\Sheet\C-0960-006\_C-DTLS.dwg



**JELLYFISH JFPD0808 - DESIGN NOTES**

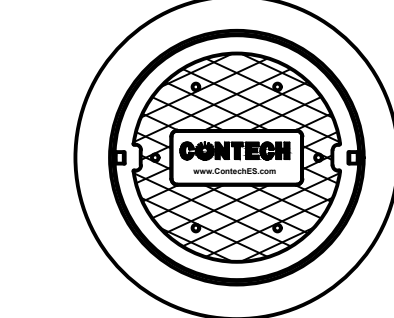
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION	54"	40"	27"	15"
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

**JELLYFISH JFPD0806 - DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

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



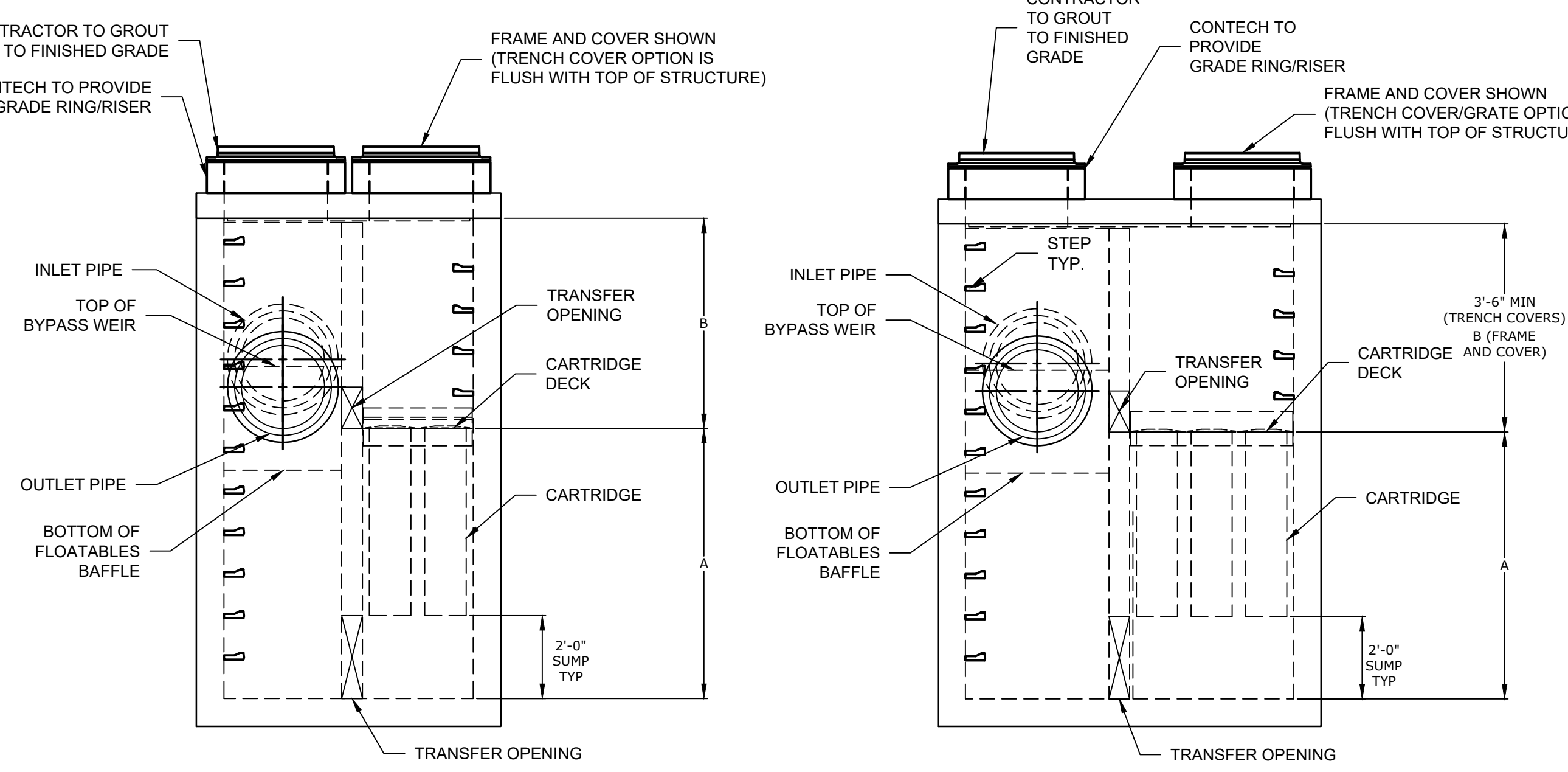
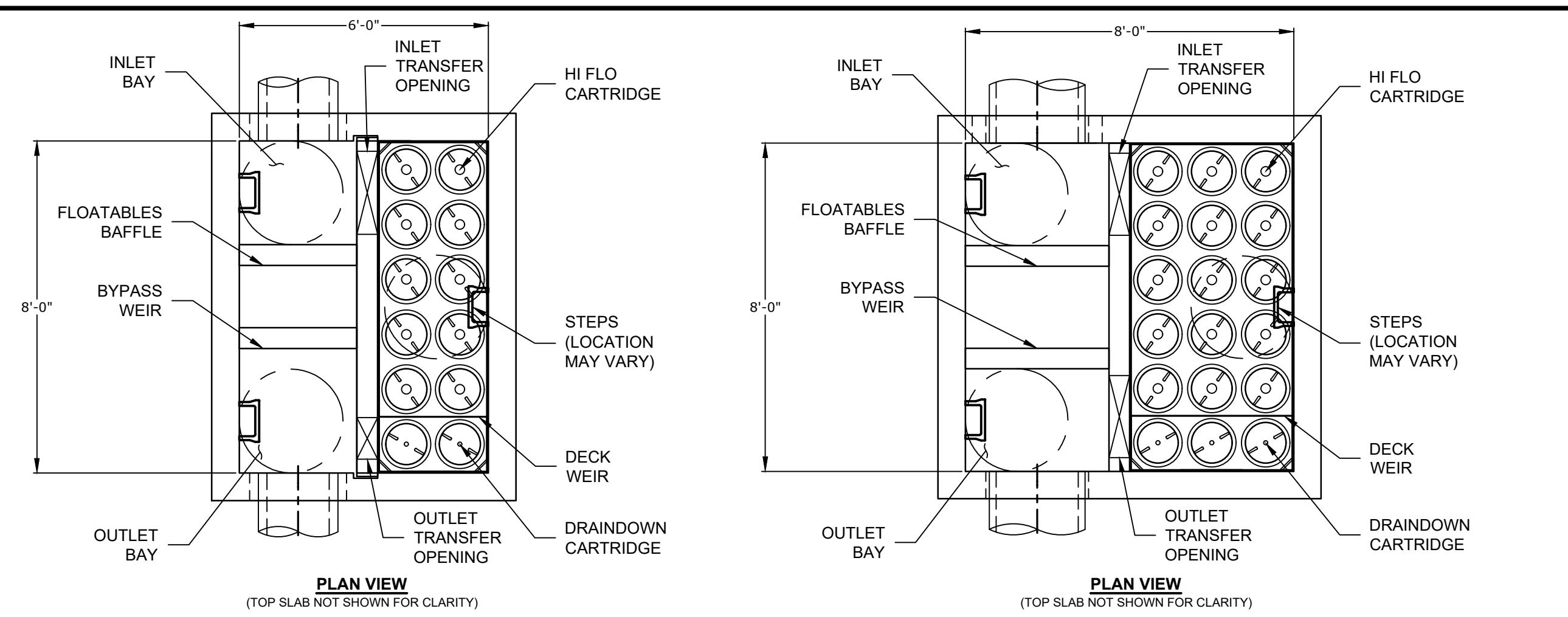
**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	JF-1	JF-2	JF-3	JF-4
MODEL SIZE	JFPD0808	JFPD0806	JFPD0806	JFPD0806
WATER QUALITY FLOW RATE (cfs)	2.85	0.63	0.89	1.48
PEAK FLOW RATE (cfs)	26.54	5.13	7.62	8.19
RETURN PERIOD OF PEAK FLOW (yrs)	25	25	25	25
# OF CARTRIDGES REQUIRED (HF / DD)	15/3	5/1	5/1	8/2
CARTRIDGE SIZE	54"	40"	54"	54"

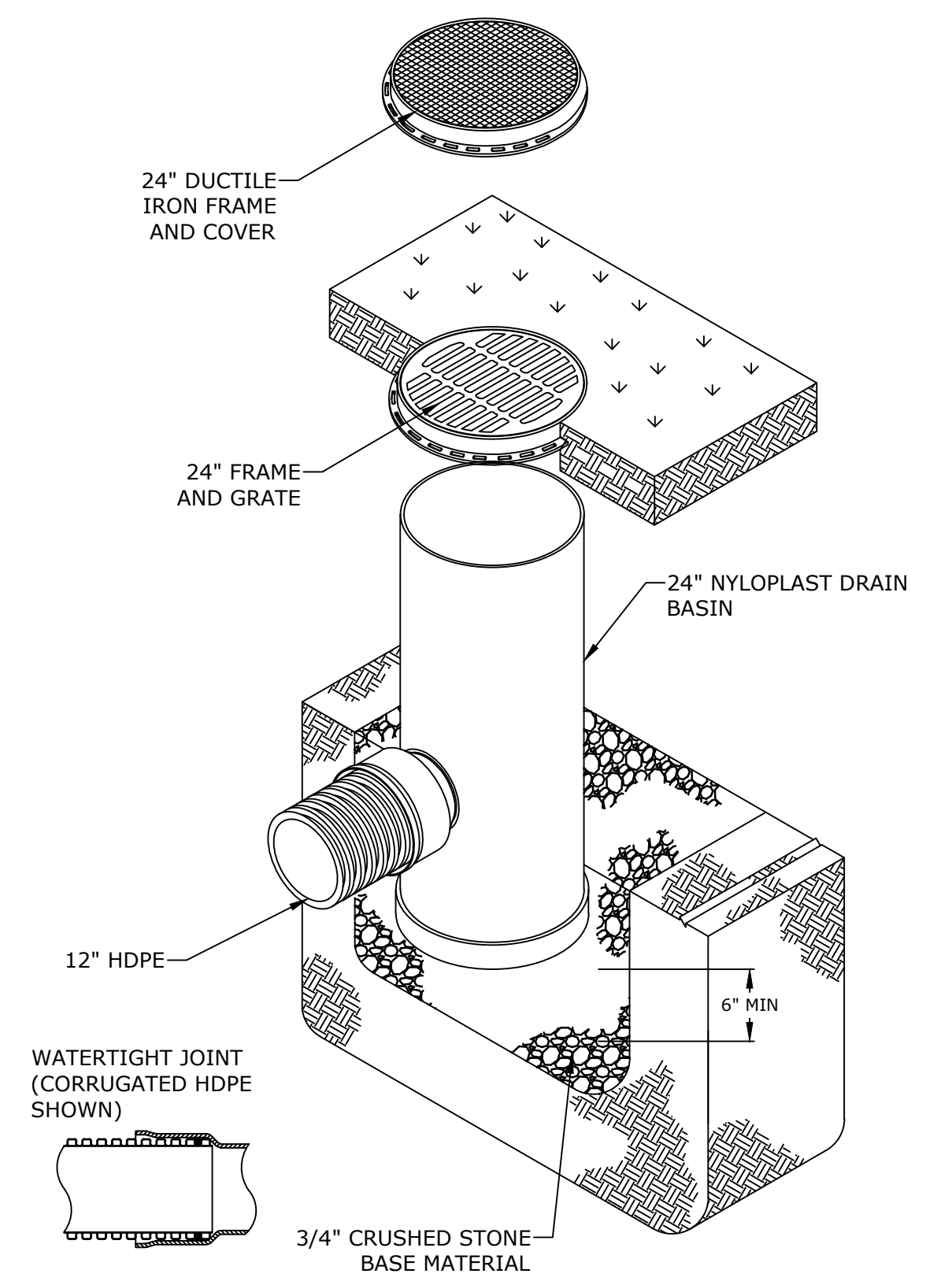
- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
  - JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M88 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
  - STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
  - OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
  - THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
  - NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

- INSTALLATION NOTES**
- ANY SUBBASE BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
  - CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
  - 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.

**Jellyfish Filter**  
 CONTECH ENGINEERED SOLUTIONS LLC  
 www.contechES.com  
 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45399  
 800-338-1122 513-645-7000 513-645-7993 FAX

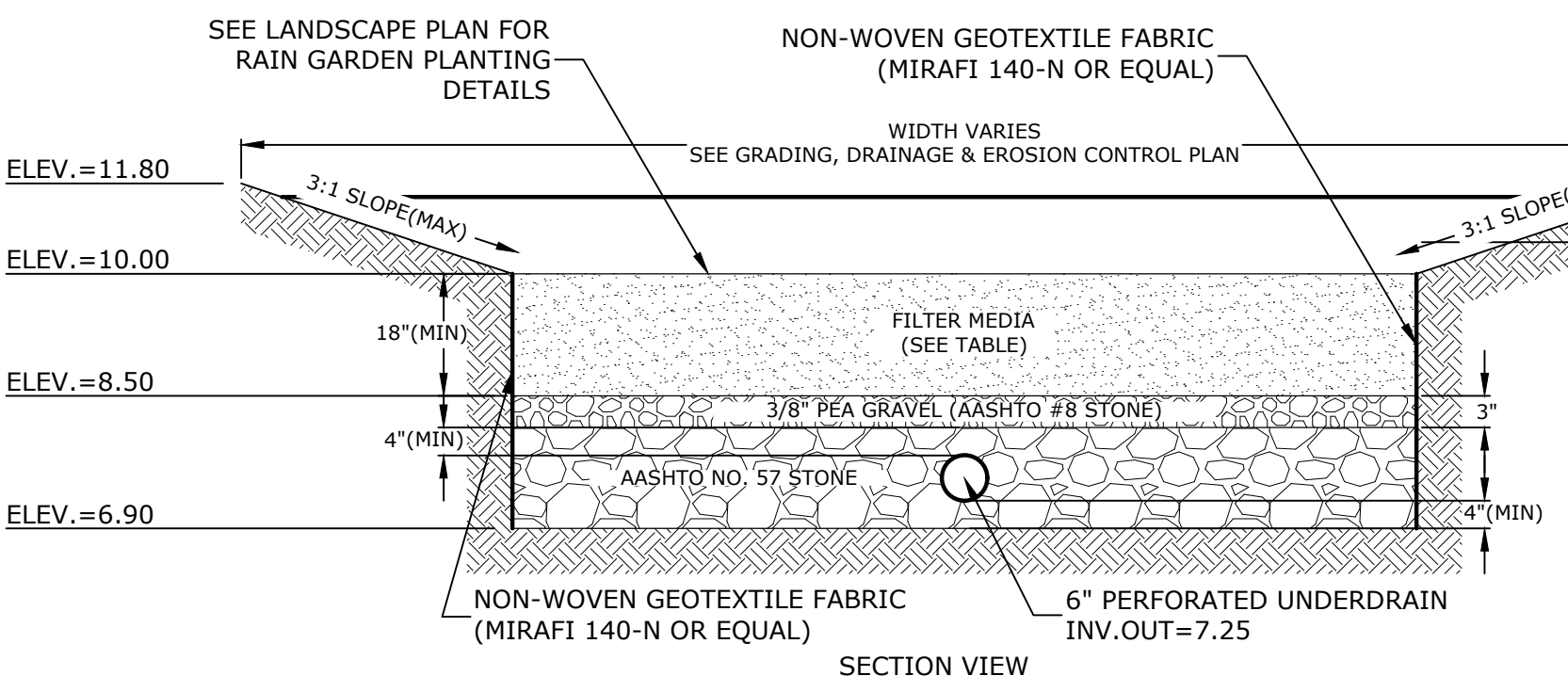


**ELEVATION VIEW**  
**JELLYFISH JFPD0806**  
**CONTECH JELLYFISH STORMWATER FILTER**  
 NO SCALE



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

**YARD DRAIN**  
 NO SCALE



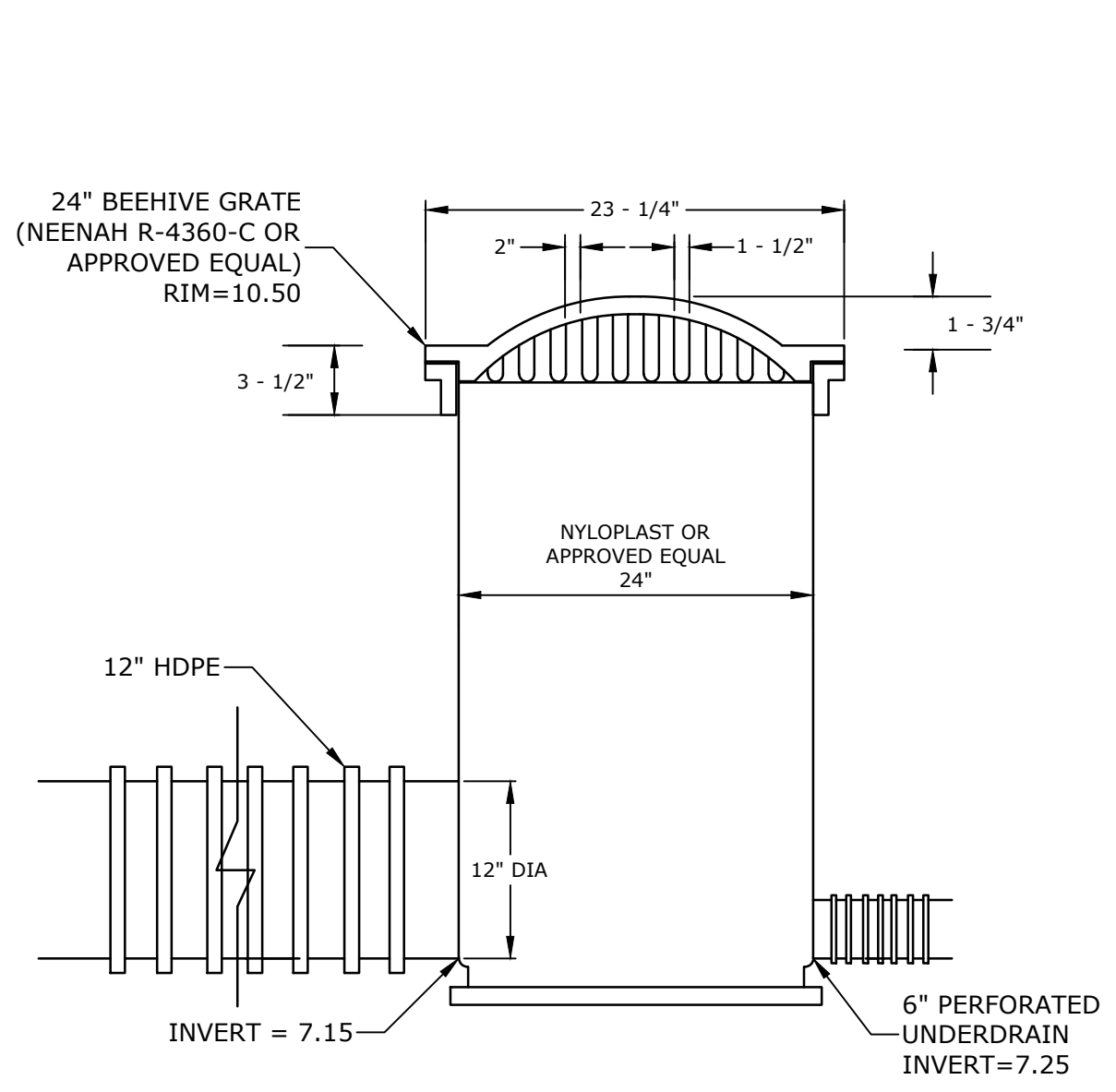
- NOTES:**
- RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.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

**FILTER MEDIA COMPOSITION:**

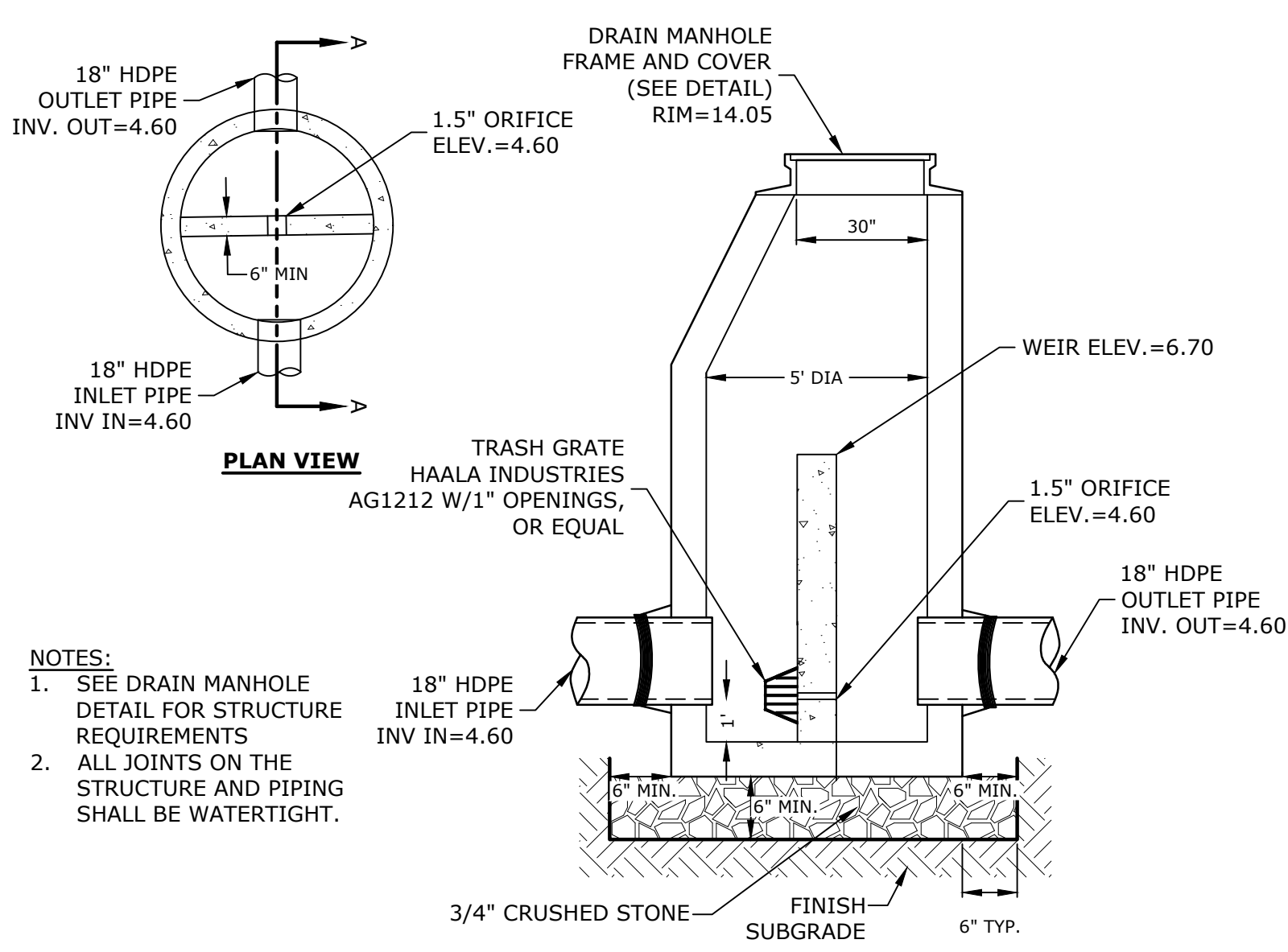
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

AASHTO #8 STONE (#8 to 3/8")		AASHTO #57 STONE (#4 to 1")	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
1/2"	100	1-1/2"	100
3/8"	85-100	1"	95-100
#4	10-30	1/2"	25-60
#8	0-10	#4	0-10
#16	0-5	#8	0-5

**RAIN GARDEN**  
 NO SCALE



**OUTLET STRUCTURE (POS1) DETAIL**  
 NO SCALE



**PDMH9 (5' DIA)**  
 NO SCALE

- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STRUCTURE REQUIREMENTS
  - ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
 Portsmouth, New Hampshire

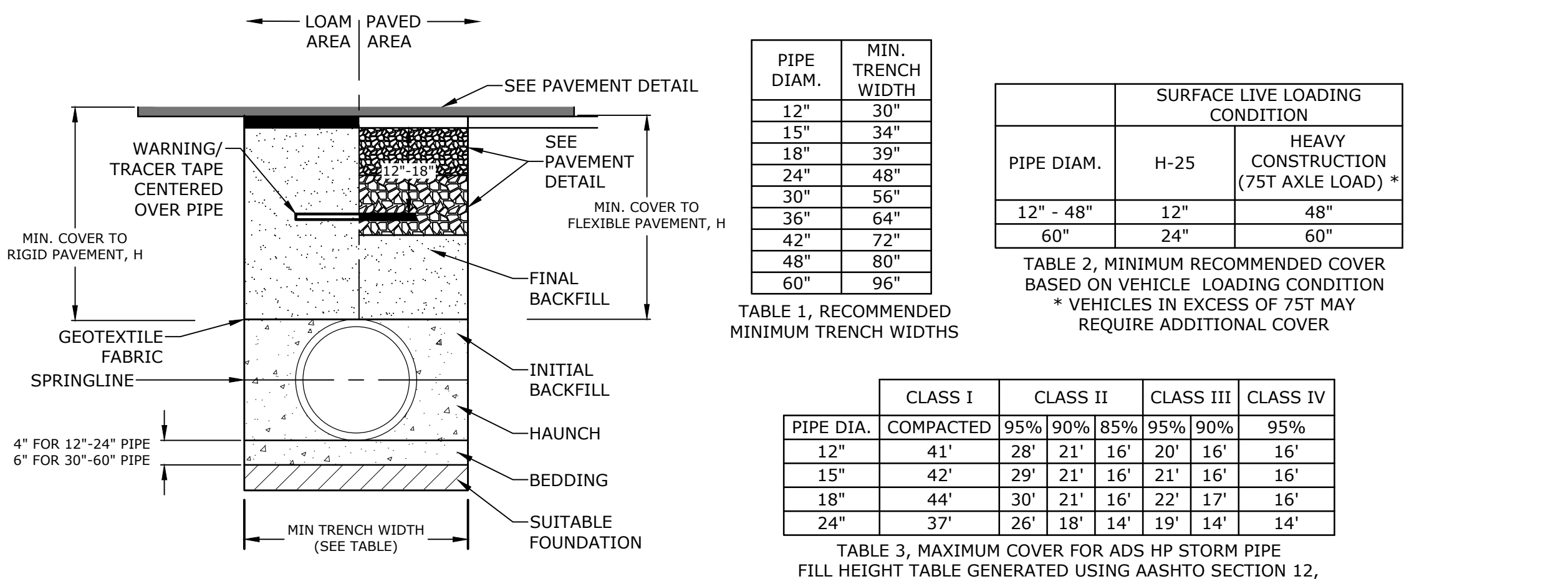
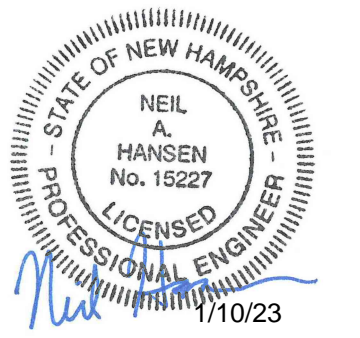
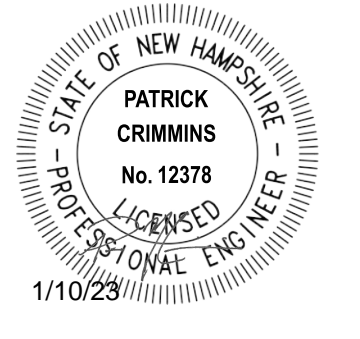
MARK	DATE	DESCRIPTION
K	12/28/2022	NHDES Wetland & Shoreland Submission
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E	5/20/2020	TAC Resubmission
D	4/29/2020	Wetland CUP Submission
C	4/20/2020	TAC Submission
B	2/6/2020	Design Review Submission
A	1/2/2020	ZBA Submission

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

**DETAILS SHEET**

SCALE: AS SHOWN

**C-506**



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

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

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

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

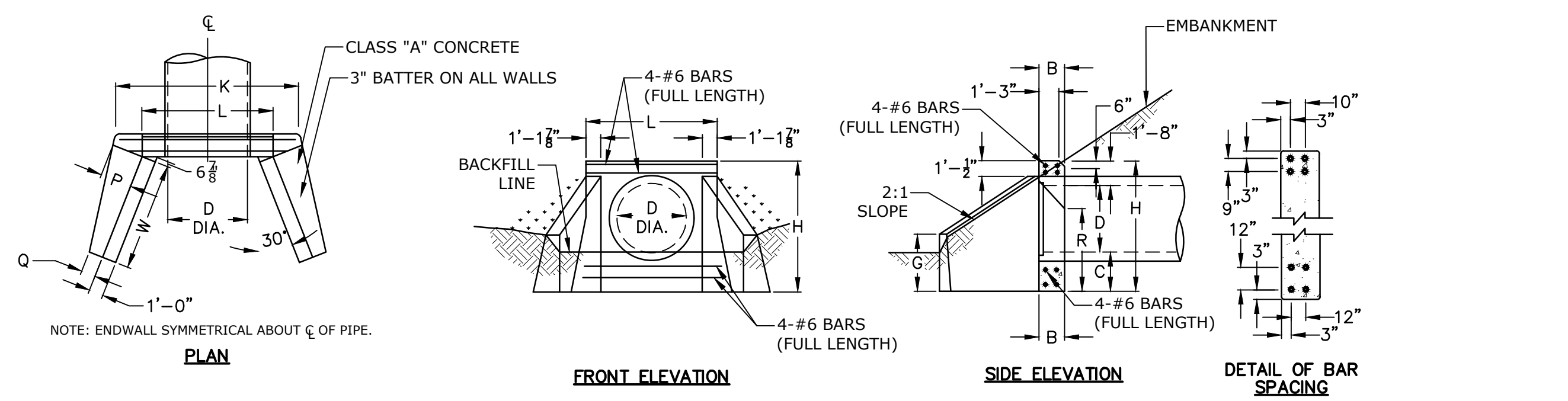
TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS: NO HYDROSTATIC PRESSURE UNIT WEIGHT OF SOIL ( $\gamma_s$ ) = 120 PCF

**NOTES:**

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

**HP STORM TRENCH INSTALLATION DETAIL**

NO SCALE



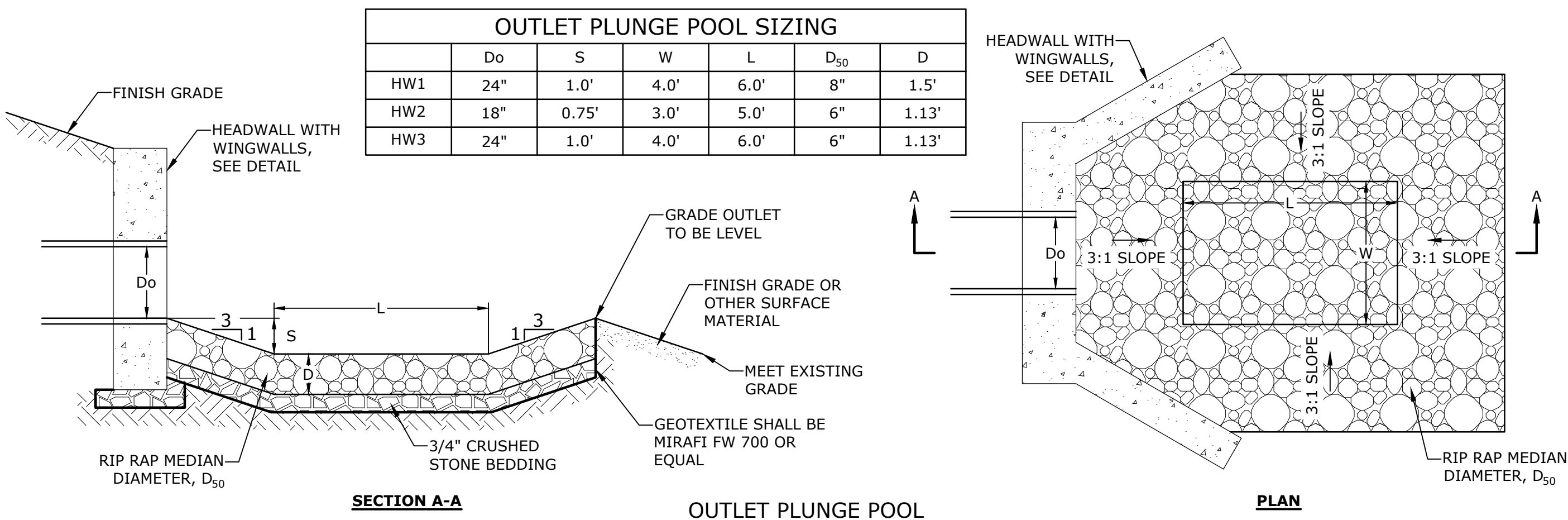
DIMENSIONS AND QUANTITIES FOR ONE WING TYPE ENDWALL												
D	B	C	G	H	K	L	P	Q	R	W	W	VOL.
IN.*	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	CY
24	1'-6"	2'-0"	3'-3"	6'-9"	9'-1 1/2"	7'-3 3/4"	1'-4 1/2"	0'-9 3/4"	3'-4 1/2"	5'-5 3/4"	5.87	
36	1'-6"	2'-0"	3'-3"	6'-8"	9'-1 1/2"	7'-3 3/4"	1'-4 1/2"	0'-9 3/4"	3'-4 1/2"	5'-5 3/4"	5.87	
42	1'-6"	2'-0"	3'-3"	7'-2"	9'-10 1/4"	7'-9 3/4"	1'-6 1/4"	0'-9 3/4"	3'-10 1/4"	6'-7 3/4"	6.67	

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

**HEADWALL WITH WINGWALLS**

NO SCALE

OUTLET PLUNGE POOL SIZING						
	Do	S	W	L	D50	D
HW1	24"	1.0'	4.0'	6.0'	8"	1.5'
HW2	18"	0.75'	3.0'	5.0'	6"	1.13'
HW3	24"	1.0'	4.0'	6.0'	6"	1.13'

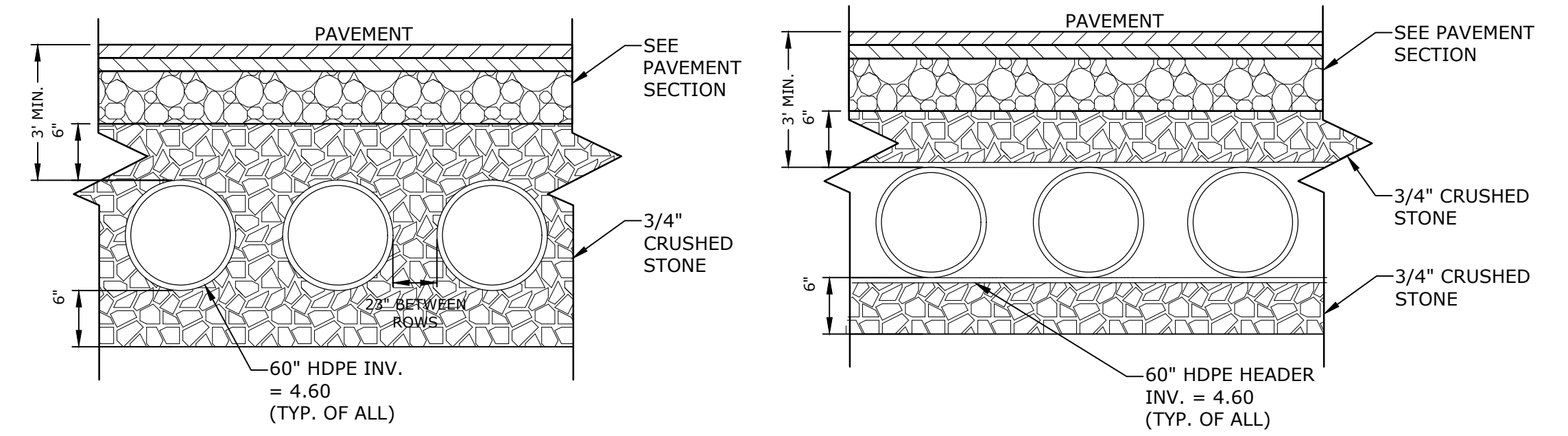


SECTION A-A

OUTLET PLUNGE POOL

NO SCALE

PLAN



UNDERGROUND DETENTION AREA

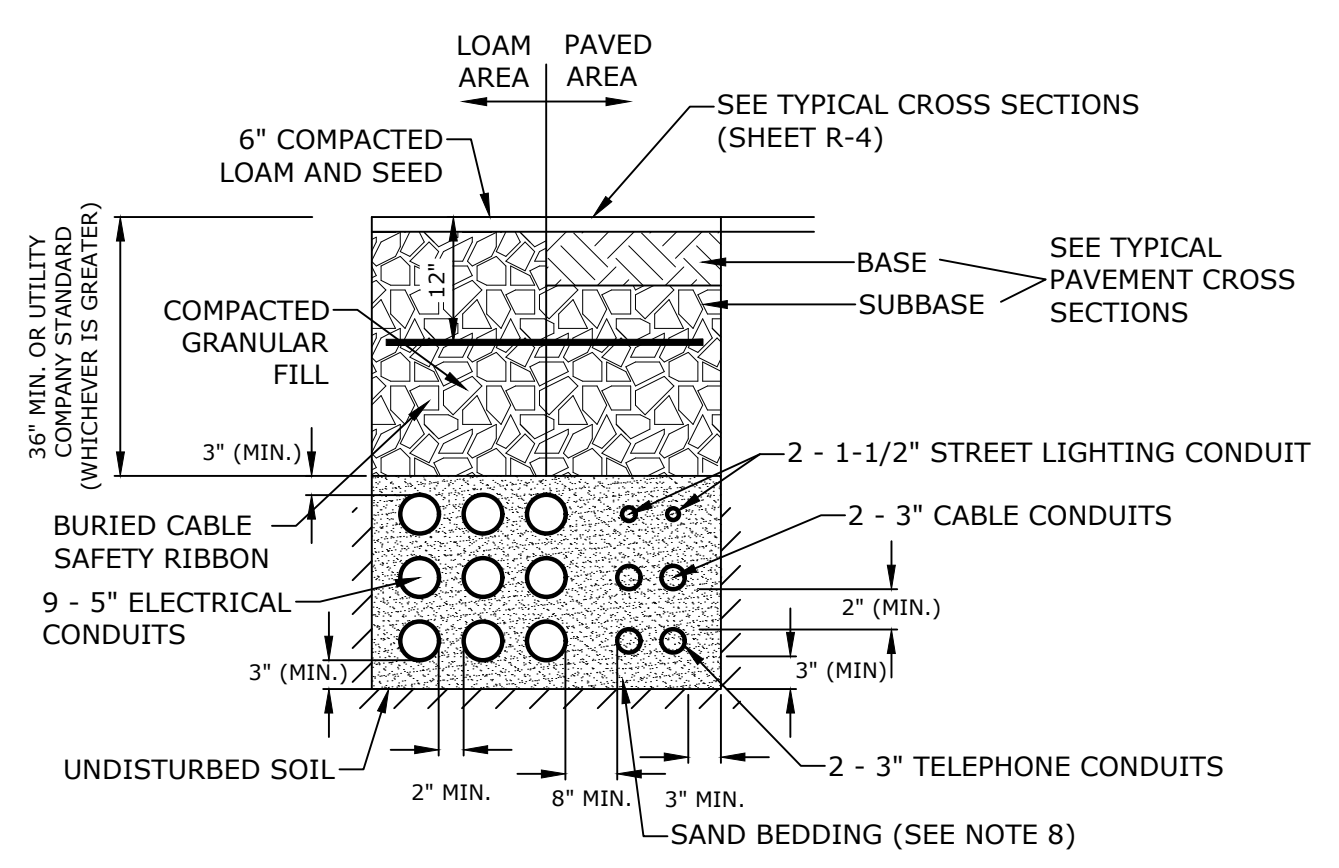
HEADER ROW

**NOTES:**

- UNDERGROUND DETENTION SYSTEM TO BE 60" HDPE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURERS DESIGN TO ENGINEER FOR APPROVAL.
- MANUFACTURER TO SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
- THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE APPROVED DESIGN PLAN.
- REFER TO STANDARD DUTY PAVEMENT SECTION DETAIL FOR PAVEMENT SECTION.

**UNDERGROUND DETENTION SYSTEM DETAIL**

NO SCALE

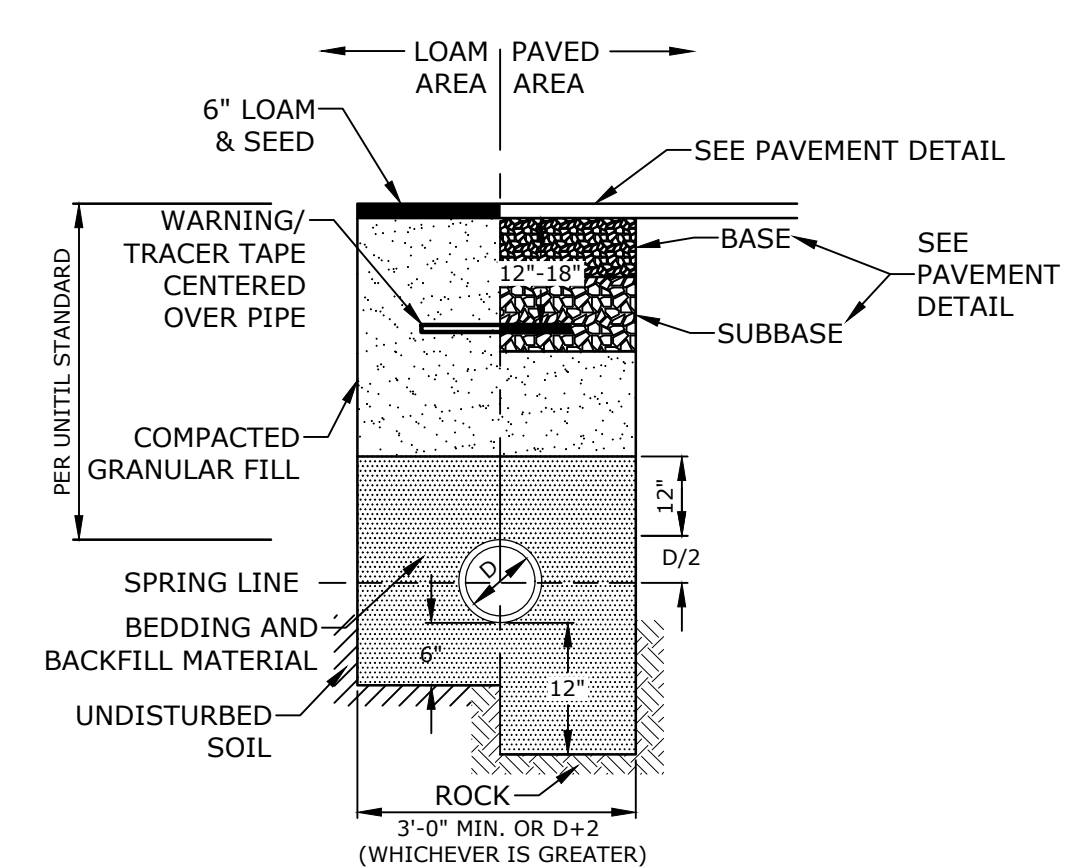


**ELECTRICAL AND COMMUNICATION CONDUIT**

NO SCALE

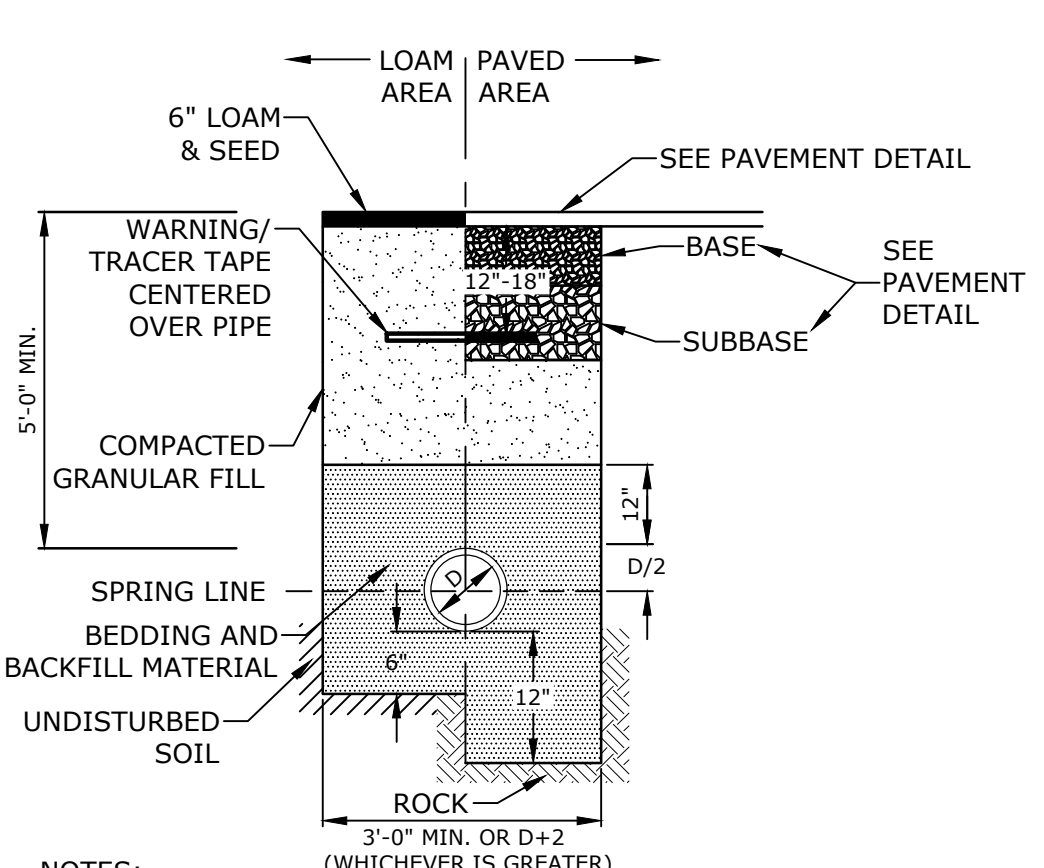
**NOTES:**

- 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.
- DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
- NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
- 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.
- 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.
- 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. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL SWEEPS WITH A 36 TO 48 INCH RADIUS.
- 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.



**GAS TRENCH**

NO SCALE



**WATER TRENCH**

NO SCALE

**NOTES:**

- SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
- WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.
- WATER MAIN TO BE PLACED IN A PROTECTIVE POLYWRAP AND INSTALLED WITH 3 CONTINUITY WEDGES PER JOINT.

**Proposed Multi-Family Development**

Iron Horse Properties, LLC

105 Bartlett Street  
Portsmouth,  
New Hampshire

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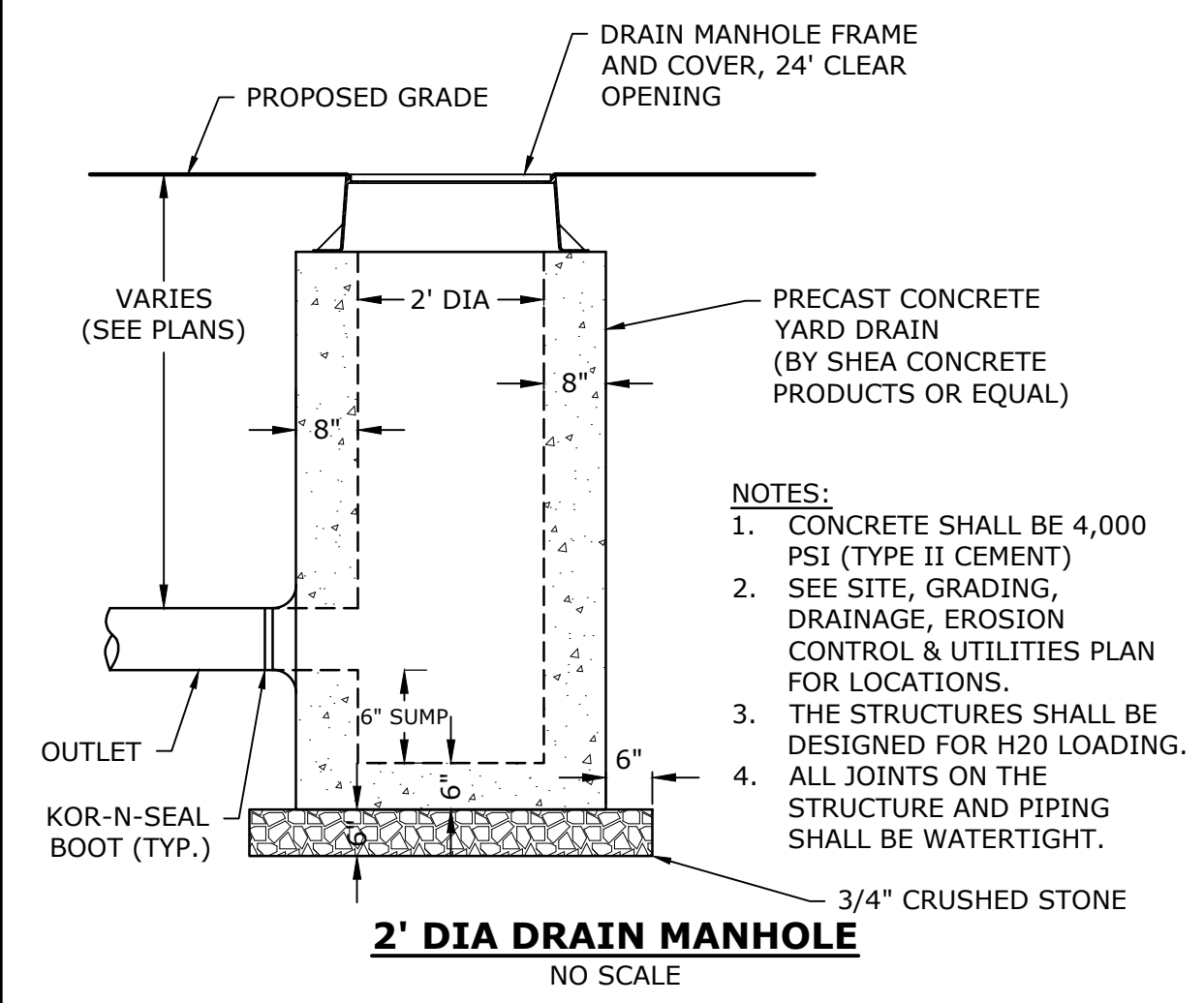
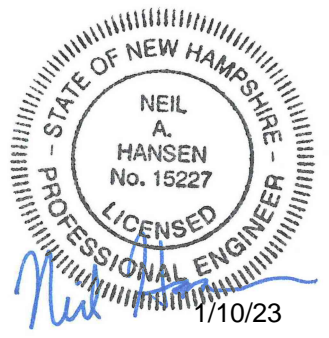
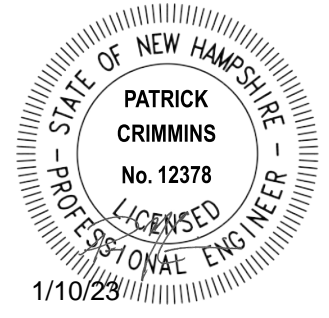
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	CKJ
CHECKED:	NAH
APPROVED:	PMC

**DETAILS SHEET**

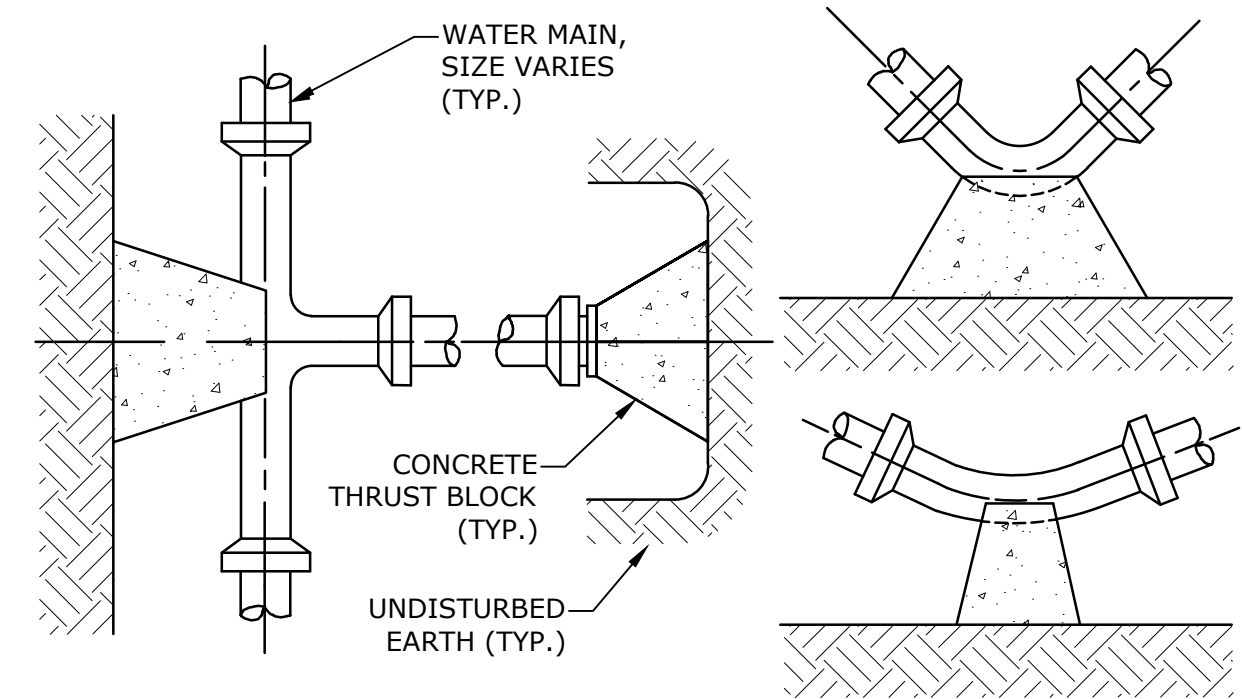
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**C-507**





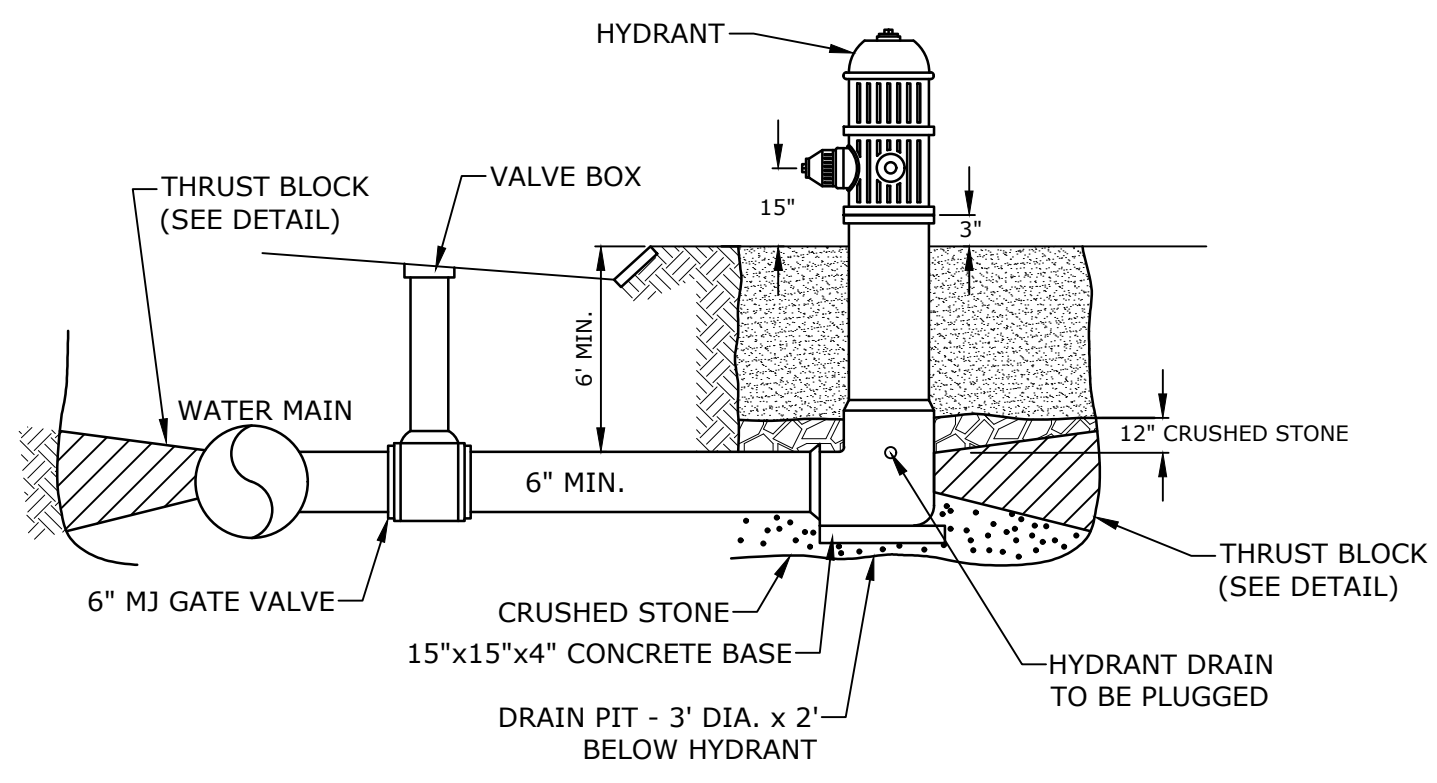
- NOTES:**
1. CONCRETE SHALL BE 4,000 PSI (TYPE II CEMENT)
  2. SEE SITE, GRADING, DRAINAGE, EROSION CONTROL & UTILITIES PLAN FOR LOCATIONS.
  3. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
  4. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.



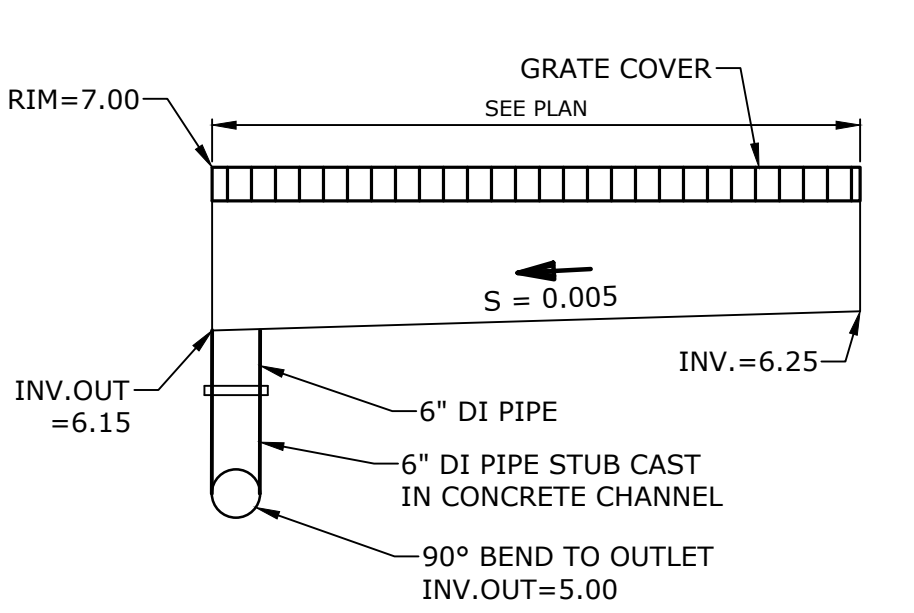
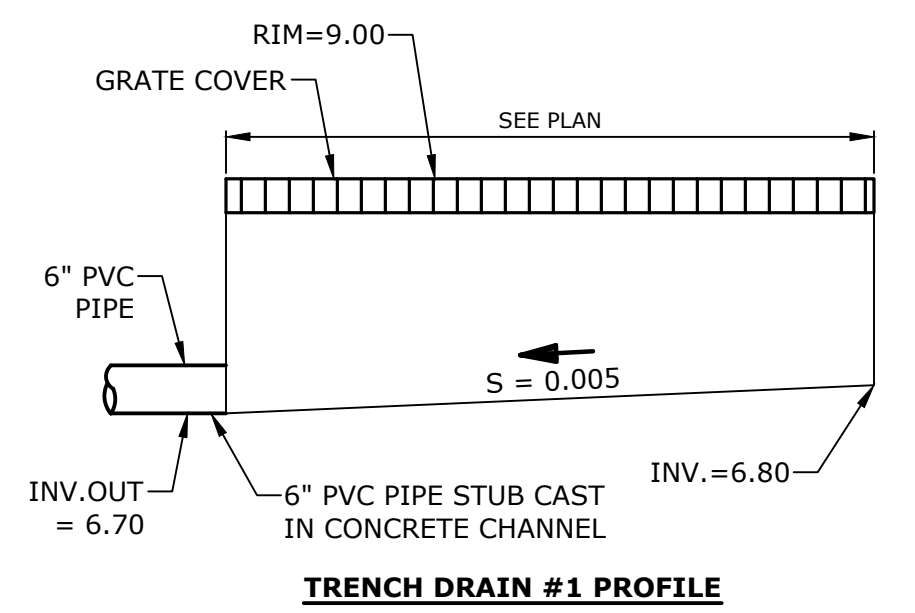
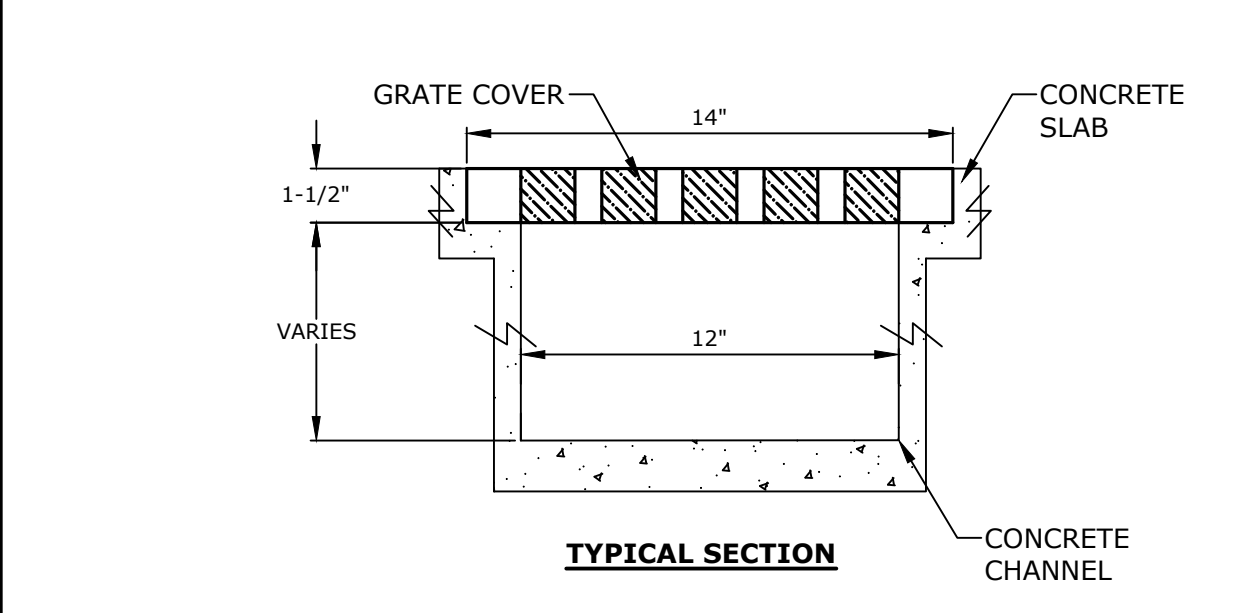
REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

TEST PRESSURE = 200PSI

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

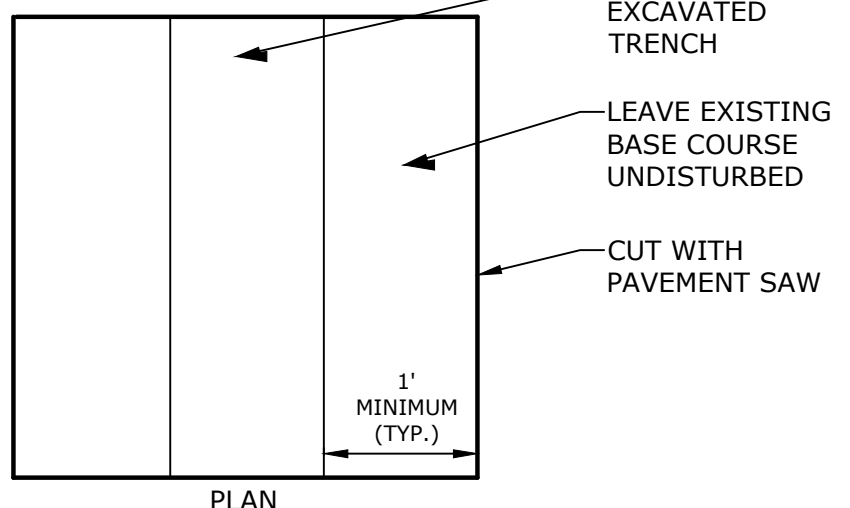
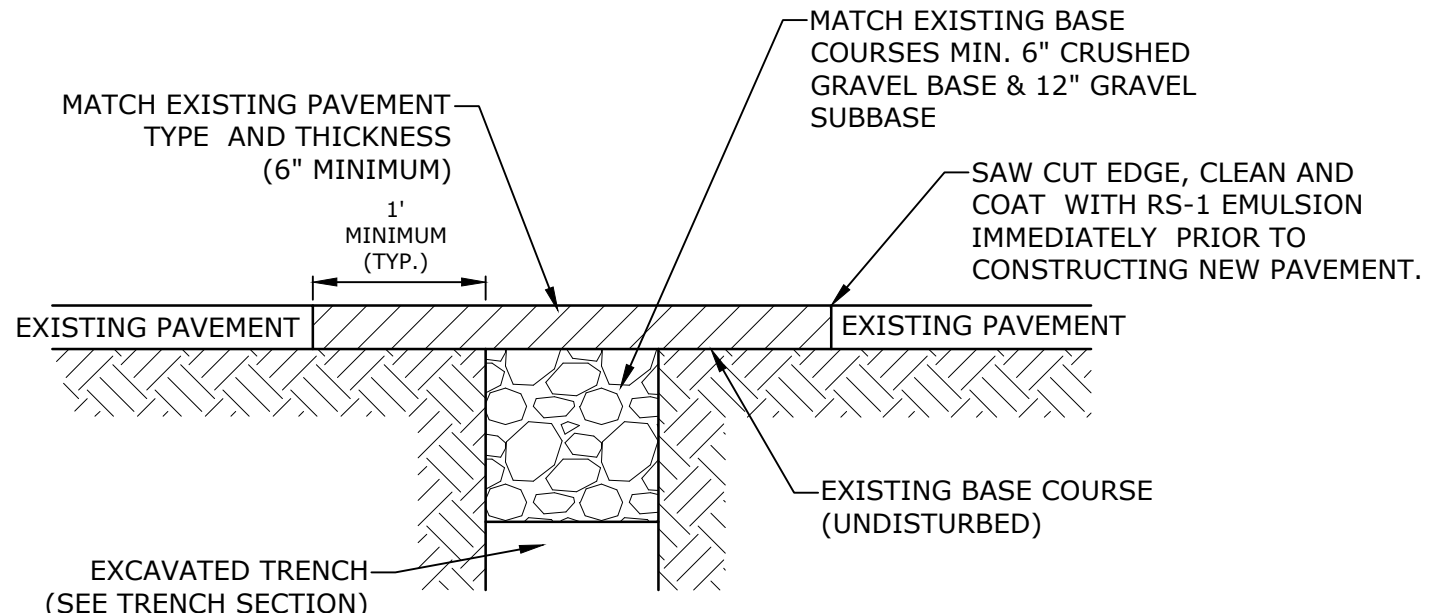


- NOTE:**
1. HYDRANT TO BE KENNEDY TYPE K-81, RIGHT OPEN (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER DEPARTMENT AND CITY OF PORTSMOUTH FIRE DEPARTMENT.
  2. PAINT HYDRANT IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AFTER INSTALLATION AND TESTING.



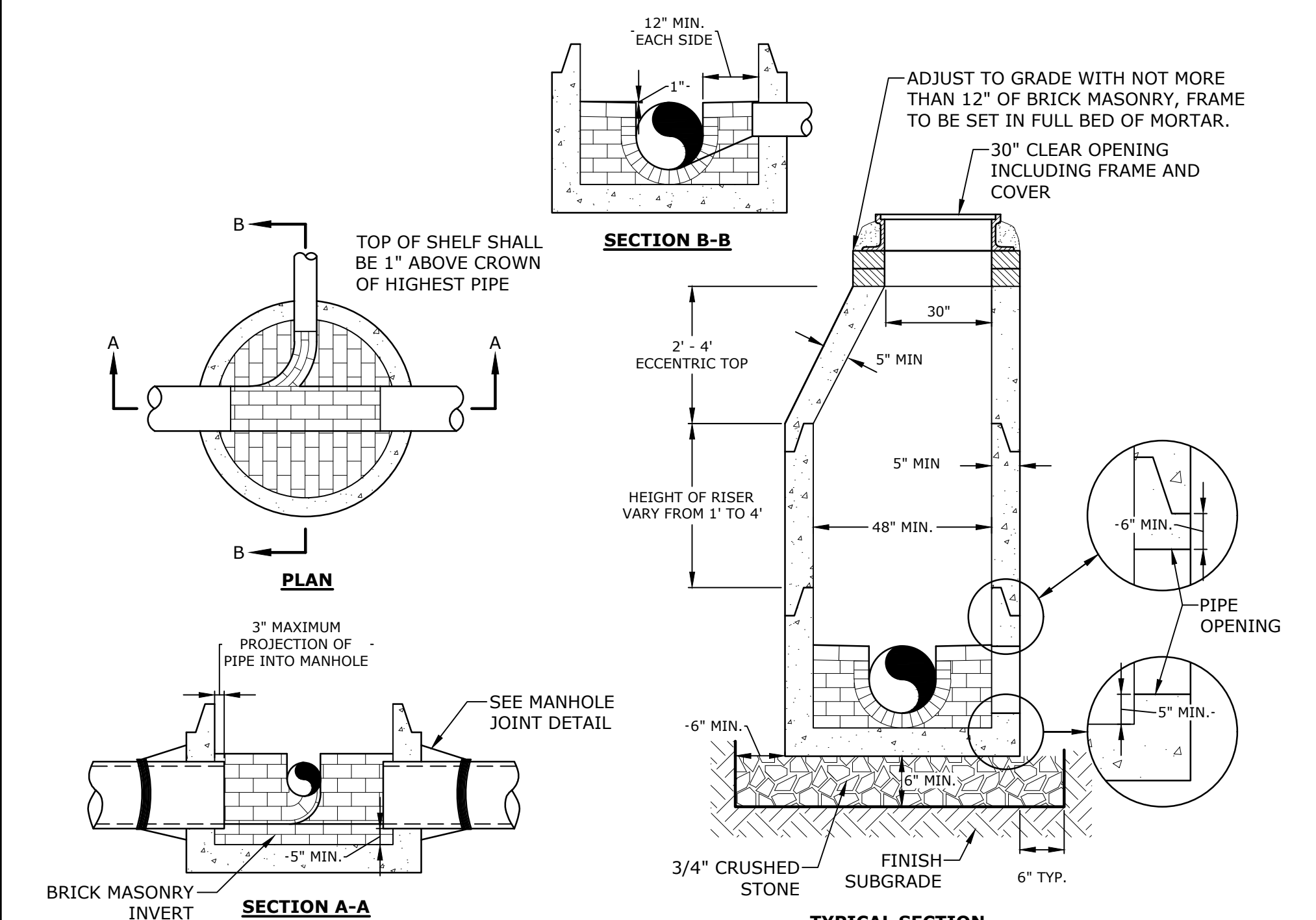
- NOTES:**
1. TRENCH DRAIN FRAME AND GRATE SHALL BE MULTIDRAIN ECONODRAIN SERIES #12 OR EQUAL.

**TRENCH DRAIN DETAIL**  
NO SCALE



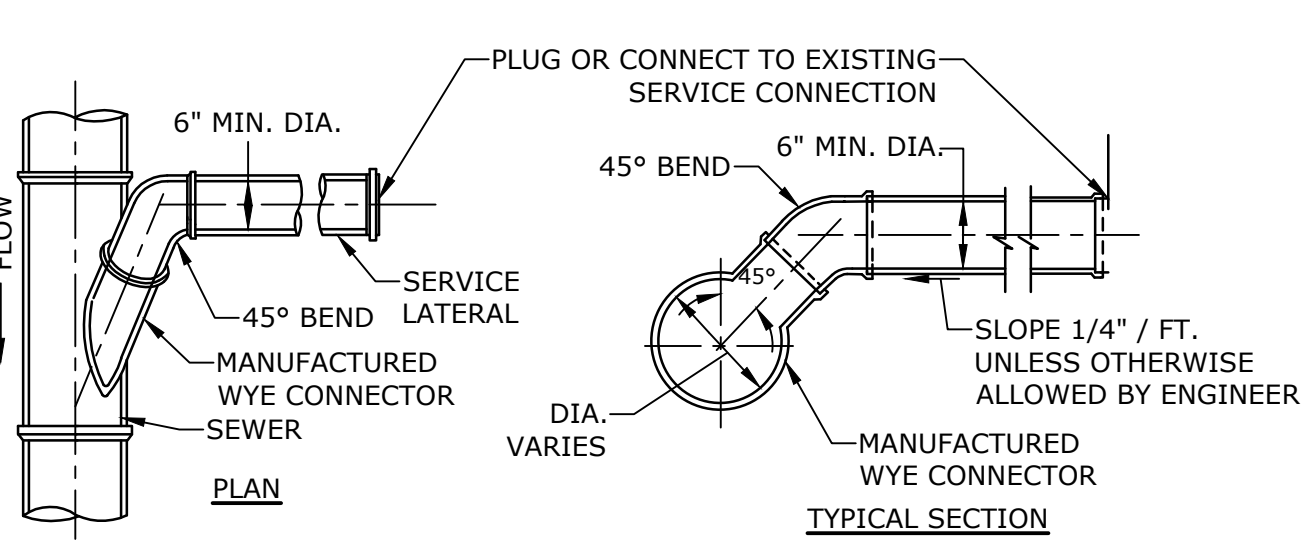
- NOTE:**
- COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

**ROADWAY TRENCH PATCH**  
NO SCALE

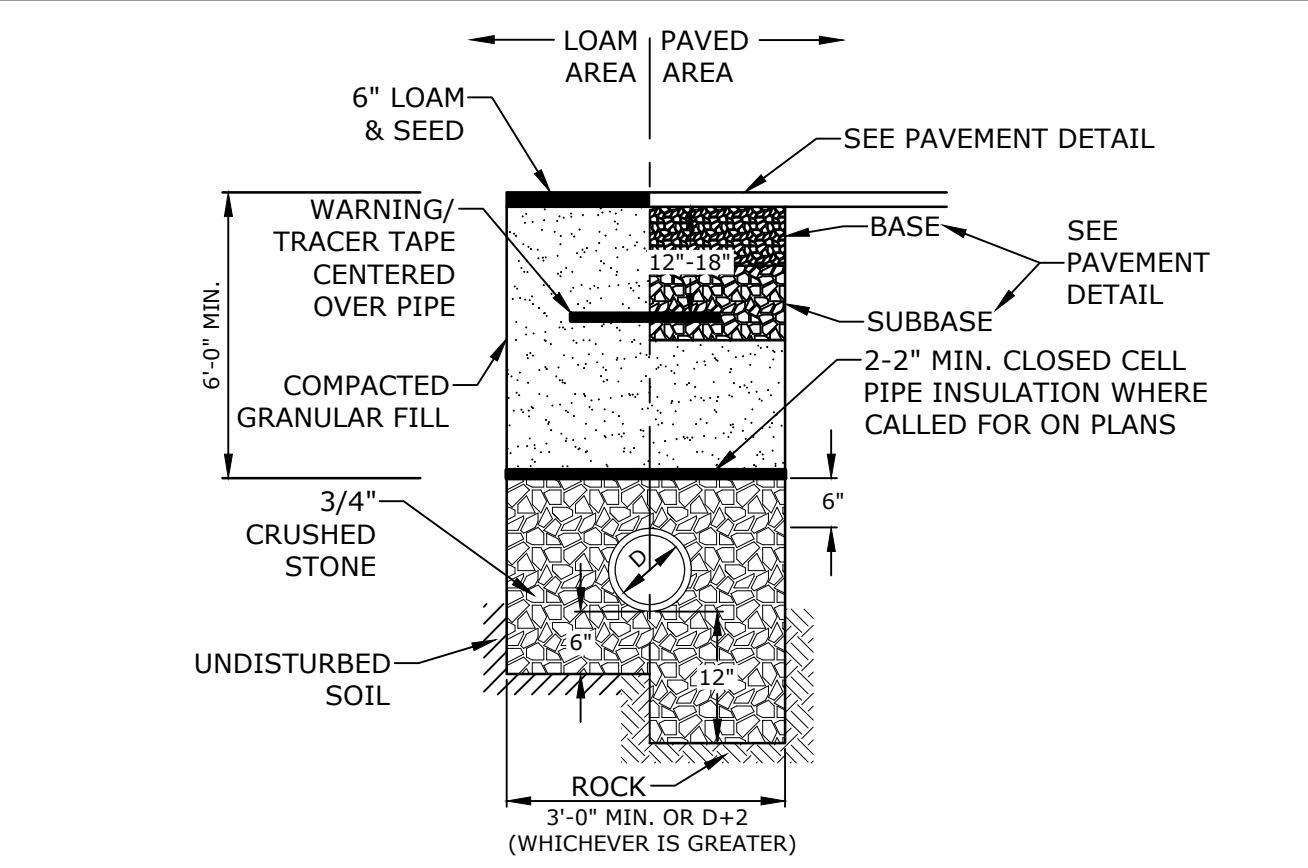


- NOTES:**
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
  2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
  3. INVERT BRICKS SHALL BE LAID ON EDGE.
  4. BITUMINOUS WATERPROOF COATING TO BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
  5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY E. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
  6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
  7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H2O LOADING, AND CONFORMING TO ASTM C478-06.

**SEWER MANHOLE**  
NO SCALE

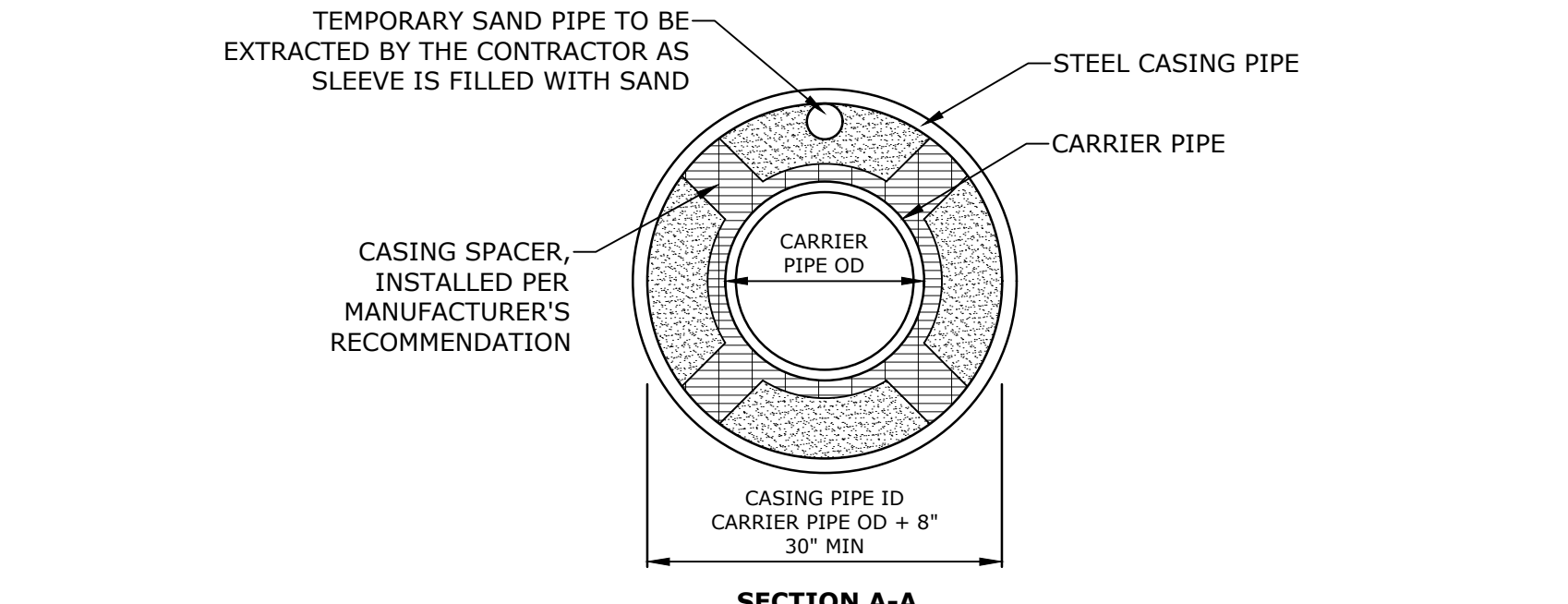
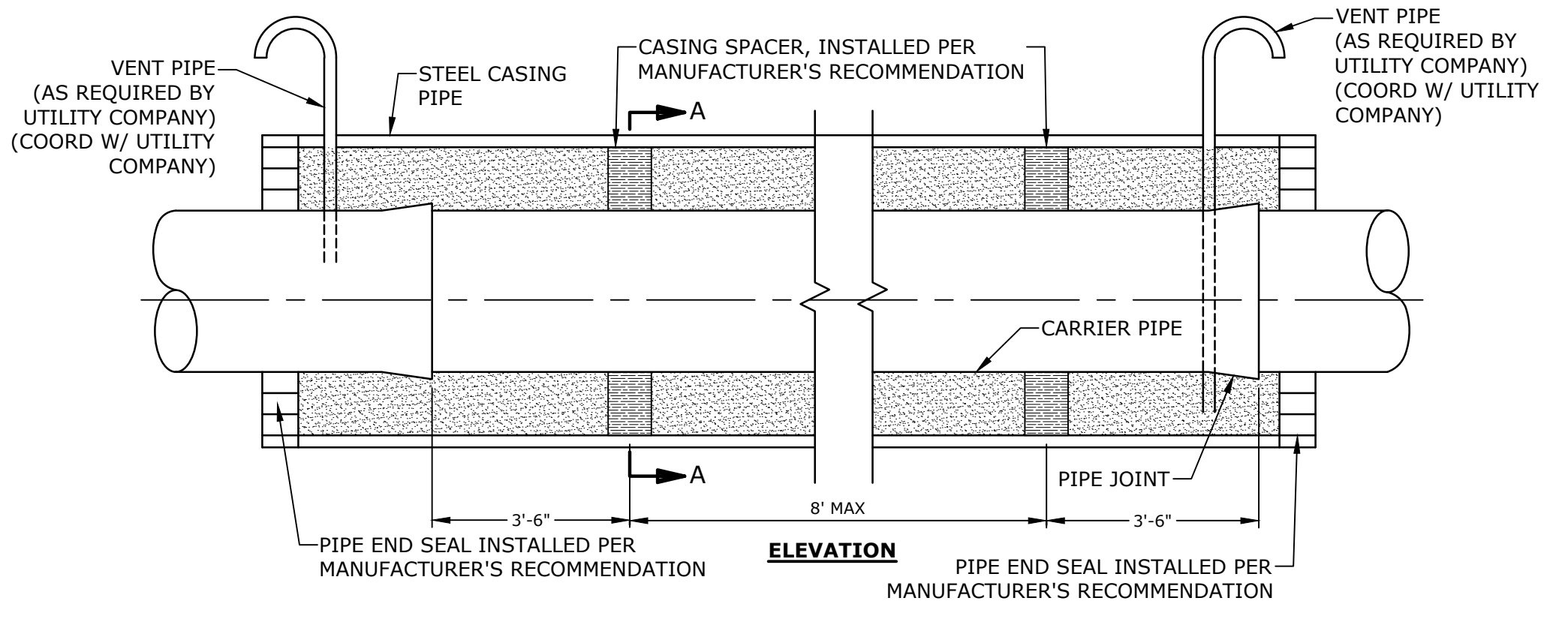


**STANDARD SERVICE LATERAL CONNECTION**  
NO SCALE



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

**SEWER SERVICE TRENCH**  
NO SCALE



- NOTES:**
1. SEAL ENDS OF SLEEVE TO PREVENT MIGRATION OF MATERIAL AND WATER THROUGH ANNULAR SPACE BETWEEN CASING PIPE AND CARRIER PIPE
  2. STEEL CASING PIPE SHALL MEET COOPERS E-80 RAILROAD LOADING WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI AND SHALL CONFORM TO THE LATEST REVISIONS OF THE REQUIREMENTS OF A.W.A. STANDARDS FOR FABRICATING ELECTRICALLY WELDED STEEL WATER PIPES OR ITS EQUIVALENT.
  3. STEEL CASING PIPE JOINTS SHALL BE FULLY WELDED AROUND THE COMPLETE CIRCUMFERENCE OF THE PIPE.
  4. CONTRACTOR SHALL COORDINATE ALL UTILITY AND CARRIER PIPE WORK WITHIN THE RAIL ROAD RIGHT OF WAY WITH PAN-AM & THE CITY PORTSMOUTH DPW PRIOR TO CONSTRUCTION.

**WATER PIPELINE SLEEVE DETAIL (CARRIER PIPE)**  
NO SCALE

**Proposed Multi-Family Development**

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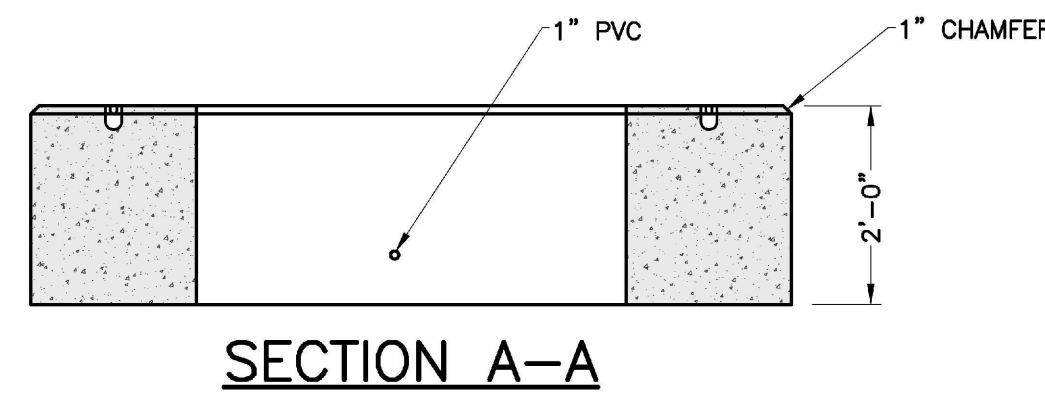
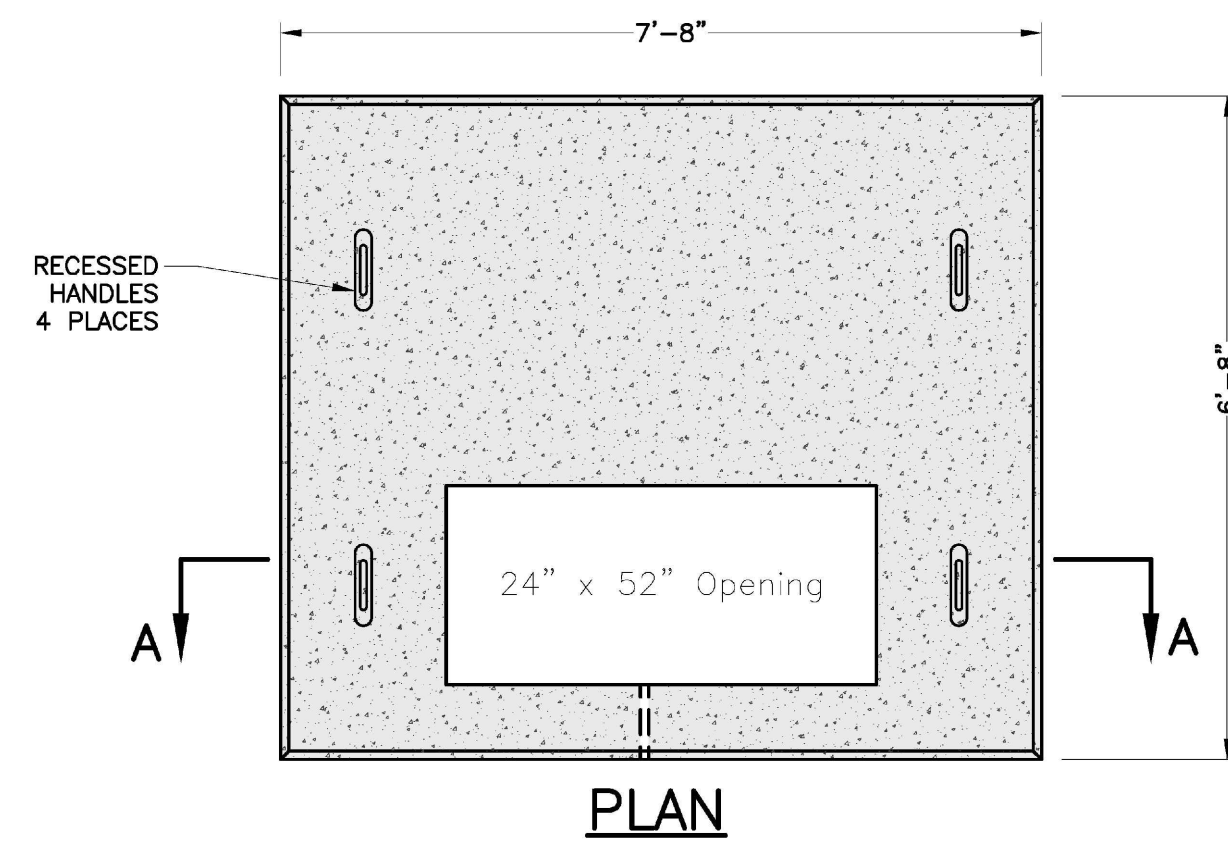
PROJECT NO:	C-0960-006
DATE:	April 20, 2020
FILE:	C-0960-006_C-DTLS.DWG
DRAWN BY:	CHK
CHECKED:	NAH
APPROVED:	PMC

**DETAILS SHEET**

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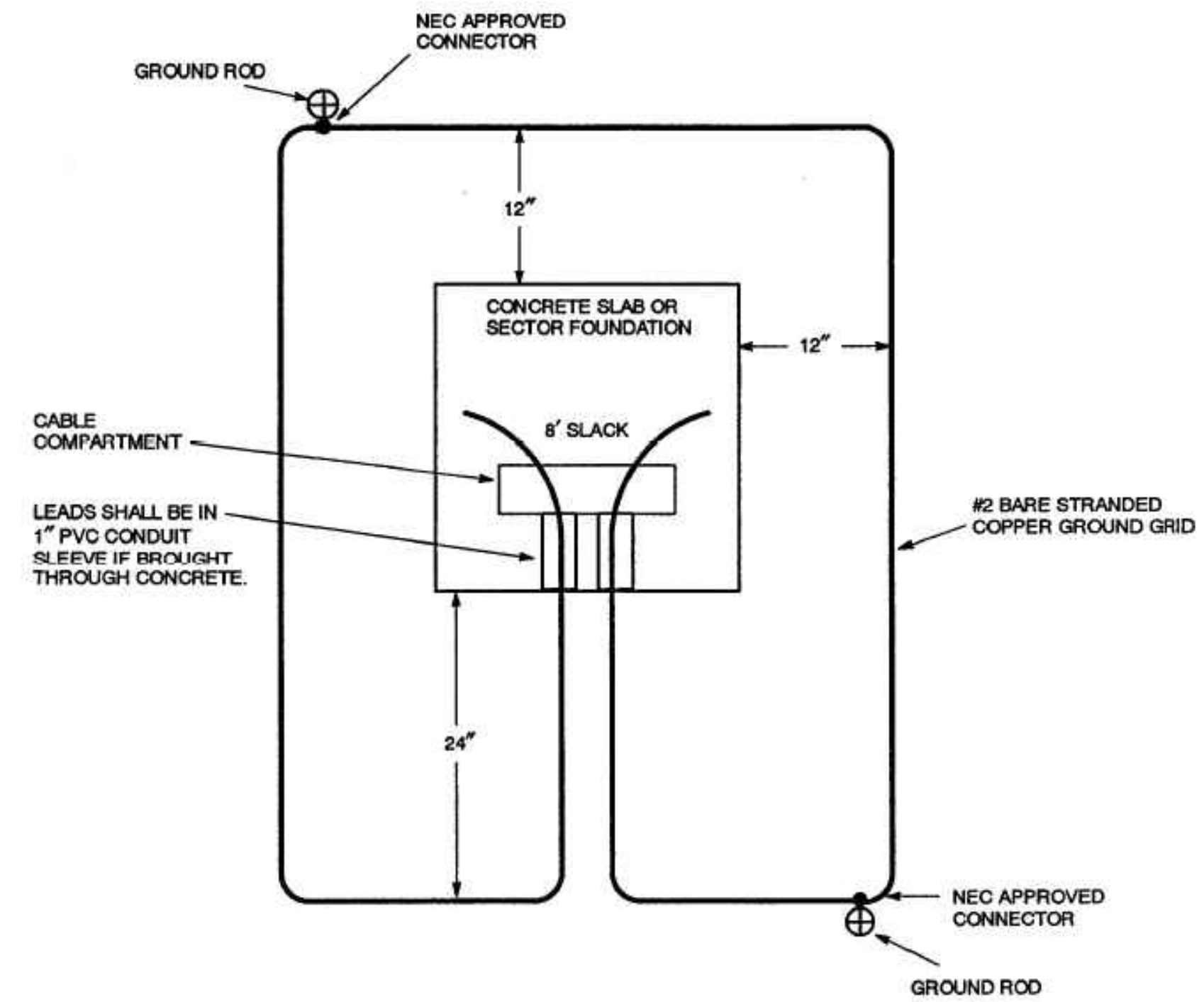
**C-508**

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 Portsmouth, NH 03801  
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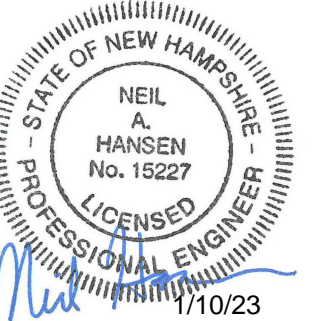
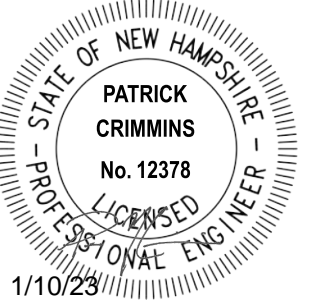
**3-PHASE TRANSFORMER PAD**  
NO SCALE

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



- NOTES:
- THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES BELOW GRADE. EIGHT FEET OF EXTRA WIRE FOR EACH GROUND GRID LEG SHALL BE LEFT EXPOSED IN THE CABLE COMPARTMENT TO ALLOW FOR THE CONNECTION TO THE TRANSFORMER. THE TWO 8-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.

**PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL**  
NO SCALE



**Proposed Multi-Family Development**

Iron Horse Properties, LLC

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Portsmouth,  
New Hampshire

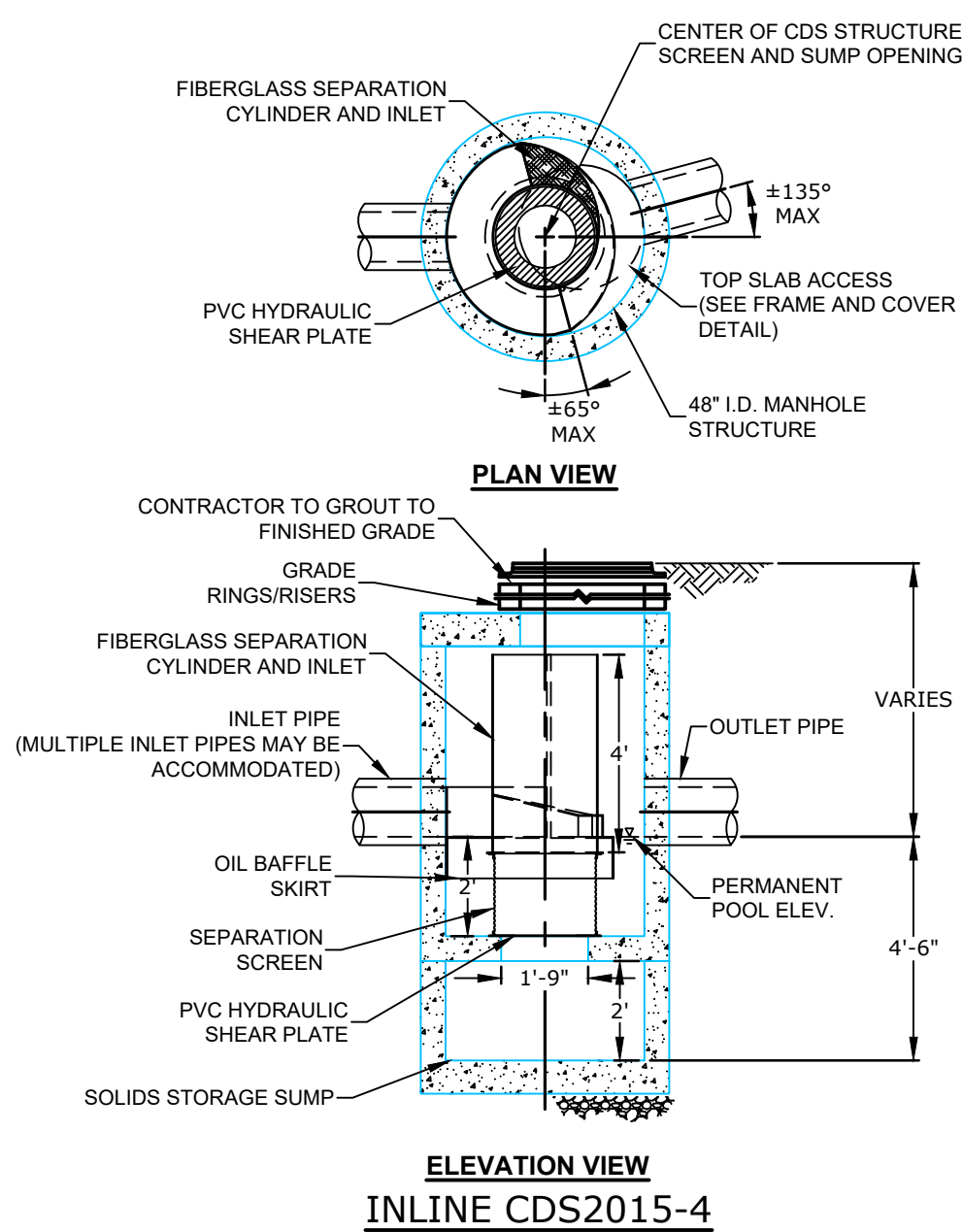
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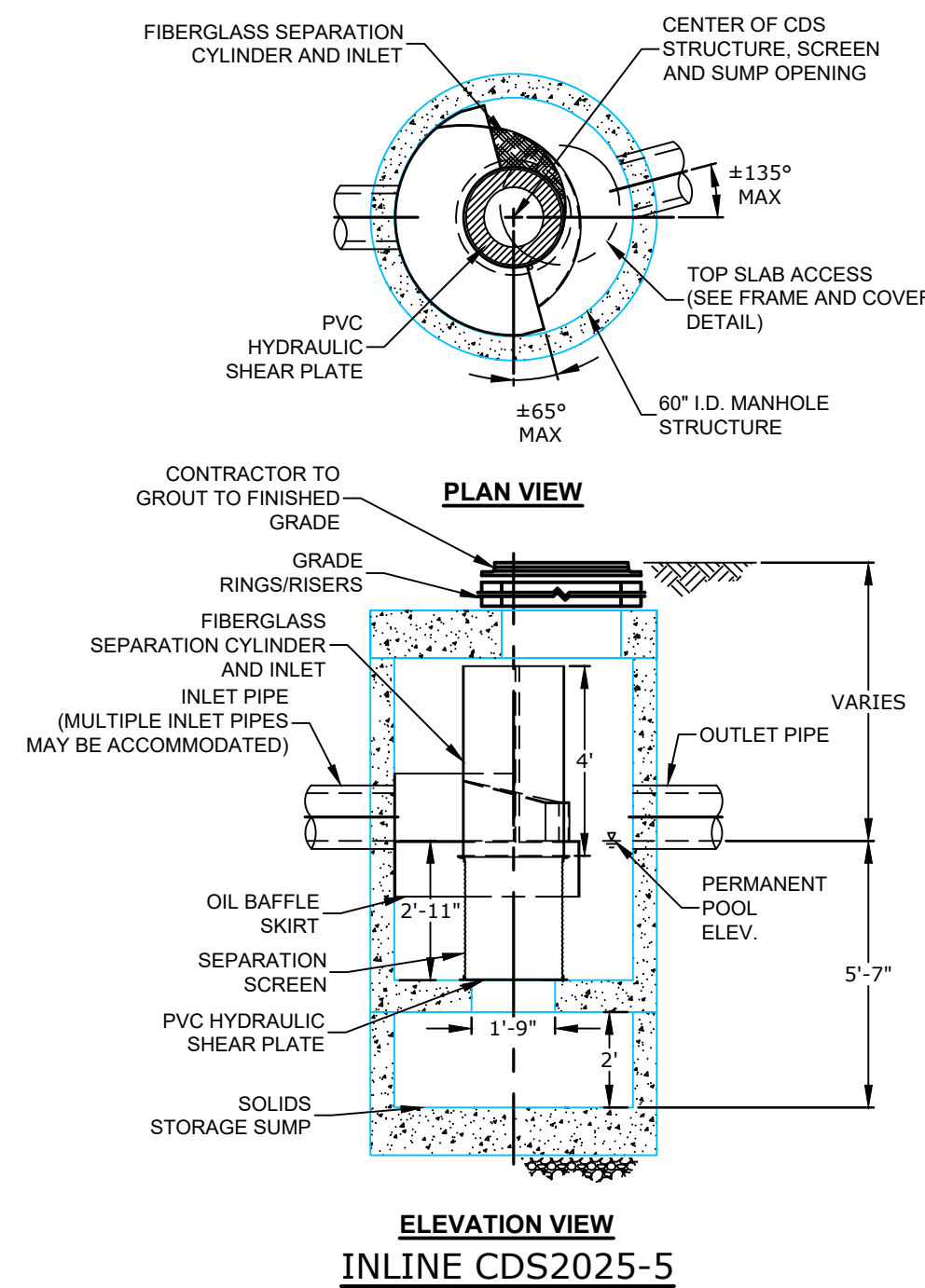
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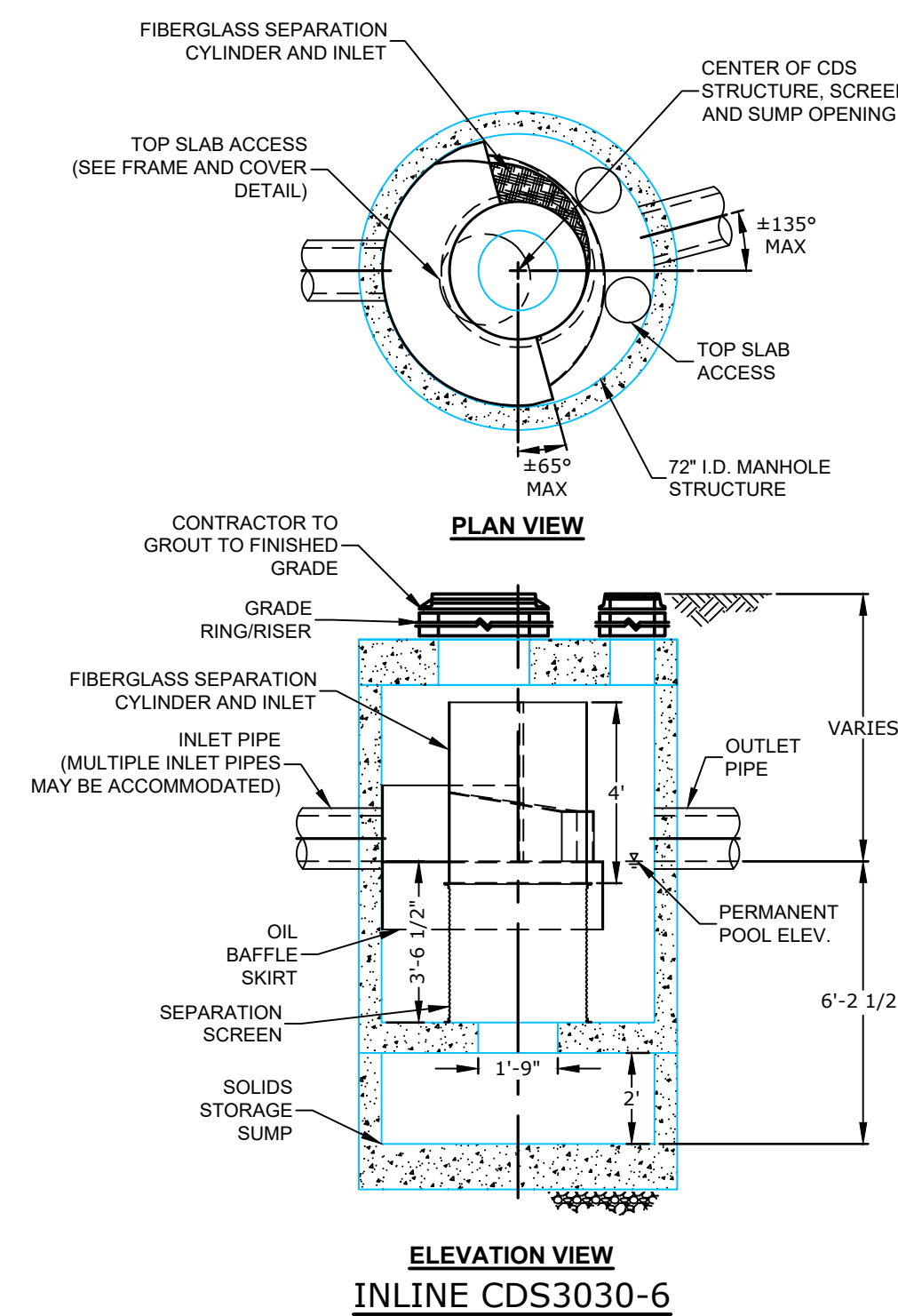
C-509



**ELEVATION VIEW**  
**INLINE CDS2015-4**



**ELEVATION VIEW**  
**INLINE CDS2025-5**



**ELEVATION VIEW**  
**INLINE CDS3030-6**

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID	CDS-1	CDS-2	CDS-3
MODEL SIZE	CDS3030-6	CDS2015-4	CDS2025-5
WATER QUALITY FLOW RATE (cfs)	2.85	0.63	1.48
PEAK FLOW RATE (cfs)	26.54	5.13	8.19
RETURN PERIOD OF PEAK FLOW (yrs)	25	25	25

- GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
  3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE.
  4. www.contechES.com
  5. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  6. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
  7. 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 SPECIFIED BY ENGINEER OF RECORD.
  - 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 RIFTS, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
  - E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

**CONTECH CDS PRETREATMENT UNITS**  
NO SCALE

**Plant List**

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	Amelanchier canadensis	Shadblow Serviceberry	2	2.5-3" Cal	B&B
Ar	Acer rubrum 'October Glory'	October Glory Red Maple	1	2.5-3" Cal	B&B
As	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	1	2.5-3" Cal	B&B
Bn	Betula nigra 'Heritage'	Heritage River Birch	8	8-10" Ht	Multi-stem, B&B
Cb	Carpinus carolinianum	American Hornbeam	2	2.5-3" Cal	B&B
Gt	Ginkgo biloba 'Autumn Gold'	Autumn Gold Ginkgo	4	2.5-3" Cal	B&B
Gb	Gleditsia triacanthos inermis 'Halika'	Halika Thornless Honeylocust	2	2.5-3" Cal	B&B
Ham	Hamamelis x intermedia 'Arnold promise'	Arnold Promise Witchhazel	1	8-10" Ht	Multi-stem, B&B
Ls	Liquidambar styraciflua	American Sweetgum	5	2.5-3" Cal	B&B
Ll	Liriodendron tulipifera	Tuliptree	5	2.5-3" Cal	B&B
LtB	Liriodendron tulipifera	Tuliptree	1	3.5" Cal	B&B (5 pts)
Mal	Malus 'Sugar Tyme'	Sugartyme White Crabapple	6	1.5-2" Cal	B&B
Ns	Nyssa sylvatica	Black Tupelo	1	4" Cal	B&B
Qp	Quercus palustris 'Green Pillar'	Green Pillar Pin Oak	7	2.5-3" Cal	B&B
Th	Thuja plicata 'Green Giant'	Green Giant Arborvitae	3	2.5-3" Cal	B&B
Ua	Ulmus americana 'Princeton'	Princeton American Elm	6	2.5-3" Cal	B&B

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
CleB	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	10	10 gal	(1.75 pts)
IVB	Ilex verticillata 'Red Sprite'	Red Sprite Winterberry	13	3-4'	(1.75 pts)
	Lawn	Penninton Smartseed Tall Fescue Blend			
	Seed Mix 1	New England Wetland Plants, Inc. New England Conservation/Wildlife Mix			

**WATERFRONT BUFFER SHRUBS**

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
CleB	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	10	10 gal	(1.75 pts)
IVB	Ilex verticillata 'Red Sprite'	Red Sprite Winterberry	13	3-4'	(1.75 pts)
	Lawn	Penninton Smartseed Tall Fescue Blend			
	Seed Mix 1	New England Wetland Plants, Inc. New England Conservation/Wildlife Mix			

**Interpretive Signage**

Lt(3)  
Qp(3)  
CleB(4)  
IVB(4)

Approximate existing tree line. Area of select invasive species removal. All removals to be completed in compliance with NHDES regulations & NHDOT BMPs. See note this sheet.

Seed disturbed areas beyond mow line with Seed Mix 1, see plant list

2' Wide maintenance strip, typ

100' Tidal Buffer

North Mill Pond

Mow line

Am(2)

Ua(2)

Ua

Ua

Ua

Ua

Ua

Ua

Ua

Ua

Ua

Ua

Ua

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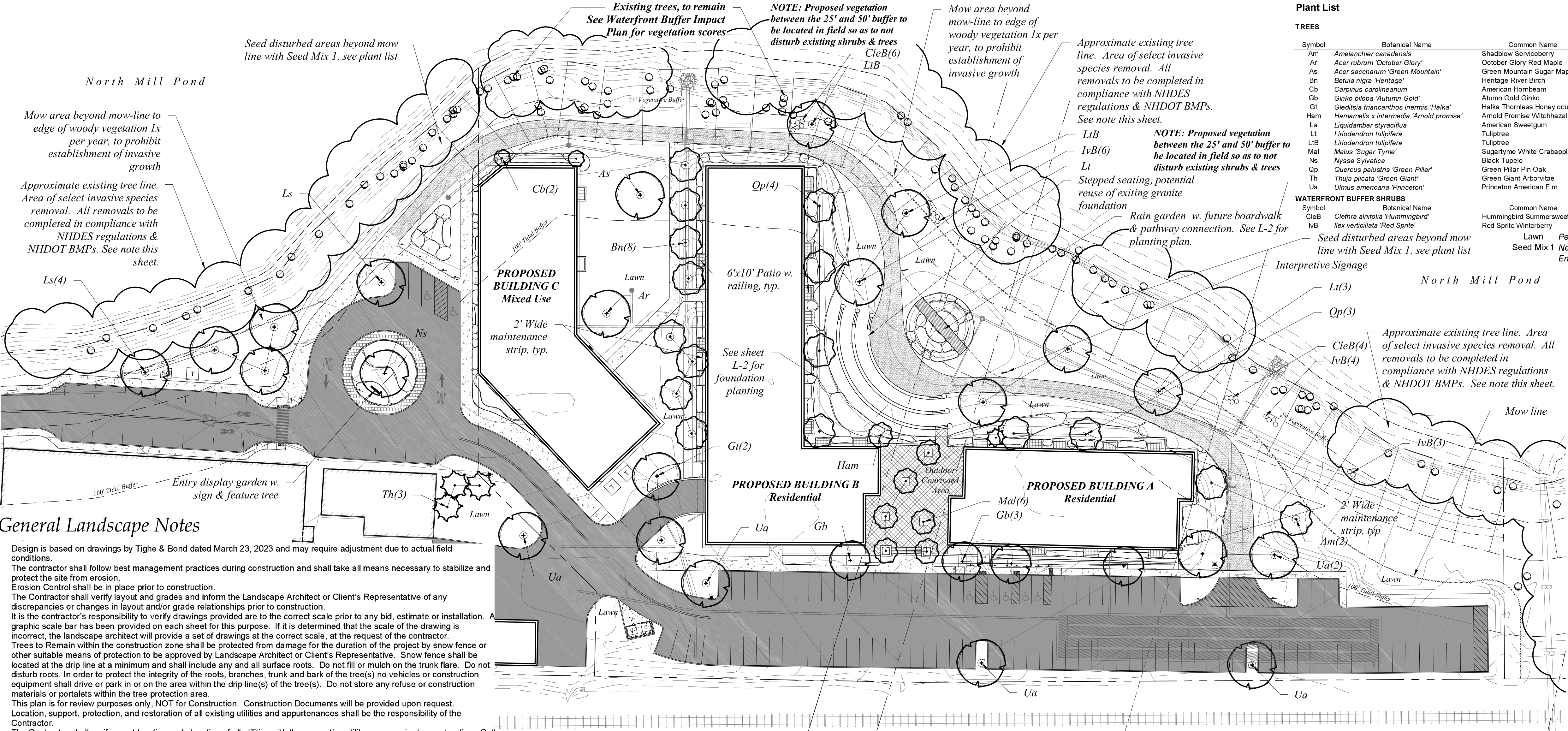
Ua

Ua

Ua

Ua

Ua



**General Landscape Notes**

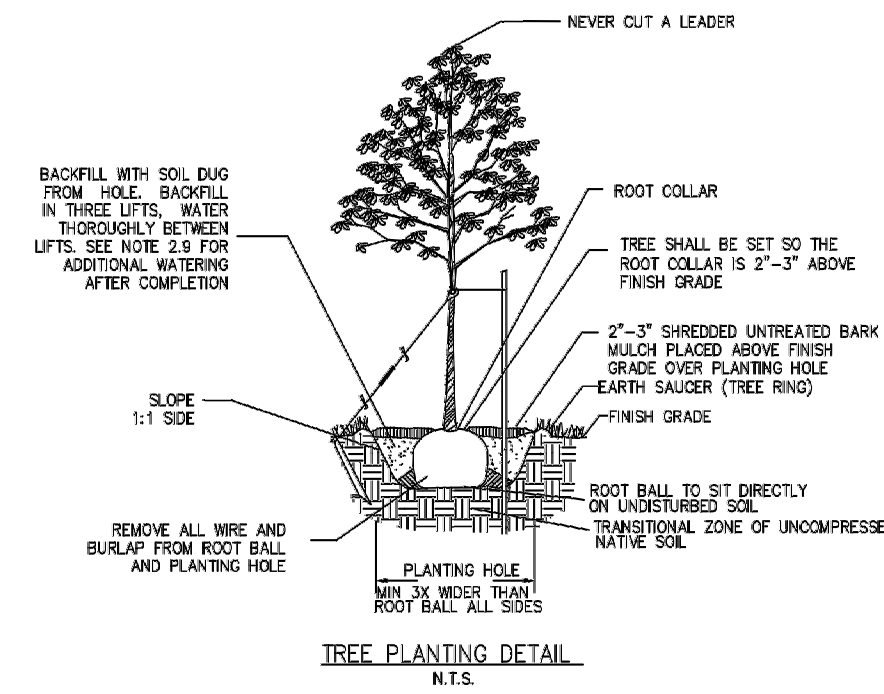
- Design is based on drawings by Tighe & Bond dated March 23, 2023 and may require adjustment due to actual field conditions.
- The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
- This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
- Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be legibly tagged with proper botanical name.
- The Contractor shall guarantee all plants for not less than one year from time of acceptance.
- Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with the following:
  - Outside hose attachments spaced a maximum of 150 feet apart, and
  - An underground irrigation system, or
  - A temporary irrigation system designed for a two-year period of plant establishment.
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
- All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 3/4" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicle intersections the canopies shall be raised to 8' min.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
- Landscape Architect is not responsible for the means and methods of the contractor.

**City of Portsmouth Landscape Notes**

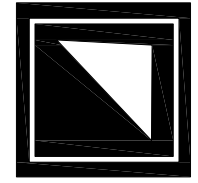
- The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
- All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free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

**INVASIVES REMOVAL AND DISTURBANCES WITHIN THE BUFFER ZONE**

With the exception of the Norway Maples in the 25' vegetated buffer, which are to remain, invasive species within the 100' shoreland setback will be removed. Invasive species within the 25' vegetated buffer will be flagged in field by the landscape architect or certified arborist to be removed. Invasive shrubs within the 25' vegetated buffer with caliper measuring greater than 3" such as Buckthorn and Autumn Olive will be flush cut repeatedly to kill the plant, leaving the stumps in place. Woody invasives smaller than 3" caliper shall be removed with hand tools. Areas of soil disturbance from such removals will be limited to the immediate root area surrounding each plant, dressed with loam, replanted with New England Wildlife and Conservation Seed Mix and stabilized with jute mesh staked in place. All other areas disturbed by headwalls and culverts shall be loamed, seeded with New England Wildlife and Conservation Seed Mix and stabilized with jute mesh.



City of Portsmouth Tree Planting Detail

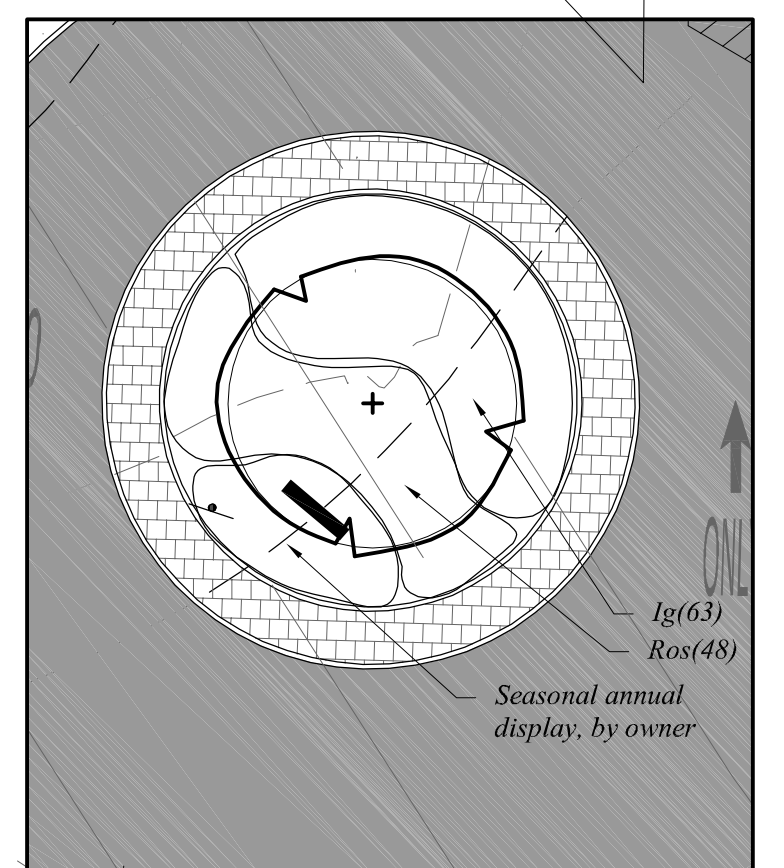
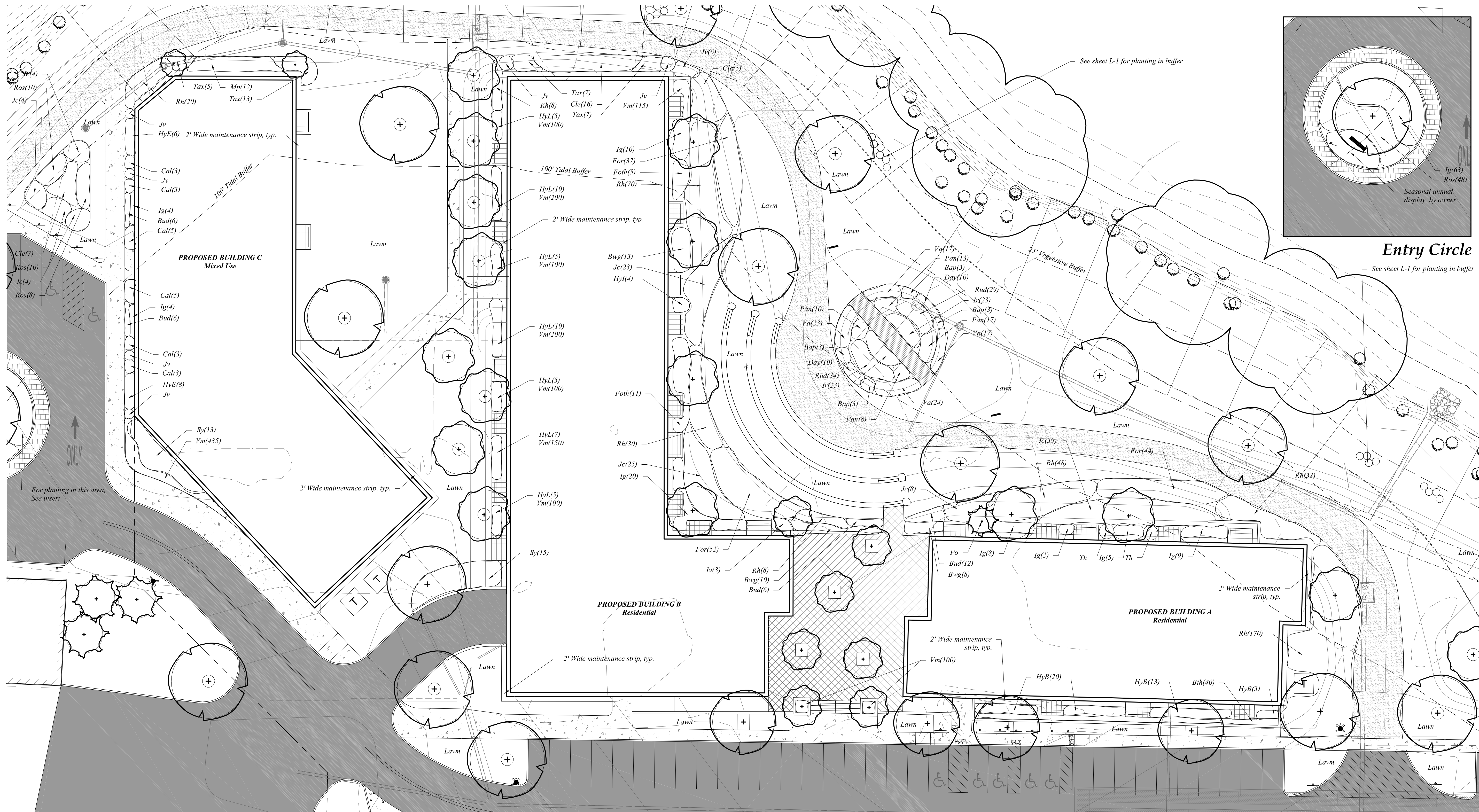


**PART 1 - GENERAL**

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

**PART 2 - EXECUTION**

- ALL PLANTING HOLES SHALL BE DUG BY HAND - NO MACHINES, THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANTING PITS, PLANTING BEDS WITH GRANITE CURBING, AND PLANTING SITES WITH SILVA CELLS ARE BEING CREATED. IF A MACHINE IS USED TO DIG IN ANY OF THESE SITUATIONS AND PLANTING DEPTH NEEDS TO BE RAISED THE MATERIAL IN THE BOTTOM OF THE PLANTING HOLE MUST BE FIRMED WITH MACHINE TO PREVENT SINKING OF THE ROOT BALL.
- ALL WIRE AND BURLAP SHALL BE REMOVED FROM THE ROOT BALL AND PLANTING HOLE.
- THE ROOT BALL OF THE TREE SHALL BE WORKED SO THAT THE ROOT COLLAR OF THE TREE IS VISIBLE AND NO GRADING ROOTS ARE PRESENT.
- THE ROOT COLLAR OF THE TREE SHALL BE 2"-3" ABOVE GRADE OF PLANTING HOLE FOR FINISHING DEPTH.
- ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED NO MORE THAN 20% WITH ORGANIC COMPOST. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE ENGINEERED SOIL IS BEING USED IN CONJUNCTION WITH SILVA CELLS AND WHERE NEW PLANTING BEDS ARE BEING CREATED.
- ALL PLANTINGS SHALL BE BACKFILLED IN THREE LIFTS AND ALL LIFTS SHALL BE WATERED SO THE PLANTING WILL BE SET AND FREE OF AIR POCKETS - NO EXCEPTIONS.
- AN EARTH BEEM SHALL BE PLACED AROUND THE PERIMETER OF THE PLANTING HOLE EXCEPT WHERE CURBED PLANTING BEDS OR PITS ARE BEING USED.
- 2"-3" OF MULCH SHALL BE PLACED OVER THE PLANTING AREA.
- AT THE TIME OF PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.
- STAKES AND GUYS SHALL BE USED WHERE APPROPRIATE AND/OR NECESSARY. GUYS MATERIAL SHALL BE NON-DAMAGING TO THE TREE.
- ALL PLANTING STOCK SHALL BE SPECIMEN QUALITY, FREE OF DEFECTS, AND DISEASE OR INJURY. THE CITY OF PORTSMOUTH, NH RESERVES THE RIGHT TO REFUSE/REJECT ANY PLANT MATERIAL OR PLANTING ACTION THAT FAILS TO MEET THE STANDARDS SET FORTH IN THE ANSIS A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPLANTATION AND/OR THE CITY OF PORTSMOUTH, NH PLANTING REQUIREMENTS.



**Proposed Multi-Family Development**  
**FOUNDATION PLANTING PLAN**  
 105 Bartlett Street Portsmouth, New Hampshire

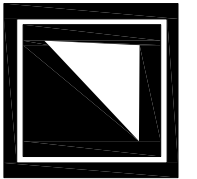
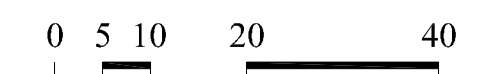
**NOTE: For tree planting plan, see L-1**

**SHRUBS**

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Bth	Buxus 'Tide Hill'	Tide Hill Boxwood	40	2' Ht	
Bud	Buddleia 'Lo and Behold'	Lo and Behold Butterflybush	30	3 gal	B&B
Bvg	Buxus 'Winter Gem'	Winter Gem Boxwood	31	2' Ht	B&B
Cle	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	28	5 gal	
CleB	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	9	10 gal	(1.75 pts)
For	Forsythia 'Gold Tide'	Gold Tide Forsythia	177	3 gal	
Foth	Fothergilla gardenii	Dwarf Fothergilla	16	5 gal	
HyB	Hydrangea paniculata 'Bobo'	Bobo Hydrangea	36	3 gal	
HyE	Hydrangea macrophylla 'Endless Summer'	Endless Summer Hydrangea	14	5 gal	
Hyl	Hydrangea arborescens 'Incrediball'	Incrediball Hydrangea	4	5 gal	
HylL	Hydrangea paniculata 'Little Lime'	Little Lime Hydrangea	47	3 gal	
Ig	Ilex glabra 'Shamrock'	Shamrock Inkberry	125	5 gal	full to ground
Iv	Ilex verticillata 'Red Sprite'	Red Sprite Winterberry	9	3 gal	
IvB	Ilex verticillata 'Red Sprite'	Red Sprite Winterberry	9	3-4'	B&B (1.75 pts)
Jc	Juniperus chinensis 'Sargentii'	Sargent Juniper	107	5 gal	
Jv	Juniperus virginiana 'Emerald Sentinel'	Emerald Sentinel Red Cedar	6	7-8' Ht	B&B
Mp	Myrica pensylvanica	Northern Bayberry	12	5 gal	
Po	Picea orientalis 'Gowdy'	Gowdy Oriental Spruce	1	8-10' Ht	B&B
Rh	Rhus aromatica 'Grow-Low'	Grow Low Sumac	387	3 gal	
Ros	Rosa 'Blush Knockout'	Blush Knockout Rose	76	3 gal	
Sy	Syringa meyeri 'Palibin'	Dwarf Korean Lilac	28	3-4' Ht	B&B
Tax	Taxus media 'Ever-Low'	Ever-Low Yew	32	3 gal	
Th	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	2	7-8' Ht	B&B

**PERENNIALS, GROUNDCOVERS, VINES and ANNUALS**

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Bap	Baptisia australis	False Blue Indigo	12	1 gal	
Cal	Calamagrostis acutifolia 'Karl Foerster'	Feather Reed Grass	22	1 gal	
Day	Hemerocallis 'Big Time Happy'	Big Time Happy Daylily	20	1 gal	
Ir	Iris versicolor	Blue Flag Iris	46	1 gal	
Pan	Panicum virgatum 'Heavy Metal'	Heavy Metal Switch Grass	48	1 gal	
Rud	Rudbeckia fulgida 'Goldsturm'	Black-Eyed Susan	63	1 gal	
Vm	Vinca minor 'Bowles'	Bowles Periwinkle	1600	2.5" pots	



Drawn By: VM  
 Checked By: RW  
 Scale: 1" = 20' - 0"  
 Date: November 4, 2020  
 Revisions:  
 November 18, 2020  
 January 20, 2021  
 January 9, 2023  
 NHDES Wetland & Shoreland Submission  
 March 28, 2023

**WETLANDS PERMIT APPLICATION  
(Standard Review, Major Impact)**

**FOR**

**Replacement of Single-Family Residence &  
Site Improvements**

**43 Holmes Court  
Portsmouth, NH**

**Tax Map 101, Lot 14**

**February 21, 2023**

*Prepared For:*

**Stephen A. & Kathryn L. Singlar**  
21 Elliot Street  
Exeter, NH 03833

*Prepared By:*

**ALTUS ENGINEERING**  
133 Court Street  
Portsmouth, NH 03801  
Phone: (603) 433-2335



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**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 21, 2023

New Hampshire Department of Environmental Services  
Land Resources Management, Wetlands Bureau  
29 Hazen Drive  
Concord, New Hampshire 03302-0095

**Re: Wetlands Permit Application  
Residential Redevelopment  
Tax Map 101 Lot 14  
43 Holmes Court LLC  
Portsmouth, NH  
Altus Project #5328**

Dear Reviewer,

Attached please find a Wetlands Permit Application for a Major Impact project on an existing developed parcel in the City of Portsmouth accessed from Holmes Court.

The owner and applicant, Stephen A. & Kathryn L. Singlar, are proposing to raze and replace the single-family residence & construct other site improvements including improvements at 39 Holmes Court, an adjacent parcel owned by the applicants. All disturbed areas will be loamed & seeded, landscaped or otherwise returned to their original condition.

The enclosed plans illustrate the proposed improvements will take place entirely within the previously developed/disturbed/maintained tidal buffer zone and upland portions of the lots. Please note, there are no proposed disturbances to the resource (Piscataqua River).

The improvements as proposed are the least impacting alternative to the jurisdictional areas in order to achieve the desired residence replacement and improvements. The new residence is designed to better withstand the projected effects of climate change, reduce impervious areas on the parcel and provide treatment of stormwater runoff with infiltration.

Please feel free to contact us, the applicant's consulting engineer, at (603) 433-2335, if you have any questions. Thank you for your time and consideration.

Sincerely,

A handwritten signature in orange ink, appearing to read "EBS: Saari".

Erik B. Saari  
Vice President

ebs/Altus-Letterhead-2022  
Enclosures

**Letter of Authorization**

We, Stephen A. & Kathryn L. Singlar, principles of Tidal View 43 and Tidal View 39, the owners of 43 Holmes Court & 39 Holmes Court, Portsmouth, NH, hereby authorize Altus Engineering, Inc. of Portsmouth, NH to represent us as the Owner and Applicant in all matters concerning the engineering and related permitting on Portsmouth Tax Map 101, Lot 14 located at 43 Holmes Court and Tax Map 101 Lot 13 located at 39 Holmes Court in Portsmouth, New Hampshire. This authorization shall include any signatures required for Federal, State and Municipal permit applications.

  
Signature

Stephen A. Singlar 1/20/23  
Stephen Singlar/Director Date

  
Witness

RICHARD HACKEMAN 1/20/23  
Print Name Date

  
Signature

Kathryn L. Singlar 1/20/23  
Kathryn Singlar/Manager Date

  
Witness

RICHARD HACKEMAN 1/20/23  
Print Name Date



STEPHEN A. SINGLAR  
KATHRYN L. SINGLAR  
21 ELLIOT STREET  
EXETER, NH 03833-4599

54-153/114

4314

DATE 2/10/23

PAY TO THE ORDER OF Treasurer State of NH \$ 1,860.00

One thousand eight hundred sixty and no/100 DOLLARS  Security Features  
Indicated  
Outside on Back.

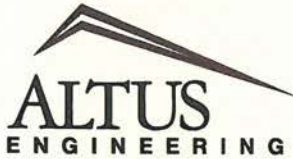
 Citizens

MEMO 48 Holmes - wetlands



⑆011401533⑆ 3306218814⑆

4314



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 21, 2023

Kelli Barnaby, City Clerk  
City of Portsmouth  
1 Junkins Avenue  
Portsmouth, NH 03801

**Re: NHDES Wetlands Permit Application  
Tax Map 101, Lot 14  
43 Holmes Court  
Portsmouth, NH 03801  
P5328**

Dear Ms. Barnaby:

In accordance with RSA 482-A:3, attached please find one original and four copies of the application package submitted on behalf of Stephen A. & Kathryn L. Singlar (Tax map 101, Lot 14) owners and applicants, for a Wetlands Permit Application to the NHDES Wetlands Bureau.

The application proposes to raze and replace the existing house along with associated improvements on the existing residential lot. All disturbed areas will be loamed & seeded, landscaped or otherwise returned to their original condition or better. The property is accessed from Holmes Court. The improvements will impact previously developed areas within the NHDES 100-foot Tidal Buffer.

Please note, there are no proposed disturbances to the resource (Piscataqua River).

Please feel free to contact us, the Applicant's engineering consultant, at (603) 433-2335, if you have any questions. Thank you for your time concerning this matter.

Sincerely,

**ALTUS ENGINEERING**

A handwritten signature in orange ink, appearing to read "Erik B. Saari".

Erik B. Saari  
Vice President

ebs/5328.05.CoverLtr-Portsmouth.docx

Enclosures



**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:** Stephen A. & Kathryn L. Singlar    **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](#).

<b>SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))</b>	
Please use the <a href="#">Wetland Permit Planning Tool (WPPT)</a> , the Natural Heritage Bureau (NHB) <a href="#">DataCheck Tool</a> , the <a href="#">Aquatic Restoration Mapper</a> , or other sources to assist in identifying key features such as: <a href="#">priority resource areas (PRAs)</a> , <a href="#">protected species or habitats</a> , coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&amp;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.</li> <li>• Protected species or habitat?                             <ul style="list-style-type: none"> <li>○ If yes, species or habitat name(s): no expected impacts</li> <li>○ NHB Project ID #: 22-1800</li> </ul> </li> <li>• Bog?</li> <li>• Floodplain wetland contiguous to a tier 3 or higher watercourse?</li> <li>• Designated prime wetland or duly-established 100-foot buffer?</li> <li>• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the property within a Designated River corridor? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Name of Local River Management Advisory Committee (LAC): N/A</li> <li>• A copy of the application was sent to the LAC on Month:    Day:    Year:</li> </ul>	

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For stream crossing projects, provide watershed size (see <a href="#">WPPT</a> or Stream Stats):	
<b>SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))</b> Provide a <b>brief</b> 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.	
Raze and replace existing single family residence, remove shed, maintain landscaping & construct associated improvements on entirely developed upland parcel adjacent to the resource (Piscataqua River). There are no direct impacts to the resource. All work occurs in previously developed and maintained areas which comprise the entire lot.	
The new residence will be essentially the same footprint as the existing and the dwelling will be no closer to the resource. The existing patio will be replaced by a deck that will be further from the resource.	
Stormwater management improvements are incorporated into the design including the use of pervious pavers (still counted as impervious in coverage calculations) and an overall reduction in impervious coverage on the lot.	
<b>SECTION 3 - PROJECT LOCATION</b> Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: 43 Holmes Court	
TOWN/CITY: Portsmouth	
TAX MAP/BLOCK/LOT/UNIT: 101/14	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Piscataqua River <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	
43.0714° North -70.7485° West	

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**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: Stephen A. &amp; Kathryn L. Singlar

MAILING ADDRESS: 21 Eliot Street

TOWN/CITY: Exeter

STATE: NH

ZIP CODE: 03833

EMAIL ADDRESS: stephensinglar@yahoo.com

FAX: [REDACTED]

PHONE: 603-264-4599

ELECTRONIC COMMUNICATION: By initialing here: SS, 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.: Saari, Erik

COMPANY NAME: Altus Engineering, Inc.

MAILING ADDRESS: 133 Court Street

TOWN/CITY: Portsmouth

STATE: NH

ZIP CODE: 03801

EMAIL ADDRESS: esaari@altus-eng.com

FAX: [REDACTED]

PHONE: 603-433-2335

ELECTRONIC COMMUNICATION: By initialing here ES, 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: [REDACTED]

MAILING ADDRESS: [REDACTED]

TOWN/CITY: [REDACTED]

STATE: [REDACTED]

ZIP CODE: [REDACTED]

EMAIL ADDRESS: [REDACTED]

FAX: [REDACTED]

PHONE: [REDACTED]

ELECTRONIC COMMUNICATION: By initialing here [REDACTED], 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):

Env-Wt 400 - The jurisdictional areas were located by survey and correspond with the City of Portsmouth GIS data. All appropriate erosion & sedimentation controls will be employed to protect the Piscataqua Rive during demolition and construction activities.

Env-Wt 500 - The existing residence was constructed in 1749 but most of the historical integrity has been lost with additions and renovations over the decades. The entire lot has been disturbed, developed and maintained for many year. There are thin areas of landscaping, a single mature tree and lawn. There are no species of concern in the vicinity. Slight modification to the existing grades in the lawn and installation of stormwater treatment BMPs will benefit the resource by increasing the quality of the runoff. All disturbed areas in the previously developed tidal buffer zone will be stabilized as soon as possible.

Env-Wt 600, 700 & 900 - The project is defined as Major as it has impacts within the 100-foot buffer from the tidally influenced Piscataqua River. It is a betterment in that the project will significantly reduce impervious on the lot, provide for better stormwater control and treatment prior to discharge. NHB DataCheck review indicates there are no impacts expected within the vicinity of the proposed demolition or construction activities. Appropriate methods of erosion and sediment control will be installed prior to and maintained during construction activities. The demolition of the residence/installation of erosion controls will occur in a single phase.

**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/ivers, 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			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River			<input type="checkbox"/>			<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ	4450		<input type="checkbox"/>	200		<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
<b>TOTAL</b>		4450			200		

**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):	4650 SF	× \$0.40 =	\$ 1860
Seasonal docking structure:	SF	× \$2.00 =	\$
Permanent docking structure:	SF	× \$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =			\$
Total =			\$ 1860

**The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 1860**

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**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:

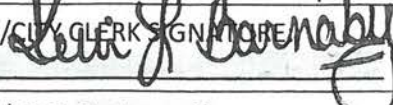
Initials:  ES	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials:  ES	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials:  ES	<p>The signer understands that:</p> <ul style="list-style-type: none"> <li>The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:                     <ol style="list-style-type: none"> <li>Deny the application.</li> <li>Revoke any approval that is granted based on the information.</li> <li>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.</li> </ol> </li> <li>The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.</li> <li>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.</li> </ul>
Initials:  ES	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: ERIC WEINRIED	DATE: 2/23/20
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): _____	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: Erik Saari - ERIC WEINRIED	DATE: 2/23/23 <del>02/7/23</del>

**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: Kelli L. Barnaby
TOWN/CITY: Portsmouth	DATE: February 23, 2022



**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".

Keep this checklist for your reference; do not submit with your application.

### APPLICATION CHECKLIST

Unless specified, all items below are required. Failure to provide the required items will delay a decision on your project and may result in denial of your application. Please reference statute RSA 482-A, Fill and Dredge in Wetlands, and the [Wetland Rules Env-Wt 100-900](#).

- The completed, dated, signed, and certified application (Env-Wt 311.03(b)(1)).
- Correct fee as determined in RSA 482-A:3, I(b) or (c), subject to any cap established by RSA 482-A:3, X (Env-Wt 311.03(b)(2)). Make check or money order payable to "Treasurer – State of NH".
- The Required Planning actions required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3).
- [US Army Corps of Engineers \(ACE\) "Appendix B, New Hampshire General Permits \(GPs\), Required Information and Corps Secondary Impacts Checklist"](#) and its required attachments (Env-Wt 307.02). This includes the [US Fish and Wildlife Service IPAC review](#) and [Section 106 Historic/Archaeological Resource review](#).
- Project plans described in Env-Wt 311.05 (Env-Wt 311.03(b)(4)).
- Maps, or electronic shape files and meta data, and other attachments specified in Env-Wt 311.06 (Env-Wt 311.03(b)(5)).
- Explanation of the methods, timing, and manner as to how the project will meet standard permit conditions required in Env-Wt 307 (Env-Wt 311.03(b)(7)).
- If applicable, the information regarding proposed compensatory mitigation specified in Env-Wt 311.08 and Chapter Env-Wt 800 - [Permittee Responsible Mitigation Project Worksheet](#), unless not required under Env-Wt 313.04 (Env-Wt 311.03(b)(8); Env-Wt 311.08; Env-Wt 313.04).
- Any additional information specific to the **type of resource** as specified in Env-Wt 311.09 (Env-Wt 311.03(b)(9); Env-Wt 311.04(j)).
- Project specific information required by Env-Wt 500, Env-Wt 600, and Env-Wt 900 (Env-Wt 311.03(b)(11)).
- A list containing the name, mailing address and tax map/lot number of each abutter to the subject property (Env-Wt 311.03(b)(12)).
- Copies of certified postal receipts or other proof of receipt of the notices that are required by RSA 482-A:3, I(d) (Env-Wt 311.03(b)(13)).
- Project design considerations required by Env-Wt 313 (Env-Wt 311.04(j)).
- Town tax map showing the subject property, the location of the project on the property, and the location of properties of abutters with each lot labeled with the name and mailing address of the abutter (Env-Wt 311.06(a)).
- Dated and labeled color photographs that:
  - (1) Clearly depict:
    - a. All jurisdictional areas, including but not limited to portions of wetland, shoreline, or surface water where impacts have or are proposed to occur.
    - b. All existing shoreline structures.
  - (2) Are mounted or printed no more than 2 per sheet on 8.5 x 11 inch sheets (Env-Wt 311.06(b)).
- A copy of the appropriate US Geological Survey map or updated data based on LiDAR at a scale of one inch equals 2,000 feet showing the location of the subject property and proposed project (Env-Wt 311.06(c)).
- A narrative that describes the work sequence, including pre-construction through post-construction, and the relative timing and progression of all work (Env-Wt 311.06(d)).

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- For all projects in the protected tidal zone, a copy of the recorded deed with book and page numbers for the property (Env-Wt 311.06(e)).
- If the applicant is not the owner in fee of the subject property, documentation of the applicant's legal interest in the subject property, provided that for utility projects in a utility corridor, such documentation may comprise a list that:
  - (1) Identifies the county registry of deeds and book and page numbers of all of the easements or other recorded instruments that provide the necessary legal interest; and
  - (2) Has been certified as complete and accurate by a knowledgeable representative of the applicant (Env-Wt 311.06(f)).
- The NHB memo containing the NHB identification number and results as well as any written follow-up communications such as additional memos or email communications with either NHB or NHF&G (Env-Wt 311.06(g)). See [Wetlands Permitting: Protected Species and Habitat Fact Sheet](#).
- A statement of whether the applicant has received comments from the local conservation commission and, if so, how the applicant has addressed the comments (Env-Wt 311.06(h)).
- For projects in LAC jurisdiction, a statement of whether the applicant has received comments from the LAC and, if so, how the applicant has addressed the comments (Env-Wt 311.06(i)).
- If the applicant is also seeking to be covered by the state general permits, a statement of whether comments have been received from any federal agency and, if so, how the applicant has addressed the comments (Env-Wt 311.06(j)).
- [Avoidance and Minimization Written Narrative](#) or the [Avoidance and Minimization Checklist](#), or your own avoidance and minimization narrative (Env-Wt 311.07).
- For after-the-fact applications: information required by Env-Wt 311.12.
- [Coastal Resource Worksheet](#) for coastal projects as required under Env-Wt 600.
- Prime Wetlands information required under Env-Wt 700. See [WPPT](#) for prime wetland mapping.

#### Required Attachments for Minor and Major Projects

- [Attachment A: Minor and Major Projects](#) (Env-Wt 313.03).
- [Functional Assessment Worksheet](#) or others means of documenting the results of actions required by Env-Wt 311.10 as part of an application preparation for a standard permit (Env-Wt 311.03(b)(3); Env-Wt 311.03(b)(10)). See [Functional Assessments for Wetlands and Other Aquatic Resources Fact Sheet](#). For shoreline structures, see shoreline structures exemption in Env-Wt 311.03(b)(10)).

#### Optional Materials

- [Stream Crossing Worksheet](#) which summarizes the requirements for stream crossings under Env-Wt 900.
- Request for [concurrent processing of related shoreland / wetlands permit applications](#) (Env-Wt 313.05).



## PROTECTED TIDAL ZONE PROJECT-SPECIFIC WORKSHEET FOR STANDARD APPLICATION



Water Division/Land Resources Management  
Wetlands Bureau

[Check the Status of your Application](#)

**RSA/Rule:** RSA 482-A/ Env-Wt 610

This worksheet summarizes the criteria and requirements for a Standard Permit for impact in the "Protected Tidal Zone", one of the six specific project types in tidal area described in Chapter Env-Wt 600. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Application form (NHDES-W-06-012) and the Coastal Resource Worksheet.

### SECTION 1 - APPLICATION REQUIREMENTS FOR PROTECTED TIDAL ZONE AND REQUIRED ATTACHMENTS (Env-Wt 610.04)

The following plans and other information shall be submitted with applications for work within the protected tidal zone:

- Existing and proposed contours at 2-foot intervals measured from the Highest Observable Tide Line (HOTL);
- If any portion of the subject parcel is located in a regulatory floodplain, the location of the 100-year flood boundary zone, and water elevation as shown on the applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map;
- All of applicable local and state setbacks;
- The dimensions and locations of all:
  - Existing and proposed structures;
  - Existing and proposed impervious areas;
  - Existing and proposed disturbed areas;
  - Areas to remain in an unaltered state;
  - Existing cleared areas, such as gardens, lawns, and paths; and
  - Proposed temporary impacts associated with the completion of the project;
- Proposed methods of erosions and siltation controls, identified graphically and labeled on a plan, or otherwise annotated as needed for clarity;
- A plan of any planting(s) proposed in the waterfront buffer, showing the proposed location(s) and Latin names or common names of proposed species;
- If applicable, the location of an existing or proposed 6-foot wide foot path to the waterbody or a temporary access path;
- For any project proposing that the impervious area be at least 15% but not more than 20% within the protected tidal zone, a statement signed by the applicant certifying that the impervious area is not more than 20%
- For any project proposing that impervious area be greater than 20% within the protected tidal zone, plans for a stormwater management system that will infiltrate increased stormwater from development provided that if impervious area is or is proposed to be greater than 30%, the stormwater management systems shall be designed by a professional engineer;
- For any project involving pervious surfaces, a plan with specifications of how those surfaces will be maintained; and
- All other relevant features necessary to clearly define both existing conditions and the proposed project.

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**SECTION 2 - APPROVAL CRITERIA (Env-Wt 313.01)**

- An application for structure construction within the protected tidal zone shall comply with Env-Wt 313.01.

**SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 610.03)**

The construction of structures within the protected tidal zone shall comply with:

- The standards described in FEMA P-55, Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing and Maintaining Residential Buildings in Coastal Areas, 4<sup>th</sup> edition (2011); and
- Local resiliency planning ordinances.

**SECTION 4 - PROTECTED TIDAL ZONE RESTRICTIONS (Env-Wt 610.05- 610.13)**

- The restrictions identified in RSA 483-B:9, II shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(a) related to the maintenance of a waterfront buffer shall apply to the protected tidal zone within 50 feet of the HOTL;
- Accessory structures in the waterfront buffer shall comply with the applicable provisions of Env-Wq 1400;
- The provisions of RSA 483-B:9, V(b) related to the maintenance of a woodland buffer shall apply to the protected tidal zone within 150 feet of the HOTL;
- The provisions of RSA 483-B:9, V(c) related to individual sewage disposal systems shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(d) related to erosion and siltation shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(e) related to minimum lots and residential development shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(f) related to minimum lots and non-residential development shall apply to the protected tidal zone; and
- The provisions of RSA 483-B:9 V(g) related to impervious surfaces shall apply to the protected tidal zone.

**SECTION 5 - PROJECT CLASSIFICATION (Env-Wt 610.17)*****(a) A major project shall be:***

- (1) Any dredging, filling, or construction activity, or any combination thereof, that is proposed to:
- a. Occur within 100 feet of the HOTL; and
  - b. Alter any tidal shoreline bank, tidal flat, wetlands, surface water, or undeveloped uplands; or
- (2) A project that would be major based on an aggregation of projects under Env-Wt 400.

***(b) A minor project shall be any dredging, filling, or construction activity, or any combination thereof, that:***

- (1) Involves work within 75 feet of a saltmarsh in the developed upland tidal buffer;
- (2) Is not a major project; and
- (3) Will disturb 3,000 square feet (SF) or more but less than 10,000 SF in the developed upland tidal buffer.

***(c) A minimum impact project shall be any dredging, filling, or construction activity, or any combination thereof, that:***

- (1) Is in a previously developed upland area;
- (2) Is within 100 feet of the HOTL; and
- (3) Will disturb less than 3,000 SF.



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.: Singlar, Stephen A. & Kathryn L.

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 project propose to raze and replace the single family residence with essentially the same footprint in the same location. The new residence will be building code compliant and designed to better withstand potential effects of climate change and sea level rise in the foreseeable future.

There are no proposed direct construction impacts to the resource (Piscataqua River).

The NHB data check review determined there are no expected impacts to any species within the vicinity of the construction project.

All disturbances occur in previously developed areas of the lot and will be stabilized as soon as possible,

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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.

**An erosion and sediment control plan has been prepared by Altus Engineering.**

**Best management practices will be employed during construction.**

**311.07 Avoidance and Minimization: No wetland impact is proposed, only work in the buffer.**

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

**A Functional assessment has been provided.**

**All wetland impact avoided and therefore minimized.**

**This project is the reconstruction of a house on a previously developed small waterfront lot.**

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.

**The single family residence will continue to be maintained and managed in a traditional manner.**

**The lawn areas will be mowed, landscaped areas maintained, driveway and parking areas to be swept and sealed as needed according to manufacturer's recommendations.**

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.

**The shoreline abutting this project is intertidal.**

**Habitat types are identified on attached sketch, with photos.**

**No public passage is impeded as no structures are proposed in the intertidal wetland.**



**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)**

**The intertidal wetland is mapped by NMFS as Essential Fish Habitat.  
No impact to intertidal wetland is proposed, only work in previously developed buffer.**

**The intertidal wetland does not contain mapped or observed eel grass beds, salt marsh vegetation, nor shellfish beds open for harvest.**

Projects in coastal areas shall: **No impact to intertidal wetland is proposed**  
Not impair the navigation, recreation, or commerce of the general public; and  
Minimize alterations in prevailing currents. **No impact**

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; **No impact**
- Adverse impacts to the movement of sediments along a shore; **No impact**
- 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. **No impact**

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 **Attached**
  - 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; **Reconstruction of existing home on previously developed lot**
- 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. **Best management practices and erosion and sediment control plan**

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. **Impacts have been avoided and minimized**

**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.

**70 years + (2093)**

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 replacement residence and associated site improvements are high value assets with low risk tolerance. The residence is not situated in the floodplain and the residence will be constructed at an elevation to minimize risk from future storm events and sea level rise**

**There will be a reduction in impervious area on the lot.**

**There is 95% confidence that projected sea level rise is less than 1 foot in the next 70 years per NOAA.**

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.

**See attached charts. Sea level rise is predicted to be 2.07 mm/year with 95% confidence. This equals less than 1 foot in the next 70 years.**

Identify areas of the proposed project site subject to flooding from SLR.

**Only areas directly adjacent to the Piscataqua River are subject to future flooding. (Elevation 8.0 + 1' SLR = 9.0' future flood elevation)**

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

**The parcel's developed areas are within area of minimal flood risk in the 100-yr floodplain.**

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

**The proposed residence living areas are being constructed above elevation 9.0 the projected SLR.**

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: **Not applicable.**

**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](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).
- Tidal shoreline stabilization (Env-Wt 609).
- Dredging activities (Env-Wt 607).
- 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.

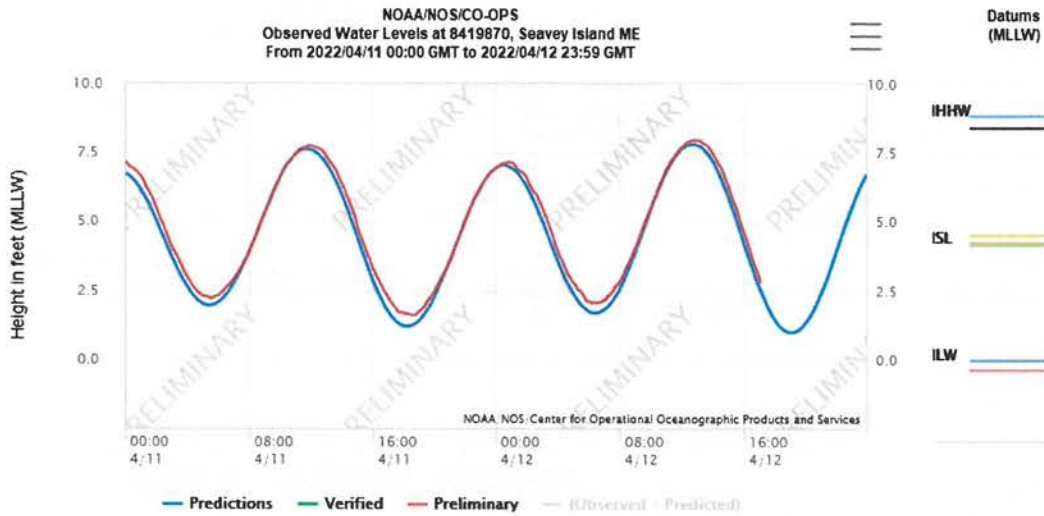
#### **SECTION 10 – GUIDANCE**

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:





Options for

8419870 Seavey Island, ME

Units

Standard

Shift dates

Back 1 Day

Forward 1 Day

From

Timezone

Interval



Home/Map

Relative Sea Level Trend Regional Scenarios Interannual Variation Average Seasonal Cycle

U.S. Stations

Variation Of 50-Year RSL Trends Previous RSL Trends

Global Stations

Trend Tables

Select

U.S. Trends Map

U.S. Regions

Select

Global Regional Trends

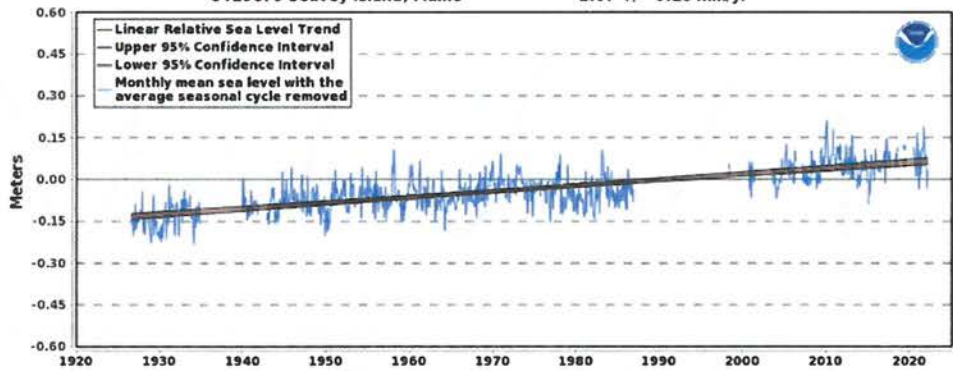
Anomalies

Select



### Relative Sea Level Trend 8419870 Seavey Island, Maine

8419870 Seavey Island, Maine 2.07 +/- 0.18 mm/yr



EXPORT TO TEXT | EXPORT TO CSV | SAVE IMAGE

The relative sea level trend is 2.07 millimeters/year with a 95% confidence interval of +/- 0.18 mm/yr based on monthly mean sea level data from 1926 to 2021 which is equivalent to a change of 0.68 feet in 100 years. Data for 2003-2019 stored in database as station 8423898

The plot shows the monthly mean sea level without the regular seasonal fluctuations due to coastal ocean temperatures,

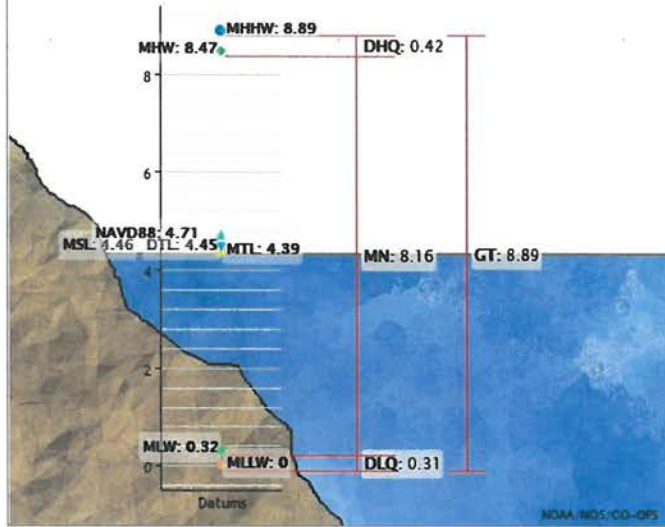
Station: 8419870, Seavey Island, ME

Epoch: 1983-2001  
Datum: MLLW

Status: Accepted (Dec 6 2021)  
Units: Feet  
Control Station: 8418150  
Portland, ME

Datum	Value	Description
MHHW	8.89	Mean Higher-High Water
MHW	8.47	Mean High Water
MTL	4.39	Mean Tide Level
MSL	4.46	Mean Sea Level
DTL	4.45	Mean Diurnal Tide Level
MLW	0.32	Mean Low Water
MLLW	0.00	Mean Lower-Low Water
NAVD88	4.71	North American Vertical Datum of 1988
STND	-2.27	Station Datum
GT	8.89	Great Diurnal Range
MN	8.16	Mean Range of Tide
DHQ	0.42	Mean Diurnal High Water Inequality
DLQ	0.31	Mean Diurnal Low Water Inequality
HWI	3.92	Greenwich High Water

All figures in feet relative to MLLW



Showing datums for

8419870 Seavey Island, ME

Datum

MLLW

Wetland Functions and Values  
43 Holmes Court, Portsmouth, NH

Prepared for:  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH

Contents:

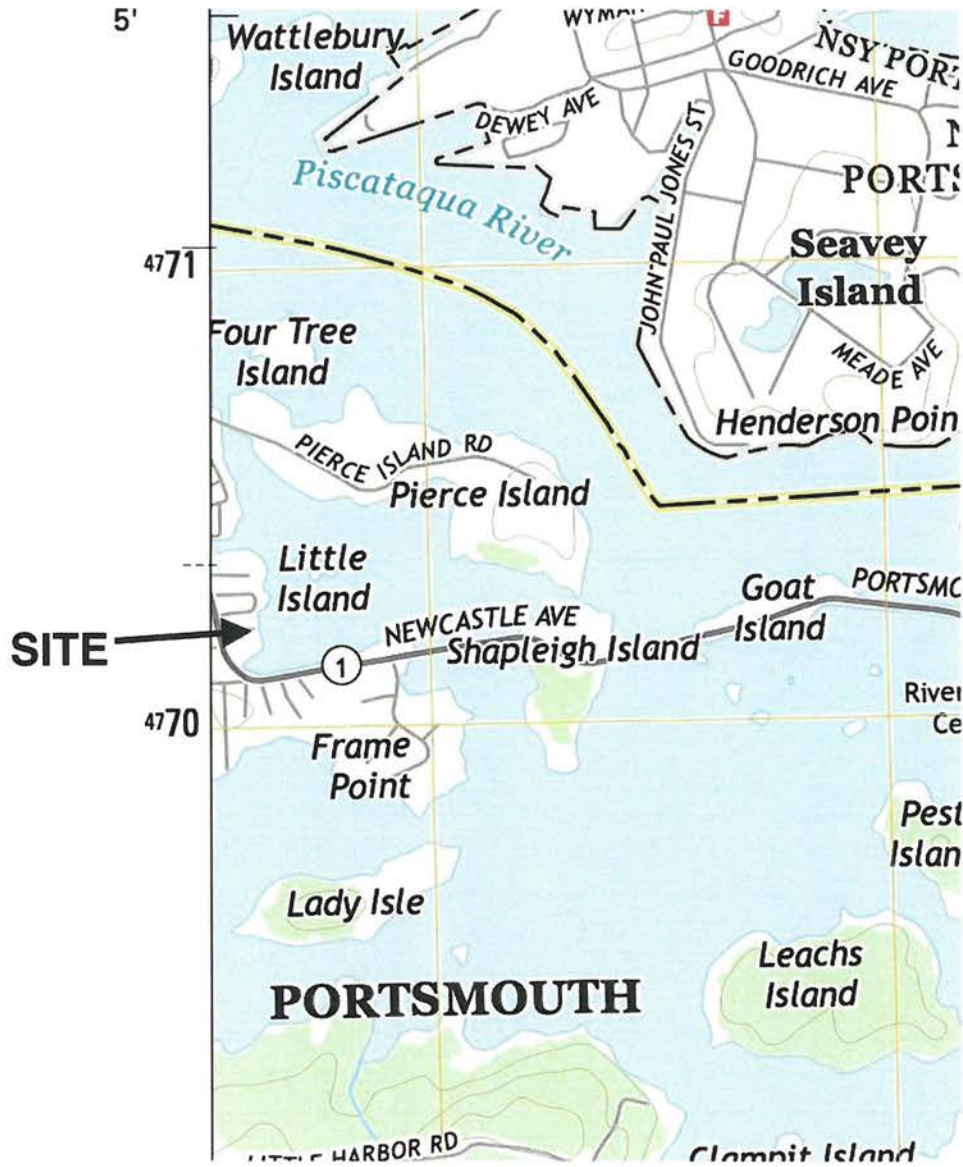
Locus Map  
Wetland/Coastal Resources Sketch and Photo Log  
Photographs  
Functional Assessment Summary Letter  
NHDES Functional Assessment Worksheet W-06-049

Prepared by:  
Michael Cuomo, New Hampshire Certified Wetland Scientist #4  
6 York Pond Road, York, Maine 03909  
207 363 4532  
mCuomosoil@gmail.com

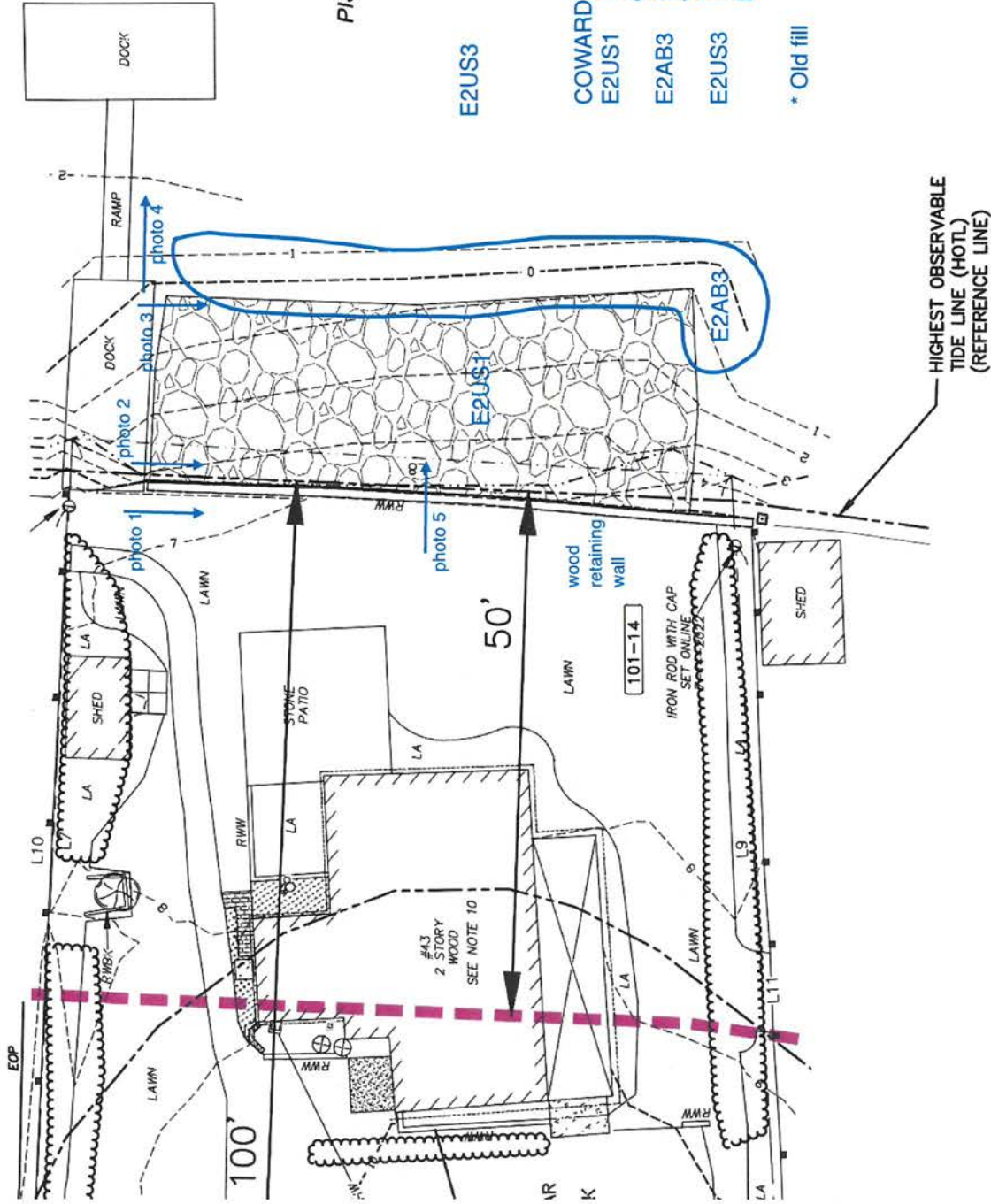


20 January 2023  
Michael Cuomo

Locus Map  
43 Holmes Court, Portsmouth  
USGS Kittery Quadrangle  
19 January 2023  
Michael Cuomo



Wetland/Coastal Resources and Photo Log  
 43 Holmes Court, Portsmouth, NH



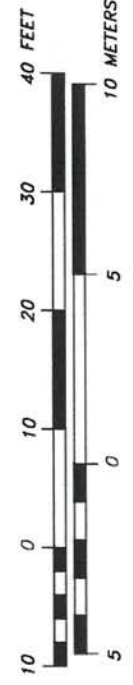
E2US3

**COWARDIN HABITAT CLASSIFICATION**

- E2US1 Estuarine, Intertidal, Unconsolidated Shore, Cobble-gravel\*
- E2AB3 Estuarine, Intertidal, Aquatic Bed, Rooted Vascular
- E2US3 Estuarine, Intertidal, Unconsolidated Shore, Mud

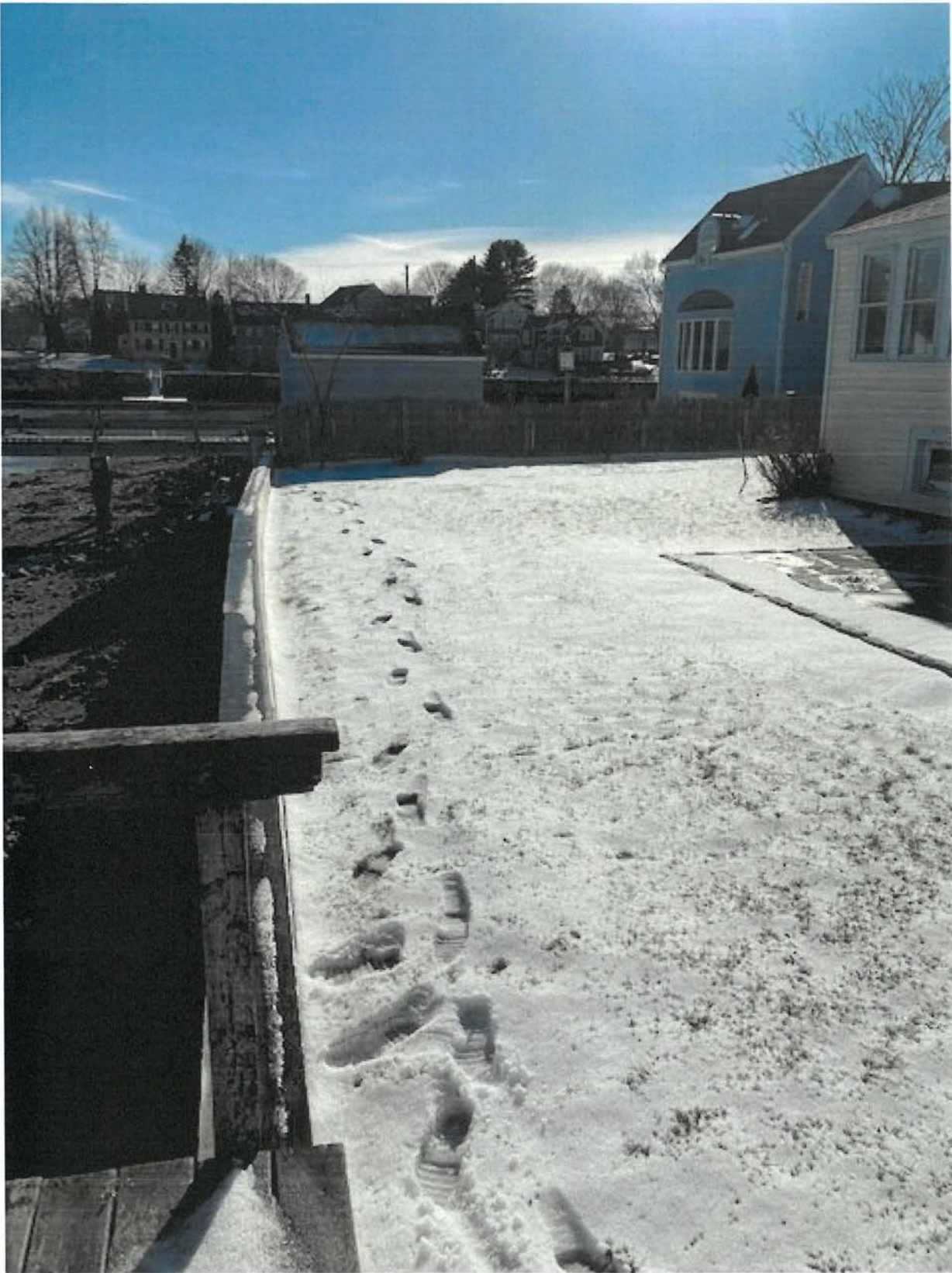
\* Old fill

17 January 2023  
 Photos at approximate low tide  
 Michael Cuomo  
 Base plan modified from Altus Engineering progress print



HIGHEST OBSERVABLE  
 TIDE LINE (HOTL)  
 (REFERENCE LINE)

Homes Court, Portsmouth  
Photo 1  
17 January 2023  
Michael Cuomo



Holmes Court, Portsmouth  
Photo 2  
17 January 2023  
Michael Cuomo

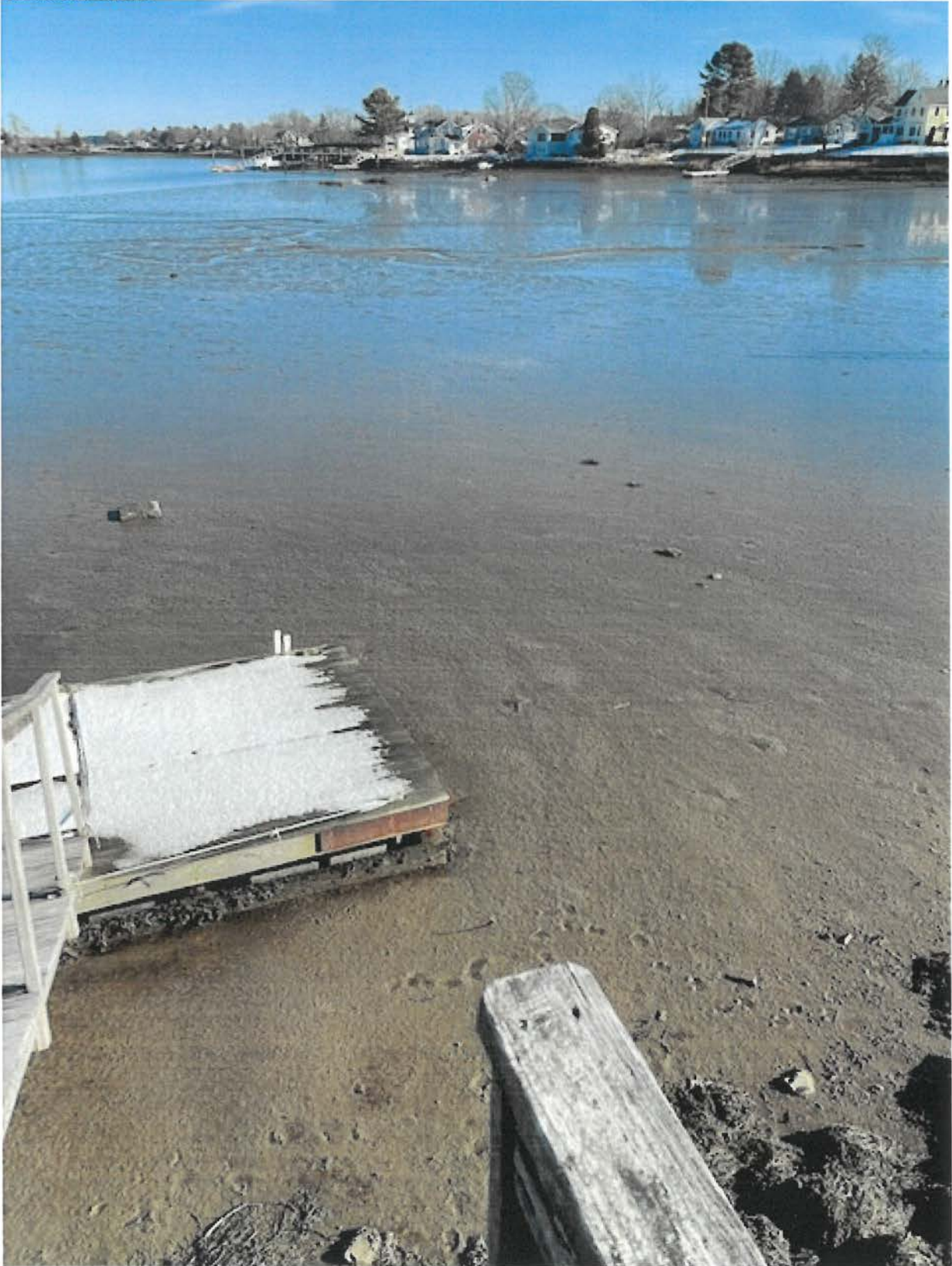




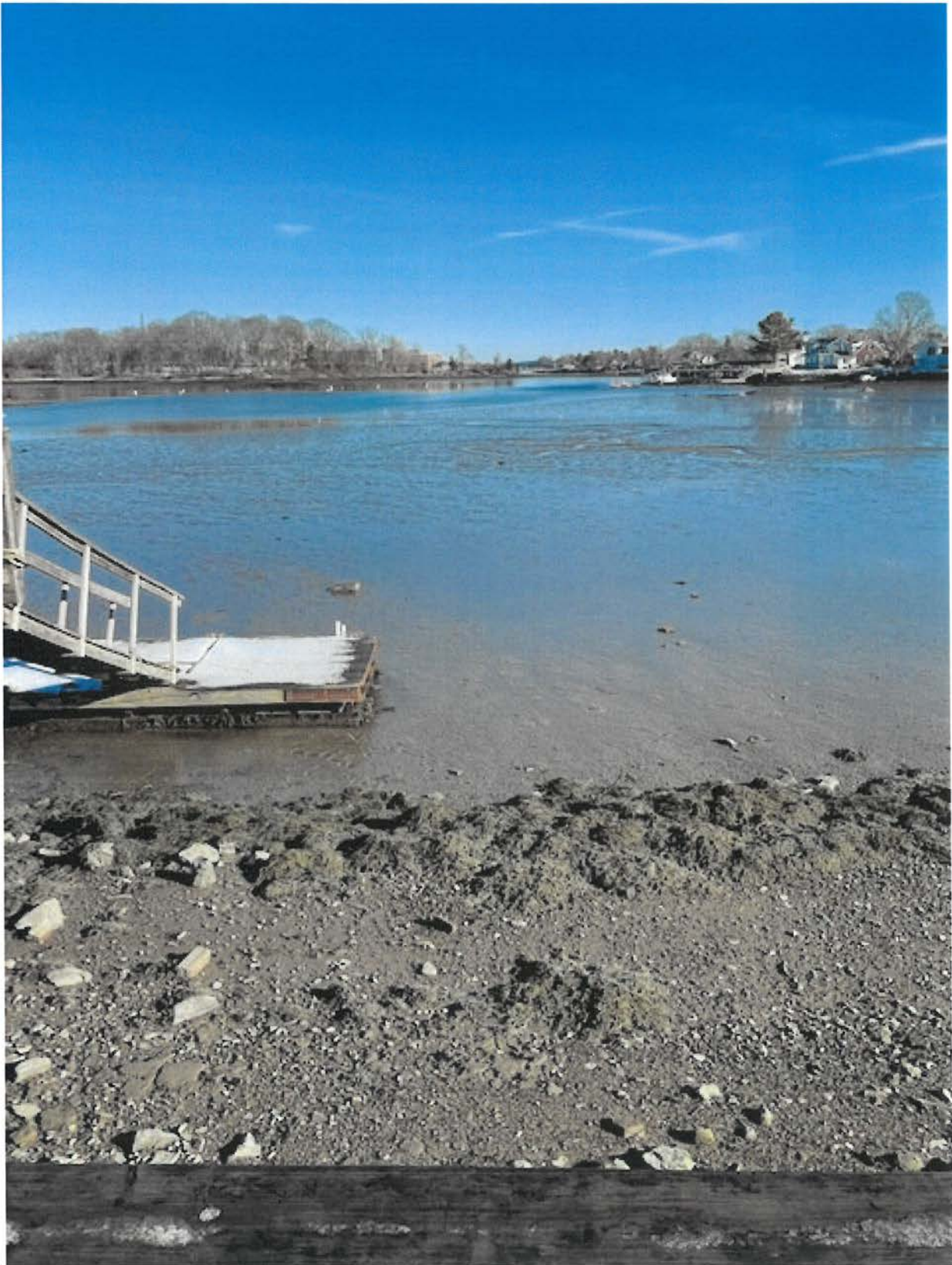
Holmes Court, Portsmouth  
Photo 3  
17 January 2023  
Michael Cuomo



Holmes Court, Portsmouth  
Photo 4  
17 January 2023  
Michael Cuomo



Holmes Court, Portsmouth  
Photo 5  
17 January 2023  
Michael Cuomo



Michael Cuomo, Soil and Wetland Scientist  
6 York Pond Road, York, Maine 03909  
207 363 4532  
mcuomosoil@gmail.com

Erik Saari, Vice President  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH 03801-4413

20 January 2023

Dear Mr. Saari;

This letter is in reference to the property at 43 Holmes Court in Portsmouth, NH. I have conducted an evaluation of wetland functions and values to assist you in planning the redevelopment of this site.

Attached is the NHDES Wetlands Functional Assessment Worksheet. This letter summarizes the findings.

The wetlands at this site are below the highest observable tideline. There are no freshwater wetlands at this site. The wetlands are classified as follows, using the Cowardin system:

E2US1 Estuarine, Intertidal, Unconsolidated Shore, Cobble-gravel.  
E2AB3 Estuarine, Intertidal, Aquatic Bed, Rooted Vascular.  
E2US3 Estuarine, Intertidal, Unconsolidated Shore, Mud.

The principal functions identified using the NHDES Wetlands Functional Assessment Worksheet are:

Fish and Aquatic Life;  
Uniqueness/Heritage; and  
Wetland Dependent Wildlife Habitat.

The wetland at this site also performs these other important wetland functions: Ecological Integrity; Nutrient Trapping; Production Export; Scenic Quality; Sediment Trapping; Shoreline Anchoring; and Water-Based Recreation.

The wetland at this site performs these remaining wetland functions to a very limited degree: Education Potential; Flood Storage; Groundwater Recharge; and Noteworthiness.

Please call if you have questions regarding this work.

Sincerely,



Michael Cuomo  
NH Wetland Scientist #004  
NH Soil Scientist #006



**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.:** Singlar, Stephen A. & Kathryn L.

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.

<b>SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)</b>	
ADJACENT LAND USE:	<b>high density residential</b>
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT?	<del>Yes</del> No
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet):	<b>115ft</b>
<b>SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment:	<b>Michael Cuomo, CWS 4</b>
DATE(S) OF SITE VISIT(S):	<b>20 May 22 &amp; 17 Jan 23</b>
	DELINEATION PER ENV-WT 406 COMPLETED? Yes <del>No</del>
CONFIRM THAT THE EVALUATION IS BASED ON:	
Office and Field examination.	<b>Evaluation based on field and office work</b>
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"):	
USACE Highway Methodology.	<b>Yes</b>
<del>Other scientifically supported method (enter name of method)</del>	<del>Yes</del>

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: <b>Between Little Harbor and Piscataqua River</b>	LOCATION: (LAT/ LONG) <input type="text"/> / 43.07128, -70.749427
WETLAND AREA: <b>Huge</b>	DOMINANT WETLAND SYSTEMS PRESENT: <b>Estuarine</b>
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? <b>Many</b>	COWARDIN CLASS: <b>Intertidal, Rocky Shore, Aquatic Bed, and Unconsolidated Shore</b>
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? <del>Yes</del> No	IS THE WETLAND PART OF: A wildlife corridor <del>or</del> A habitat island? <del>or</del>
if not, where does the wetland lie in the drainage basin? <b>Tidal terminus of drainage</b>	IS THE WETLAND HUMAN-MADE? <del>Yes</del> No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? Yes <del>No</del>	ARE VERNAL POOLS PRESENT? <del>Yes</del> No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes <del>No</del>	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? <del>Yes</del> No
PROPOSED WETLAND IMPACT TYPE: <b>Buffer only</b>	PROPOSED WETLAND IMPACT AREA: <b>None</b>

**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
<b>Ecological</b> 1	Yes <del>No</del>		<del>Yes</del> No	<b>Old fill placed at base of wood retaining wall; pier and floating dock</b>
<b>Education</b> 2	<del>Yes</del> No	5	<del>Yes</del> No	<b>Private property, no parking available</b>
<b>Fish &amp; Aquatic Life, Marine</b> 3	Yes <del>No</del>	1, 2, 3, 4, 6	Yes <del>No</del>	<b>Intertidal zone of estuarine wetland; NMFS mapped as Essential Fish Habitat</b>
<b>Flood Storage</b> 4	<del>Yes</del> No	5, 9, 11, 13,	<del>Yes</del> No	<b>At lowest point in watershed, no downstream infrastructure</b>
<b>Groundwater Recharge</b> 5	<del>Yes</del> No	7, 14	<del>Yes</del> No	<b>Estuary</b>
<b>Noteworthiness</b> 6	<del>Yes</del> No		<del>Yes</del> No	<b>NHB22-1800</b>
<b>Nutrient Trapping...</b> 7	Yes <del>No</del>	2, 3, 4, 5, 6, 7, 10,	<del>Yes</del> No	<b>No salt marsh present</b>
<b>Production Export</b> 8	Yes <del>No</del>	1, 2, 3, 4, 5, 6, 10,	<del>Yes</del> No	<b>No salt marsh present</b>
<b>Scenic Quality</b> 9	Yes <del>No</del>	2, 8,	<del>Yes</del> No	<b>Good scenic quality, no public access</b>
<b>Sediment Trapping</b> 10	Yes <del>No</del>	1, 2, 3, 4, 7, 8, 13,	<del>Yes</del> No	<b>No salt marsh present</b>
<b>Shoreline Anchoring</b> 11	Yes <del>No</del>	1, 3, 4, 7, 9, 10, 11,	<del>Yes</del> No	<b>Low velocity tidal mud flat</b>
<b>Uniqueness/Heritage</b> 12	Yes <del>No</del>	1, 2, 3, 4, 12, 14, 17, 19, 22, 26, 27	Yes <del>No</del>	<b>Part of extensive estuary system at mouth of river in historic area</b>
<b>Water Based Recreation</b> 13	Yes <del>No</del>	2, 5	<del>Yes</del> No	<b>Recreation use common but access limited</b>

<b>Wetland Dependent</b> 14	<b>Wildlife Habitat</b> Yes <del>No</del> <b>6, 8, 12, 18, 19, 21</b>	Yes <del>No</del>	<b>Base of food chain for many marine species</b>
--------------------------------	---	----------------------	---

**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 3<sup>rd</sup> 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		<b>DOES NOT APPLY; ESTUARINE SYSTEM</b>			
2					
3					
4					
5					

**SECTION 6 - STREAM RESOURCES SUMMARY**

DESCRIPTION OF STREAM:	STREAM TYPE (ROSGEN):
HAVE FISHERIES BEEN DOCUMENTED? Yes No	DOES THE STREAM SYSTEM APPEAR STABLE? 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	<b>DOES NOT APPLY; ESTUARINE SYSTEM</b>	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.



**AVOIDANCE AND MINIMIZATION CHECKLIST**  
 Water Division/Land Resources Management  
 Wetlands Bureau  
[Check the Status of your Application](#)



**RSA/Rule:** RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in [Attachment A: Minor and Major Projects \(NHDES-W-06-013\)](#)).

The following definitions and abbreviations apply to this worksheet:

- "A/M BMPs" stands for [Wetlands Best Management Practice Techniques for Avoidance and Minimization](#) dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- "Practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION		
APPLICANT LAST NAME, FIRST NAME, M.I.: Stephen A. & Kathryn L. Singular		
PROJECT STREET ADDRESS: 43 Holmes Court	PROJECT TOWN: Portsmouth	
TAX MAP/LOT NUMBER: 101/14		
SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If you answered "no" to this question, describe the purpose of the "non-access" project type you have proposed: The project intends to replace an outdated, non-code compliant single family residence with a modern, code compliant and elevation adjusted single family residence in essentially the same footprint and location.		

**SECTION 3 - A/M PROJECT DESIGN TECHNIQUES**

Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.

Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
<b>SECTION 4 - NON-TIDAL SHORELINE STRUCTURES</b>		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A



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:** 43 Holmes Court LLC

**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.

THE PROJECT WILL RAZE AND REPLACE AN EXISTING SINGLE FAMILY RESIDENCE, INSTALL OVERHEAD UTILITIES UNDERGROUND. SOIL STABILIZATION, STORMWATER BMP'S AND SUBTLE GRADING CHANGES WILL BE CONSTRUCTED IN ADJACENT AREAS THAT WILL BE DISTURBED BY DEMOLITION ACTIVITIES.

**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.

There are no impacts to the resource from this proposal.

The impacts are limited to removal and replacement of the residence, maintenance of existing landscaping, install overhead utilities underground, improve parking areas, decrease impervious area on the lot and associated site improvements.

**SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))**

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

Not applicable. There are no wetlands on the project site.

**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.

The resource is not directly impacted by the proposed improvements. The proposed residence will replace a house that is not feasible to make code compliant and address concerns of climate change for the foreseeable future. All work within the 100-foot buffer will have appropriate erosion control measures put in place prior to beginning any demolition/construction activities. They will be maintained throughout the project and removed once the site is stabilized.

Existing trees and vegetation are intended to remain to the greatest extent possible.

**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.

The project has no effects on public commerce, navigation or recreation. This is a private property.



**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 project has no direct impacts to the resource. The replacement residence will be constructed in a manner and location to reduce the risk of flood damage.

Stormwater BMP's will be installed to allow for the detention and treatment of runoff which will reduce erosion and minimize flood risk.

The minimum amount of work, in the shortest timeframe possible is proposed in the floodplain area in order to replace the structures and construct the associated site improvements.

There will be no fill added in the floodplain.

**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.

Not applicable. The property does not contain such areas.

**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.

The project has no effect on drinking water supplies as the adjacent wetland resource is tidal water.

**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.

Not applicable, the project does not impact any stream channels.

**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.

Not applicable. This application does not pertain to such structures.

**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.

Not applicable for this application.

**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.

Not applicable to this application.

**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.

Not applicable to this application.

**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.

Not applicable to this application.

**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 are no changes to the existing access point to the resource. Vegetation and lawn area will continue to be maintained. A paved impervious walk will be replaced with a stepping stone walk.

**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:**

USACE Highway Methodology

**NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: MICHAEL CUOMO**

**DATE OF ASSESSMENT: JANUARY 20, 2023**

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.



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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.



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**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.

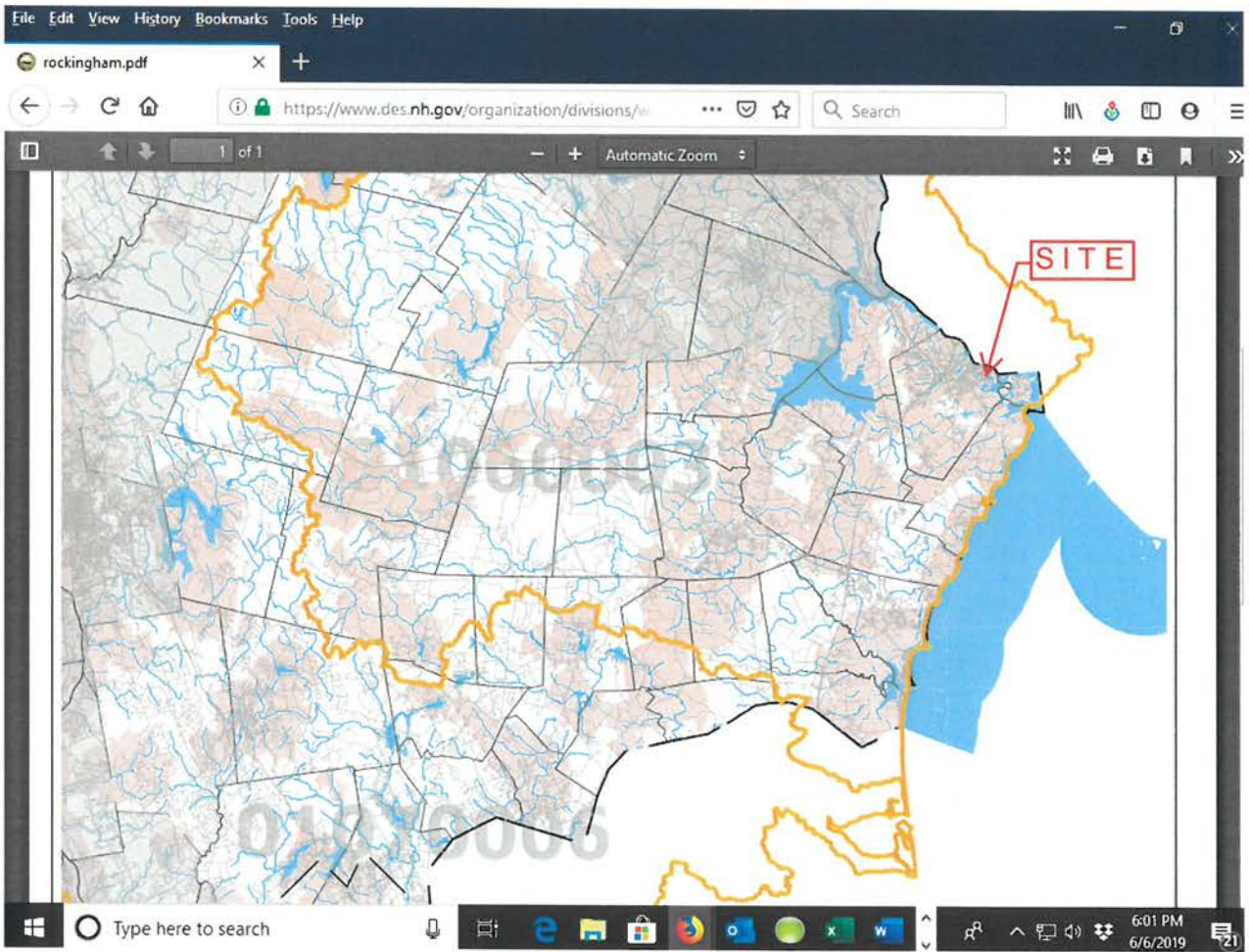
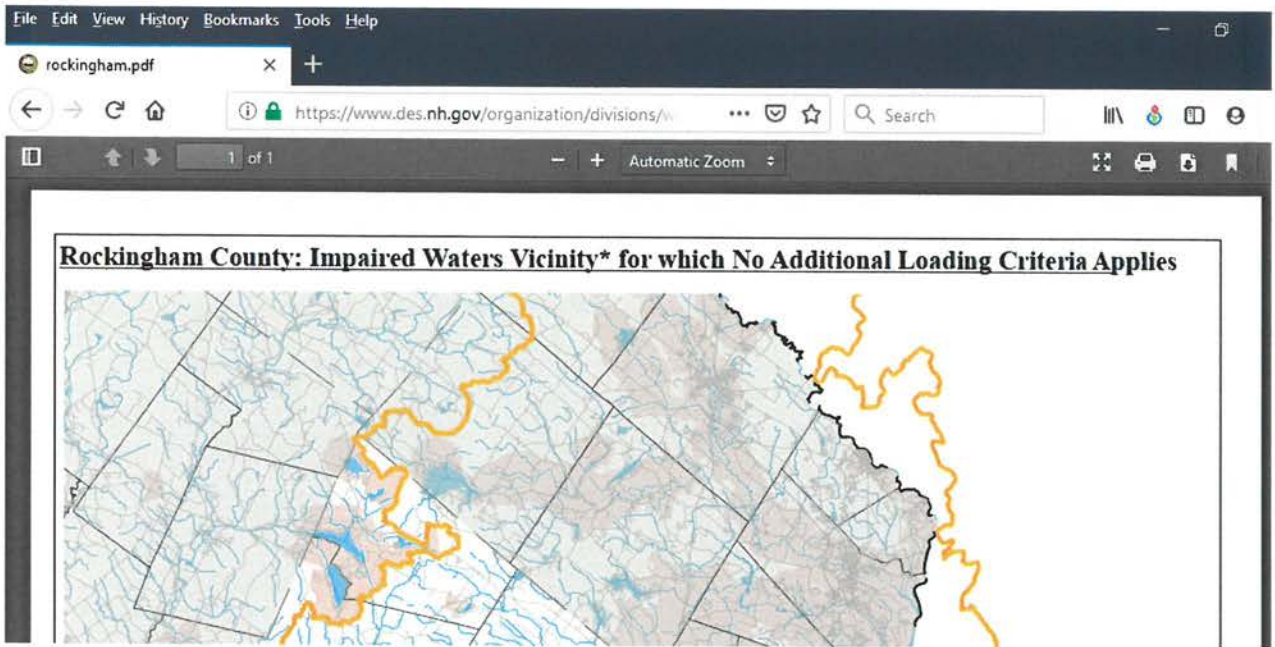
<b>1. Impaired Waters</b>	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>2. Wetlands</b>	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> . The book <a href="#">Natural Community Systems of New Hampshire</a> also contains specific information about the natural communities found in NH.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.5 The overall project site is more than 40 acres?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.6 What is the area of the previously filled wetlands?	0 S.F.	
2.7 What is the area of the proposed fill in wetlands?	0 S.F.	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	0% / 0%	
<b>3. Wildlife</b>	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: <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> USFWS IPAC website: <a href="https://ecos.fws.gov/ipac/location/index">https://ecos.fws.gov/ipac/location/index</a> No expected impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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: <ul style="list-style-type: none"> <li>• PDF: <a href="https://wildlife.state.nh.us/wildlife/wap-high-rank.html">https://wildlife.state.nh.us/wildlife/wap-high-rank.html</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>			
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)?			
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?			
3.5 Are stream crossings designed in accordance with the GC 21?			N/A
<b>4. Flooding/Floodplain Values</b>	Yes	No	
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?			
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?			
<b>5. Historic/Archaeological Resources</b>			
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) 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**			

\*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.



rockingham.pdf

https://www.des.nh.gov/organization/divisions/w

1 of 1 Automatic Zoom

**\*Vicinity based upon a 1 mile buffer of Assessment Units impaired in the 2006 SWQA for one or more of the following;**

- Invertebrates,
- Cadmium,
- Chlorophyll *a*,
- Copper,
- Cyanobacteria,
- Dissolved Oxygen (% Sat or mg/L),
- Enterococcus,
- *E. coli*,
- Algal Growth,
- Fecal Coliform,
- Lead,
- Total Phosphorus,
- Sedimentation & Siltation,
- Zinc.

For more information on the 2006 Surface Water Quality Assessments see:  
<http://des.nh.gov/wmb/swqa/>

0 1 2 4 6 8 10 Miles

**Legend:**

- Major Divides (HUC8)
- Roads(NHDOT)
- State Boundary
- County Boundary
- Town Boundary
- 2006 Assessment Unit ID Lines (1:100k NHD)
- 2006 Assessment Unit ID Polygons(1:100k NHD)
- One Mile Buffer on No Additional Loading AUIDs

This map is intended solely as a screening tool to assist you in identifying areas within 1 mile upstream in the watershed of an impaired waterbody. This map is not intended to show analytical results regarding pollutant loading or any other information related to sections 305(b) or 401 of the Clean Water Act or any other State or federal laws.

The coverages presented in this program are under constant revision as new sites or facilities are added. They may not contain all of the potential or existing sites or facilities. The Department is not responsible for the use or interpretation of this information, nor for any inaccuracies.

Map Prepared July 17, 2007.

NHDES

6:00 PM 6/6/2019

## IMPAIRED WATERS MAP (LEGEND)

## SHORELAND APPLICATION WORKSHEET

This worksheet *must* be submitted to the NHDES Wetlands Bureau with every Shoreland Permit Application. **A separate shoreland application worksheet must be submitted for each individual lot of record where impacts are proposed.**

For the purposes of this worksheet, “**pre-construction**” impervious surface area<sup>3</sup> means all human made impervious surfaces<sup>4</sup> currently present within the protected shoreland of a lot, whether to be removed or to remain after the project is completed. “**Post-construction**” impervious area means all impervious surfaces that will exist within the protected shoreland of a lot upon completion of the project, including both new and any remaining pre-construction impervious surfaces. All answers shall be given in square feet.

### Calculating the Impervious Area of a Lot

CALCULATING THE IMPERVIOUS AREA OF A LOT WITHIN 250 FEET OF THE REFERENCE LINE (Env-Wq 1406.12)			
	STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREAS	POST-CONSTRUCTION IMPERVIOUS AREAS
<b>PRIMARY STRUCTURE(S)</b> House and all <b>attached</b> decks and porches.	Residence/Porch/Deck	837 FT <sup>2</sup>	1172 FT <sup>2</sup>
<b>ACCESSORY STRUCTURES</b> All other impervious surfaces excluding lawn furniture, well heads, and fences. Common accessory structures include, but are not limited to: driveways, walkways, patios, and sheds.	Shed	58 FT <sup>2</sup>	0 FT <sup>2</sup>
	Paved Driveway	890 FT <sup>2</sup>	510 FT <sup>2</sup>
	Brick/Stone Walks	68 FT <sup>2</sup>	160 FT <sup>2</sup>
	Patio	200 FT <sup>2</sup>	0 FT <sup>2</sup>
	Conc. pads/walls	67 FT <sup>2</sup>	8 FT <sup>2</sup>
	Ret. wall & Dock	69 FT <sup>2</sup>	69 FT <sup>2</sup>
<b>TOTAL:</b>		<b>(A)</b> 2189 FT <sup>2</sup>	<b>(B)</b> 1919 FT <sup>2</sup>
Area of the lot located within 250 feet of reference line:			<b>(C)</b> 5353 FT <sup>2</sup>
Percentage of lot covered by pre-construction impervious area within 250 feet of the reference line: <i>[divide (A) by (C) x 100]</i>			<b>(D)</b> 40.9 %
Percentage of lot to be covered by post-construction impervious area within 250 feet of the reference line upon completion of the project: <i>[divide (B) by (C) x 100]</i>			<b>(E)</b> 35.8 %

<sup>3</sup> “**Impervious surface area**” as defined in Env-Wq 1402.13 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the sum total of the footprint of each impervious surface that is located within the protected shoreland.

<sup>4</sup> “**Impervious Surface**” as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147

NHDES Shoreland Program, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

<http://www.des.nh.gov>

### Stormwater Management Requirements

THE IMPERVIOUS AREA THRESHOLDS (RSA 483-B:9, V(g))
<input checked="" type="checkbox"/> A net decrease or no net increase in impervious area is proposed (If <b>line E</b> is less than or equal to <b>line D</b> ).
<input type="checkbox"/> The percentage of post-construction impervious area ( <b>line E</b> ) is less than or equal to 20%. This project <b>does not</b> require a stormwater management plan and <b>does not</b> require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.
<input type="checkbox"/> A net increase in impervious area is proposed and the percentage of post-construction impervious area ( <b>line E</b> ) is greater than 20%, but less than 30%. This project <b>requires</b> a stormwater management but, <b>does not</b> require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score. <i>See details on the Application Checklist</i>
<input type="checkbox"/> A net increase in impervious area is proposed and the percentage of post-construction impervious area ( <b>line E</b> ) is greater than 30%. This project <b>requires</b> a stormwater management plan designed and certified by a professional engineer <b>and requires</b> plans demonstrating that each waterfront buffer grid segment meets at least the minimum required tree and sapling point score. <i>See details on the Application Checklist</i>

### Natural Woodland Area Requirement

DETERMINING THE AREA TO REMAIN AS NATURAL WOODLAND	
Total area of the lot between 50 feet and 150 feet of the reference line within which the vegetation currently exists as natural woodland <sup>5</sup> (see definition below).	(F) <span style="background-color: #cccccc; padding: 2px 10px;">0</span> FT <sup>2</sup>
Total area of the lot between 50 feet and 150 feet from the reference line.	(G) <span style="background-color: #cccccc; padding: 2px 10px;">2000</span> FT <sup>2</sup>
At least 25% of area (G) must remain in as natural woodland. $[0.25 \times G]$	(H) <span style="background-color: #cccccc; padding: 2px 10px;">500</span> FT <sup>2</sup>
Place the lesser of area (F) and calculation (H) on this line. In order to remain compliant with the <b>natural woodland area requirement</b> , this is the minimum area that must remain as natural woodland between 50 feet and 150 feet from the reference line. This area <b>must</b> be represented on all plans and this area, exclusive of existing lawn, must remain in an unaltered state <sup>6</sup> .	(I) <span style="background-color: #cccccc; padding: 2px 10px;">0</span> FT <sup>2</sup>
Name of person who prepared this worksheet: Erik Saari	
Name and date of the plan this worksheet is based upon: Site Plan, September 2022	

<sup>5</sup> “**Natural Woodland**” means a forested area consisting of various species of trees, saplings, shrubs, and ground covers in any combination and at any stage of growth (483-B:4, XI).

<sup>6</sup> “**Unaltered State**” means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health (483-B:4, XXIV-b).

### 43 HOLMES CT

**Location** 43 HOLMES CT

**Mblu** 0101/ 0014/ 0000/ /

**Acct#** 32810

**Owner** SINGLAR STEPHEN A & KATHRYN L

**PBN**

**Assessment** \$812,100

**Appraisal** \$812,100

**PID** 32810

**Building Count** 1

**Current Value**

Appraisal			
Valuation Year	Improvements	Land	Total
2022	\$158,600	\$653,500	\$812,100

Assessment			
Valuation Year	Improvements	Land	Total
2022	\$158,600	\$653,500	\$812,100

**Owner of Record**

**Owner** SINGLAR STEPHEN A & KATHRYN L  
**Co-Owner**  
**Address** 21 ELLIOT ST  
 EXETER, NH 03833

**Sale Price** \$1,200,000  
**Certificate**  
**Book & Page** 6393/1443  
**Sale Date** 03/24/2022  
**Instrument** 21

**Ownership History**

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
SINGLAR STEPHEN A & KATHRYN L	\$1,200,000		6393/1443	21	03/24/2022
43 HOLMES COURT LLC	\$0		5829/1407	40	06/23/2017
SANDERS JAMES H REVO TRUST	\$0		3170/0184		08/06/1996

**Building Information**

**Building 1 : Section 1**

**Year Built:** 1749

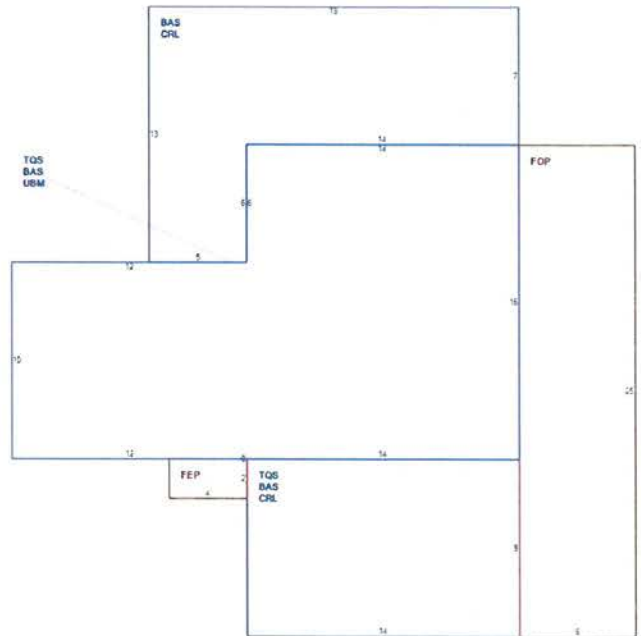
**Living Area:** 986  
**Replacement Cost:** \$232,607  
**Building Percent Good:** 66  
**Replacement Cost Less Depreciation:** \$153,500



(<https://images.vgsi.com/photos2/PortsmouthNHPhotos/100/01165181.jpg>)

Building Attributes	
Field	Description
Style:	Antique
Model	Residential
Grade:	B-
Stories:	1.75
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Inlaid Sht Gds
Heat Fuel	Gas
Heat Type:	Steam
AC Type:	None
Total Bedrooms:	2 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Xtra Fixtrs:	0
Total Rooms:	6
Bath Style:	Avg Quality
Kitchen Style:	Avg Quality
Kitchen Gr	
WB Fireplaces	0
Extra Openings	0
Metal Fireplaces	0
Extra Openings 2	0
Bsmt Garage	

**Building Layout**



(ParcelSketch.ashx?pid=32810&bid=32810)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	633	633
TQS	Three Quarter Story	470	353
CRL	Crawl Space	289	0
FEP	Porch, Enclosed	8	0
FOP	Porch, Open	150	0
UBM	Basement, Unfinished	344	0
		1,894	986

**Extra Features**

No Data for Extra Features

**Land**

**Land Use**

Use Code 1013  
 Description SFR WATERFRONT  
 Zone WB  
 Neighborhood 101  
 Alt Land Appr No  
 Category

**Land Line Valuation**

Size (Acres) 0.13  
 Frontage  
 Depth  
 Assessed Value \$653,500  
 Appraised Value \$653,500

**Outbuildings**

Outbuildings						<a href="#">Legend</a>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
RD1	BOAT DOCK LT			96.00 UNITS	\$1,900	1
RD1	BOAT DOCK LT			160.00 UNITS	\$3,200	1

**Valuation History**

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$158,600	\$653,500	\$812,100
2020	\$158,600	\$653,500	\$812,100
2019	\$158,600	\$653,500	\$812,100

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$158,600	\$653,500	\$812,100
2020	\$158,600	\$653,500	\$812,100
2019	\$158,600	\$653,500	\$812,100





**Return To:**  
Stephen A. Singlar and Kathryn L. Singlar  
21 Elliot Street  
Excter, NH 03833

LCHIP	ROA611599	25.00
TRANSFER TAX	RO114059	18,000.00
RECORDING		14.00
SURCHARGE		2.00

**Transfer Tax:** \$18,000.00

**WARRANTY DEED**

KNOW ALL PERSONS BY THESE PRESENTS: That 43 Holmes Court, LLC, a New Hampshire limited liability company of 30 Walden Court, Portsmouth, NH 03801, for consideration paid, grants to Stephen A. Singlar and Kathryn L. Singlar, husband and wife, as joint tenants with rights of survivorship of 21 Elliot Street, Excter, NH 03833, with WARRANTY COVENANTS:

A certain lot or parcel of land with the buildings thereon, situate in Portsmouth, in the County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at the point 78 feet from the land now or formerly of James Fay and running northerly 70 feet, more or less, to the land now or formerly of William Chase; thence turning and running easterly by the land of said Chase to the low water mark; thence turning and running southerly along the low water mark of the Piscataqua River to the land now or formerly of Samuel Langdon; thence turning and running westerly by the land now or formerly of said Langdon the point begun at; a part of the westerly boundary land is bounded on Holmes Court, so-called.

Meaning and intending to describe and convey the same premises conveyed to 43 Holmes Court, LLC, by virtue of a Deed from James H. Sanders, Trustee of the James H. Sanders 1986 Revocable Trust, dated June 20, 2017 and recorded in the Rockingham County Registry of Deeds at Book 5829, Page 1407.

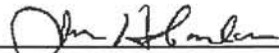
TOGETHER WITH and subject to any and all covenants, easements, conditions, stipulations, and restrictions of record, insofar as the same are enforceable and in effect.

This is not homestead property.

IN WITNESS WHEREOF, the undersigned have executed this document on this 23rd day of March, 2022.

**WARRANTY DEED**  
(continued)

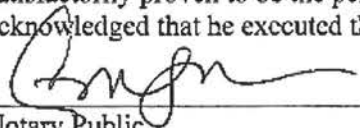
43 HOLMES COURT, LLC

BY:   
James H. Sanders, Manager

State of NEW HAMPSHIRE  
County of ROCKINGHAM

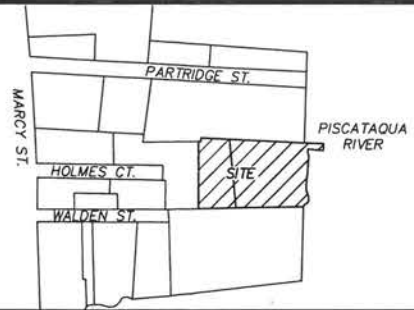
March 23, 2022

Personally appeared, James H. Sanders, Manager of 43 Holmes Court, LLC, known to me, or satisfactorily proven to be the person whose name is subscribed to the foregoing and acknowledged that he executed the same for the purposes therein contained.

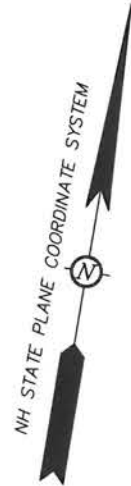
  
\_\_\_\_\_  
Notary Public  
My Commission Expires:

**CYNTHIA M GIBB**  
NOTARY PUBLIC  
State of New Hampshire  
My Commission Expires  
June 30, 2026

[SEAL]



**LOCUS**  
(N.T.S.)



**REFERENCE PLANS:**

1. PLAN OF LOT, NO. 24 HOLMES COURT, PORTSMOUTH, NH, JUNE 1947, JOHN W. DURGIN FILE NO. 2611.
2. PLAN OF LOT, PORTSMOUTH, NH, NO. 39 HOLMES COURT, AUGUST 1975, JOHN W. DURGIN FILE NO. 2366, PLAN NO. 3273.
3. PLAN OF LOT, PORTSMOUTH, NH, FOR SAMUEL PENDELTON, JR., AUGUST 1975, JOHN W. DURGIN FILE NO. 2366, PLAN NO. 4383.
4. PLAN OF LAND FOR JOHN H. & JUDITH A. MILLER, 33 HOLMES COURT, PORTSMOUTH, NH, DATED MARCH 12, 1984, RECORDED AS RCRD PLAN #C-12350.

**PURSUANT TO RSA 676:18,III AND RSA 672:14**

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

*James Verra*  
JAMES VERRA 8-15-2022  
DATE



**NOTES:**

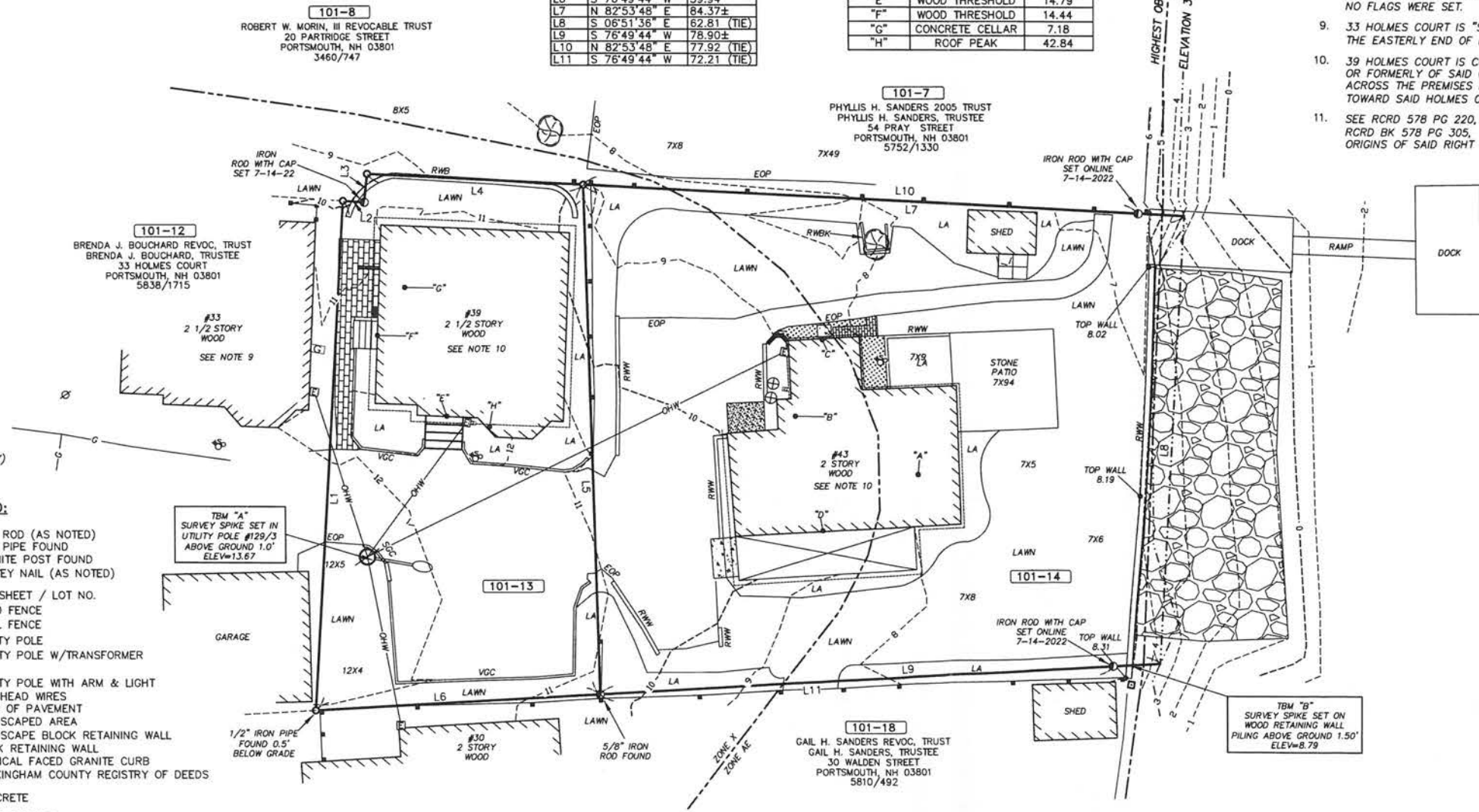
1. OWNER OF RECORD.....39 HOLMES COURT, LLC.  
ADDRESS.....30 WALDEN STREET, PORTSMOUTH, NH 03801  
DEED REFERENCE.....5829/1412  
TAX SHEET / LOT.....101-13  
PARCEL AREA.....2,672 S.F.
1. OWNER OF RECORD.....43 HOLMES COURT, LLC.  
ADDRESS.....30 WALDEN STREET, PORTSMOUTH, NH 03801  
DEED REFERENCE.....5829/1407  
TAX SHEET / LOT.....101-14  
PARCEL AREA.....5,353 S.F.±(TO ELEV. 3.62)
2. ZONED:.....WATERFRONT BUSINESS FRONT YARD SETBACK.....30'  
MINIMUM LOT AREA.....20,000 S.F. SIDE YARD SETBACK.....30'  
FRONTAGE.....100' REAR YARD SETBACK.....
3. THE RELATIVE ERROR OF CLOSURE WAS LESS THAN 1 FOOT IN 15,000 FEET.
4. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG-SAFE @ 1-888-DIG-SAFE.
5. HORIZONTAL DATUM: NAD 1983 ESTABLISHED BY SURVEY GRADE GPS OBSERVATION AND NGS "OPUS" SOLUTION. REFERENCE FRAME: NAD83 (2011)(EPOCH: 2010.0000), US SURVEY FOOT.  
VERTICAL DATUM: NAVD 1988. PRIMARY BENCHMARK: CITY OF PORTSMOUTH "ROBE".
6. CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE ESTABLISHMENT OF ANY GRADES OR ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOCIATES, INC..
7. THE PARCELS SHOWN HEREON LIES WITHIN ZONE AE (ELEVATION B) & ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS IDENTIFIED ON FLOOD INSURANCE RATE MAP, ROCKINGHAM COUNTY, NEW HAMPSHIRE, MAP NUMBER 33015C027BF, EFFECTIVE DATE 1/29/2021 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
8. THE HIGHEST OBSERVABLE TIDE LINE WAS DELINEATED BY MICHAEL CUOMO, NEW HAMPSHIRE CERTIFIED WETLAND SCIENTIST #004 ON MAY 20, 2022 & RECORDED BY JAMES VERRA AND ASSOCIATES, INC. UNDER THE DIRECTION OF MICHAEL CUOMO. NO FLAGS WERE SET.
9. 33 HOLMES COURT IS "SUBJECT TO THE RIGHT OF WAY ACROSS SAID PREMISES FROM THE EASTERLY END OF HOLMES COURT." SEE RCRD BK 5838 PG 1715.
10. 39 HOLMES COURT IS CONVEYED "TOGETHER WITH A RIGHT OF WAY ACROSS LAND NOW OR FORMERLY OF SAID CATLIN TO HOLMES COURT AND SUBJECT TO THE RIGHT OF WAY ACROSS THE PREMISES HEREBY CONVEYED FROM LAND NOW OR FORMERLY OF DOWNS TOWARD SAID HOLMES COURT." SEE RCRD BK 5829 PG 1412.
11. SEE RCRD 578 PG 220, 10/17/1900, J. CORNELIUS COAKLEY TO JAMES FAY AND RCRD BK 578 PG 305, 11/12/1900, J. CORNELIUS COAKLEY TO MARGARET FOX FOR THE ORIGINS OF SAID RIGHT OF WAYS.

**BOUNDARY LINE TABLE**

LINE	BEARING	DISTANCE
L1	N 06°37'34" W	71.43
L2	N 83°51'11" E	3.00
L3	N 04°16'52" W	4.00
L4	N 82°53'48" E	30.27
L5	S 11°38'37" E	71.37
L6	S 76°49'44" W	39.94
L7	N 82°53'48" E	84.37±
L8	S 06°51'36" E	62.81 (TIE)
L9	S 76°49'44" W	78.90±
L10	N 82°53'48" E	77.92 (TIE)
L11	S 76°49'44" W	72.21 (TIE)

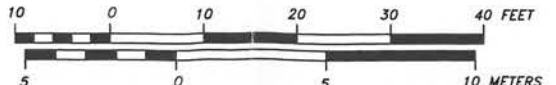
**BUILDING ELEVATION TABLE**

LOCATION	DESCRIPTION	ELEVATION
"A"	ROOF PEAK	30.55
"B"	WOOD THRESHOLD	12.09
"C"	WOOD THRESHOLD	8.36
"D"	WOOD THRESHOLD	12.02
"E"	WOOD THRESHOLD	14.79
"F"	WOOD THRESHOLD	14.44
"G"	CONCRETE CELLAR	7.18
"H"	ROOF PEAK	42.84



**LEGEND:**

- ..... IRON ROD (AS NOTED)
- ..... IRON PIPE FOUND
- ..... GRANITE POST FOUND
- △ ..... SURVEY NAIL (AS NOTED)
- 101-14 ..... TAX SHEET / LOT NO.
- ..... WOOD FENCE
- ..... VINYL FENCE
- ..... UTILITY POLE
- ⊕ ..... UTILITY POLE W/TRANSFORMER
- ..... GUY
- ..... UTILITY POLE WITH ARM & LIGHT
- ..... OVERHEAD WIRES
- ..... EDGE OF PAVEMENT
- LA ..... LANDSCAPED AREA
- RWB ..... LANDSCAPE BLOCK RETAINING WALL
- RWBK ..... BRICK RETAINING WALL
- VGC ..... VERTICAL FACED GRANITE CURB
- RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
- ..... CONCRETE
- ..... BRICK PAVERS
- ..... CRUSHED STONE
- ..... RIP RAP
- ..... RETAINING WALL



**SURVEYOR:**  
James Verra and Associates, Inc.  
LAND SURVEYORS

101 SHATTUCK WAY - SUITE 8  
NEWINGTON, N.H. 03801- 7876  
603-436-3557  
JOB NO: 23999

**ENGINEER:**  
**ALTUS**  
ENGINEERING, INC.  
133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2355 www.ALTUS-ENG.com

**ISSUED FOR:**  
ENGINEERING DESIGN

**ISSUE DATE:**  
8-15-2022

**REVISIONS**

NO.	DESCRIPTION	BY	DATE

**DRAWN BY:** GTD  
**APPROVED BY:** JV  
**DRAWING FILE:** 23999.DWG

**SCALE:**  
22" x 34" - 1" = 10'  
11" x 17" - 1" = 5'

**OWNER/APPLICANT:**  
30 HOLMES COURT, LLC. & 43 HOLMES COURT, LLC.  
30 WALDREN STREET  
PORTSMOUTH, NH 03801  
ASSESSOR'S PARCELS  
MAP 101 - LOTS 13 & 14

**OWNER:**  
30 HOLMES COURT, LLC. & 43 HOLMES COURT, LLC.  
30 WALDREN STREET  
PORTSMOUTH, NH 03801  
ASSESSOR'S PARCELS  
MAP 101 - LOTS 13 & 14

**PROJECT:**  
PROPOSED SITE DEVELOPMENT PLANS  
HOLMES COURT #39 & #43  
PORTSMOUTH, NH  
ASSESSOR'S PARCELS  
MAP 101-LOTS 13 & 14

**TITLE:**  
EXISTING CONDITIONS PLAN

**SHEET NUMBER:**  
1 OF 1

P5328

# National Flood Hazard Layer FIRMette



70°45'14"W 43°4'30"N



70°44'37"W 43°4'4"N

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS**
  - Without Base Flood Elevation (BFE) *Zone A, V, A99*
  - With BFE or Depth *Zone AE, AO, AH, VE, AR*
  - Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD**
  - 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone J*
  - Future Conditions 1% Annual Chance Flood Hazard *Zone X*
  - Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
  - Area with Flood Risk due to Levee *Zone D*
- OTHER AREAS**
  - NO SCREEN
  - Area of Minimal Flood Hazard *Zone X*
  - Effective LOMIRs
  - Area of Undetermined Flood Hazard *Zone X*
- GENERAL STRUCTURES**
  - Channel, Culvert, or Storm Sewer
  - Levee, Dike, or Floodwall
- OTHER FEATURES**
  - Cross Sections with 1% Annual Chance Water Surface Elevation
    - 20.2
    - 17.8
    - 0
    - 31
  - Coastal Transsect
  - Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transsect Baseline
  - Profile Baseline
  - Hydrographic Feature
- MAP PANELS**
  - Digital Data Available
  - No Digital Data Available
  - Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/22/2022 at 12:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

New Hampshire Natural Heritage Bureau  
NHB DataCheck Results Letter

---

**To:** Eric Weinrieb, Altus Engineering, Inc.  
133 Court Street

Portsmouth, NH 03801

**From:** NH Natural Heritage Bureau

**Date:** 5/25/2022 (valid until 5/25/2023)

**Re:** Review by NH Natural Heritage Bureau of request submitted 5/20/2022

**Permits:** MUNICIPAL POR - Portsmouth, NHDES - Wetland Standard Dredge & Fill - Major

**NHB ID:** NHB22-1800

**Applicant:** Stephen Singlar

**Location:** Portsmouth  
43 Holmes Court

**Project**

**Description:** Replace existing single family residence with similar size residence.  
Construction could occur late fall 2022 or may wait till Spring 2023.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 5/20/2022 11:15:47 AM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

# New Hampshire Natural Heritage Bureau NHB DataCheck Results Letter

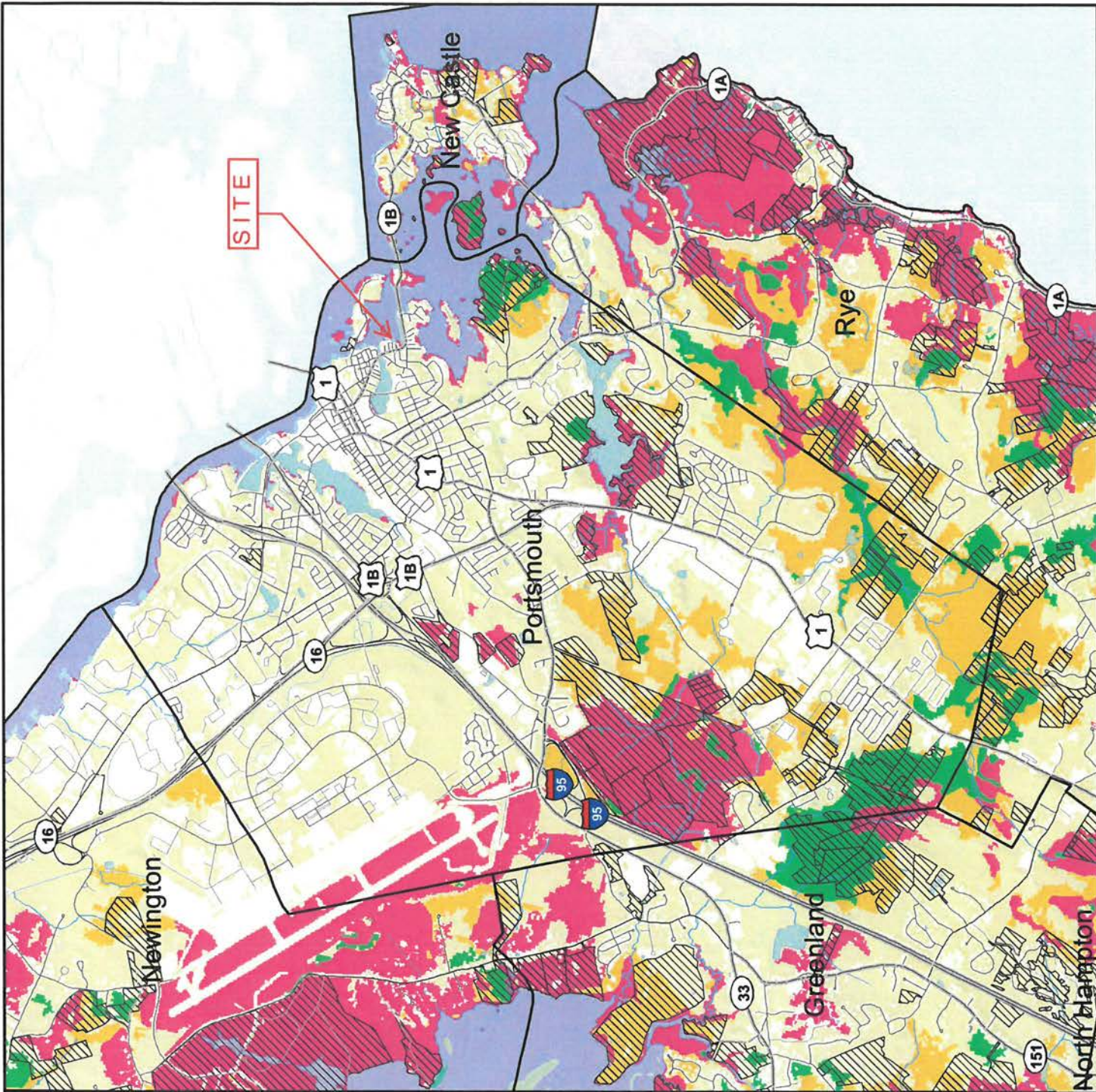
MAP OF PROJECT BOUNDARIES FOR: NHB22-1800

**NHB22-1800**



## 2020 HIGHEST RANKED WILDLIFE HABITAT BY ECOLOGICAL CONDITION

- Highest Ranked Habitat in New Hampshire
- Highest Ranked Habitat in the Biological Region  
Biological region = TNC ecoregional subsection for terrestrial habitats or Aquatic Resource Mitigation region for wetlands and floodplain forest.
- Supporting Landscapes
- Conservation or public

























Base map data provided by NH GRANIT at UNH May 2020. Intended for planning use only.



Sept. 2015, spatial data Apr. 2020



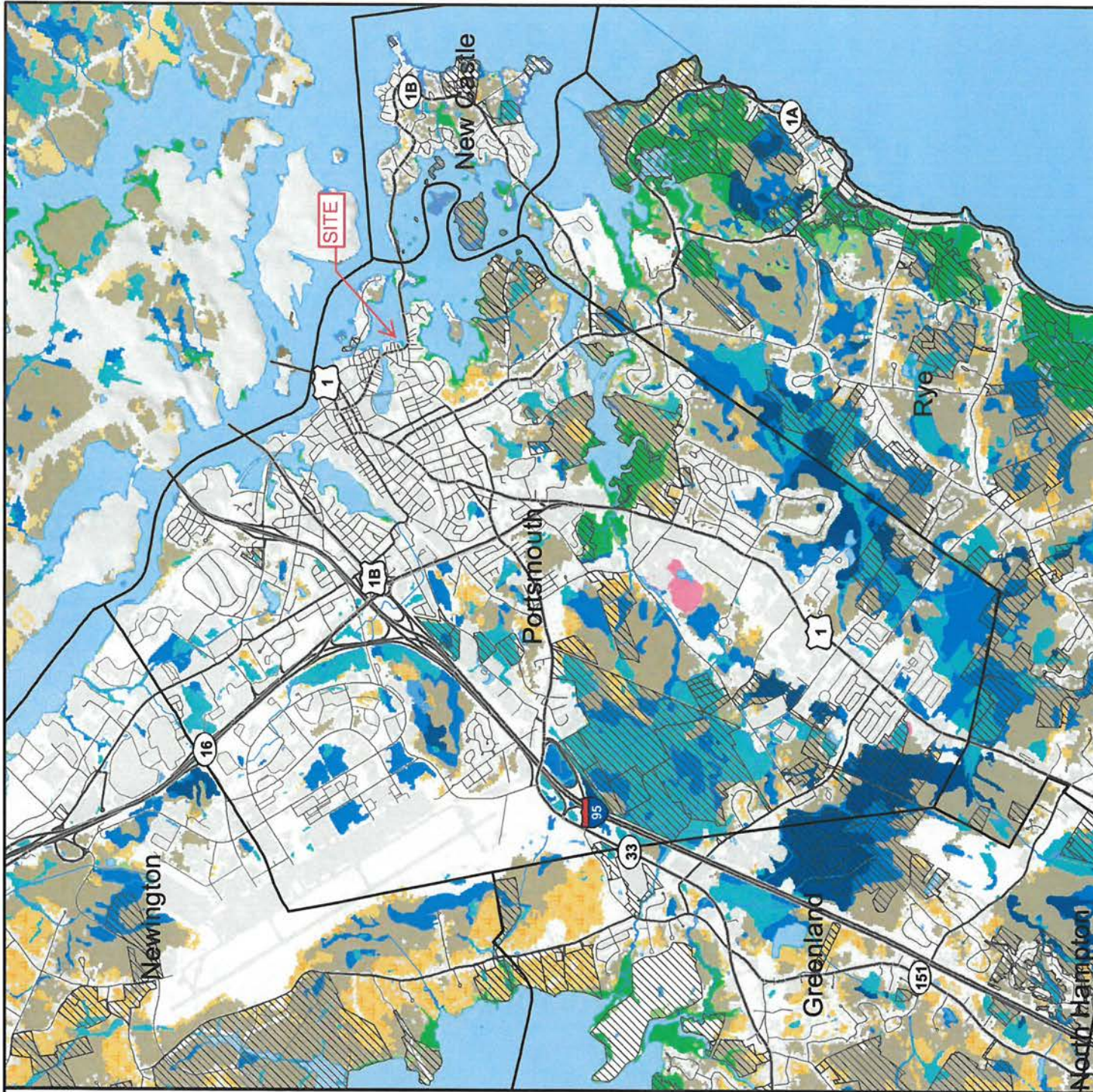
# 2020 NH WILDLIFE HABITAT LAND COVER

-  Coastal Island/Rocky coast
-  Dune
-  Salt marsh
-  Peatland
-  Marsh and Shrub wetland
-  Northern or Temperate Swamp
-  Floodplain Forest
-  Grassland
-  Pine barren
-  Cliff or Talus slope
-  Rocky ridge
-  Alpine
-  High-elevation Spruce-fir
-  Low-elevation Spruce-fir
-  Northern hardwood-conifer
-  Appalachian oak-pine
-  Hemlock-hardwood-pine
-  Open Water
-  Sand/Gravel
-  Developed Impervious
-  Developed or Barren
-  Conservation or public land

Base map data provided by NH GRANIT at UNH May 2020. Intended for planning use only.



Sept. 2015, spatial data Apr. 2020





File Edit View History Bookmarks Tools Help

National Wetlands Inventory x +

https://primary.wm.usgs.gov/wetlands/wetlands-mapper/

**National Wetlands Inventory**  
surface waters and wetlands

BASEMAPS >

- STREETS
- SATELLITE
- HYBRID
- TOPO
- TERRAIN
- GRAY
- OPEN STREET MAP
- NATGEO
- USGS TOPO
- NATL MAP

MAP LAYERS >

- Wetlands
- Riparian
- Riparian Mapping Areas
- Data Source
  - Source Type
  - Image Scale
  - Image Year
- Areas of Interest
- FWS Managed Lands
- Historic Wetland Data

LEGEND

**Wetlands**

- Esuarine and Marine
- Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub
- Wetland
- Lake
- Other
- Riverine

**Riparian**

- Forested/Shrub
- Herbaceous

**Historic Wetland Data**

- Historic Wetlands
- Historic Wetland Mapping Areas

U.S. Fish and Wildlife Service, National Standards and Support Team, Wetlands Team, Wetlands Team, Esri, Microsoft

5:52 PM 9/27/2022

1,564  
43,071 | -70,749

Measure

SEARCH

ABOUT

GET DATA

PRINT

WETLANDS

E2US3M

E2EM1N

SITE

Type here to search

## USFWS Wetland Inventory Map

**Michael Cuomo, Soil Scientist**  
6 York Pond Road, York, Maine 03909  
207 363 4532  
mcuomosoil@gmail.com

Erik Saari, P.E.  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH 03801-4413

26 May 2022

Dear Mr. Saari;

This letter is in reference to the property at 43 Holmes Court in Portsmouth, NH. On 20 May 2022 I conducted a Highest Observable Tideline determination to assist you in planning the redevelopment of this site.

Highest Observable Tide Line is defined in NH Code of Administrative Rules Env-Wt 101.45 as "...a line defining the farthest landward limit of tidal flow, not including storm events, that can be recognized by such indicators as the presence of a strand line of flotsam and debris, the landward margin of salt tolerant vegetation, or a physical barrier that blocks farther flow of the tide."

The location of the Highest Observable Tide Line was recorded by James Verra and Associates under my direction.

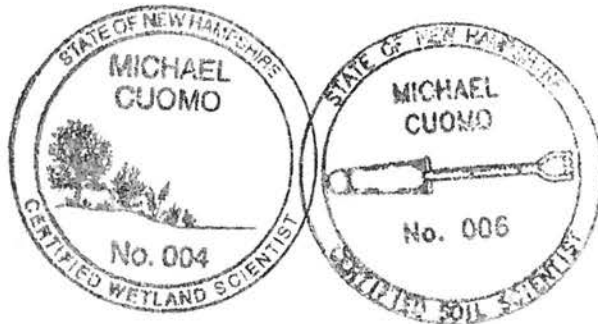
There are no other wetlands on the parcel.

Please call if you have questions regarding this work.

Sincerely,



Michael Cuomo  
NH Wetland Scientist #004  
NH Soil Scientist #006



File Edit View History Bookmarks Tools Help

https://mideswppt.unh.edu/ItemViewer/index.html?viewer=WPPT.gvnh

Search

Tools

I want to...

Legend

Filter Swatches...

- WPPT\_PredictedMarshMigration
  - Tidal Waters / Tidal Wetlands
    - Tidal wetland
    - Transitional salt marsh
    - Salt marsh
    - Mud flat
    - Tidal water
- NWI Layers
  - NWI Plus
    - Estuarine and Marine Deepwater
    - Estuarine and Marine Wetland
    - Freshwater Emergent Wetland
    - Freshwater Forested/Shrub Wetland
    - Freshwater Pond
    - Lake
    - Other
    - Riverine
- World Imagery
  - World Imagery
    - Low Resolution 15m Imagery
    - High Resolution 60cm Imagery
    - High Resolution 30cm Imagery

Cratitions

Welcome Legend Identifiable Buffer Opt...

Type here to search

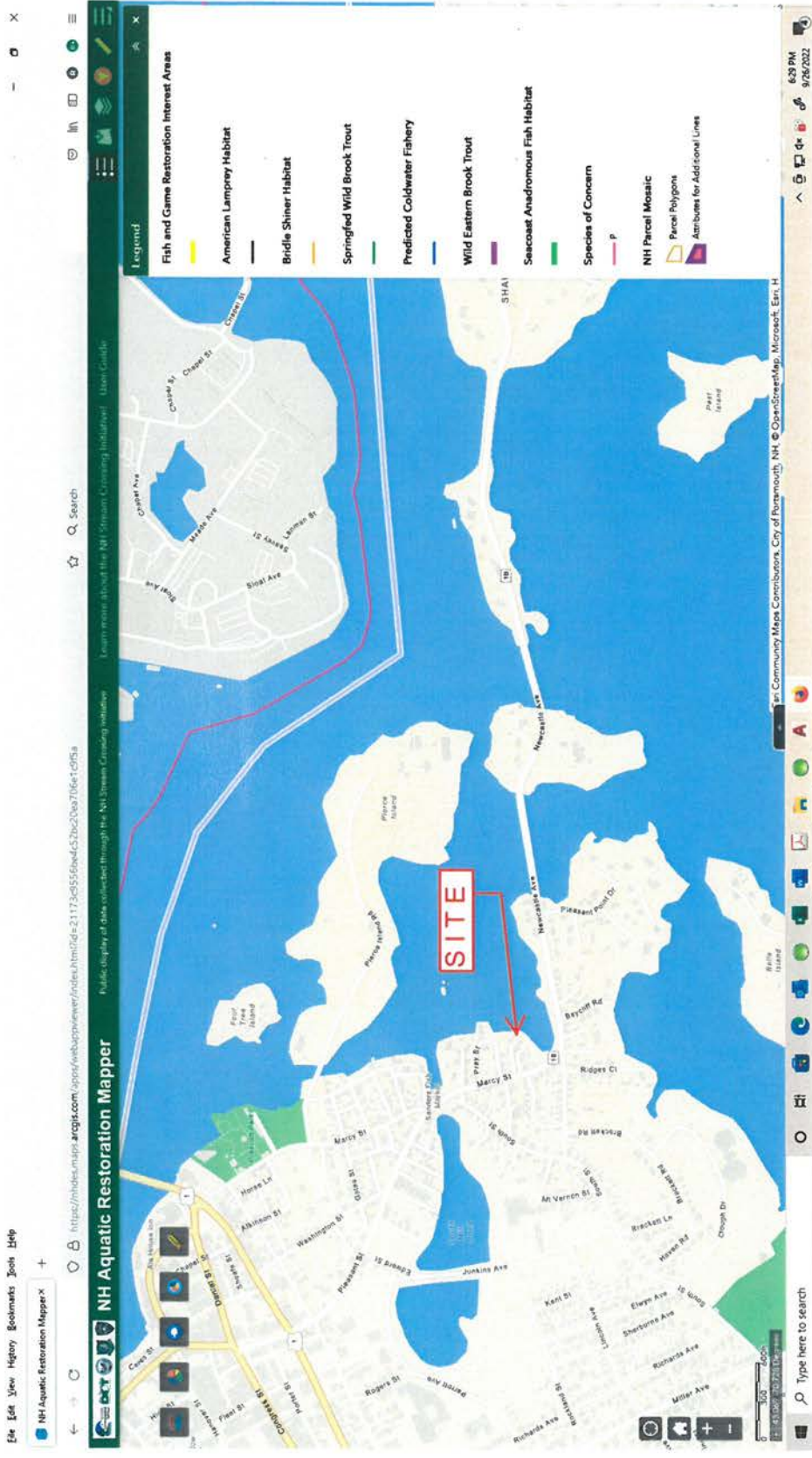
6:14 PM 9/25/2022

NH Fish & Game | NHDES | NH Department of Environmental Services, Wetlands Bureau | NH DPA, Automatic  
 NH GRANIT | GRANIT | NH Department of Revenue Administration, Automatic | New Hampshire Fish and Game  
 Department and partner organizations, April 2020 | Maine GeoLibrary, Mabar, Microstoft

**SITE (43 HOLMES COURT)**

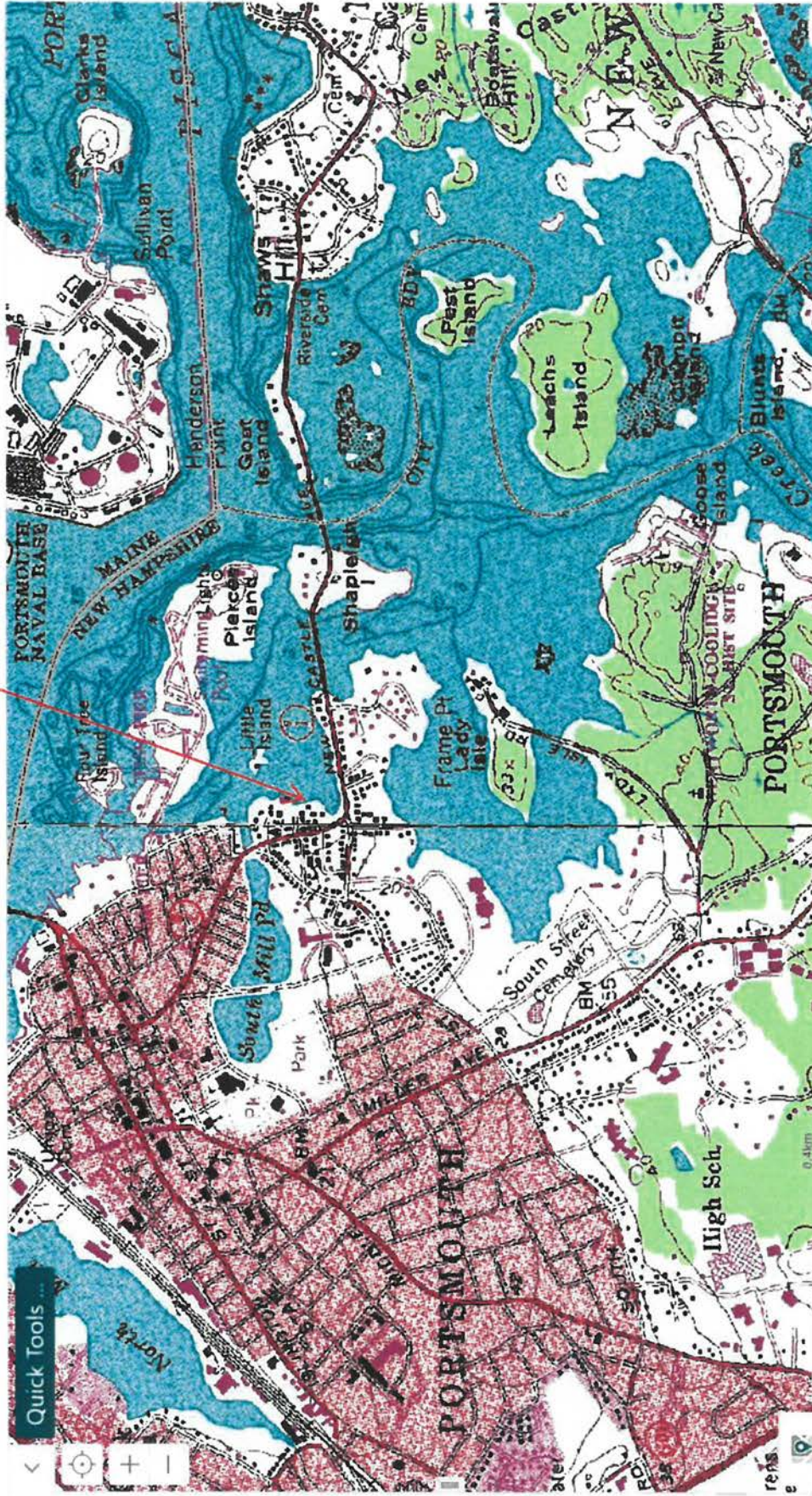
**SITE (39 HOLMES COURT)**

## WETLAND PERMIT PLANNING TOOL (WPPT) RESULTS



## NH Aquatic Restoration Mapper Results – No Expected Impacts

SITE



U.S.G.S. MAP DETAIL



**AERIAL PHOTOGRAPH – 2021 PORTSMOUTH GIS DATABASE**

43 Holmes Court.  
Portsmouth, NH



**Photo 1 – Looking westerly down Holmes Court and at front of the garage at 39 Holmes Ct.-  
January 11, 2023**



**Photo 2 – Looking easterly at 43 Holmes court from garage at 39 Holmes Ct. - January 11, 2023**

43 Holmes Court.  
Portsmouth, NH



**Photo 3 – Looking southerly at existing section of lawn at 39 Holmes Ct. - January 11, 2023**



**Photo 4 – Looking easterly at the water and 43 Holmes Court - January 11, 2023**



43 Holmes Court.  
Portsmouth, NH



**Photo 5 – Looking easterly at the water and backyard - January 11, 2023**



**Photo 6 – Looking northerly at the water, backyard, dock, and stone patio - January 11, 2023**

43 Holmes Court.  
Portsmouth, NH

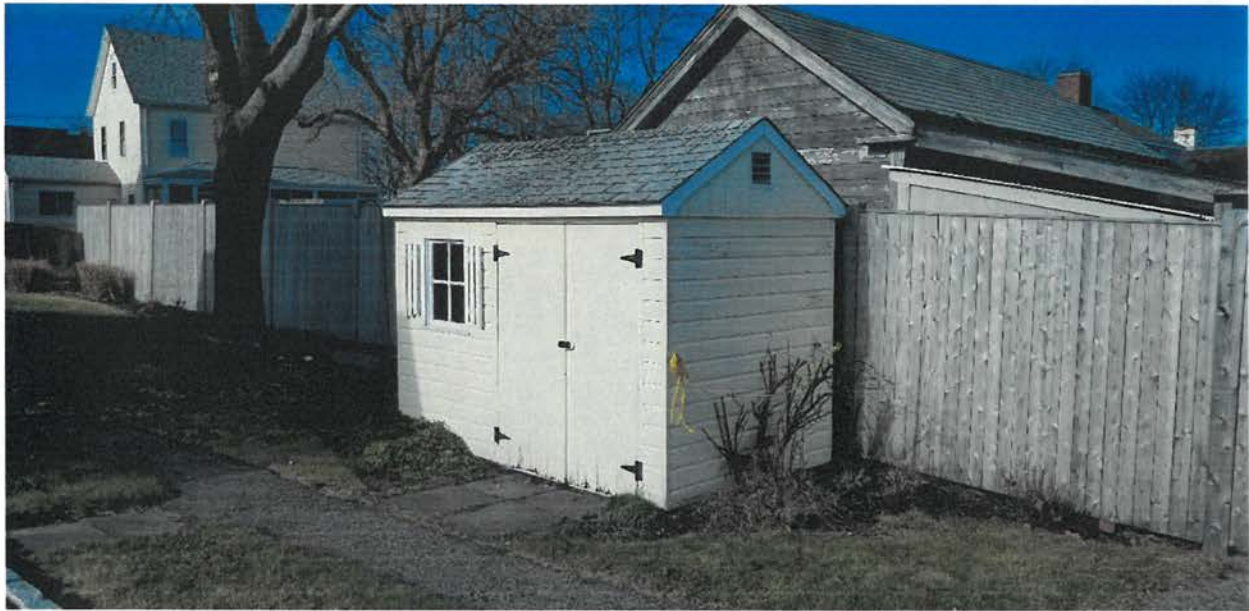


Photo 7 – Looking northerly along the retaining wall in the backyard - January 11, 2023.

43 Holmes Court.  
Portsmouth, NH



**Photo 8 – Looking northerly along the retaining wall along the Piscataqua River - January 11, 2023.**



**Photo 9 – Looking westerly at the shed in the backyard - January 11, 2023.**

43 Holmes Court.  
Portsmouth, NH

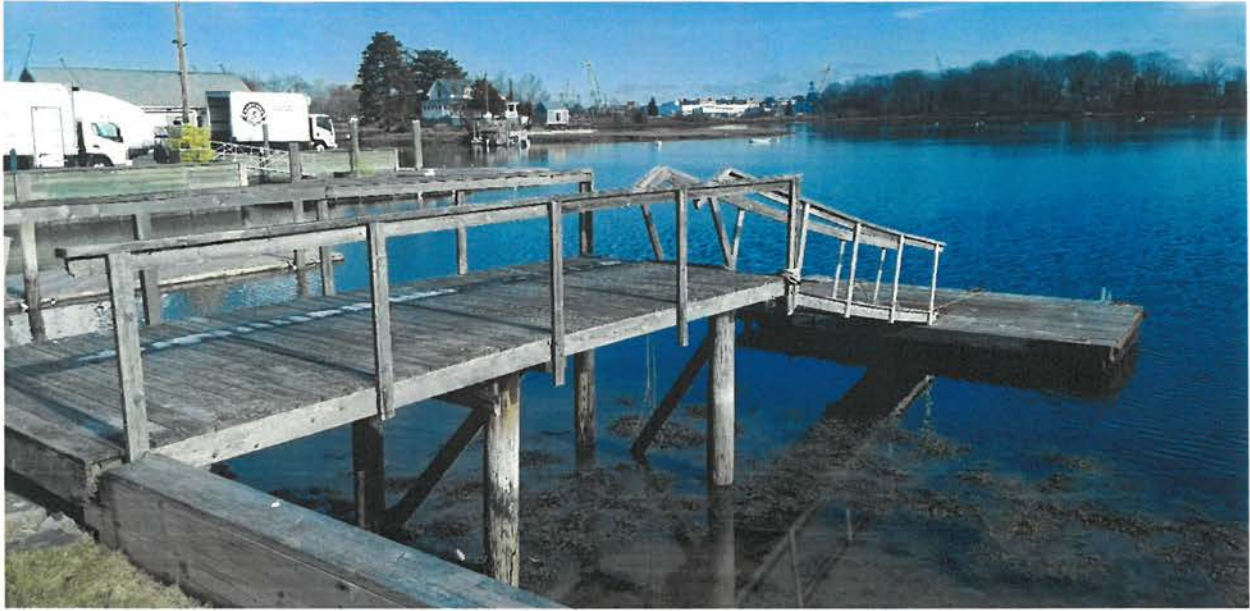


**Photo 10 – Looking westerly in the backyard at the stone patio - January 11, 2023.**



**Photo 11 – Looking southerly in the backyard along the retaining wall - January 11, 2023.**

43 Holmes Court.  
Portsmouth, NH



**Photo 12 - Looking easterly in the backyard at the dock - January 11, 2023.**

43 Holmes Court.  
Portsmouth, NH

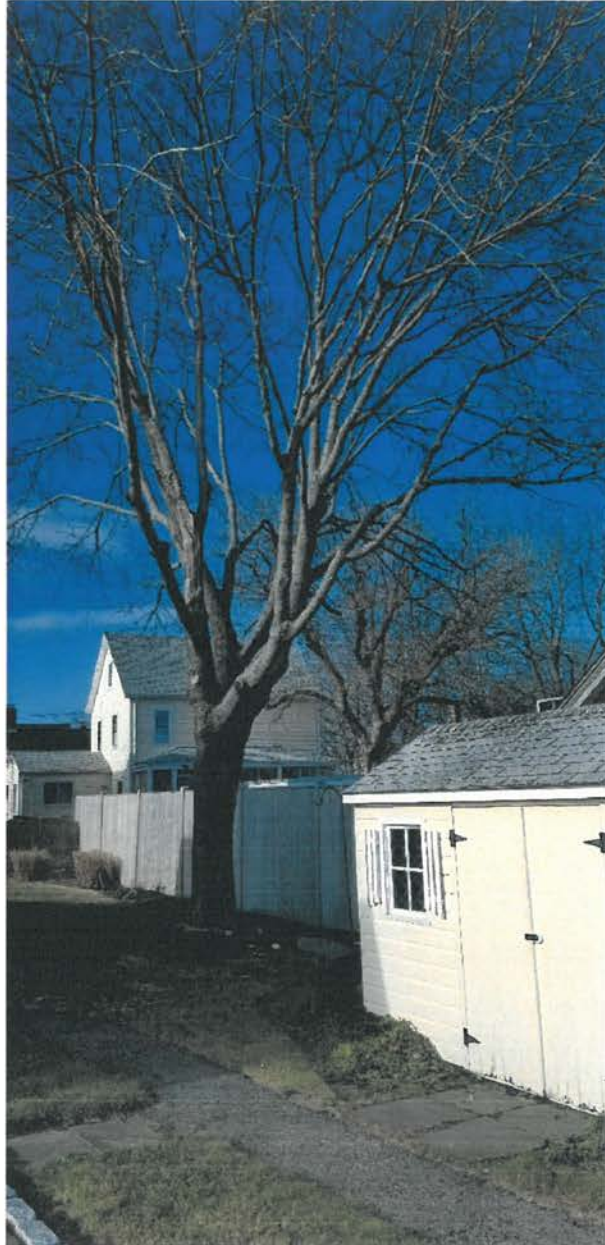


Photo 13 – Looking westerly in the backyard at the shed and tree - January 11, 2023.

43 Holmes Court.  
Portsmouth, NH



**Photo 14 – Looking easterly along the side of the house - January 11, 2023.**



**Photo 15 - Looking northerly at the driveway and proposed house corners - January 11, 2023.**

NOT FOR CONSTRUCTION

ISSUED FOR: CLIENT REVIEW

ISSUE DATE: AUGUST 10, 2022

REVISIONS  
NO. DESCRIPTION BY DATE  
0 DISCUSSION EBS 08/10/22

DRAWN BY: RLH  
APPROVED BY: EBS  
DRAWING FILE: 5328.DWG

SCALE:  
22" x 34" - 1" = 10'  
11" x 17" - 1" = 5'

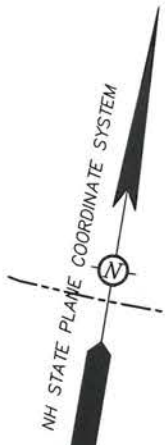
OWNER/APPLICANT:  
30 HOLMES COURT, LLC. &  
43 HOLMES COURT, LLC.  
30 WALDREN STREET  
PORTSMOUTH, NH 03801  
ASSESSOR'S PARCELS  
MAP 101 - LOTS 13 & 14

PROJECT:  
**PROPOSED SITE  
DEVELOPMENT  
PLANS**  
HOLMES COURT  
#39 & #43  
PORTSMOUTH, NH  
ASSESSOR'S PARCELS  
MAP 101-LOTS 13 & 14

TITLE:

**PHOTO KEY**

SHEET NUMBER:  
**1 OF 1**

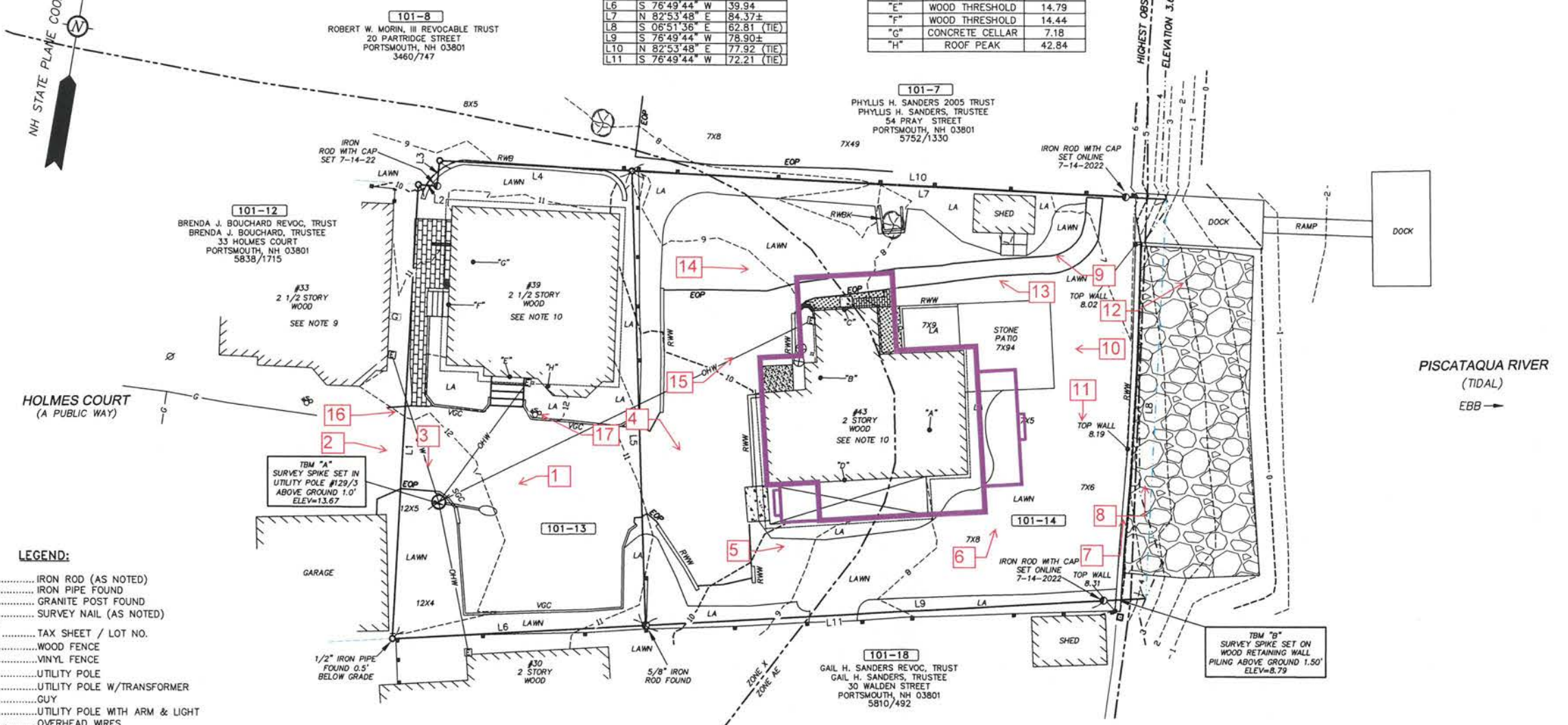


BOUNDARY LINE TABLE

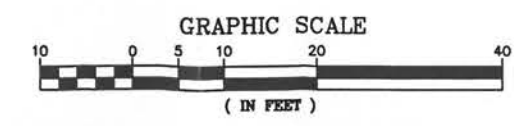
LINE	BEARING	DISTANCE
L1	N 06°37'34" W	71.43
L2	N 83°51'11" E	3.00
L3	N 04°16'52" W	4.00
L4	N 82°53'48" E	30.27
L5	S 11°38'37" E	71.37
L6	S 76°49'44" W	39.94
L7	N 82°53'48" E	84.37±
L8	S 06°51'36" E	62.81 (TIE)
L9	S 76°49'44" W	78.90±
L10	N 82°53'48" E	77.92 (TIE)
L11	S 76°49'44" W	72.21 (TIE)

BUILDING ELEVATION TABLE

LOCATION	DESCRIPTION	ELEVATION
"A"	ROOF PEAK	30.55
"B"	WOOD THRESHOLD	12.09
"C"	WOOD THRESHOLD	8.36
"D"	WOOD THRESHOLD	12.02
"E"	WOOD THRESHOLD	14.79
"F"	WOOD THRESHOLD	14.44
"G"	CONCRETE CELLAR	7.18
"H"	ROOF PEAK	42.84



- LEGEND:**
- ..... IRON ROD (AS NOTED)
  - ..... IRON PIPE FOUND
  - ..... GRANITE POST FOUND
  - △ ..... SURVEY NAIL (AS NOTED)
  - 101-14 ..... TAX SHEET / LOT NO.
  - ..... WOOD FENCE
  - ..... VINYL FENCE
  - ..... UTILITY POLE
  - ..... UTILITY POLE W/TRANSFORMER
  - ..... GUY
  - ..... UTILITY POLE WITH ARM & LIGHT
  - OHW ..... OVERHEAD WIRES
  - EOP ..... EDGE OF PAVEMENT
  - LA ..... LANDSCAPED AREA
  - RWB ..... LANDSCAPE BLOCK RETAINING WALL
  - RWBK ..... BRICK RETAINING WALL
  - VGC ..... VERTICAL FACED GRANITE CURB
  - RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
  - ..... CONCRETE
  - ..... BRICK PAVERS
  - ..... CRUSHED STONE
  - ..... RIP RAP
  - ..... RETAINING WALL



P5328





# Tax Map

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources  
State Historic Preservation Office  
Attention: Review & Compliance  
19 Pillsbury Street, Concord, NH 03301-3570

RECEIVED JUN 10 2022

DHR Use Only	
R&C #	13954
Log In Date	6/10/22
Response Date	___/___/___
Sent Date	___/___/___

## Request for Project Review by the New Hampshire Division of Historical Resources

- This is a new submittal  
 This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION	
Project Title	Residence Redevelopment
Project Location	43 Holmes Court
City/Town	Portsmouth
Tax Map	101
Lot #	14
NH State Plane - Feet Geographic Coordinates: Easting 1229485 Northing 209555 (See RPR Instructions and R&C FAQs for guidance.)	
Lead Federal Agency and Contact (if applicable) ACOE (Agency providing funds, licenses, or permits) Permit Type and Permit or Job Reference # Not yet assigned	
State Agency and Contact (if applicable) NHDES Wetlands Permit Type and Permit or Job Reference # Not yet assigned	
APPLICANT INFORMATION	
Applicant Name	43 Holmes Court, LLC
Mailing Address	30 Walden St. Phone Number
City	Portsmouth
State	NH
Zip	03801
Email	stephensinglar@yahoo.com
CONTACT PERSON TO RECEIVE RESPONSE	
Name/Company	Erik Saari, Altus Engineering, Inc.
Mailing Address	133 Court St. Phone Number 603-433-2335
City	Portsmouth
State	NH
Zip	03801
Email	esaari@altus-eng.com

*This form is updated periodically. Please download the current form at [www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review). Please refer to the Request for Project Review Instructions for direction on completing this form. Submit one copy of this project review form for each project for which review is requested. **Please include a self-addressed stamped envelope. Project submissions will not be accepted via facsimile or e-mail.** This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: [www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review) or contact the R&C Specialist at [marika.s.labash@dncr.nh.gov](mailto:marika.s.labash@dncr.nh.gov) or 603.271.3558.*

**PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION**

Project Boundaries and Description

- Attach the Project Mapping *using EMMIT or relevant portion of a 7.5' USGS Map.* (See RPR Instructions and R&C FAQs for guidance.)
- Attach a detailed narrative description of the proposed project.
- Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) *(Informative photo captions are requested.)*
- A DHR records search must be conducted to identify properties within or adjacent to the project area. Provide records search results via EMMIT or in Table 1. *(Blank table forms are available on the DHR website.)* Please note, using EMMIT Guest View for an RPR records search does not provide the necessary information needed for DHR review.  
EMMIT or in-house records search conducted on 06 / 03 / 2022.

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area?  Yes  No  
If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s):

- Photographs of *each* resource or streetscape located within the project area, with captions, along with a mapped photo key. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- If the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures, provide additional photographs showing detailed project work locations. (i.e. Detail photo of windows if window replacement is proposed.)

Archaeology

Does the proposed undertaking involve ground-disturbing activity?  Yes  No  
If yes, submit all of the following information:

- Description of current and previous land use and disturbances.
- Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

**Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.**

**DHR Comment/Finding Recommendation** *This Space for Division of Historical Resources Use Only*

Insufficient information to initiate review.  Additional information is needed in order to complete review.

No Potential to cause Effects  No Historic Properties Affected  No Adverse Effect  Adverse Effect

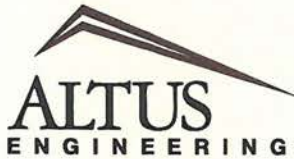
Comments: *PLEASE PROVIDE PROJECT PLANS DEPICTING AREAS OF GROUND-DISTURBING ACTIVITY + AREAS OF POTENTIAL IMPACT (i.e. utilities, etc.).*

*Please provide HDC comment to DHR for our review.*

*If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.*

Authorized Signature: *Nease Miller, DSHRO*

Date: *6/29/22*



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 21, 2023

NHDES Reviewer  
Wetlands Bureau  
29 Hazen Drive  
Concord, NH 03301

**Re: NHDHR Comments  
Tax Map 101, Lot 14  
43 Holmes Court  
Portsmouth, NH 03801  
P5328**

Dear Reviewer:

The NHDHR Request for Review returned the following comment "Please provide HDC comment to DHR for our review" on 6/29/22.

The proposed site improvements have now been approved at the City of Portsmouth Zoning Board of Adjustment on December 20, 2022 and a formal application to the HDC will be submitted on or about February 10, 2023. It is anticipated the Historic District Commission will approve the replacement of the single family residence at 43 Holmes Court based on their verbal discussions at a work session in 2022.

Altus Engineering will forward the results of that deliberation to NHDES Wetlands Bureau when it is received.

Please feel free to contact us, the Applicant's engineering consultant, at (603) 433-2335, if you have any questions. Thank you for your time concerning this matter.

Sincerely,

**ALTUS ENGINEERING**

A handwritten signature in orange ink, appearing to read "EBS: [initials]".

Erik B. Saari  
Vice President

ebs/5328.05.CoverLtr-Portsmouth.docx

Enclosures



# CITY OF PORTSMOUTH

Planning Department  
1 Junkins Avenue  
Portsmouth, New  
Hampshire 03801  
(603) 610-7216

## ZONING BOARD OF ADJUSTMENT

January 4, 2023

Stephen A and Kathryn L Singlar  
21 Elliot Street  
Exeter, 03833

**RE: Board of Adjustment request for property located at 43 Holmes Court (LU-22-227)**

Dear Property Owners:

The Zoning Board of Adjustment, at its regularly scheduled meeting of **December 20, 2022**, considered your application for demolishing the existing dwelling and constructing a new single-family dwelling which requires the following: 1) Variances from Section 10.531 to allow a) a lot area of 5,353 square feet where 20,000 square feet is required; b) 0 feet of street frontage where 100 feet is required; c) 75' of lot depth where 100 feet is required; d) a 17 foot front yard where 30 feet is required; e) a 14 foot left side yard where 30 feet is required; and f) a 14 foot right side yard where 30 feet is required. 2) A Variance from Section 10.440, Use # 1.10 to allow a single family dwelling where the use is not permitted. Said property is shown on Assessor Map 101 Lot 14 and lies within the Waterfront Business (WB) and Historic District. As a result of said consideration, the Board voted to grant the variances as presented and advertised.

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

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

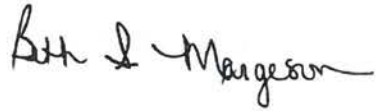
This approval shall expire unless a building permit is issued within a period of two (2) years from the date granted unless an extension is granted in accordance with Section 10.236 of the Zoning Ordinance.

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

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

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

Very truly yours,

A handwritten signature in black ink that reads "Beth Margeson". The signature is written in a cursive style with a long horizontal flourish at the end.

Beth Margeson, Acting Chair of the Zoning Board of Adjustment

cc: Shanti Wolph, Chief Building Inspector

Rosann Maurice-Lentz, City Assessor

Derek Durbin, Durbin Law Offices PLL

# Findings of Fact | Variance

## City of Portsmouth Zoning Board of Adjustment

Date: December 20, 2022

Property Address: 43 Holmes Court

Application #: LU-22-227

Decision: **Granted**

### Findings of Fact:

Effective August 23, 2022, amended RSA 676:3, I now reads as follows: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

The proposed application meets/does not meet the following purposes for granting a Variance:

Section 10.233 Variance Evaluation Criteria	Finding (Meets Criteria)	Relevant Facts
10.233.21 Granting the variance would not be contrary to the public interest.	YES	<ul style="list-style-type: none"> <li>The existing use is residential and will not be changing.</li> </ul>
10.233.22 Granting the variance would observe the spirit of the Ordinance.	YES	<ul style="list-style-type: none"> <li>The property has existed as residential and the surrounding properties are residential. Creating a commercial business on the property would be disruptive to the entire street and neighborhood.</li> </ul>
10.233.23 Granting the variance would do substantial justice.	YES	<ul style="list-style-type: none"> <li>The nature of Holmes Court is such that it would be impractical to justify that it would contribute to the</li> </ul>

		<p>waterfront business district.</p> <ul style="list-style-type: none"> <li>The existing use will remain residential.</li> </ul>
<p>10.233.24 Granting the variance would not diminish the values of surrounding properties.</p>	<p><b>YES</b></p>	<ul style="list-style-type: none"> <li>The existing use will remain residential.</li> <li>The property has existed as residential and the surrounding properties are residential. Creating a commercial business on the property would be disruptive to the entire street and neighborhood.</li> </ul>
<p>10.233.25 Literal enforcement of the provisions of the Ordinance would result in an unnecessary hardship.</p> <p>(a)The property has special Conditions that distinguish it from other properties in the area. AND (b)Owing to these special conditions, a fair and substantial relationship does not exist between the general public purposes of the Ordinance provision and the specific application of that provision to the property; and the proposed use is a reasonable one. OR Owing to these special conditions, the property cannot be reasonably used in strict conformance with the Ordinance, and a variance is therefore necessary to enable a reasonable use of it.</p>	<p><b>YES</b></p>	<ul style="list-style-type: none"> <li>The property has existed as residential and the surrounding properties are residential. Creating a commercial business on the property would be disruptive to the entire street and neighborhood.</li> </ul>

Stipulations
1.
2.
3.
4.





**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 7, 2023

New Hampshire Department of Environmental Services  
29 Hazen Drive  
PO Box 95  
Concord, NH 03302-0095

Re: NHDES Wetlands Permit  
Proposed Residence Redevelopment Plans  
Tax Sheet 101, Lot 14  
43 Holmes Court  
Portsmouth, NH  
P5328

**ABUTTER'S LIST (Wetlands & Shoreland Permit Applications Only) –**

<u>Tax Map / Parcel</u>	<u>Abutter Name &amp; Address</u>
101 / 7	Phyllis H. Sanders 2005 Trust 54 Pray Street Portsmouth, NH 03801
101 / 12	Brenda J. Bouchard Rev. Trust of 1999 33 Holmes Court Portsmouth, NH 03801
101 / 18	Gail H. Sanders Rev. Trust of 1998 30 Walden Street Portsmouth, NH 03801

wde/5328.029.abutters.list-wetlands-shoreland-ap-only.doc

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Portsmouth, NH 03801

Certified Mail Fee	\$4.15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.87
Total Postage and Fees	\$5.02



02/21/2023

Sent To **PHYLLIS H. SANDERS 2005 TRUST**

Street and Apt. No., or PO Box No. **54 PRAY STREET**

City, State, ZIP+4® **PORTSMOUTH NH 03801**

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0001 3192 4751

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Portsmouth, NH 03801

Certified Mail Fee	\$4.15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.87
Total Postage and Fees	\$5.02



02/21/2023

Sent To **BRENDA J. BOWHARD REV. TR. OF 1999**

Street and Apt. No., or PO Box No. **33 HOLMES COURT**

City, State, ZIP+4® **PORTSMOUTH NH 03801**

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0001 3192 4737

**U.S. Postal Service™**  
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Portsmouth, NH 03801

Certified Mail Fee	\$4.15
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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.87
Total Postage and Fees	\$5.02



02/21/2023

Sent To **GAIL H. SANDERS REV. TR. OF 1999**

Street and Apt. No., or PO Box No. **30 WALDEN STREET**

City, State, ZIP+4® **PORTSMOUTH NH 03801**

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0001 3192 4744

**ABUTTER STATEMENT LETTER  
WETLAND PERMIT APPLICATION**

Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH 03801

**RE: Wetland Permit Application**

**Tax Map 101, Lot 14  
43 Holmes Court  
Portsmouth, NH 03801**

To whom it may concern,

I/We have reviewed the plan prepared by Altus Engineering, Inc., acting as Agent for 43 Holmes Court, LLC which depicts proposed improvements associated with the replacement of the residence at 43 Holmes Court and have no objections to the work as proposed.

---

Phyllis H. Sanders 2005 Trust  
Tax Map 101, Lot 7  
Portsmouth, NH

---

Date

**ABUTTER STATEMENT LETTER**  
**WETLAND PERMIT APPLICATION**

Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH 03801

**RE: Wetland Permit Application**

**Tax Map 101, Lot 14**  
**43 Holmes Court**  
**Portsmouth, NH 03801**

To whom it may concern,

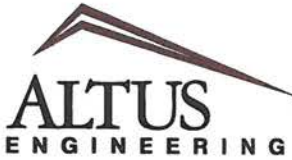
I/We have reviewed the plan prepared by Altus Engineering, Inc., acting as Agent for 43 Holmes Court, LLC which depicts proposed improvements associated with the replacement of the residence at 43 Holmes Court and have no objections to the work as proposed.

---

Gail H. Sanders Revoc. Trust  
Tax Map 101, Lot 18  
Portsmouth, NH

---

Date



*Civil  
Site Planning  
Environmental  
Engineering*

133 Court Street  
Portsmouth, NH  
03801-4413

February 7, 2023

**Re: NHDES Wetlands Permit Application  
Tax Map 101 Lot 14  
43 Holmes Court  
Portsmouth, NH  
P5328**

Dear Abutter:

Pursuant to State of New Hampshire RSA Chapter 482-A, this letter is to notify you that 43 Holmes Court, LLC (Tax Map 101, Lot 14), owner and applicant, is submitting a Wetland Permit Application to the NHDES Wetlands Bureau.

The application proposes to raze and replace the existing residence along with other site improvements. The demolition & subsequent utility installations and other site improvements will impact areas within the previously disturbed and developed 100' tidal buffer zone. There are additional impacts located between the 100-foot and 250-foot zones of the Shoreland Protection Buffer.

**This letter is for the notification of abutting property owners only. As the improvements are less than 20-feet from your common property line we are required to attempt to obtain a letter from you stating you have no objections to the proposed improvements that are within 20-feet of the property line.**

**Please review the plan and if you have no objections to the components of the project that are within 20-feet of the common property line, sign the enclosed form and return it in the self-addressed envelope. If the applicant cannot obtain your consent, they have the right to apply to NHDES for a waiver of the requirement. The majority of the proposed work takes place no closer than the common property line. Every effort to limit the minimal amount of disturbance will be made.**

Once filed, the plans that show the proposed project are available for viewing during normal business hours at the City of Portsmouth City Clerk's office (603) 610-7245 or at the office of the DES Wetlands Bureau (603) 271-2147, 6 Hazen Drive, Concord, N.H. (8am to 4pm). It is suggested the appropriate office is contacted to verify availability of the documents prior to visiting them. Please feel free to contact us, the Applicant's engineering consultant, at (603) 433-2335, if you have any questions.

Sincerely,

A handwritten signature in red ink, appearing to read "ES: [Signature]".

Erik Saari  
Vice President

CERTIFIED MAIL

wde\5328.031.abutter-notify-wetland.ltr.doc

**WETLANDS PERMIT APPLICATION  
(Standard Review, Minimum Impact)**

**FOR**

**Site Improvements at  
Single Family Residence**

**39 Holmes Court  
Portsmouth, NH**

**Tax Map 101, Lot 13**

**February 7, 2023**

*Prepared For:*

**Stephen A. & Kathryn L. Singlar**  
21 Elliot Street  
Exeter, NH 03833

*Prepared By:*

**ALTUS ENGINEERING**  
133 Court Street  
Portsmouth, NH 03801  
Phone: (603) 433-2335



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US Army Corp Attachment B

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NH Dept of Fish and Game Habitat and Scoring Maps & USFWS Wetland Inventory Map

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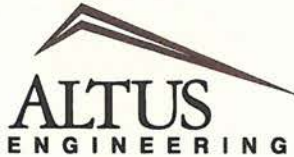
Aerial Photograph

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Abutter Notifications:  
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Project Plans (22" x 34" Plans – Separate Attachment)  
    Development Plans & Details



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 21, 2023

New Hampshire Department of Environmental Services  
Land Resources Management, Wetlands Bureau  
29 Hazen Drive  
Concord, New Hampshire 03302-0095

**Re: Wetlands Permit Application  
Residential Redevelopment  
Tax Map 101 Lot 13  
Stephen A. & Kathryn L. Singlar  
Portsmouth, NH  
Altus Project #5328**

Dear Reviewer,

Attached please find a Wetlands Permit Application for a Minimum Impact project on an existing developed parcel in the City of Portsmouth accessed from Holmes Court.

The owners and applicants, Stephen A. & Kathryn L. Singlar, are proposing to install an HVAC concrete pad & equipment, install overhead utilities underground & other site improvements at the single-family residence including improvements at 43 Holmes Court, an adjacent parcel owned by the applicants. All disturbed areas will be loamed & seeded, landscaped or otherwise returned to their original condition.

The enclosed plans illustrate the proposed improvements will take place entirely within the previously developed/disturbed/maintained tidal buffer zone and upland portions of the lots. Please note, there are no proposed disturbances to the resource (Piscataqua River).

The improvements as proposed are the least impacting alternative to the jurisdictional areas in order to achieve the desired residential improvements. There will be only negligible effects on impervious areas on the parcel and no degradation to treatment of the stormwater runoff.

Please feel free to contact us, the applicant's consulting engineer if you have any questions. Thank you for your time and consideration.

Sincerely,

**ALTUS ENGINEERING**

A handwritten signature in orange ink, appearing to read "Erik B. Saari".

Erik B. Saari  
Vice President

ebs/5328.02-CoverLtr-39-holmes-NHDES.docx  
Enclosures

Tel: (603) 433-2335 E-mail: [Altus@altus-eng.com](mailto:Altus@altus-eng.com)



**Letter of Authorization**

We, Stephen A. & Kathryn L. Singlar, principles of Tidal View 43 and Tidal View 39, the owners of 43 Holmes Court & 39 Holmes Court, Portsmouth, NH, hereby authorize Altus Engineering, Inc. of Portsmouth, NH to represent us as the Owner and Applicant in all matters concerning the engineering and related permitting on Portsmouth Tax Map 101, Lot 14 located at 43 Holmes Court and Tax Map 101 Lot 13 located at 39 Holmes Court in Portsmouth, New Hampshire. This authorization shall include any signatures required for Federal, State and Municipal permit applications.

  
Signature

Stephen A. Singlar 1/20/23  
Stephen Singlar/Director Date

  
Witness

RICHARD HACKEMAN 1/20/23  
Print Name Date

  
Signature

Kathryn L. Singlar 1/20/23  
Kathryn Singlar/Manager Date

  
Witness

RICHARD HACKEMAN 1/20/23  
Print Name Date

STEPHEN A. SINGLAR  
KATHRYN L. SINGLAR  
21 ELLIOT STREET  
EXETER, NH 03833-4599

54-153/114

4315

DATE

2/10/23

PAY TO THE  
ORDER OF

Treasurer State of NH

\$ 400.00

Four hundred and no/100

DOLLARS



Security Features  
Available on Back

**Citizens**

MEMO 39 Holmes Wetlands

RF

⑆01401533⑆ 33062188141⑆

4315



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 21, 2023

Kelli Barnaby, City Clerk  
City of Portsmouth  
1 Junkins Avenue  
Portsmouth, NH 03801

**Re: NHDES Wetlands Permit Application  
Tax Map 101, Lot 13  
39 Holmes Court  
Portsmouth, NH 03801  
P5328**

Dear Ms. Barnaby:

In accordance with RSA 482-A:3, attached please find one original and four copies of the application package submitted on behalf of Stephen A. & Kathryn L. Singlar (Tax Map 101, Lot 13) owners and applicants, for a Wetlands Permit Application to the NHDES Wetlands Bureau.

The application proposes to install an HVAC concrete pad & equipment, install overhead utilities underground along with associated improvements on the existing residential lot. All disturbed areas will be loamed & seeded, landscaped or returned to their original condition. The property is accessed from Holmes Court. The improvements will only impact previously developed areas within the NHDES 100-foot Tidal Buffer and the NHDES 250-foot Shoreland Protection Buffer.

Please note, there are no proposed disturbances to the resource (Piscataqua River).

Please feel free to contact us, the Applicant's engineering consultant if you have any questions. Thank you for your time concerning this matter.

Sincerely,

**ALTUS ENGINEERING**

A handwritten signature in orange ink, appearing to read "E.B. Saari".

Erik B. Saari  
Vice President

ebs/5328.05.39-holmes-CoverLtr-Portsmouth.docx

Enclosures



# 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:** Stephen & Kathryn Singlar

**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](#).

<b>SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))</b> Please use the <a href="#">Wetland Permit Planning Tool (WPPT)</a> , the Natural Heritage Bureau (NHB) <a href="#">DataCheck Tool</a> , the <a href="#">Aquatic Restoration Mapper</a> , or other sources to assist in identifying key features such as: <a href="#">priority resource areas (PRAs)</a> , <a href="#">protected species or habitats</a> , coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&amp;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.</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Protected species or habitat?                         <ul style="list-style-type: none"> <li>○ If yes, species or habitat name(s): no expected impacts</li> <li>○ NHB Project ID #: 22-1800</li> </ul> </li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Bog?</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Floodplain wetland contiguous to a tier 3 or higher watercourse?</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Designated prime wetland or duly-established 100-foot buffer?</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the property within a Designated River corridor? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Name of Local River Management Advisory Committee (LAC): N/A</li> <li>• A copy of the application was sent to the LAC on Month: <input type="text"/> Day: <input type="text"/> Year: <input type="text"/></li> </ul>	

[lrn@des.nh.gov](mailto:lrn@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

For dredging projects, is the subject property contaminated? • If yes, list contaminant: <span style="background-color: #cccccc; padding: 0 20px;"> </span>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For stream crossing projects, provide watershed size (see <a href="#">WPPT</a> or Stream Stats): <span style="background-color: #cccccc; padding: 0 20px;"> </span>	
<b>SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))</b> Provide a <b>brief</b> 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.	
Install overhead utilities underground in the existing paved driveway (+/-200 s.f.) to serve both 39 & 43 Holmes Court residences (both owned by the applicants).	
There are no direct impacts to the resource. All work occurs in previously developed and maintained areas which comprise the entire lot.	
The existing residence will be expanded volumetrically within the existing footprint and the dwelling will be no closer to the resource. A proposed HVAC equipment & concrete pad will be installed on the east side of the residence (+/-25 s.f.).	
All disturbances take place within previously disturbed tidal buffer zone.	
A Shoreland Impact Permit is being applied for and is requested to be reviewed concurrently. See Plan which depicts additional underground utility installation and expansion of parking area along with potential removal of a utility pole..	
<b>SECTION 3 - PROJECT LOCATION</b> Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: <span style="background-color: #cccccc; padding: 0 20px;">39 Holmes Court</span>	
TOWN/CITY: <span style="background-color: #cccccc; padding: 0 20px;">Portsmouth</span>	
TAX MAP/BLOCK/LOT/UNIT: <span style="background-color: #cccccc; padding: 0 20px;">101/13</span>	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: <span style="background-color: #cccccc; padding: 0 20px;">Piscataqua River</span> <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	
<span style="background-color: #cccccc; padding: 0 20px;">43.0714° North</span> <span style="background-color: #cccccc; padding: 0 20px;">-70.7485° West</span>	

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

<b>SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))</b>		
If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: Stephen A. & Kathryn L. Singlar		
MAILING ADDRESS: 21 Elliot Street		
TOWN/CITY: Exeter	STATE: NH	ZIP CODE: 03833
EMAIL ADDRESS: stephensinglar@yahoo.com		
FAX: [REDACTED]	PHONE: 603-264-4599	
ELECTRONIC COMMUNICATION: By initialing here: SS, I hereby authorize NHDES to communicate all matters relative to this application electronically.		
<b>SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))</b>		
<input type="checkbox"/> N/A		
LAST NAME, FIRST NAME, M.I.: Saari, Erik		
COMPANY NAME: Altus Engineering, Inc.		
MAILING ADDRESS: 133 Court Street		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: esaari@altus-eng.com		
FAX: [REDACTED]	PHONE: 603-433-2335	
ELECTRONIC COMMUNICATION: By initialing here ES, I hereby authorize NHDES to communicate all matters relative to this application electronically.		
<b>SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))</b>		
If the owner is a trust or a company, then complete with the trust or company information.		
<input checked="" type="checkbox"/> Same as applicant		
NAME: [REDACTED]		
MAILING ADDRESS: [REDACTED]		
TOWN/CITY: [REDACTED]	STATE: [REDACTED]	ZIP CODE: [REDACTED]
EMAIL ADDRESS: [REDACTED]		
FAX: [REDACTED]	PHONE: [REDACTED]	
ELECTRONIC COMMUNICATION: By initialing here [REDACTED], I hereby authorize NHDES to communicate all matters relative to this application electronically.		

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**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):

Env-Wt 400 - The jurisdictional areas were located by survey and correspond with the City of Portsmouth GIS data. All appropriate erosion & sedimentation controls will be employed to protect the Piscataqua River during demolition and construction activities.

Env-Wt 500 - The existing residence was constructed in 1900 and has undergone numerous additions and renovations over the decades. The entire lot has been disturbed, developed and maintained for many years. There are thin areas of landscaping and lawn. There are no species of concern in the vicinity. Slight modification to the existing grades around the building to install the HVAC pad & equipment and the installation of the underground utilities will take place and there will be negligible change to the quality or quantity of the runoff. All disturbed areas in the previously developed tidal buffer zone will be stabilized as soon as possible.

Env-Wt 600, 700 & 900 - The project is defined as Minimum as it has impacts within the 100-foot buffer from the tidally influenced Piscataqua River. It is a betterment in that the project will allow more efficient heating and cooling for the property, stormwater control and treatment will continue to occur prior to discharge. NHB DataCheck review indicates there are no impacts expected within the vicinity of the proposed demolition or construction activities. Appropriate methods of erosion and sediment control will be installed prior to and maintained during construction activities. The work will occur in a single phase.

**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

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**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/ivers, 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			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River			<input type="checkbox"/>			<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ	225		<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
<b>TOTAL</b>		225					

**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):		SF	× \$0.40 =	\$
Seasonal docking structure:		SF	× \$2.00 =	\$
Permanent docking structure:		SF	× \$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =				\$
Total =				\$

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



**SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)**

Indicate the project classification.

<input checked="" type="checkbox"/> Minimum Impact Project	<input type="checkbox"/> Minor Project	<input type="checkbox"/> Major Project
--	--	--

**SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)**

Initial each box below to certify:

Initials: [Redacted] ES	To the best of the signer's knowledge and belief, all required notifications have been provided.
-------------------------------	--

Initials: [Redacted] ES	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: [Redacted] ES	<p>The signer understands that:</p> <ul style="list-style-type: none"> <li>The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:             <ol style="list-style-type: none"> <li>Deny the application.</li> <li>Revoke any approval that is granted based on the information.</li> <li>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.</li> </ol> </li> <li>The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.</li> <li>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.</li> </ul>
-------------------------------	--

Initials: [Redacted] ES	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): <u>[Signature]</u> (AGENT)	PRINT NAME LEGIBLY: ERIK SAARI	DATE: 2/21/23
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): [Redacted]	PRINT NAME LEGIBLY: [Redacted]	DATE: [Redacted]
SIGNATURE (AGENT, IF APPLICABLE): <u>[Signature]</u>	PRINT NAME LEGIBLY: Erik Saari	DATE: 02/21/23

**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: <u>[Signature]</u>	PRINT NAME LEGIBLY: Kelli L. Barnaby
TOWN/CITY: Portsmouth	DATE: February 23, 2022

**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".

Keep this checklist for your reference; do not submit with your application.

### APPLICATION CHECKLIST

Unless specified, all items below are required. Failure to provide the required items will delay a decision on your project and may result in denial of your application. Please reference statute RSA 482-A, Fill and Dredge in Wetlands, and the [Wetland Rules Env-Wt 100-900](#).

- The completed, dated, signed, and certified application (Env-Wt 311.03(b)(1)).
- Correct fee as determined in RSA 482-A:3, I(b) or (c), subject to any cap established by RSA 482-A:3, X (Env-Wt 311.03(b)(2)). Make check or money order payable to "Treasurer – State of NH".
- The Required Planning actions required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3).
- [US Army Corps of Engineers \(ACE\) "Appendix B, New Hampshire General Permits \(GPs\), Required Information and Corps Secondary Impacts Checklist"](#) and its required attachments (Env-Wt 307.02). This includes the [US Fish and Wildlife Service IPAC review](#) and [Section 106 Historic/Archaeological Resource review](#).
- Project plans described in Env-Wt 311.05 (Env-Wt 311.03(b)(4)).
- Maps, or electronic shape files and meta data, and other attachments specified in Env-Wt 311.06 (Env-Wt 311.03(b)(5)).
- Explanation of the methods, timing, and manner as to how the project will meet standard permit conditions required in Env-Wt 307 (Env-Wt 311.03(b)(7)).
- If applicable, the information regarding proposed compensatory mitigation specified in Env-Wt 311.08 and Chapter Env-Wt 800 - [Permittee Responsible Mitigation Project Worksheet](#), unless not required under Env-Wt 313.04 (Env-Wt 311.03(b)(8); Env-Wt 311.08; Env-Wt 313.04).
- Any additional information specific to the **type of resource** as specified in Env-Wt 311.09 (Env-Wt 311.03(b)(9); Env-Wt 311.04(j)).
- Project specific information required by Env-Wt 500, Env-Wt 600, and Env-Wt 900 (Env-Wt 311.03(b)(11)).
- A list containing the name, mailing address and tax map/lot number of each abutter to the subject property (Env-Wt 311.03(b)(12)).
- Copies of certified postal receipts or other proof of receipt of the notices that are required by RSA 482-A:3, I(d) (Env-Wt 311.03(b)(13)).
- Project design considerations required by Env-Wt 313 (Env-Wt 311.04(j)).
- Town tax map showing the subject property, the location of the project on the property, and the location of properties of abutters with each lot labeled with the name and mailing address of the abutter (Env-Wt 311.06(a)).
- Dated and labeled color photographs that:
  - (1) Clearly depict:
    - a. All jurisdictional areas, including but not limited to portions of wetland, shoreline, or surface water where impacts have or are proposed to occur.
    - b. All existing shoreline structures.
  - (2) Are mounted or printed no more than 2 per sheet on 8.5 x 11 inch sheets (Env-Wt 311.06(b)).
- A copy of the appropriate US Geological Survey map or updated data based on LiDAR at a scale of one inch equals 2,000 feet showing the location of the subject property and proposed project (Env-Wt 311.06(c)).
- A narrative that describes the work sequence, including pre-construction through post-construction, and the relative timing and progression of all work (Env-Wt 311.06(d)).

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

- For all projects in the protected tidal zone, a copy of the recorded deed with book and page numbers for the property (Env-Wt 311.06(e)).
- If the applicant is not the owner in fee of the subject property, documentation of the applicant's legal interest in the subject property, provided that for utility projects in a utility corridor, such documentation may comprise a list that:
  - (1) Identifies the county registry of deeds and book and page numbers of all of the easements or other recorded instruments that provide the necessary legal interest; and
  - (2) Has been certified as complete and accurate by a knowledgeable representative of the applicant (Env-Wt 311.06(f)).
- The NHB memo containing the NHB identification number and results as well as any written follow-up communications such as additional memos or email communications with either NHB or NHF&G (Env-Wt 311.06(g)). See [Wetlands Permitting: Protected Species and Habitat Fact Sheet](#).
- A statement of whether the applicant has received comments from the local conservation commission and, if so, how the applicant has addressed the comments (Env-Wt 311.06(h)).
- For projects in LAC jurisdiction, a statement of whether the applicant has received comments from the LAC and, if so, how the applicant has addressed the comments (Env-Wt 311.06(i)).
- If the applicant is also seeking to be covered by the state general permits, a statement of whether comments have been received from any federal agency and, if so, how the applicant has addressed the comments (Env-Wt 311.06(j)).
- [Avoidance and Minimization Written Narrative](#) or the [Avoidance and Minimization Checklist](#), or your own avoidance and minimization narrative (Env-Wt 311.07).
- For after-the-fact applications: information required by Env-Wt 311.12.
- [Coastal Resource Worksheet](#) for coastal projects as required under Env-Wt 600.
- Prime Wetlands information required under Env-Wt 700. See [WPPT](#) for prime wetland mapping.

#### Required Attachments for Minor and Major Projects

- [Attachment A: Minor and Major Projects](#) (Env-Wt 313.03).
- [Functional Assessment Worksheet](#) or others means of documenting the results of actions required by Env-Wt 311.10 as part of an application preparation for a standard permit (Env-Wt 311.03(b)(3); Env-Wt 311.03(b)(10)). See [Functional Assessments for Wetlands and Other Aquatic Resources Fact Sheet](#). For shoreline structures, see shoreline structures exemption in Env-Wt 311.03(b)(10)).

#### Optional Materials

- [Stream Crossing Worksheet](#) which summarizes the requirements for stream crossings under Env-Wt 900.
- Request for [concurrent processing of related shoreland / wetlands permit applications](#) (Env-Wt 313.05).



# PROTECTED TIDAL ZONE PROJECT-SPECIFIC WORKSHEET FOR STANDARD APPLICATION



Water Division/Land Resources Management  
Wetlands Bureau

[Check the Status of your Application](#)

**RSA/Rule:** RSA 482-A/ Env-Wt 610

This worksheet summarizes the criteria and requirements for a Standard Permit for impact in the “Protected Tidal Zone”, one of the six specific project types in tidal area described in Chapter Env-Wt 600. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Application form (NHDES-W-06-012) and the Coastal Resource Worksheet.

## SECTION 1 - APPLICATION REQUIREMENTS FOR PROTECTED TIDAL ZONE AND REQUIRED ATTACHMENTS (Env-Wt 610.04)

The following plans and other information shall be submitted with applications for work within the protected tidal zone:

- Existing and proposed contours at 2-foot intervals measured from the Highest Observable Tide Line (HOTL);
- If any portion of the subject parcel is located in a regulatory floodplain, the location of the 100-year flood boundary zone, and water elevation as shown on the applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map;
- All of applicable local and state setbacks;
- The dimensions and locations of all:
  - Existing and proposed structures;
  - Existing and proposed impervious areas;
  - Existing and proposed disturbed areas;
  - Areas to remain in an unaltered state;
  - Existing cleared areas, such as gardens, lawns, and paths; and
  - Proposed temporary impacts associated with the completion of the project;
- Proposed methods of erosions and siltation controls, identified graphically and labeled on a plan, or otherwise annotated as needed for clarity;
- A plan of any planting(s) proposed in the waterfront buffer, showing the proposed locations(s) and Latin names or common names of proposed species;
- If applicable, the location of an existing or proposed 6-foot wide foot path to the waterbody or a temporary access path;
- For any project proposing that the impervious area be at least 15% but not more than 20% within the protected tidal zone, a statement signed by the applicant certifying that the impervious area is not more than 20%
- For any project proposing that impervious area be greater than 20% within the protected tidal zone, plans for a stormwater management system that will infiltrate increased stormwater from development provided that if impervious area is or is proposed to be greater than 30%, the stormwater management systems shall be designed by a professional engineer;
- For any project involving pervious surfaces, a plan with specifications of how those surfaces will be maintained; and
- All other relevant features necessary to clearly define both existing conditions and the proposed project.

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO BOX 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**SECTION 2 - APPROVAL CRITERIA (Env-Wt 313.01)**

- An application for structure construction within the protected tidal zone shall comply with Env-Wt 313.01.

**SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 610.03)**

The construction of structures within the protected tidal zone shall comply with:

- The standards described in FEMA P-55, Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing and Maintaining Residential Buildings in Coastal Areas, 4<sup>th</sup> edition (2011); and
- Local resiliency planning ordinances.

**SECTION 4 - PROTECTED TIDAL ZONE RESTRICTIONS (Env-Wt 610.05- 610.13)**

- The restrictions identified in RSA 483-B:9, II shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(a) related to the maintenance of a waterfront buffer shall apply to the protected tidal zone within 50 feet of the HOTL;
- Accessory structures in the waterfront buffer shall comply with the applicable provisions of Env-Wq 1400;
- The provisions of RSA 483-B:9, V(b) related to the maintenance of a woodland buffer shall apply to the protected tidal zone within 150 feet of the HOTL;
- The provisions of RSA 483-B:9, V(c) related to individual sewage disposal systems shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(d) related to erosion and siltation shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(e) related to minimum lots and residential development shall apply to the protected tidal zone;
- The provisions of RSA 483-B:9, V(f) related to minimum lots and non-residential development shall apply to the protected tidal zone; and
- The provisions of RSA 483-B:9 V(g) related to impervious surfaces shall apply to the protected tidal zone.

**SECTION 5 - PROJECT CLASSIFICATION (Env-Wt 610.17)****(a) A major project shall be:**

- (1) Any dredging, filling, or construction activity, or any combination thereof, that is proposed to:
  - a. Occur within 100 feet of the HOTL; and
  - b. Alter any tidal shoreline bank, tidal flat, wetlands, surface water, or undeveloped uplands; or
- (2) A project that would be major based on an aggregation of projects under Env-Wt 400.

**(b) A minor project shall be any dredging, filling, or construction activity, or any combination thereof, that:**

- (1) Involves work within 75 feet of a saltmarsh in the developed upland tidal buffer;
- (2) Is not a major project; and
- (3) Will disturb 3,000 square feet (SF) or more but less than 10,000 SF in the developed upland tidal buffer.

**(c) A minimum impact project shall be any dredging, filling, or construction activity, or any combination thereof, that:**

- (1) Is in a previously developed upland area;
- (2) Is within 100 feet of the HOTL; and
- (3) Will disturb less than 3,000 SF.

Keep this checklist for your reference; do not submit with your application.

### APPLICATION CHECKLIST

Unless specified, all items below are required. Failure to provide the required items will delay a decision on your project and may result in denial of your application. Please reference statute RSA 482-A, Fill and Dredge in Wetlands, and the [Wetland Rules Env-Wt 100-900](#).

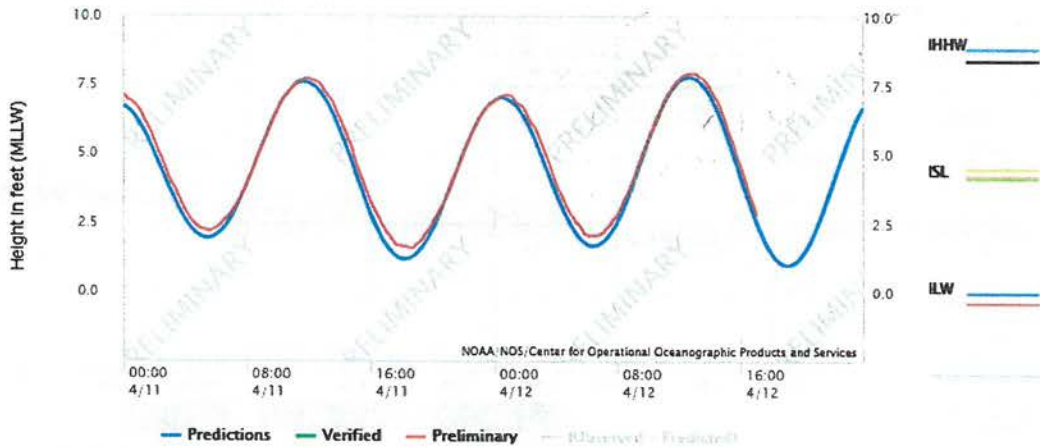
- The completed, dated, signed, and certified application (Env-Wt 311.03(b)(1)).
- Correct fee as determined in RSA 482-A:3, I(b) or (c), subject to any cap established by RSA 482-A:3, X (Env-Wt 311.03(b)(2)). Make check or money order payable to "Treasurer – State of NH".
- The Required Planning actions required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3).
- [US Army Corps of Engineers \(ACE\) "Appendix B, New Hampshire General Permits \(GPs\), Required Information and Corps Secondary Impacts Checklist"](#) and its required attachments (Env-Wt 307.02). This includes the [US Fish and Wildlife Service IPAC review](#) and [Section 106 Historic/Archaeological Resource review](#).
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- Maps, or electronic shape files and meta data, and other attachments specified in Env-Wt 311.06 (Env-Wt 311.03(b)(5)).
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- Project design considerations required by Env-Wt 313 (Env-Wt 311.04(j)).
- Town tax map showing the subject property, the location of the project on the property, and the location of properties of abutters with each lot labeled with the name and mailing address of the abutter (Env-Wt 311.06(a)).
- Dated and labeled color photographs that:
  - (1) Clearly depict:
    - a. All jurisdictional areas, including but not limited to portions of wetland, shoreline, or surface water where impacts have or are proposed to occur.
    - b. All existing shoreline structures.
  - (2) Are mounted or printed no more than 2 per sheet on 8.5 x 11 inch sheets (Env-Wt 311.06(b)).
- A copy of the appropriate US Geological Survey map or updated data based on LiDAR at a scale of one inch equals 2,000 feet showing the location of the subject property and proposed project (Env-Wt 311.06(c)).
- A narrative that describes the work sequence, including pre-construction through post-construction, and the relative timing and progression of all work (Env-Wt 311.06(d)).

- For all projects in the protected tidal zone, a copy of the recorded deed with book and page numbers for the property (Env-Wt 311.06(e)).
- If the applicant is not the owner in fee of the subject property, documentation of the applicant's legal interest in the subject property, provided that for utility projects in a utility corridor, such documentation may comprise a list that:
- (1) Identifies the county registry of deeds and book and page numbers of all of the easements or other recorded instruments that provide the necessary legal interest; and
  - (2) Has been certified as complete and accurate by a knowledgeable representative of the applicant (Env-Wt 311.06(f)).
- The NHB memo containing the NHB identification number and results as well as any written follow-up communications such as additional memos or email communications with either NHB or NHF&G (Env-Wt 311.06(g)). See [Wetlands Permitting: Protected Species and Habitat Fact Sheet](#).
- A statement of whether the applicant has received comments from the local conservation commission and, if so, how the applicant has addressed the comments (Env-Wt 311.06(h)).
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- If the applicant is also seeking to be covered by the state general permits, a statement of whether comments have been received from any federal agency and, if so, how the applicant has addressed the comments (Env-Wt 311.06(j)).
- [Avoidance and Minimization Written Narrative](#) or the [Avoidance and Minimization Checklist](#), or your own avoidance and minimization narrative (Env-Wt 311.07).
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- Prime Wetlands information required under Env-Wt 700. See [WPPT](#) for prime wetland mapping.
- Required Attachments for Minor and Major Projects**
- [Attachment A: Minor and Major Projects](#) (Env-Wt 313.03).
- [Functional Assessment Worksheet](#) or others means of documenting the results of actions required by Env-Wt 311.10 as part of an application preparation for a standard permit (Env-Wt 311.03(b)(3); Env-Wt 311.03(b)(10)). See [Functional Assessments for Wetlands and Other Aquatic Resources Fact Sheet](#). For shoreline structures, see shoreline structures exemption in Env-Wt 311.03(b)(10)).
- Optional Materials**
- [Stream Crossing Worksheet](#) which summarizes the requirements for stream crossings under Env-Wt 900.
- Request for [concurrent processing of related shoreland / wetlands permit applications](#) (Env-Wt 313.05).



Station Info Tides/Water Levels Meteorological Obs. Phys. Oceanography PORTS® OFS

NOAA/NO/CO-OPS  
Observed Water Levels at 8419870, Seavey Island ME  
From 2022/04/11 00:00 GMT to 2022/04/12 23:59 GMT



Options for

8419870 Seavey Island, ME

Units

Standard

Shift dates

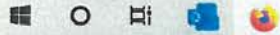
Back 1 Day

Forward 1 Day

From

Timezone

Interval



U.S. Stations

Variation Of 50-Year RSL Trends Previous RSL Trends

Global Stations

Trend Tables

Select

U.S. Trends Map

U.S. Regions

Select

Global Regional Trends

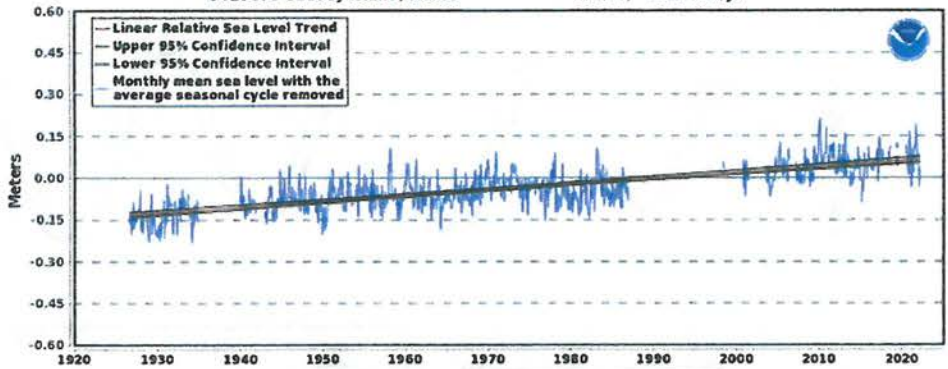
Anomalies

Select



### Relative Sea Level Trend 8419870 Seavey Island, Maine

8419870 Seavey Island, Maine 2.07 +/- 0.18 mm/yr



EXPORT TO TEXT | EXPORT TO CSV | SAVE IMAGE

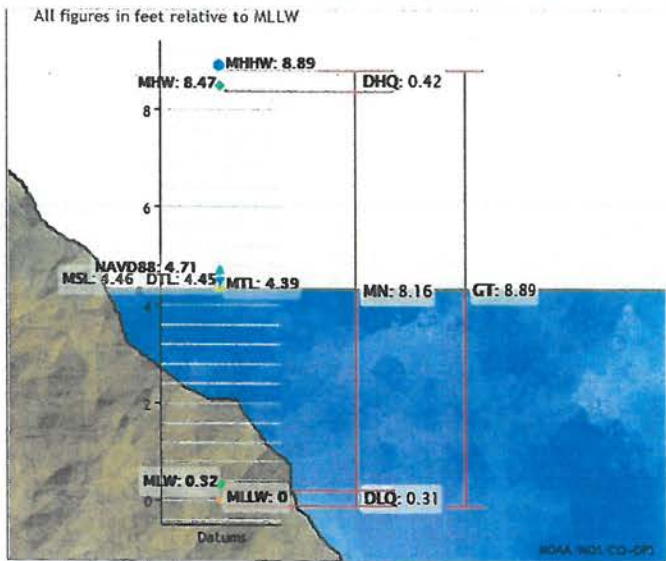
The relative sea level trend is 2.07 millimeters/year with a 95% confidence interval of +/- 0.18 mm/yr based on monthly mean sea level data from 1926 to 2021 which is equivalent to a change of 0.68 feet in 100 years. Data for 2003-2019 stored in database as station 8423898

The plot shows the monthly mean sea level without the regular seasonal fluctuations due to coastal ocean temperatures,

Station: 8419870, Seavey Island, ME  
Status: Accepted (Dec 6 2021)  
Units: Feet  
Control Station: 8418150  
Portland, ME

Epoch: 1983-2001  
Datum: MLLW

Datum	Value	Description
MHHW	8.89	Mean Higher-High Water
MHW	8.47	Mean High Water
MTL	4.39	Mean Tide Level
MSL	4.46	Mean Sea Level
DTL	4.45	Mean Diurnal Tide Level
MLW	0.32	Mean Low Water
MLLW	0.00	Mean Lower-Low Water
NAVD88	4.71	North American Vertical Datum of 1988
STND	-2.27	Station Datum
GT	8.89	Great Diurnal Range
MN	8.16	Mean Range of Tide
DHQ	0.42	Mean Diurnal High Water Inequality
DLQ	0.31	Mean Diurnal Low Water Inequality
HWI	3.92	Greenwich High Water



Showing datums for

8419870 Seavey Island, ME

Datum

MLLW

Wetland Functions and Values  
43 Holmes Court, Portsmouth, NH

Prepared for:  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH

Contents:

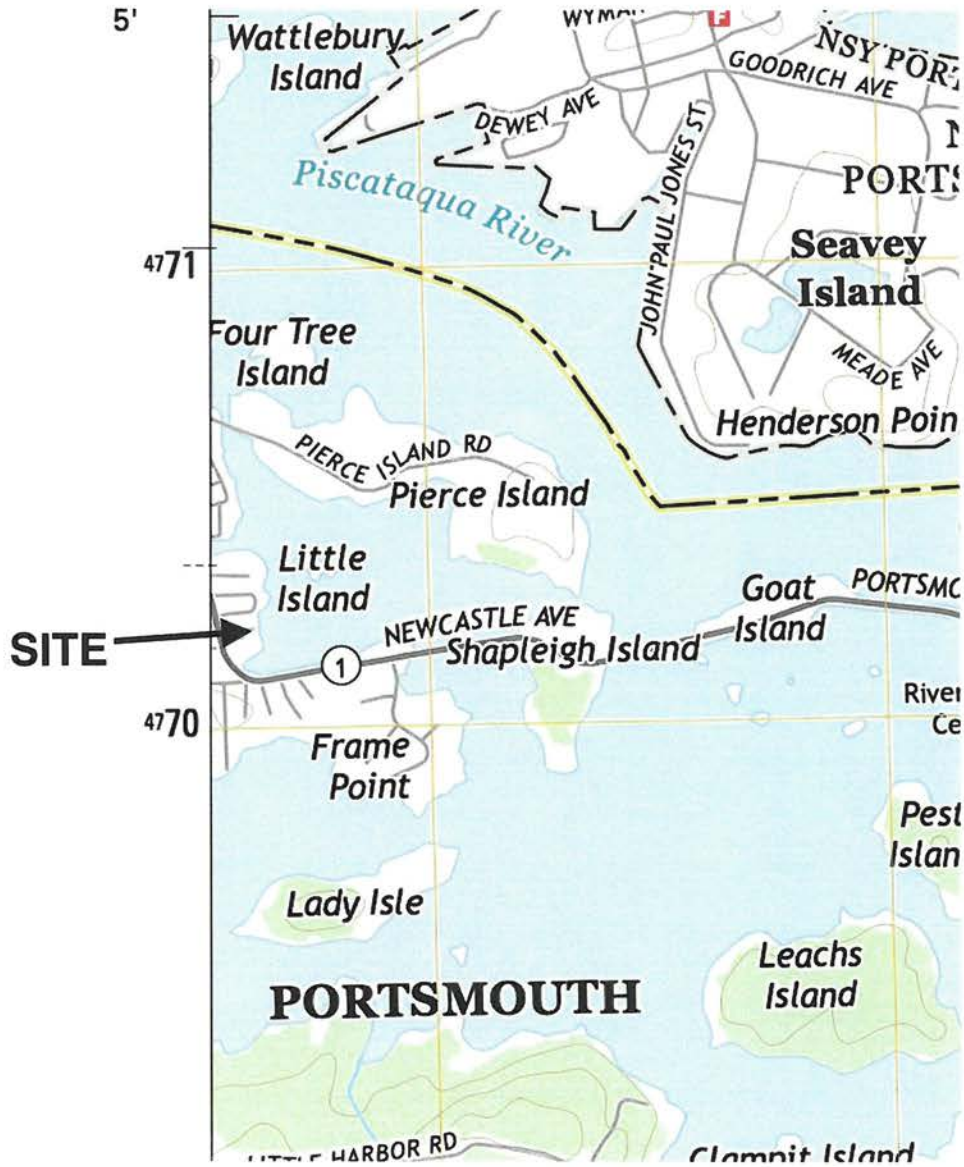
Locus Map  
Wetland/Coastal Resources Sketch and Photo Log  
Photographs  
Functional Assessment Summary Letter  
NHDES Functional Assessment Worksheet W-06-049

Prepared by:  
Michael Cuomo, New Hampshire Certified Wetland Scientist #4  
6 York Pond Road, York, Maine 03909  
207 363 4532  
mcuomosoil@gmail.com

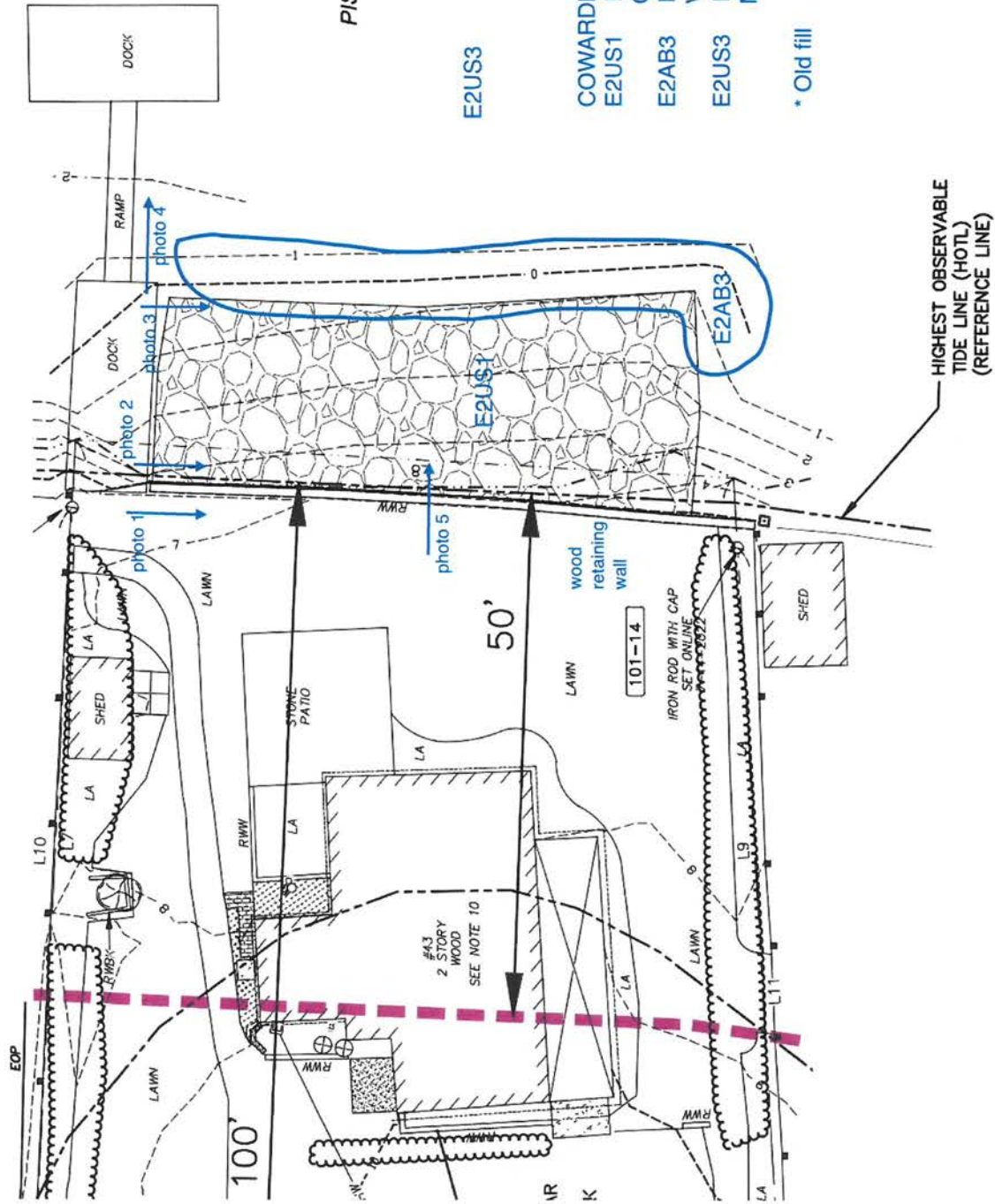


20 January 2023  
Michael Cuomo

Locus Map  
43 Holmes Court, Portsmouth  
USGS Kittery Quadrangle  
19 January 2023  
Michael Cuomo



Wetland/Coastal Resources and Photo Log  
 43 Holmes Court, Portsmouth, NH



PISCATAQUA RIVER

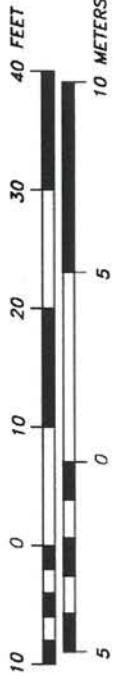
E2US3

**COWARDIN HABITAT CLASSIFICATION**

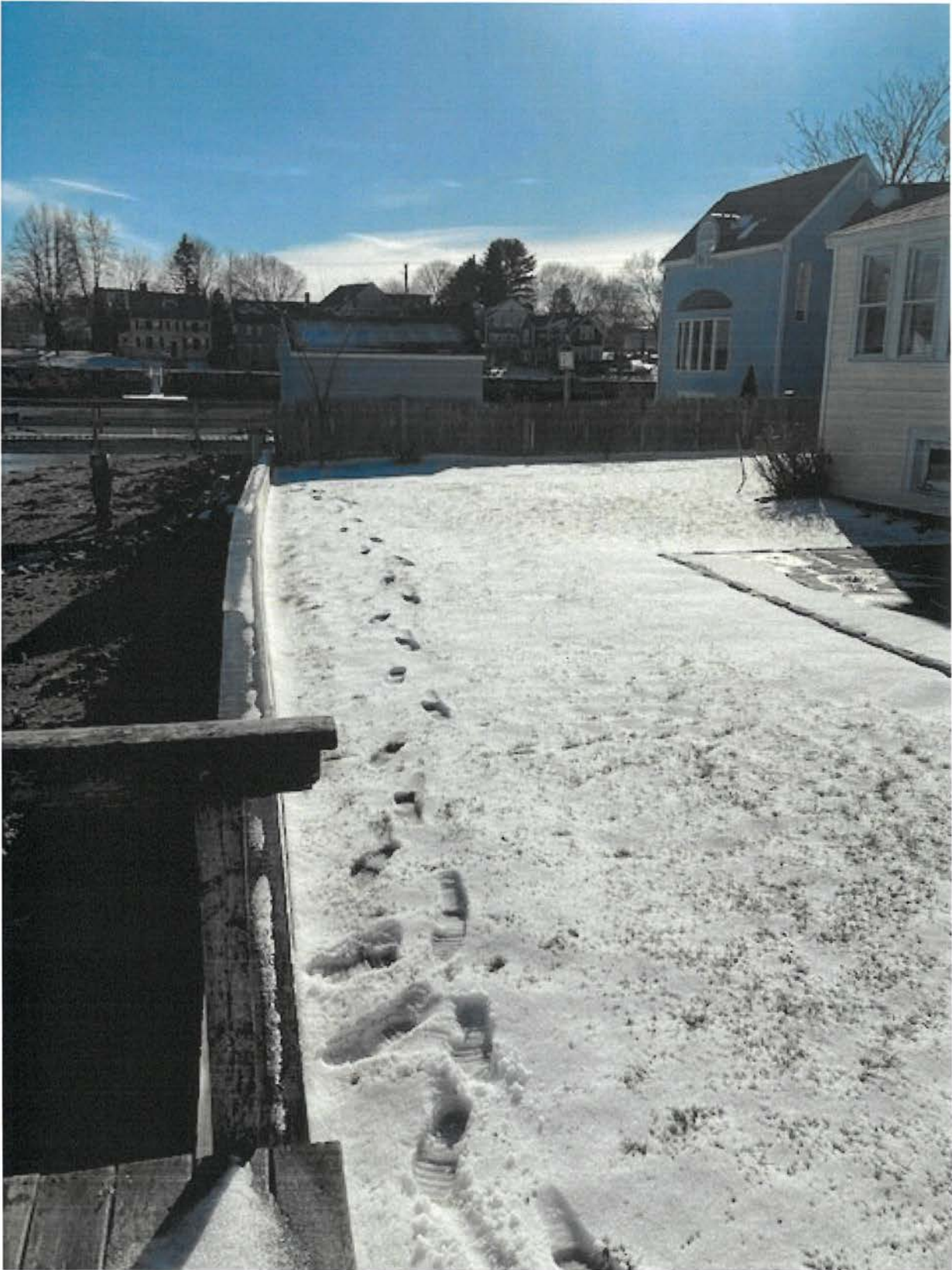
- E2US1 Estuarine, Intertidal, Unconsolidated Shore, Cobble-gravel\*
- E2AB3 Estuarine, Intertidal, Aquatic Bed, Rooted Vascular
- E2US3 Estuarine, Intertidal, Unconsolidated Shore, Mud

\* Old fill

17 January 2023  
 Photos at approximate low tide  
 Michael Cuomo  
 Base plan modified from Altus Engineering progress print



Homes Court, Portsmouth  
Photo 1  
17 January 2023  
Michael Cuomo



Holmes Court, Portsmouth  
Photo 2  
17 January 2023  
Michael Cuomo

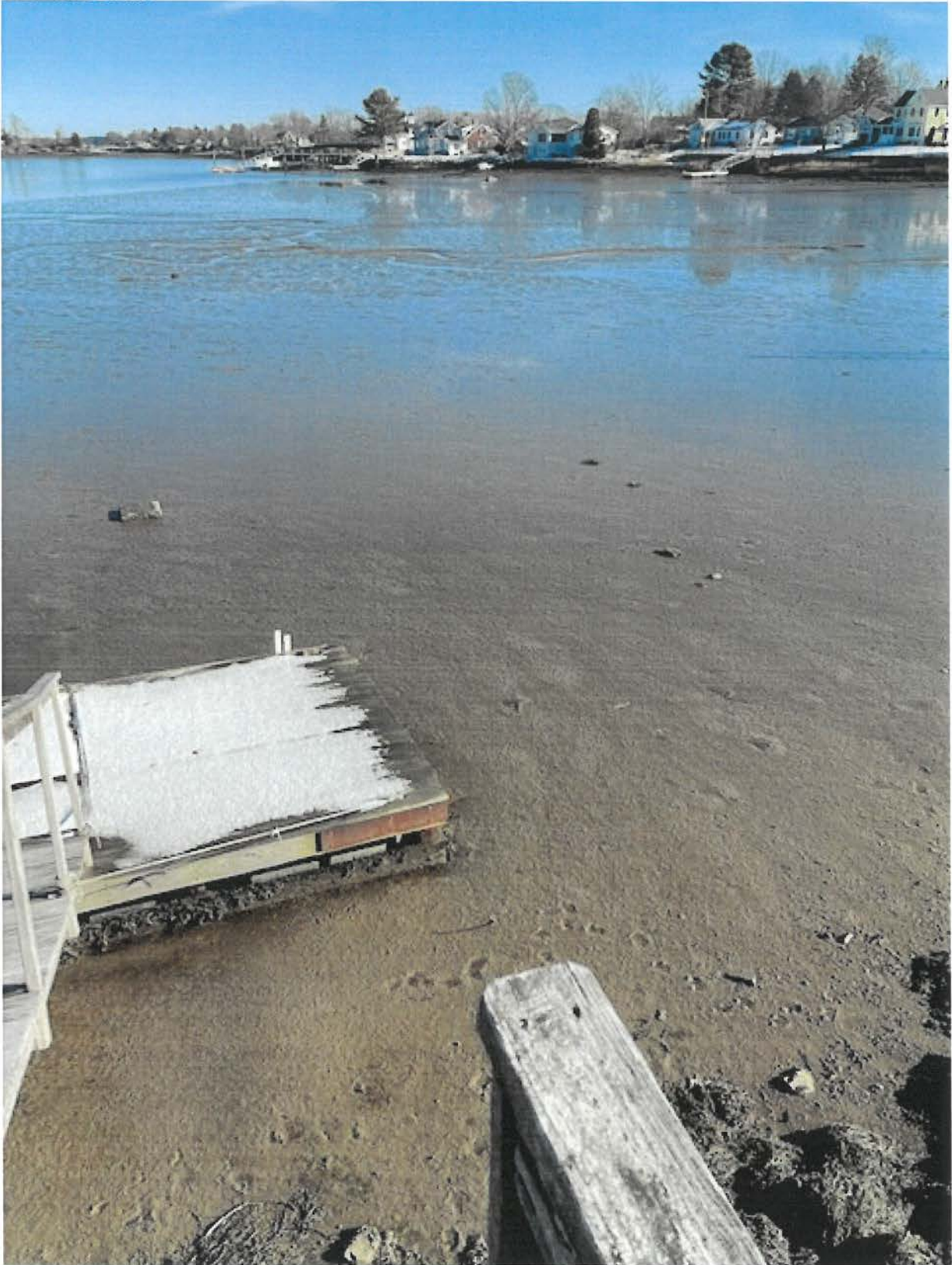




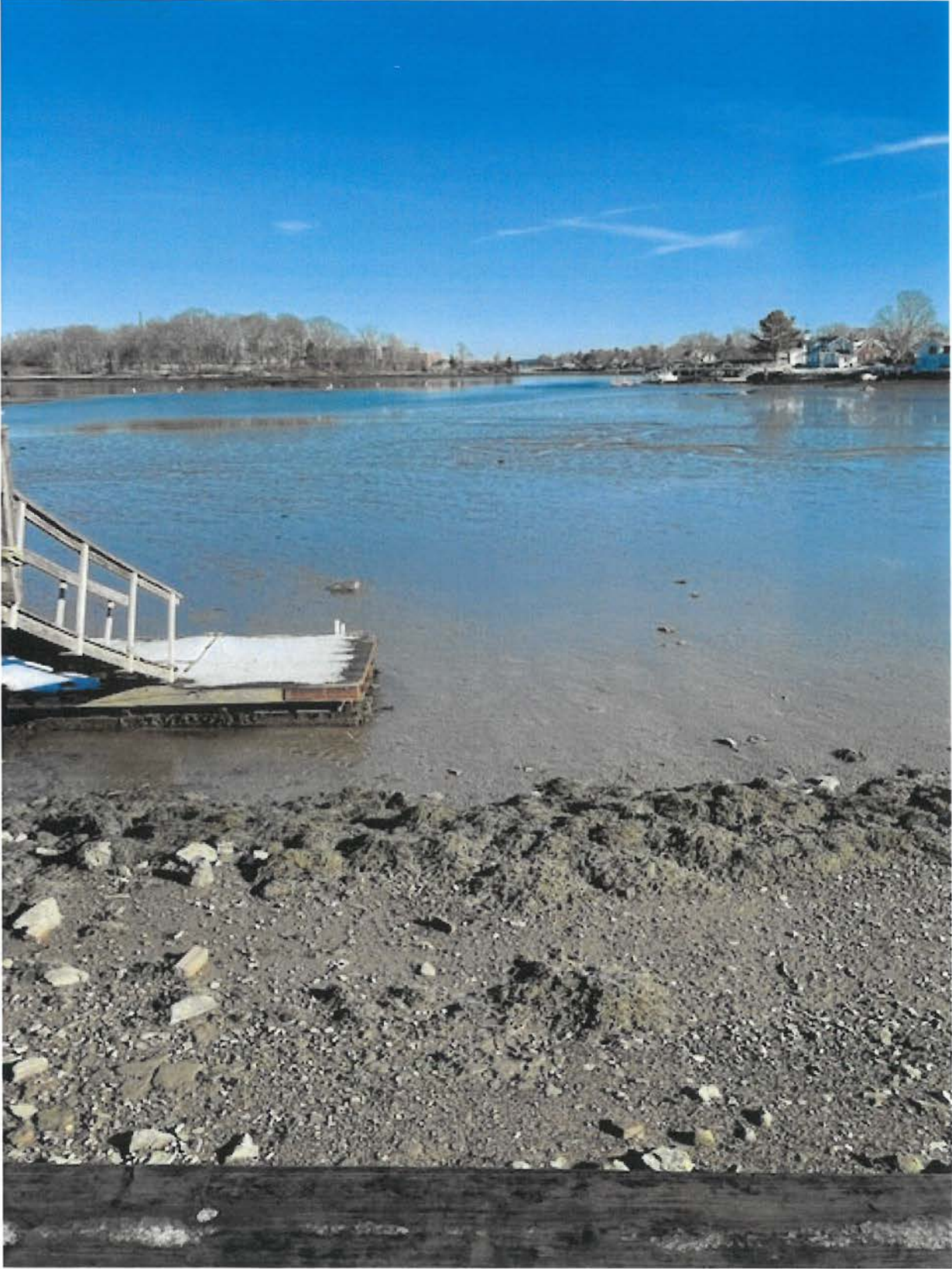
Holmes Court, Portsmouth  
Photo 3  
17 January 2023  
Michael Cuomo



Holmes Court, Portsmouth  
Photo 4  
17 January 2023  
Michael Cuomo



Holmes Court, Portsmouth  
Photo 5  
17 January 2023  
Michael Cuomo



Michael Cuomo, Soil and Wetland Scientist  
6 York Pond Road, York, Maine 03909  
207 363 4532  
mcuomosoil@gmail.com

Erik Saari, Vice President  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH 03801-4413

20 January 2023

Dear Mr. Saari;

This letter is in reference to the property at 43 Holmes Court in Portsmouth, NH. I have conducted an evaluation of wetland functions and values to assist you in planning the redevelopment of this site.

Attached is the NHDES Wetlands Functional Assessment Worksheet. This letter summarizes the findings.

The wetlands at this site are below the highest observable tideline. There are no freshwater wetlands at this site. The wetlands are classified as follows, using the Cowardin system:

E2US1 Estuarine, Intertidal, Unconsolidated Shore, Cobble-gravel.  
E2AB3 Estuarine, Intertidal, Aquatic Bed, Rooted Vascular.  
E2US3 Estuarine, Intertidal, Unconsolidated Shore, Mud.

The principal functions identified using the NHDES Wetlands Functional Assessment Worksheet are:

Fish and Aquatic Life;  
Uniqueness/Heritage; and  
Wetland Dependent Wildlife Habitat.

The wetland at this site also performs these other important wetland functions: Ecological Integrity; Nutrient Trapping; Production Export; Scenic Quality; Sediment Trapping; Shoreline Anchoring; and Water-Based Recreation.

The wetland at this site performs these remaining wetland functions to a very limited degree: Education Potential; Flood Storage; Groundwater Recharge; and Noteworthiness.

Please call if you have questions regarding this work.

Sincerely,



Michael Cuomo  
NH Wetland Scientist #004  
NH Soil Scientist #006



**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.:** Singlar, Stephen A. & Kathryn L.

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.

<b>SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)</b>	
ADJACENT LAND USE:	<b>high density residential</b>
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT?	<del>Yes</del> No
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet):	<b>115ft</b>
<b>SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment:	<b>Michael Cuomo, CWS 4</b>
DATE(S) OF SITE VISIT(S):	<b>20 May 22 &amp; 17 Jan 23</b>
	DELINEATION PER ENV-WT 406 COMPLETED? Yes <del>No</del>
CONFIRM THAT THE EVALUATION IS BASED ON:	
Office and Field examination.	<b>Evaluation based on field and office work</b>
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"):	
USACE Highway Methodology.	<b>Yes</b>
<del>Other scientifically supported method (enter name of method)</del>	<del>Yes</del>

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: <b>Between Little Harbor and Piscataqua River</b>	LOCATION: (LAT/ LONG) <input type="text"/> / 43.07128, -70.749427
WETLAND AREA: <b>Huge</b>	DOMINANT WETLAND SYSTEMS PRESENT: <b>Estuarine</b>
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? <b>Many</b>	COWARDIN CLASS: <b>Intertidal, Rocky Shore, Aquatic Bed, and Unconsolidated Shore</b>
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? <del>Yes</del> No	IS THE WETLAND PART OF: A wildlife corridor <del>Yes</del> <input type="checkbox"/> <del>habitat island?</del> <input type="checkbox"/>
if not, where does the wetland lie in the drainage basin? <b>Tidal terminus of drainage</b>	IS THE WETLAND HUMAN-MADE? <del>Yes</del> No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? Yes <del>No</del>	ARE VERNAL POOLS PRESENT? <del>Yes</del> No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes <del>No</del>	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? <del>Yes</del> No
PROPOSED WETLAND IMPACT TYPE: <b>Buffer only</b>	PROPOSED WETLAND IMPACT AREA: <b>None</b>

**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
<b>Ecological Integrity</b> 1	Yes <del>No</del>		<del>Yes</del> No	Old fill placed at base of wood retaining wall; pier and floating dock
<b>Education Potential</b> 2	<del>Yes</del> No	5	<del>Yes</del> No	Private property, no parking available
<b>Fish &amp; Aquatic Life, Marine</b> 3	Yes <del>No</del>	1, 2, 3, 4, 6	Yes <del>No</del>	Intertidal zone of estuarine wetland; NMFS mapped as Essential Fish Habitat
<b>Flood Storage</b> 4	<del>Yes</del> No	5, 9, 11, 13,	<del>Yes</del> No	At lowest point in watershed, no downstream infrastructure
<b>Groundwater Recharge</b> 5	<del>Yes</del> No	7, 14	<del>Yes</del> No	Estuary
<b>Noteworthiness</b> 6	<del>Yes</del> No		Yes <del>No</del>	NHB22-1800
<b>Nutrient Trapping...</b> 7	Yes <del>No</del>	2, 3, 4, 5, 6, 7, 10,	<del>Yes</del> No	No salt marsh present
<b>Production Export</b> 8	Yes <del>No</del>	1, 2, 3, 4, 5, 6, 10,	<del>Yes</del> No	No salt marsh present
<b>Scenic Quality</b> 9	Yes <del>No</del>	2, 8,	<del>Yes</del> No	Good scenic quality, no public access
<b>Sediment Trapping</b> 10	Yes <del>No</del>	1, 2, 3, 4, 7, 8, 13,	<del>Yes</del> No	No salt marsh present
<b>Shoreline Anchoring</b> 11	Yes <del>No</del>	1, 3, 4, 7, 9, 10, 11,	<del>Yes</del> No	Low velocity tidal mud falt
<b>Uniqueness/Heritage</b> 12	Yes <del>No</del>	1, 2, 3, 4, 12, 14, 17, 19, 22, 26, 27	Yes <del>No</del>	Part of extensive estuary system at mouth of river in historic area
<b>Water Based Recreation</b> 13	Yes <del>No</del>	2, 5	<del>Yes</del> No	Recreation use common but access limited

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<b>Wetland Dependent</b>	<b>Wildlife Habitat</b>		
14	Yes <del>No</del> <del>xxx</del>	6, 8, 12, 18, 19, 21	Yes <del>NRX</del>
			<b>Base of food chain for many marine species</b>

**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 3<sup>rd</sup> 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		<b>DOES NOT APPLY; ESTUARINE SYSTEM</b>			
2					
3					
4					
5					

**SECTION 6 - STREAM RESOURCES SUMMARY**

DESCRIPTION OF STREAM:	STREAM TYPE (ROSGEN):
HAVE FISHERIES BEEN DOCUMENTED? Yes No	DOES THE STREAM SYSTEM APPEAR STABLE? 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	<b>DOES NOT APPLY; ESTUARINE SYSTEM</b>	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	
<b>SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>				

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.



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.: Singlar, Stephen A. & Kathryn L.

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 project proposes to install a concrete pad & HVAC equipment to service the single family residence, install overhead utilities underground and potentially remove a utility pole and add an additional parking space.

There are no direct impacts to the resource (Piscataqua River).

A NHB review determined there are no expected impacts to any species or habitats within the vicinity of the proposed construction activities.

The applicants are filing concurrent applications for Wetlands Buffer impact on 43 Holmes Court (residence replacement) & Shoreland Impact Permit for additional disturbance outside the 100-foot Wetland Buffer on 39 Holmes Court.

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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.

**See Wetlands Permit application for 43 Holmes Court.**

**Erosion and sediment controls will be utilized for the work that occurs on 39 Holmes Court as shown on plans prepared by Altus Engineering.**

**Best management practices shall be employed during construction.**

**311/07 Avoidance and Minimization: No wetland impact is proposed. Only the minimum work necessary in the buffer is proposed in order to install the updated utilities.**

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

**A Functional Assessment has been provided.**

**All wetland impacts are avoided and therefore minimized.**

**This project updates the existing residence utilities and parking.**

**The lot is in the Wetland Buffer but not on the waterfront.**

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.

**The single family residence will continue to be maintained and managed in a traditional manner.**

**The tiny lawn areas will be mowed, landscaped areas maintained, driveway and parking areas to be swept and sealed as needed according to manufacturer's recommendations.**

- 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.

**See Wetlands Permit application & plans for 43 Holmes Court.**

**39 Holmes Court work is very minor.**

**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.

70 years + (2093)

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 existing residence, proposed and existing utilities and paved parking areas are high value assets with low risk tolerance. The residence is not situated in the floodplain and is a considerable distance from the resource.

Projected sea level rise for the waterfront is less than 1 foot in the next 70 years (95% confidence per NOAA).

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.

See attached charts. Sea level rise is predicted to be 2.07mm/year with 95% confidence. This equals less than 1 foot in the next 70 years.

Identify areas of the proposed project site subject to flooding from SLR.

Only areas directly adjacent to the Piscataqua River are subject to future flooding. The existing residence living area finished floors are well above elevation 8.0' + 1' SLR = 9.0' future flood elevation.

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

The parcel is located within areas of minimal flood risk in the 100-year floodplain.

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

The updated utilities and continued maintenance of the existing residence and site improvements should minimize any risk of the SLR scenario for the anticipated project design life.

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: **Not applicable.**



**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](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).
- Tidal shoreline stabilization (Env-Wt 609).
- Dredging activities (Env-Wt 607).
- 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.

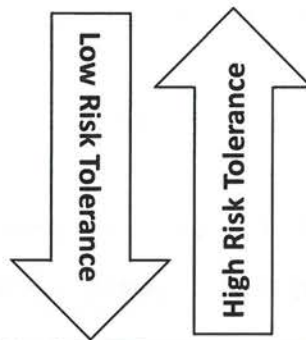
**SECTION 10 – GUIDANCE**

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.



# AVOIDANCE AND MINIMIZATION CHECKLIST

## Water Division/Land Resources Management Wetlands Bureau

[Check the Status of your Application](#)



**RSA/Rule:** RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in [Attachment A: Minor and Major Projects \(NHDES-W-06-013\)](#)).

The following definitions and abbreviations apply to this worksheet:

- “A/M BMPs” stands for [Wetlands Best Management Practice Techniques for Avoidance and Minimization](#) dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- “Practicable” means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION		
APPLICANT LAST NAME, FIRST NAME, M.I.: Stephen A. & Kathryn L. Singular		
PROJECT STREET ADDRESS: 39 Holmes Court	PROJECT TOWN: Portsmouth	
TAX MAP/LOT NUMBER: 101/13		
SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If you answered “no” to this question, describe the purpose of the “non-access” project type you have proposed: The project intends to install up to date HVAC equipment to serve the existing single family residence, install overhead utilities underground and potentially improve the parking area.		

<b>SECTION 3 - A/M PROJECT DESIGN TECHNIQUES</b>		
Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.		
Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
<b>SECTION 4 - NON-TIDAL SHORELINE STRUCTURES</b>		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A



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## 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.





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

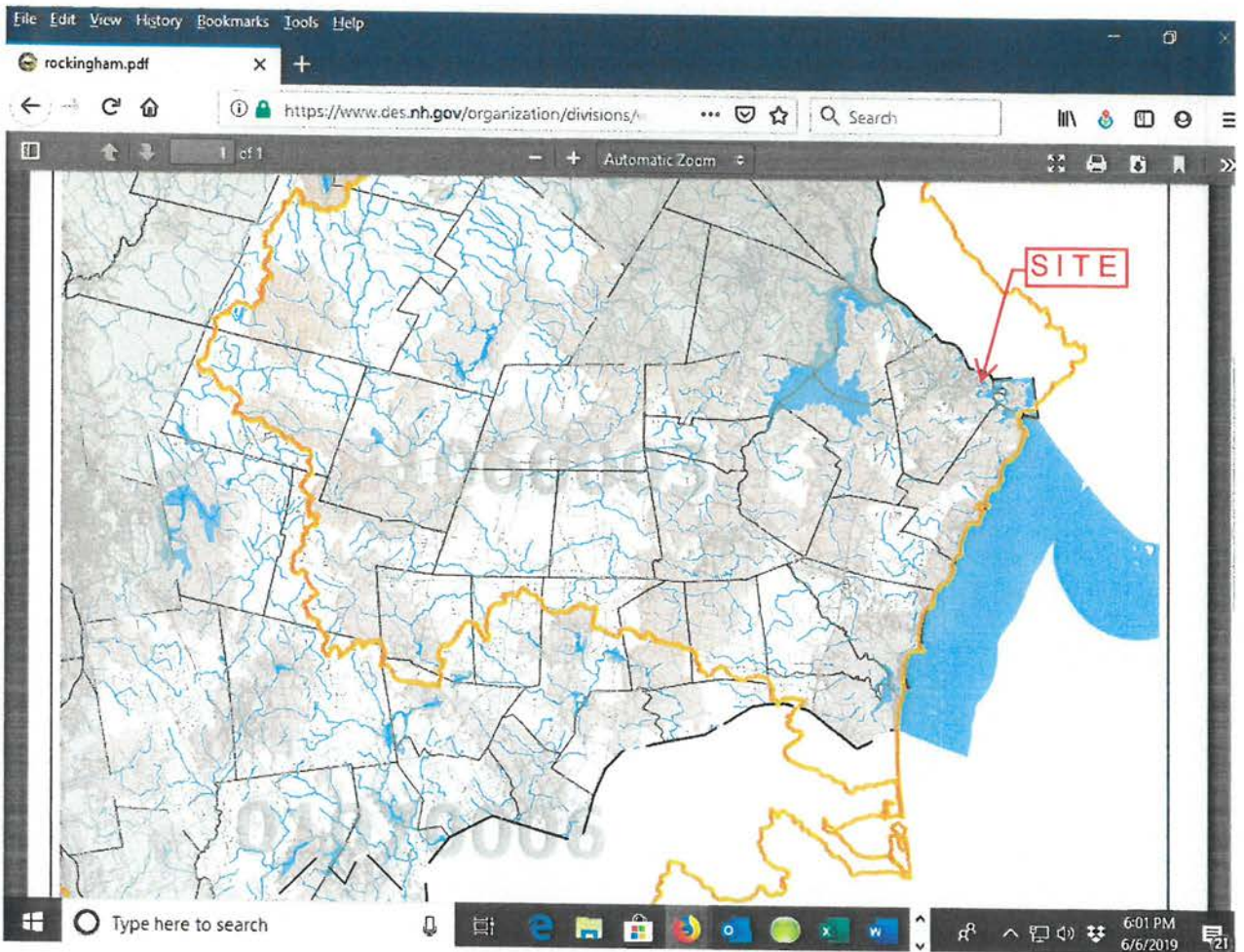
1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See 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 <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> . The book <a href="#">Natural Community Systems of New Hampshire</a> also contains specific information about the natural communities found in NH.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.5 The overall project site is more than 40 acres?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.6 What is the area of the previously filled wetlands?	0 S.F.	
2.7 What is the area of the proposed fill in wetlands?	0 S.F.	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	0% / 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: <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> USFWS IPAC website: <a href="https://ecos.fws.gov/ipac/location/index">https://ecos.fws.gov/ipac/location/index</a> No expected impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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: <ul style="list-style-type: none"> <li>• PDF: <a href="https://wildlife.state.nh.us/wildlife/wap-high-rank.html">https://wildlife.state.nh.us/wildlife/wap-high-rank.html</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>			
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)?			
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?			
3.5 Are stream crossings designed in accordance with the GC 21?			N/A
<b>4. Flooding/Floodplain Values</b>	Yes	No	
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?			
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?			
<b>5. Historic/Archaeological Resources</b>			
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) 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**			

\*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.



rockingham.pdf

https://www.des.nh.gov/organization/divisions/v

1 of 1 Automatic Zoom

**\*Vicinity based upon a 1 mile buffer of Assessment Units impaired in the 2006 SWQA for one or more of the following:**

- Invertebrates,
- Cadmium,
- Chlorophyll *a*,
- Copper,
- Cyanobacteria,
- Dissolved Oxygen (% Sat or mg/L),
- Enterococcus,
- *E. coli*,
- Algal Growth,
- Fecal Coliform,
- Lead,
- Total Phosphorus,
- Sedimentation & Siltation,
- Zinc.

For more information on the 2006 Surface Water Quality Assessments see:  
<http://des.nh.gov/wmb/swqa/>

0 1 2 4 6 8 10 Miles

**Legend:**

- Major Divides (HUC8)
- Roads(NHDOT)
- State Boundary
- County Boundary
- Town Boundary
- 2006 Assessment Unit ID Lines (1:100k NHD)
- 2006 Assessment Unit ID Polygons(1:100k NHD)
- One Mile Buffer on No Additional Loading AUIDs

This map is intended solely as a screening tool to assist you in identifying areas within 1 mile upstream in the watershed of an impaired waterbody. This map is not intended to show analytical results regarding pollutant loading or any other information related to sections 305(b) or 401 of the Clean Water Act or any other State or federal laws.

The coverages presented in this program are under constant revision as new sites or facilities are added. They may not contain all of the potential or existing sites or facilities. The Department is not responsible for the use or interpretation of this information, nor for any inaccuracies.

Map Prepared July 17, 2007.

NHDES

Type here to search

6:00 PM 6/6/2019

## IMPAIRED WATERS MAP (LEGEND)

## SHORELAND APPLICATION WORKSHEET

This worksheet *must* be submitted to the NHDES Wetlands Bureau with every Shoreland Permit Application. **A separate shoreland application worksheet must be submitted for each individual lot of record where impacts are proposed.**

For the purposes of this worksheet, “pre-construction” impervious surface area<sup>3</sup> means all human made impervious surfaces<sup>4</sup> currently present within the protected shoreland of a lot, whether to be removed or to remain after the project is completed. “Post-construction” impervious area means all impervious surfaces that will exist within the protected shoreland of a lot upon completion of the project, including both new and any remaining pre-construction impervious surfaces. All answers shall be given in square feet.

### Calculating the Impervious Area of a Lot

CALCULATING THE IMPERVIOUS AREA OF A LOT WITHIN 250 FEET OF THE REFERENCE LINE (Env-Wq 1406.12)			
	STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREAS	POST-CONSTRUCTION IMPERVIOUS AREAS
<b>PRIMARY STRUCTURE(S)</b> House and all attached decks and porches.	Residence	750 FT <sup>2</sup>	750 FT <sup>2</sup>
<b>ACCESSORY STRUCTURES</b> All other impervious surfaces excluding lawn furniture, well heads, and fences. Common accessory structures include, but are not limited to: driveways, walkways, patios, and sheds.	Paved Driveway	950 FT <sup>2</sup>	1265 FT <sup>2</sup>
	Brick Walk	115 FT <sup>2</sup>	115 FT <sup>2</sup>
	Curb/Misc	30 FT <sup>2</sup>	30 FT <sup>2</sup>
	HVAC Pad	0 FT <sup>2</sup>	25 FT <sup>2</sup>
	[REDACTED]	[REDACTED] FT <sup>2</sup>	[REDACTED] FT <sup>2</sup>
	[REDACTED]	[REDACTED] FT <sup>2</sup>	[REDACTED] FT <sup>2</sup>
<b>TOTAL:</b>		<b>(A)</b> 1845 FT <sup>2</sup>	<b>(B)</b> 2185 FT <sup>2</sup>
Area of the lot located within 250 feet of reference line:			<b>(C)</b> 2627 FT <sup>2</sup>
Percentage of lot covered by pre-construction impervious area within 250 feet of the reference line: <i>[divide (A) by (C) x 100]</i>			<b>(D)</b> 70.2 %
Percentage of lot to be covered by post-construction impervious area within 250 feet of the reference line upon completion of the project: <i>[divide (B) by (C) x 100]</i>			<b>(E)</b> 83.2 %

<sup>3</sup> “Impervious surface area” as defined in Env-Wq 1402.13 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the sum total of the footprint of each impervious surface that is located within the protected shoreland.

<sup>4</sup> “Impervious Surface” as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

### Stormwater Management Requirements

THE IMPERVIOUS AREA THRESHOLDS (RSA 483-B:9, V(g))	
<input type="checkbox"/>	A net decrease or no net increase in impervious area is proposed (If line E is less than or equal to line D).
<input type="checkbox"/>	The percentage of post-construction impervious area (line E) is less than or equal to 20%.  This project <b>does not</b> require a stormwater management plan and <b>does not</b> require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.
<input type="checkbox"/>	A net increase in impervious area is proposed and the percentage of post-construction impervious area (line E) is greater than 20%, but less than 30%.  This project <b>requires</b> a stormwater management but, <b>does not</b> require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.  <i>See details on the Application Checklist</i>
<input checked="" type="checkbox"/>	A net increase in impervious area is proposed and the percentage of post-construction impervious area (line E) is greater than 30%.  This project <b>requires</b> a stormwater management plan designed and certified by a professional engineer <b>and requires</b> plans demonstrating that each waterfront buffer grid segment meets at least the minimum required tree and sapling point score.  <i>See details on the Application Checklist</i>

### Natural Woodland Area Requirement

DETERMINING THE AREA TO REMAIN AS NATURAL WOODLAND	
Total area of the lot between 50 feet and 150 feet of the reference line within which the vegetation currently exists as natural woodland <sup>5</sup> (see definition below).	(F) 0 FT <sup>2</sup>
Total area of the lot between 50 feet and 150 feet from the reference line.	(G) 2,672 FT <sup>2</sup>
At least 25% of area (G) must remain in as natural woodland. $[0.25 \times G]$	(H) 668 FT <sup>2</sup>
Place the lesser of area (F) and calculation (H) on this line. In order to remain compliant with the <b>natural woodland area requirement</b> , this is the minimum area that must remain as natural woodland between 50 feet and 150 feet from the reference line. This area <b>must be</b> represented on all plans and this area, exclusive of existing lawn, must remain in an unaltered state <sup>6</sup> .	(I) 0 FT <sup>2</sup>
Name of person who prepared this worksheet: Erik Saari	
Name and date of the plan this worksheet is based upon: NHDES Wetland & Shoreland Permit Plan, 2/7/23	

<sup>5</sup> "Natural Woodland" means a forested area consisting of various species of trees, saplings, shrubs, and ground covers in any combination and at any stage of growth (483-B:4, XI).

<sup>6</sup> "Unaltered State" means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health (483-B:4, XXIV-b).

### 39 HOLMES CT

**Location** 39 HOLMES CT

**Mblu** 0101/ 0013/ 0000/ /

**Acct#** 32809

**Owner** SINGLAR STEPHEN A & KATHRYN L

**PBN**

**Assessment** \$548,900

**Appraisal** \$548,900

**PID** 32809

**Building Count** 1

#### Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2022	\$180,600	\$368,300	\$548,900

Assessment			
Valuation Year	Improvements	Land	Total
2022	\$180,600	\$368,300	\$548,900

#### Owner of Record

**Owner** SINGLAR STEPHEN A & KATHRYN L  
**Co-Owner**  
**Address** 21 ELLIOT ST  
 EXETER, NH 03833

**Sale Price** \$800,000  
**Certificate**  
**Book & Page** 6393/1441  
**Sale Date** 03/24/2022  
**Instrument** 21

#### Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
SINGLAR STEPHEN A & KATHRYN L	\$800,000		6393/1441	21	03/24/2022
39 HOLMES COURT LLC	\$0		5829/1412	40	06/23/2017
SANDERS GAIL H REVOC TRUST OF 1998	\$0		5810/0490	54	04/10/2017
SANDERS GAIL H REVO TRUST OF 1998	\$0		5364/1158		10/05/2012
SANDERS GAIL HARWOOD	\$0		3250/2443		11/14/1997

#### Building Information

**Year Built:** 1900  
**Living Area:** 1,205  
**Replacement Cost:** \$297,085  
**Building Percent Good:** 60  
**Replacement Cost Less Depreciation:** \$178,300

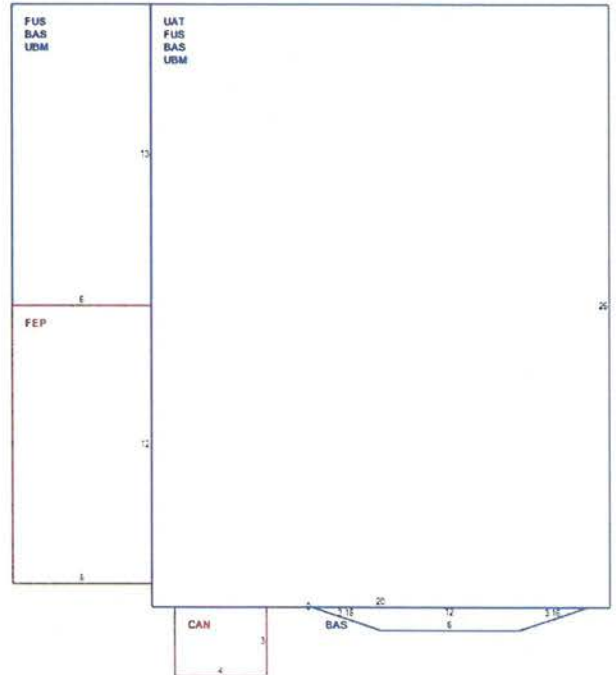
Building Attributes	
Field	Description
Style:	Conventional
Model	Residential
Grade:	B
Stories:	2
Occupancy	1
Exterior Wall 1	Asbest Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Gas
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	1
Total Rooms:	7
Bath Style:	Avg Quality
Kitchen Style:	Avg Quality
Kitchen Gr	
WB Fireplaces	0
Extra Openings	0
Metal Fireplaces	0
Extra Openings 2	0
Bsmt Garage	

**Building Photo**



(<https://images.vgsi.com/photos2/PortsmouthNHPhotos//00010165\82.jpg>)

**Building Layout**



(ParcelSketch.ashx?pid=32809&bid=32809)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	607	607
FUS	Upper Story, Finished	598	598
CAN	Canopy	12	0
FEP	Porch, Enclosed	72	0
UAT	Attic	520	0
UBM	Basement, Unfinished	598	0
		2,407	1,205



**Extra Features**

Extra Features				Legend
Code	Description	Size	Value	Bldg #
REC	REC ROOM	150.00 S.F.	\$2,300	1

**Land**

Land Use		Land Line Valuation	
Use Code	1012	Size (Acres)	0.06
Description	SFR WATERINFL	Frontage	
Zone	GRB	Depth	
Neighborhood	101	Assessed Value	\$368,300
Alt Land Appr	No	Appraised Value	\$368,300
Category			

**Outbuildings**

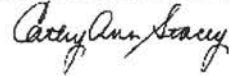
Outbuildings		Legend
No Data for Outbuildings		

**Valuation History**

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$180,600	\$368,300	\$548,900
2020	\$180,600	\$368,300	\$548,900
2019	\$180,600	\$368,300	\$548,900

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$180,600	\$368,300	\$548,900
2020	\$180,600	\$368,300	\$548,900
2019	\$180,600	\$368,300	\$548,900

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**Return To:**  
Stephen A. Singlar and Kathryn L. Singlar  
21 Elliot Street  
Exeter, NH 03833

LCHIP	ROA611598	25.00
TRANSFER TAX	RO114058	12,000.00
RECORDING		14.00
SURCHARGE		2.00

**Transfer Tax:** \$12,000.00

**WARRANTY DEED**

KNOW ALL PERSONS BY THESE PRESENTS: That 39 Holmes Court, LLC, a New Hampshire limited liability company of 30 Walden Street, Portsmouth, NH 03801, for consideration paid, grants to Stephen A. Singlar and Kathryn L. Singlar, husband and wife, as joint tenants with rights of survivorship of 21 Elliot Street, Exeter, NH 03833, with WARRANTY COVENANTS:

A certain lot of land with the buildings thereon, situate in Portsmouth, in the County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at the southwesterly corner of the premises hereby conveyed at land now or formerly of Major S. Langdon and running easterly by land now or formerly of said Langdon forty (40) feet, more or less, to land now or formerly of Roscoe W. Downs; thence running northerly by land now or formerly of said Downs seventy (70) feet, more or less, to land now or formerly of Margaret Chase; thence running westerly by land now or formerly of said Chase thirty (30) feet (9) inches to a corner; thence running southerly four (4) feet, more or less, to another corner; thence running westerly three (3) feet, more or less, both last two courses being by land now or formerly of said Chase to land now or formerly of Annie E. Catlin; thence running southerly by land now or formerly of Annie E. Catlin seventy (70) feet, more or less, to land now or formerly of land of said Langdon at the point of beginning.

Together with a right of way across land now or formerly of said Catlin to Holmes Court and subject to the right of way across the premises hereby conveyed from land now or formerly of Downs toward said Holmes Court.

Meaning and intending to describe and convey the same premises conveyed to 39 Holmes Court, LLC, by virtue of a Deed from Gail H. Sanders, Trustee of the Gail H. Sanders Revocable Trust of 1998, dated June 21, 2017 and recorded in the Rockingham County Registry of Deeds at Book 5829, Page 1412.

TOGETHER WITH and subject to any and all covenants, easements, conditions, stipulations, and restrictions of record, insofar as the same are enforceable and in effect.

This is not homestead property.

**WARRANTY DEED**

(continued)

IN WITNESS WHEREOF, the undersigned have executed this document on this 23rd day of March, 2022.

39 HOLMES COURT, LLC

BY: *Gail H. Sanders*  
Gail H. Sanders, Manager

State of NEW HAMPSHIRE  
County of ROCKINGHAM

March 23, 2022

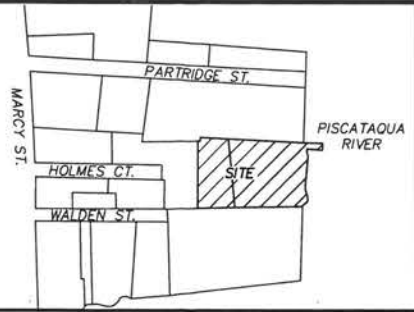
Personally appeared, Gail H. Sanders, Manager of 39 Holmes Court, LLC, known to me, or satisfactorily proven to be the person whose name is subscribed to the foregoing and acknowledged that she executed the same for the purposes therein contained.

*Cynthia M Gibb*  
Notary Public

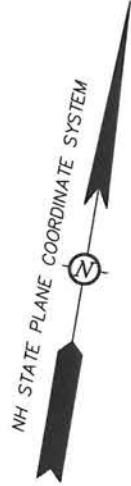
My Commission Expires:

**CYNTHIA M GIBB**  
NOTARY PUBLIC  
State of New Hampshire  
My Commission Expires  
June 30, 2026

[SEAL]



**LOCUS**  
(N.T.S.)



**REFERENCE PLANS:**

1. PLAN OF LOT, NO. 24 HOLMES COURT, PORTSMOUTH, NH, JUNE 1947, JOHN W. DURGIN FILE NO. 2611.
2. PLAN OF LOT, PORTSMOUTH, NH, NO. 39 HOLMES COURT, AUGUST 1975, JOHN W. DURGIN FILE NO. 2366, PLAN NO. 3273.
3. PLAN OF LOT, PORTSMOUTH, NH, FOR SAMUEL PENDELTON, JR., AUGUST 1975, JOHN W. DURGIN FILE NO. 2366, PLAN NO. 4383.
4. PLAN OF LAND FOR JOHN H. & JUDITH A. MILLER, 33 HOLMES COURT, PORTSMOUTH, NH, DATED MARCH 12, 1984, RECORDED AS RCRD. PLAN #C-12350.

PURSUANT TO RSA 676:18,III AND RSA 672:14

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

*James Verra*  
JAMES VERRA  
8-15-2022  
DATE



**NOTES:**

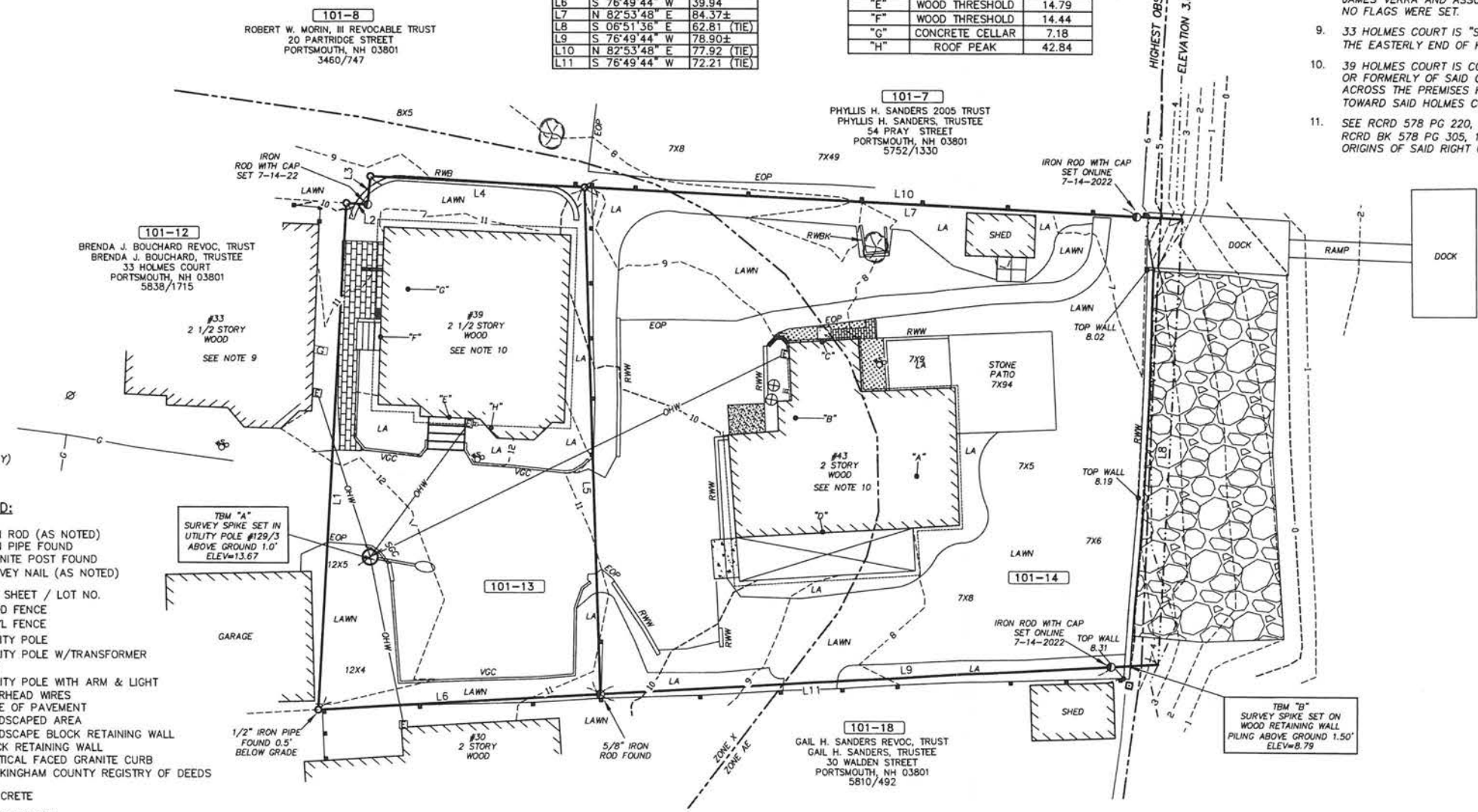
1. OWNER OF RECORD.....39 HOLMES COURT, LLC.  
ADDRESS.....30 WALDEN STREET, PORTSMOUTH, NH 03801  
DEED REFERENCE.....5829/1412  
TAX SHEET / LOT.....101-13  
PARCEL AREA.....2,672 S.F.  
OWNER OF RECORD.....43 HOLMES COURT, LLC.  
ADDRESS.....30 WALDEN STREET, PORTSMOUTH, NH 03801  
DEED REFERENCE.....5829/1407  
TAX SHEET / LOT.....101-14  
PARCEL AREA.....5,353 S.F.±(TO ELEV. 3.62)
2. ZONED:.....WATERFRONT BUSINESS FRONT YARD SETBACK.....30'  
MINIMUM LOT AREA.....20,000 S.F. SIDE YARD SETBACK.....30'  
FRONTAGE.....100' REAR YARD SETBACK.....
3. THE RELATIVE ERROR OF CLOSURE WAS LESS THAN 1 FOOT IN 15,000 FEET.
4. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG-SAFE @ 1-888-DIG-SAFE.
5. HORIZONTAL DATUM: NAD 1983 ESTABLISHED BY SURVEY GRADE GPS OBSERVATION AND NGS "OPUS" SOLUTION. REFERENCE FRAME: NAD83 (2011)(EPOCH: 2010.0000), US SURVEY FOOT.  
VERTICAL DATUM: NAVD 1988. PRIMARY BENCHMARK: CITY OF PORTSMOUTH "ROBE".
6. CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE ESTABLISHMENT OF ANY GRADES OR ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOCIATES, INC..
7. THE PARCELS SHOWN HEREON LIES WITHIN ZONE AE (ELEVATION 8) & ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS IDENTIFIED ON FLOOD INSURANCE RATE MAP, ROCKINGHAM COUNTY, NEW HAMPSHIRE, MAP NUMBER 33015C027B, EFFECTIVE DATE 1/29/2021 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
8. THE HIGHEST OBSERVABLE TIDE LINE WAS DELINEATED BY MICHAEL CUOMO, NEW HAMPSHIRE CERTIFIED WETLAND SCIENTIST #004 ON MAY 20, 2022 & RECORDED BY JAMES VERRA AND ASSOCIATES, INC. UNDER THE DIRECTION OF MICHAEL CUOMO. NO FLAGS WERE SET.
9. 33 HOLMES COURT IS "SUBJECT TO THE RIGHT OF WAY ACROSS SAID PREMISES FROM THE EASTERLY END OF HOLMES COURT." SEE RCRD BK 5838 PG 1715.
10. 39 HOLMES COURT IS CONVEYED "TOGETHER WITH A RIGHT OF WAY ACROSS LAND NOW OR FORMERLY OF SAID CATLIN TO HOLMES COURT AND SUBJECT TO THE RIGHT OF WAY ACROSS THE PREMISES HEREBY CONVEYED FROM LAND NOW OR FORMERLY OF DOWNS TOWARD SAID HOLMES COURT." SEE RCRD BK 5829 PG 1412.
11. SEE RCRD 578 PG 220, 10/17/1900, J. CORNELIUS COAKLEY TO JAMES FAY AND RCRD BK 578 PG 305, 11/12/1900, J. CORNELIUS COAKLEY TO MARGARET FOX FOR THE ORIGINS OF SAID RIGHT OF WAYS.

**BOUNDARY LINE TABLE**

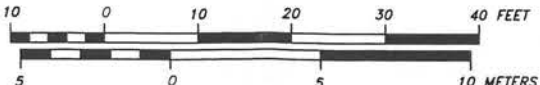
LINE	BEARING	DISTANCE
L1	N 06°37'34" W	71.43
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L3	N 04°16'52" W	4.00
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L7	N 82°53'48" E	84.37±
L8	S 06°51'36" E	62.81 (TIE)
L9	S 76°49'44" W	78.90±
L10	N 82°53'48" E	77.92 (TIE)
L11	S 76°49'44" W	72.21 (TIE)

**BUILDING ELEVATION TABLE**

LOCATION	DESCRIPTION	ELEVATION
"A"	ROOF PEAK	30.55
"B"	WOOD THRESHOLD	12.09
"C"	WOOD THRESHOLD	8.36
"D"	WOOD THRESHOLD	12.02
"E"	WOOD THRESHOLD	14.79
"F"	WOOD THRESHOLD	14.44
"G"	CONCRETE CELLAR	7.18
"H"	ROOF PEAK	42.84



- LEGEND:**
- ..... IRON ROD (AS NOTED)
  - ..... IRON PIPE FOUND
  - ..... GRANITE POST FOUND
  - △ ..... SURVEY NAIL (AS NOTED)
  - 101-14 ..... TAX SHEET / LOT NO.
  - ..... WOOD FENCE
  - ..... VINYL FENCE
  - ..... UTILITY POLE
  - ..... UTILITY POLE W/TRANSFORMER
  - ..... GUY
  - ..... UTILITY POLE WITH ARM & LIGHT
  - ..... OVERHEAD WIRES
  - ..... EDGE OF PAVEMENT
  - LA ..... LANDSCAPED AREA
  - RWB ..... LANDSCAPE BLOCK RETAINING WALL
  - RWBK ..... BRICK RETAINING WALL
  - VGC ..... VERTICAL FACED GRANITE CURB
  - RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
  - ..... CONCRETE
  - ..... BRICK PAVERS
  - ..... CRUSHED STONE
  - ..... RIP RAP
  - ..... RETAINING WALL



**SURVEYOR:**  
**James Verra and Associates, Inc.**  
LAND SURVEYORS  
101 SHATTUCK WAY - SUITE 8  
NEWINGTON, N.H. 03801-7876  
603-436-3557  
JOB NO: 23999

**ENGINEER:**  
**ALTUS ENGINEERING, INC.**  
133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com

**ISSUED FOR:**  
**ENGINEERING DESIGN**  
**ISSUE DATE:**  
8-15-2022

**REVISIONS:**  
NO. DESCRIPTION BY DATE

**DRAWN BY:** GTD  
**APPROVED BY:** JV  
**DRAWING FILE:** 23999.DWG

**SCALE:**  
22" x 34" - 1" = 10'  
11" x 17" - 1" = 5'

**OWNER/APPLICANT:**  
30 HOLMES COURT, LLC. & 43 HOLMES COURT, LLC.  
30 WALDREN STREET  
PORTSMOUTH, NH 03801  
ASSESSOR'S PARCELS  
MAP 101 - LOTS 13 & 14

**OWNER:**  
30 HOLMES COURT, LLC. & 43 HOLMES COURT, LLC.  
30 WALDREN STREET  
PORTSMOUTH, NH 03801  
ASSESSOR'S PARCELS  
MAP 101 - LOTS 13 & 14

**PROJECT:**  
**PROPOSED SITE DEVELOPMENT PLANS**  
HOLMES COURT #39 & #43  
PORTSMOUTH, NH  
ASSESSOR'S PARCELS  
MAP 101-LOTS 13 & 14

**TITLE:**  
**EXISTING CONDITIONS PLAN**

**SHEET NUMBER:**  
1 OF 1

P5328

# National Flood Hazard Layer FIRMette



70°45'14"W 43°4'30"N



70°44'37"W 43°4'4"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**

- Without Base Flood Elevation (BFE)  
Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**

- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone X

**OTHER AREAS**

- NO SCREEN
- Area of Minimal Flood Hazard Zone X
- Effective LOMIRs
- Area of Undetermined Flood Hazard Zone X

**GENERAL STRUCTURES**

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/22/2022 at 12:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

New Hampshire Natural Heritage Bureau  
NHB DataCheck Results Letter

---

**To:** Eric Weinrieb, Altus Engineering, Inc.  
133 Court Street

Portsmouth, NH 03801

**From:** NH Natural Heritage Bureau

**Date:** 5/25/2022 (valid until 5/25/2023)

**Re:** Review by NH Natural Heritage Bureau of request submitted 5/20/2022

**Permits:** MUNICIPAL POR - Portsmouth, NHDES - Wetland Standard Dredge & Fill - Major

**NHB ID:** NHB22-1800

**Applicant:** Stephen Singlar

**Location:** Portsmouth  
43 Holmes Court

**Project**

**Description:** Replace existing single family residence with similar size residence. Construction could occur late fall 2022 or may wait till Spring 2023.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 5/20/2022 11:15:47 AM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

New Hampshire Natural Heritage Bureau  
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: NHB22-1800

NHB22-1800

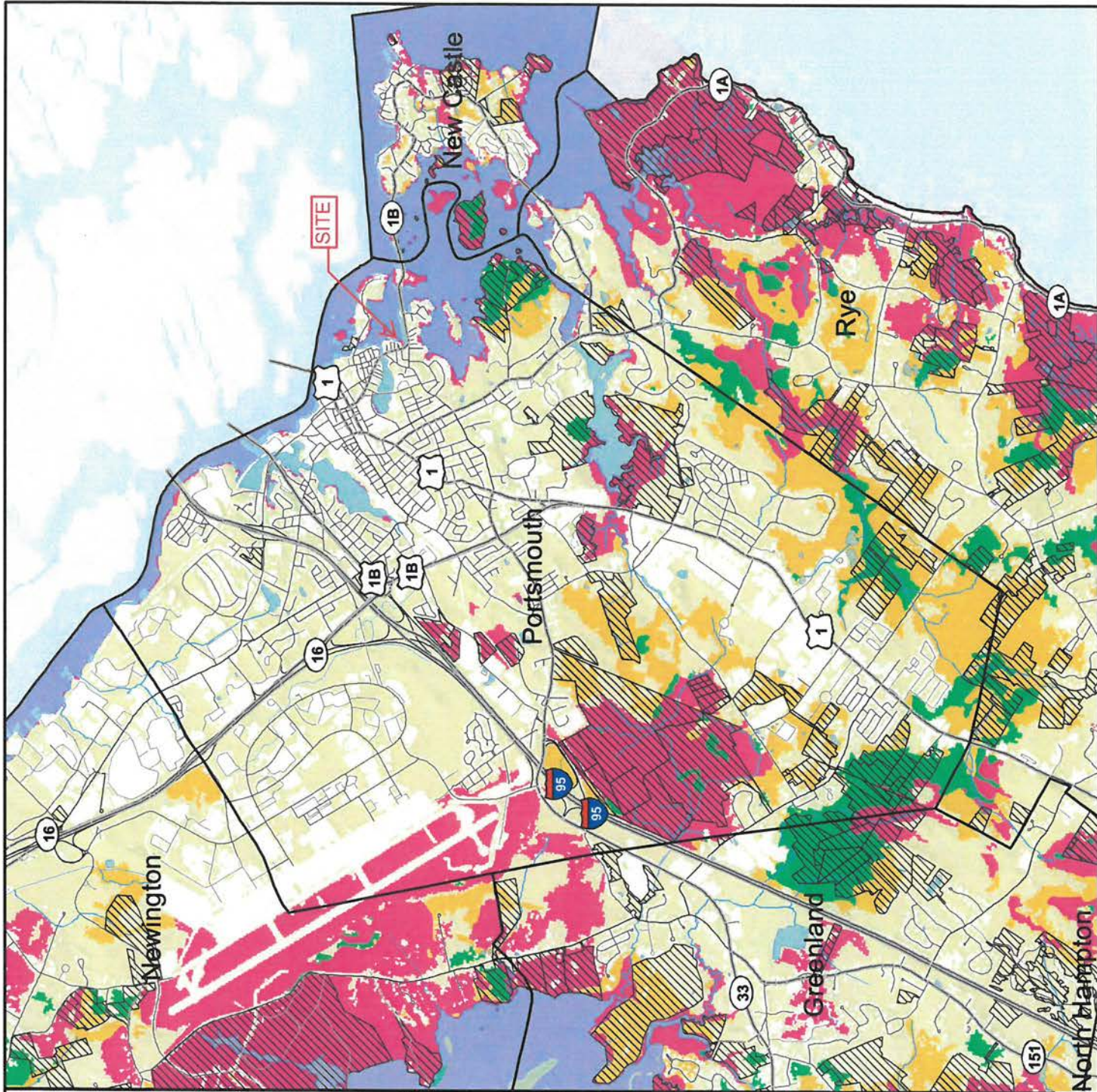


Department of Natural and Cultural Resources  
Division of Forests and Lands  
(603) 271-2214 fax: 271-6488

DNCR/NHB  
172 Pembroke Rd.  
Concord, NH 03301

# 2020 HIGHEST RANKED WILDLIFE HABITAT BY ECOLOGICAL CONDITION

- Highest Ranked Habitat in New Hampshire
- Highest Ranked Habitat in the Biological Region
- Biological region = TNC ecoregional subsection for terrestrial habitats or Aquatic Resource  
Mitigation region for wetlands and floodplain forest
- Supporting Landscapes
- Conservation or public



Base map data provided by NH GRANIT at UNH May 2020. Intended for planning use only.

























Sept. 2015, spatial data Apr. 2020





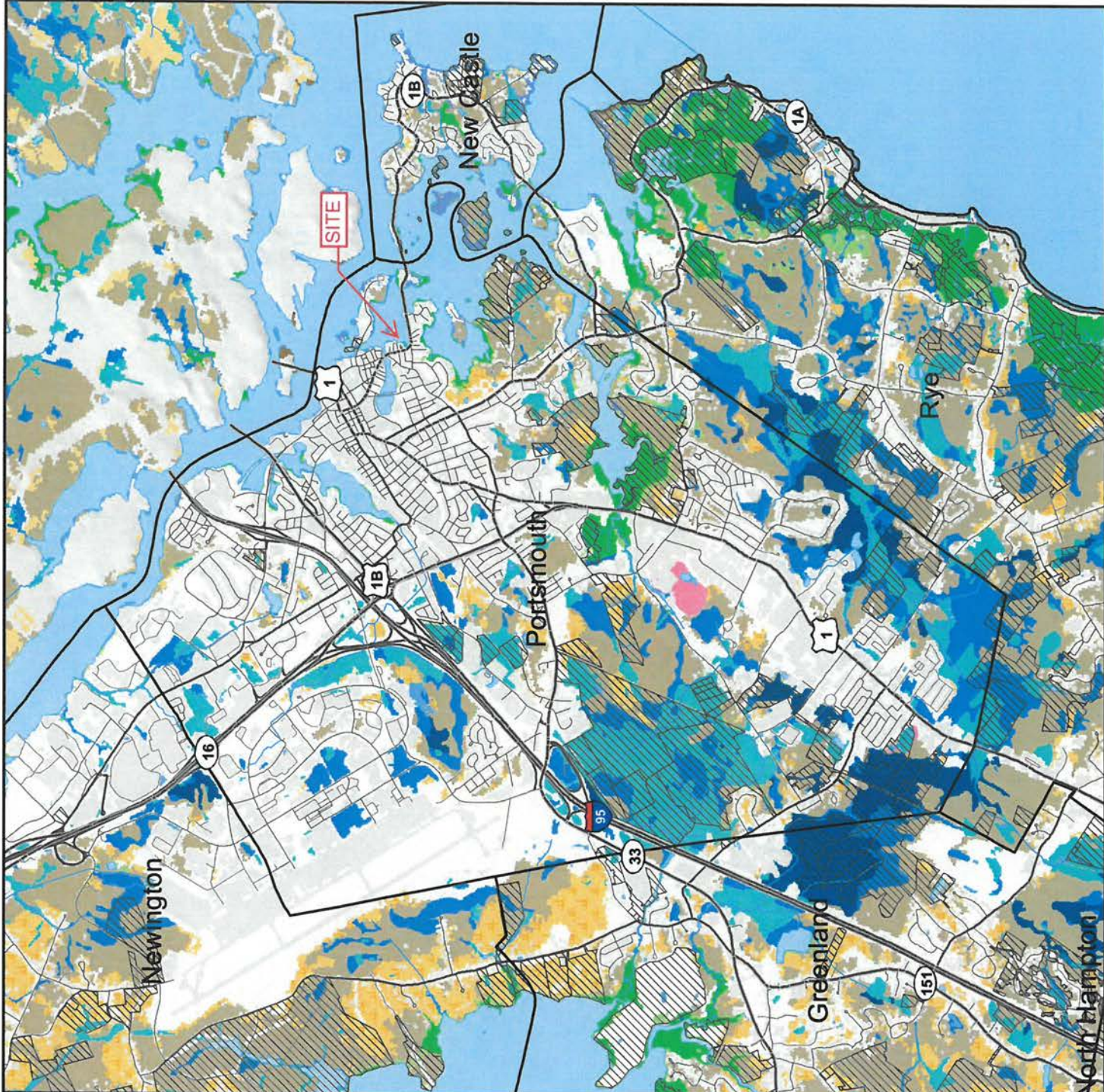
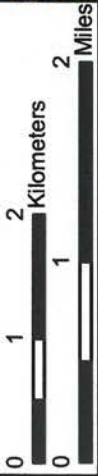
# 2020 NH WILDLIFE HABITAT LAND COVER

-  Coastal Island/Rocky coast
-  Dune
-  Salt marsh
-  Peatland
-  Marsh and Shrub wetland
-  Northern or Temperate Swamp
-  Floodplain Forest
-  Grassland
-  Pine barren
-  Cliff or Talus slope
-  Rocky ridge
-  Alpine
-  High-elevation Spruce-fir
-  Low-elevation Spruce-fir
-  Northern hardwood-conifer
-  Appalachian oak-pine
-  Hemlock-hardwood-pine
-  Open Water
-  Sand/Gravel
-  Developed Impervious
-  Developed or Barren
-  Conservation or public land

Base map data provided by NH GRANIT at UNH May 2020. Intended for planning use only.



Sept. 2015, spatial data Apr. 2020



File Edit View History Bookmarks Tools Help

National Wetlands Inventory x +

https://hyspmap.usgs.gov/wetlands/arcgis/victor-ads-mapabe/

**National Wetlands Inventory**  
surface waters and wetlands

BASEMAPS >

- STREETS
- SATELLITE
- HYBRID
- TOPO
- TERRAIN
- GRAY
- OPEN STREET MAP
- NATGEO
- USGS TOPO
- NATL MAP

MEASURE

MAP LAYERS >

- Wetlands
- Riparian
- Riparian Mapping Areas
- Data Source
  - Source Type
  - Image Scale
  - Image Year
- Areas of Interest
- FWS Managed Lands
- Historic Wetland Data

LEGEND

**Wetlands**

- Estuarine and Marine
- Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub
- Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

**Riparian**

- Forested/Shrub
- Herbaceous

**Historic Wetland Data**

- Historic Wetlands
- Historic Wetland Mapping Areas

E2US3M

E2EM1N

**SITE**

3,564  
43,071.1 -70,749

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands\_team@fws.gov | Maine Geospatial, Inc., Microsoft, esri

5:52 PM 9/27/2022

Type here to search

## USFWS Wetland Inventory Map

**Michael Cuomo, Soil Scientist**  
6 York Pond Road, York, Maine 03909  
207 363 4532  
mcuomosoil@gmail.com

Erik Saari, P.E.  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, NH 03801-4413

26 May 2022

Dear Mr. Saari;

This letter is in reference to the property at 43 Holmes Court in Portsmouth, NH. On 20 May 2022 I conducted a Highest Observable Tideline determination to assist you in planning the redevelopment of this site.

Highest Observable Tide Line is defined in NH Code of Administrative Rules Env-Wt 101.45 as "...a line defining the farthest landward limit of tidal flow, not including storm events, that can be recognized by such indicators as the presence of a strand line of flotsam and debris, the landward margin of salt tolerant vegetation, or a physical barrier that blocks farther flow of the tide."

The location of the Highest Observable Tide Line was recorded by James Verra and Associates under my direction.

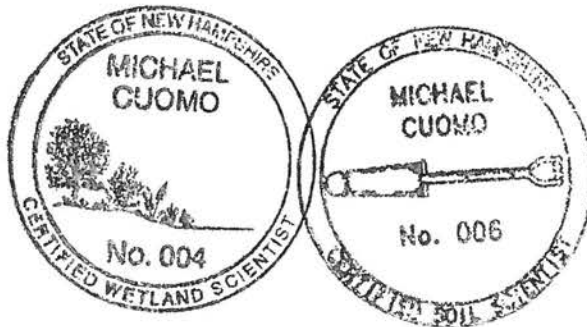
There are no other wetlands on the parcel.

Please call if you have questions regarding this work.

Sincerely,



Michael Cuomo  
NH Wetland Scientist #004  
NH Soil Scientist #006



File Edit View History Bookmarks Tools Help

NHDES WPPT x +

https://nhdeswppt.unh.edu/Html5Viewer/index.html?viewer=WPPT.gyh

Search...

I want to

Legend

Filter Swatches...

- WPPT\_PredictedMarshMigration
  - Tidal Waters / Tidal Wetlands
    - Tidal wetland
    - Transitional salt marsh
    - Salt marsh
    - Mud flat
    - Tidal water
- NWI Layers
  - NWI Plus
    - Esuarne and Maine Deepwater
    - Esuarne and Maine Wetland
    - Freshwater Emergent Wetland
    - Freshwater Forested/Shrub Wetland
    - Freshwater Pond
    - Lake
    - Other
    - Riverine
- World\_Imagery
  - World Imagery
    - Low Resolution 15m Imagery
    - High Resolution 60cm Imagery
    - High Resolution 30cm Imagery

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

Welcome Legend Identifiable Buffer Op...

Type here to search

6:14 PM 9/26/2022

NH Fish & Game | NHDES | NH Department of Environmental Services, Wetlands Bureau | NH DPA, Automatic, NH GRANIT | GRANIT | NH Department of Revenue Administration, Aotomatic | New Hampshire Fish and Game Department and partner organizations, April 2020 | Maine GeoLibrary, Maxar, Microsoft

**SITE (43 HOLMES COURT)**

**SITE (39 HOLMES COURT)**

## WETLAND PERMIT PLANNING TOOL (WPPT) RESULTS

File Edit View History Bookmarks Tools Help

NH Aquatic Restoration Mapper X

Public display of data collected through the NH Stream Crossing Initiative | User Guide

**NH Aquatic Restoration Mapper**

Learn more about the NH Stream Crossing Initiative | User Guide

Search

Type here to search

6:29 PM 9/25/2022

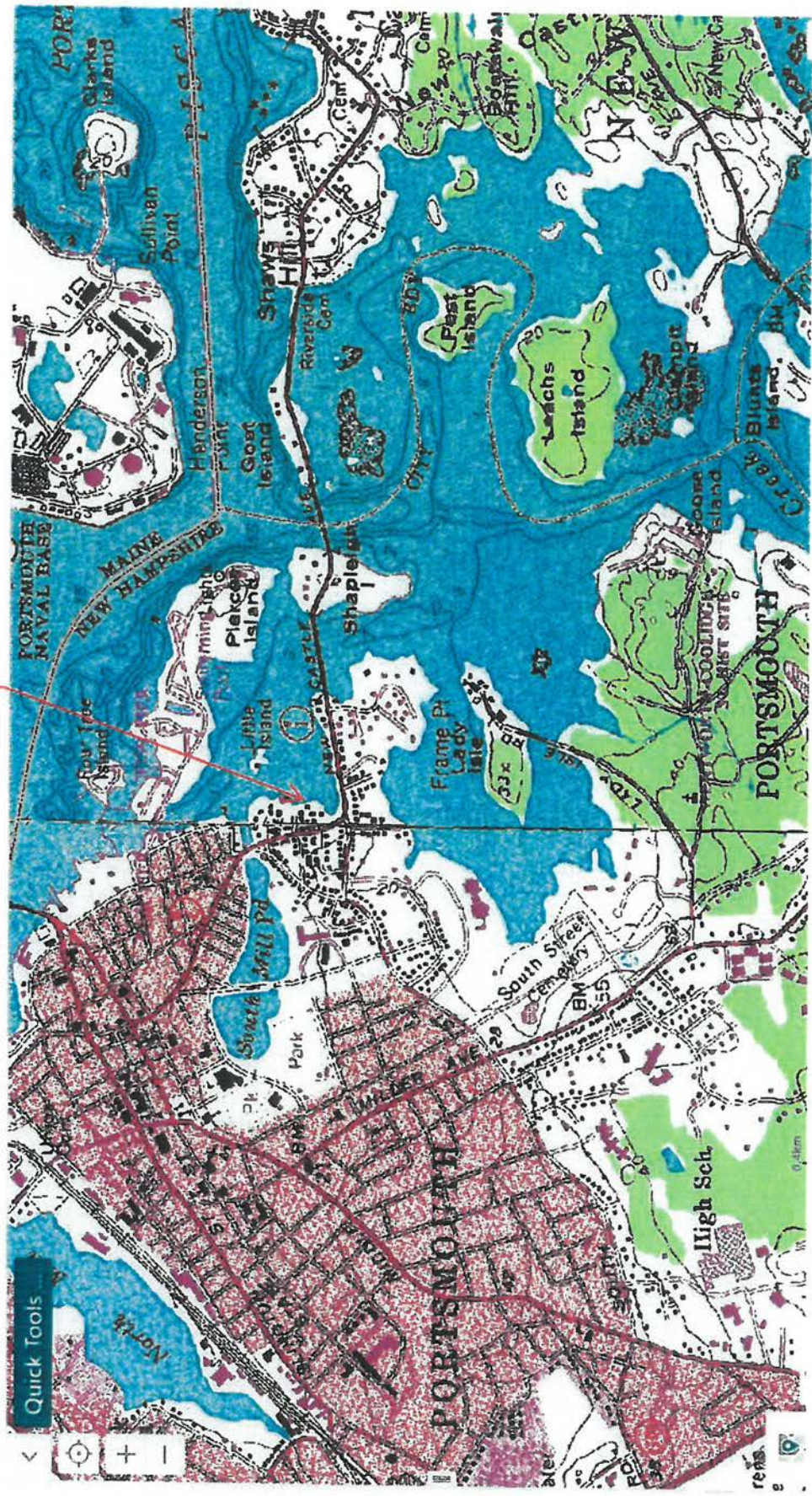
Community Maps Contributors: City of Portsmouth, NH © OpenStreetMap, Microsoft, Esri, H

Legend

- Fish and Game Restoration Interest Areas
- American Lamprey Habitat
- Bridle Shiner Habitat
- Springfed Wild Brook Trout
- Predicted Coldwater Fishery
- Wild Eastern Brook Trout
- Seacoast Anadromous Fish Habitat
- Species of Concern
- NH Parcel Mosaic
- Parcel Polygons
- Attributes for Additional Lines

**NH Aquatic Restoration Mapper Results – No Expected Impacts**

SITE



U.S.G.S. MAP DETAIL



**AERIAL PHOTOGRAPH – 2021 PORTSMOUTH GIS DATABASE**

39 Holmes Court.  
Portsmouth, NH



**Photo 1 – Looking westerly down Holmes Court and at front of the abutter’s garage -  
January 11, 2023**



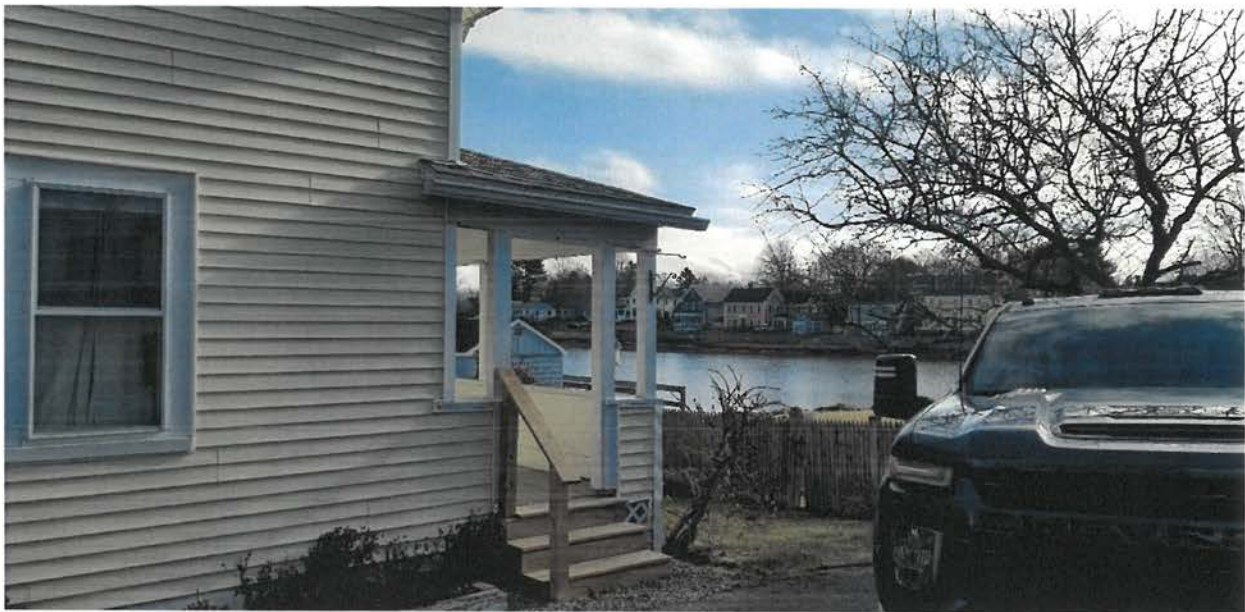
**Photo 2 – Looking easterly at 43 Holmes Court and Piscataqua River beyond- January 11, 2023**



39 Holmes Court.  
Portsmouth, NH

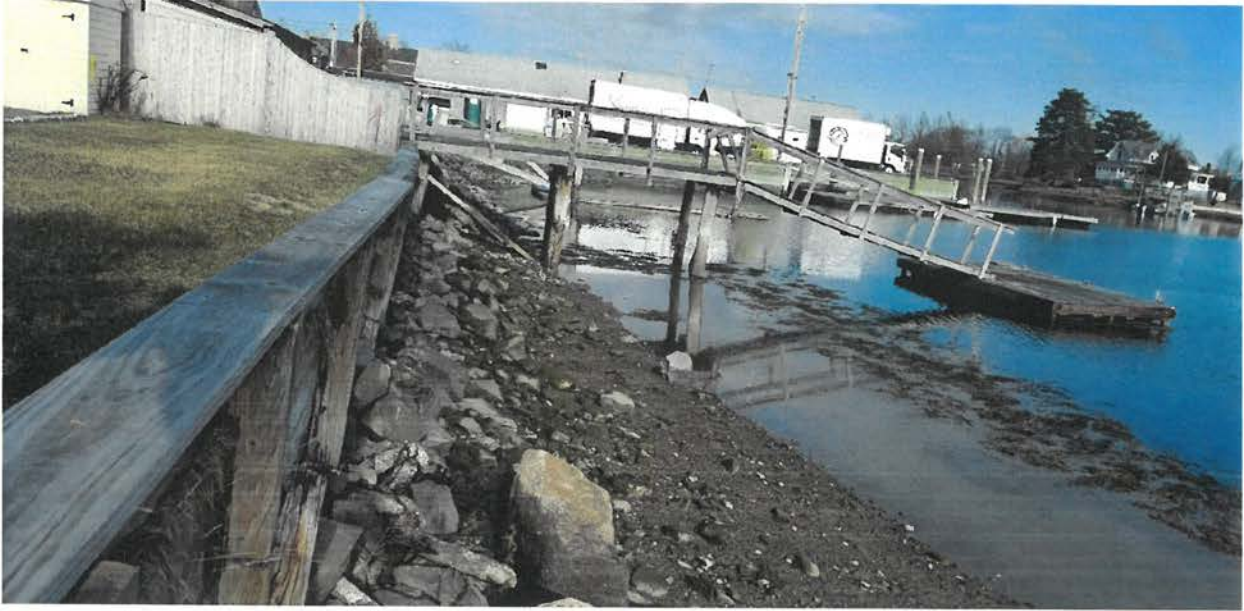


**Photo 3 – Looking southerly at existing garage section of lawn. - January 11, 2023**



**Photo 4 – Looking easterly at the Piscataqua River beyond 43 Holmes Court - January 11, 2023**

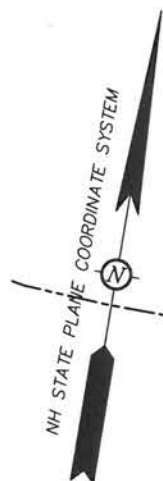
39 Holmes Court.  
Portsmouth, NH



**Photo 5 – Looking northerly along the retaining wall along the Piscataqua River - January 11, 2023.**



**Photo 6 – Looking westerly at area of proposed underground utilities (39 Holmes Court is on the right) - January 11, 2023.**



BOUNDARY LINE TABLE

LINE	BEARING	DISTANCE
L1	N 06°37'34" W	71.43
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"E"	WOOD THRESHOLD	14.79
"F"	WOOD THRESHOLD	14.44
"G"	CONCRETE CELLAR	7.18
"H"	ROOF PEAK	42.84

**101-8**  
ROBERT W. MORIN, III REVOCABLE TRUST  
20 PARTRIDGE STREET  
PORTSMOUTH, NH 03801  
3460/747

**101-7**  
PHYLLIS H. SANDERS 2005 TRUST  
PHYLLIS H. SANDERS, TRUSTEE  
54 PRAY STREET  
PORTSMOUTH, NH 03801  
5752/1330

**101-12**  
BRENDA J. BOUCHARD REVOC. TRUST  
BRENDA J. BOUCHARD, TRUSTEE  
33 HOLMES COURT  
PORTSMOUTH, NH 03801  
5838/1715

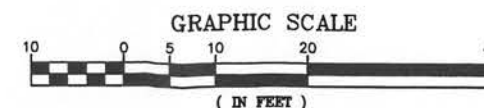
**101-18**  
GAIL H. SANDERS REVOC. TRUST  
GAIL H. SANDERS, TRUSTEE  
30 WALDEN STREET  
PORTSMOUTH, NH 03801  
5810/492

HOLMES COURT  
(A PUBLIC WAY)

PISCATAQUA RIVER  
(TIDAL)  
EBB →

LEGEND:

- ..... IRON ROD (AS NOTED)
- ..... IRON PIPE FOUND
- ..... GRANITE POST FOUND
- △ ..... SURVEY NAIL (AS NOTED)
- 101-14 ..... TAX SHEET / LOT NO.
- ..... WOOD FENCE
- ..... VINYL FENCE
- ..... UTILITY POLE
- ..... UTILITY POLE W/TRANSFORMER
- ..... GUY
- ..... UTILITY POLE WITH ARM & LIGHT
- OHW— ..... OVERHEAD WIRES
- EQP ..... EDGE OF PAVEMENT
- LA ..... LANDSCAPED AREA
- RWB ..... LANDSCAPE BLOCK RETAINING WALL
- RWBK ..... BRICK RETAINING WALL
- VGC ..... VERTICAL FACED GRANITE CURB
- RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
- ..... CONCRETE
- ..... BRICK PAVERS
- ..... CRUSHED STONE
- ..... RIP RAP
- ..... RETAINING WALL



NOT FOR CONSTRUCTION

ISSUED FOR: CLIENT REVIEW

ISSUE DATE: AUGUST 10, 2022

REVISIONS  
NO. DESCRIPTION BY DATE  
0 DISCUSSION EBS 08/10/22

DRAWN BY: RLH  
APPROVED BY: EBS  
DRAWING FILE: 5328.DWG

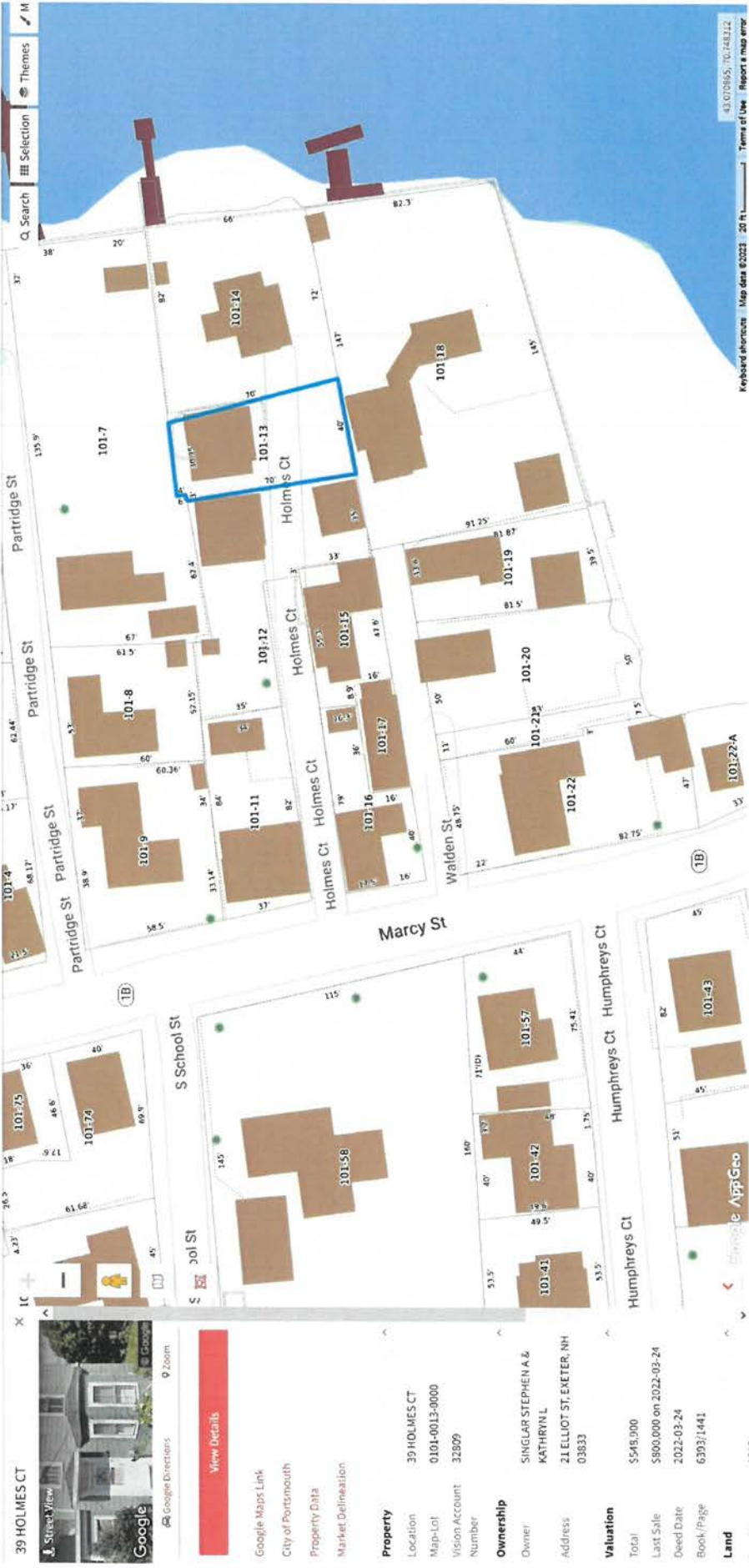
SCALE:  
22" x 34" - 1" = 10'  
11" x 17" - 1" = 5'

OWNER/APPLICANT:  
30 HOLMES COURT, LLC. &  
43 HOLMES COURT, LLC.  
30 WALDREN STREET  
PORTSMOUTH, NH 03801  
ASSESSOR'S PARCELS  
MAP 101 - LOTS 13 & 14

PROJECT:  
PROPOSED SITE  
DEVELOPMENT  
PLANS  
HOLMES COURT  
#39 & #43  
PORTSMOUTH, NH  
ASSESSOR'S PARCELS  
MAP 101-LOTS 13 & 14

TITLE:  
PHOTO KEY

SHEET NUMBER:  
1 OF 1



39 HOLMES CT

Street View

Google

Google Directions

Zoom

[View Details](#)

Google Maps Link

City of Portsmouth

Property Data

Market Delineation

**Property**

Location 39 HOLMES CT

Map-Id 0101-0013-0000

Vision Account Number 32809

**Ownership**

Owner SINGLAR STEPHEN A & KATHRYN L

Address 21 ELLIOT ST, EXETER, NH 03833

**Valuation**

Total \$545,900

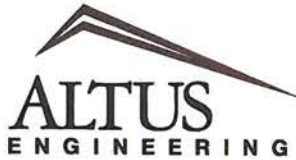
Last Sale \$800,000 on 2022-03-24

Deed Date 2022-03-24

Book/Page 6393/1441

**Land**

**TAX MAP**



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 17, 2023

New Hampshire Department of Environmental Services  
29 Hazen Drive  
PO Box 95  
Concord, NH 03302-0095

Re: NHDES Shoreland Permit  
Proposed Residence Redevelopment Plans  
Tax Sheet 101, Lot 14  
39 Holmes Court  
Portsmouth, NH  
P5328

**ABUTTER'S LIST (Shoreland Permit Application)**

<u>Tax Map / Parcel</u>	<u>Abutter Name &amp; Address</u>
101 / 7	Phyllis H. Sanders 2005 Trust 54 Pray Street Portsmouth, NH 03801
101 / 12	Brenda J. Bouchard Rev. Trust of 1999 33 Holmes Court Portsmouth, NH 03801
101 / 18	Gail H. Sanders Rev. Trust of 1998 30 Walden Street Portsmouth, NH 03801

wde/5328.029.abutters.list-wetlands-shoreland-ap-only.doc

7020 0640 0001 3192 4751

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Portsmouth, NH 03801

Certified Mail Fee	\$4.15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.87
Total Postage and Fees	\$5.02



02/21/2023

Sent To **PHYLLIS H. SANDERS 2005 TRUST**  
Street and Apt. No., or PO Box No. **54 PRAY STREET**  
City, State, ZIP+4® **PORTSMOUTH NH 03801**

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7020 0640 0001 3192 4737

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Portsmouth, NH 03801

Certified Mail Fee	\$4.15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.87
Total Postage and Fees	\$5.02



02/21/2023

Sent To **BRENDA J. BOWHARD REV. TR. OF 1999**  
Street and Apt. No., or PO Box No. **33 HOLMES COURT**  
City, State, ZIP+4® **PORTSMOUTH NH 03901**

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7020 0640 0001 3192 4744

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Portsmouth, NH 03801

Certified Mail Fee	\$4.15
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.87
Total Postage and Fees	\$5.02



02/21/2023

Sent To **GAIL H. SANDERS REV. TR. OF 1999**  
Street and Apt. No., or PO Box No. **30 WALDEN STREET**  
City, State, ZIP+4® **PORTSMOUTH NH 03801**

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**ABUTTER STATEMENT LETTER**  
**WETLAND PERMIT APPLICATION**

Altus Engineering  
133 Court Street  
Portsmouth, NH 03801

**RE: Wetland Permit Application**

**Tax Map 101, Lot 13**  
**39 Holmes Court**  
**Portsmouth, NH 03801**

To whom it may concern,

I/We have reviewed the plan prepared by Altus Engineering, Inc., acting as Agent for Stephen A. & Kathryn L. Singlar which depicts proposed improvements associated with the relocating overhead utilities underground, installation of an HVAC pad & equipment and other site improvements at 39 Holmes Court and have no objections to the work as proposed.

---

Phyllis H. Sanders 2005 Trust  
Tax Map 101, Lot 7  
Portsmouth, NH

---

Date

**ABUTTER STATEMENT LETTER**  
**WETLAND PERMIT APPLICATION**

Altus Engineering  
133 Court Street  
Portsmouth, NH 03801

**RE: Wetland Permit Application**

**Tax Map 101, Lot 13**  
**39 Holmes Court**  
**Portsmouth, NH 03801**

To whom it may concern,

I/We have reviewed the plan prepared by Altus Engineering, Inc., acting as Agent for Stephen A. & Kathryn L. Singlar which depicts proposed improvements associated with the relocating overhead utilities underground, installation of an HVAC pad & equipment and other site improvements at 39 Holmes Court and have no objections to the work as proposed.

---

Brenda J. Bouchard Rev. Trust of 1999  
Tax Map 101, Lot 12  
Portsmouth, NH

---

Date



**ABUTTER STATEMENT LETTER**  
**WETLAND PERMIT APPLICATION**

Altus Engineering  
133 Court Street  
Portsmouth, NH 03801

**RE: Wetland Permit Application**

**Tax Map 101, Lot 13**  
**39 Holmes Court**  
**Portsmouth, NH 03801**

To whom it may concern,

I/We have reviewed the plan prepared by Altus Engineering, Inc., acting as Agent for Stephen A. & Kathryn L. Singlar which depicts proposed improvements associated with the relocating overhead utilities underground, installation of an HVAC pad & equipment and other site improvements at 39 Holmes Court and have no objections to the work as proposed.

---

Gail H. Sanders Revoc. Trust  
Tax Map 101, Lot 18  
Portsmouth, NH

---

Date



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 7, 2023

**Re: NHDES Wetlands Permit Application  
Tax Map 101 Lot 13  
39 Holmes Court  
Portsmouth, NH  
P5328**

Dear Abutter:

Pursuant to State of New Hampshire RSA Chapter 482-A, this letter is to notify you that 43 Holmes Court, LLC (Tax Map 101, Lot 14), owner and applicant, is submitting a Wetland Permit Application to the NHDES Wetlands Bureau.

The application proposes to raze and replace the existing residence along with other site improvements. The demolition & subsequent utility installations and other site improvements will impact areas within the previously disturbed and developed 100' tidal buffer zone. There are additional impacts located between the 100-foot and 250-foot zones of the Shoreland Protection Buffer.

**This letter is for the notification of abutting property owners only. As the improvements are less than 20-feet from your common property line we are required to attempt to obtain a letter from you stating you have no objections to the proposed improvements that are within 20-feet of the property line.**

**Please review the plan and if you have no objections to the components of the project that are within 20-feet of the common property line, sign the enclosed form and return it in the self-addressed envelope. If the applicant cannot obtain your consent, they have the right to apply to NHDES for a waiver of the requirement. The majority of the proposed work takes place no closer than the common property line. Every effort to limit the minimal amount of disturbance will be made.**

Once filed, the plans that show the proposed project are available for viewing during normal business hours at the City of Portsmouth City Clerk's office (603) 610-7245 or at the office of the DES Wetlands Bureau (603) 271-2147, 6 Hazen Drive, Concord, N.H. (8am to 4pm). It is suggested the appropriate office is contacted to verify availability of the documents prior to visiting them. Please feel free to contact us, the Applicant's engineering consultant, at (603) 433-2335, if you have any questions.

Sincerely,  
**ALTUS ENGINEERING**

A handwritten signature in red ink, appearing to read "Erik Saari".

Erik Saari  
Vice President

CERTIFIED MAIL

wde\5328.26a-39-holmes-abutter-notify-wetland.ltr.docx



**Pease Development Authority  
Division of Ports and Harbors**

**Market Street  
Marine Terminal  
Functional Replacement Project  
Portsmouth, NH**

# **NHDES Wetlands Permit Application Amendment & Request for More Information Response**



**NHDOT Project 15731  
Federal Project A000(909)  
NHDES File No. 2022-00429**

**April 2023**

**Market Street Marine Terminal  
Functional Replacement Project  
15731  
A000(909)  
NHDES File Number 2022-00429**

**Wetlands Permit Application Amendment  
& Request for More Information Response**

Prepared by:



53 Regional Drive • Concord, NH 03301



600 State Street • Portsmouth, NH 03801

**April 2023**



## **Contents**

---

NHDES Revised Wetlands Permit Application Form
Supplemental Narrative
NHDES RFMI Response
Abutter Notification Certified Mail Receipts
Figure 2 – Tax Map (Revised)
PDA Harbor Master Response Letter
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Sampling and Analysis Plan
Draft Materials Management Plan
Dredge Management Task Force Meeting Minutes
Draft Dredging Specifications
Draft Blasting Specifications
NHDOT Natural Resource Agency Coordination Meeting Minutes (February 2023)
Mitigation
NH NHB DataCheck Results Letter (Updated)
NHFG Coordination
NHDES Wetland Rule Waiver Requests (Env-Wt 402.21; 6066.03(c))
Turbidity Control and Monitoring Plan
Impact Plans (Revised)

---

## **NHDES Revised Wetlands Permit Application Form**

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# WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau  
Land Resources Management



Check the status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)

RSA/Rule: [RSA 482-A](#) / [Env-Wt 100-900](#)

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

**1. REVIEW TIME:** Indicate your Review Time below. To determine review time, refer to [Guidance Document A](#) for instructions.

Standard Review (Minimum, Minor or Major Impact)  Expedited Review (Minimum Impact only)

**2. MITIGATION REQUIREMENT:**

If mitigation is required, a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the [Determine if Mitigation is Required Frequently Asked Questions](#).

Mitigation Pre-Application Meeting Date: Month: 8 Day: 21 Year: 2019  
 N/A - Mitigation is not required

**3. PROJECT LOCATION:**

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

ADDRESS: **Market Street Marine Terminal** TOWN/CITY: **Portsmouth**  
 TAX MAP: **119** BLOCK: \_\_\_\_\_ LOT: **5** UNIT: \_\_\_\_\_  
 USGS TOPO MAP WATERBODY NAME: **Piscataqua River**  NA STREAM WATERSHED SIZE: **994 sq mi**  NA  
 LOCATION COORDINATES (If known): **43.084373, -70.761500**  Latitude/Longitude  UTM  State Plane

**4. PROJECT DESCRIPTION:**

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

**The original wetlands permit application was submitted in February 2022 (NHDES File No. 2022-00429). This application amendment is requested due to changes in impact areas. This project will consist of construction of new dock structures to extend the south and north ends of the existing wharf; installation of a new fender system; dredging of approximately 61,450 square feet of the river bed; relocation of a floating dock; and shoreside alterations.**

**5. SHORELINE FRONTAGE:**

N/A This does not have shoreline frontage. SHORELINE FRONTAGE: **1,800'**  
 Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line ([Env-Wt 101.89](#)).

**6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:**

Please indicate if any of the following permit applications are required and, if required, the status of the application. To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Webpage](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input checked="" type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input checked="" type="checkbox"/> PENDING <input type="checkbox"/> DENIED

**7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:**

See the [Instructions & Required Attachments](#) document for instructions to complete a & b below.


a. Natural Heritage Bureau File ID: NHB 23 - 0281

b.  This project is within a [Designated River](#) corridor. The project is within ¼ mile of: \_\_\_\_\_; and date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: \_\_\_ Day: \_\_\_ Year: \_\_\_  
 N/A – This project is not within a Designated River corridor.

[lrn@des.nh.gov](mailto:lrn@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

<b>8. APPLICANT INFORMATION (Desired permit holder)</b>			
LAST NAME, FIRST NAME, M.I.: <b>Shattuck, Tracy</b>			
TRUST / COMPANY NAME: <b>NH Division of Ports and Harbors</b>		MAILING ADDRESS: <b>555 Market Street</b>	
TOWN/CITY: <b>Portsmouth</b>		STATE: <b>NH</b>	ZIP CODE: <b>03801</b>
EMAIL or FAX: <b>t.shattuck@peasedev.org</b>		PHONE: <b>603-436-8500</b>	
ELECTRONIC COMMUNICATION: By initialing here: <u>TCS</u> , I hereby authorize NHDES to communicate all matters relative to this application electronically.			
<b>9. PROPERTY OWNER INFORMATION (If different than applicant)</b>			
LAST NAME, FIRST NAME, M.I.:			
TRUST / COMPANY NAME:		MAILING ADDRESS:	
TOWN/CITY:		STATE:	ZIP CODE:
EMAIL or FAX:		PHONE:	
ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.			
<b>10. AUTHORIZED AGENT INFORMATION</b>			
LAST NAME, FIRST NAME, M.I.: <b>Perron, Christine</b>		COMPANY NAME: <b>McFarland-Johnson, Inc</b>	
MAILING ADDRESS: <b>53 Regional Drive</b>			
TOWN/CITY: <b>Concord</b>		STATE: <b>NH</b>	ZIP CODE: <b>03301</b>
EMAIL or FAX: <b>cperron@mjinc.com</b>		PHONE: <b>603-225-2978</b>	
ELECTRONIC COMMUNICATION: By initialing here <u>CJP</u> , I hereby authorize NHDES to communicate all matters relative to this application electronically.			
<b>11. PROPERTY OWNER SIGNATURE:</b>			
See the <a href="#">Instructions &amp; Required Attachments</a> document for clarification of the below statements			
By signing the application, I am certifying that:			
<ol style="list-style-type: none"> <li>I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.</li> <li>I have reviewed and submitted information &amp; attachments outlined in the <a href="#">Instructions and Required Attachment</a> document.</li> <li>All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.</li> <li>I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.</li> <li>I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.</li> <li>Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.</li> <li>I have submitted a Request for Project Review (RPR) Form (<a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a>) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance.</li> <li>I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.</li> <li>I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.</li> <li>I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action.</li> <li>I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.</li> <li>The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned mail.</li> </ol>			
 Property Owner Signature		<b>Tracy Shattuck</b> Print name legibly	<u>04/13/2023</u> Date

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)



**MUNICIPAL SIGNATURES**

**12. CONSERVATION COMMISSION SIGNATURE**

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
--	--------------------	------

**DIRECTIONS FOR CONSERVATION COMMISSION**

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

**13. TOWN / CITY CLERK SIGNATURE**

As required by Chapter 482-A:3 (amended 2014), 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.

	Kelli L. Barnaby	Portsmouth	4/13/23
Print name legibly	Town/City	Date	

**DIRECTIONS FOR TOWN/CITY CLERK:**

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. 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.
4. 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; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

**DIRECTIONS FOR APPLICANT:**


1. Submit the single, 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.

**MUNICIPAL SIGNATURES**

**12. CONSERVATION COMMISSION SIGNATURE**

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
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3. Has no objection to permitting the proposed work.


	Print name legibly	Date
--	--------------------	------

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	Print name legibly	Town/City	Date
--	--------------------	-----------	------

**DIRECTIONS FOR TOWN/CITY CLERK:**

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4. 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; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

**DIRECTIONS FOR APPLICANT:**

1. Submit the single, 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.

**14. IMPACT AREA:**

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

Permanent: impacts that will remain after the project is complete.

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

Intermittent Streams: linear footage distance of disturbance is measured along the thread of the channel.

Perennial Streams/ Rivers: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream channel	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Perennial Stream / River channel	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	62,050 / 343 <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	51,720 <input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	17,400 <input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Vernal Pool	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
<b>TOTAL</b>	<b>131,170 / 343</b>	<b>/</b>

**15. APPLICATION FEE:** See the [Instructions & Required Attachments](#) document for further instruction

Minimum Impact Fee or Fee for Non-enforcement related, publicly-funded and supervised restoration projects, regardless of impact classification (see RSA 482-A:3, 1(c)): Flat fee of \$ 400

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 113,770 sq. ft. X \$0.40 = \$ 45,508

Temporary (seasonal) docking structure: \_\_\_\_\_ sq. ft. X \$2.00 = \$

Permanent docking structure: 17,400 sq. ft. X \$4.00 = \$ 69,600

**Projects proposing shoreline structures (including docks) add \$400 = \$ 400**

Total = \$ 115,508

The Application Fee is the above calculated Total or \$400, whichever is greater = \$ 10,000\*cap

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**\* \$10,000.00 application fee was paid with the original application**

## **Supplemental Narrative**

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**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**NHDES WETLANDS PERMIT APPLICATION AMENDMENT  
SUPPLEMENTAL NARRATIVE**

**Introduction**

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A wetlands permit application was submitted to NHDES in February 2022 for the proposed functional replacement project located at the Market Street Marine Terminal (Port of New Hampshire), in Portsmouth, New Hampshire. A Request for More Information (RFMI) was issued by NHDES on June 1, 2022 (NHDES File Number: 2022-00429). Since the submittal of the original wetlands permit application and RFMI, there have been minor changes in the proposed project and impacts to jurisdictional resource areas. The following supplemental narrative focuses on the recent design changes and other project developments that were not included in the original wetlands permit application. Please refer to the materials included in the original application for additional information on the project setting, purpose and need, and description of the overall project. Additional information addressing specific questions and concerns included in the RFMI are provided in the RFMI Response.

**Project Description**

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This project will consist of the following components:

- Construction of a new dock structure approximately 60 x 120 feet to extend the south end of the existing wharf.
- Construction of a new dock structure approximately 145 x 80 feet to extend the north end of the existing wharf.
- Installation of a new fender system along the length of the main wharf.
- Dredging of approximately 61,450 square feet of the riverbed adjacent to the north end of the extended wharf.
- Relocation of the floating dock currently located off the north end of the wharf.
- Shoreside alterations, including soil and rock removal, grading, drainage, and paving within an 80,000-square foot area.

**Wharf Extension**

The two sections of proposed wharf will consist of concrete filled steel pipe piles with a reinforced concrete deck structure. 42-inch temporary steel casings will be installed, and sockets will be drilled into bedrock for the pile installation. 30-inch diameter steel piles will then be installed in the drilled holes, and the piles will then be filled with concrete. The south extension will require a total of 30 piles, with 30-inch diameter sockets, and the north extension will require a total of 44 piles of the same diameter. The estimated area of direct impacts from the socketed piles is approximately 363 square feet.

Metal debris and other obstructions including steel and timber from remnant structures and large boulders that are partially or entirely buried in the sediment of the Piscataqua River have been identified in the vicinity of the northern and southern wharf extensions, subsequent to the original wetlands permit

application submittal. These obstructions could potentially pose a barrier to the installation of the casings and piles. Obstructions will be identified during the installation of the proposed piles and will be removed as necessary using an excavator or auger type drill mounted on the existing wharf and/or a barge. The obstruction removal is located within the footprint of permanent impacts associated with the pile and deck installation and will not result in additional impact areas. Turbidity releases will be minimized through the sequential nature of the work.

The pile installation process will consist of rotary and percussion drilling contained within a steel casing. A 42-inch diameter steel casing would be installed through the overburden to the top of bedrock. The typical process would be to vibrate the casing down using a vibratory hammer with a short period with the impact hammer to assure firm bearing on bedrock. Depending on the depth of overburden, the casing may be installed with an impact hammer the entire depth. At locations with difficult geotechnical or hard driving conditions an impact hammer may be required to progress the casing. The typical duration of casing installation is approximately 60 minutes. It is anticipated that one to two piles will be installed per day depending on production and challenges encountered.

Once the temporary casing is installed to bedrock, a drilling bucket will be used within the casing to remove the remaining sediments and overburden soils. Sediment removed from the casing with the drilling bucket will be placed into containers and transferred to stockpiles on shore. After the overburden material is removed, an air hammer or other drilling equipment determined by the contractor will be used to advance a socket into bedrock. Once the bedrock is drilled, the permanent casing is installed in the rock socket. Concrete is placed within the rock socket and permanent casing using the tremie method and displacing standing water. The temporary casing is then removed using a vibratory hammer.

Drilling water released from the top of the casing from the beginning of the drilling process through installation of the piles will contain some sediment and rock fragments. Turbidity generated from these activities will be monitored per the Turbidity Control and Monitoring Plan.

The proposed Class V or VII riprap will be installed overtop and within the footprint of existing riprap. The majority of riprap will be installed underneath the proposed pier extensions. Approximately 600 square feet / 18 linear feet of riprap will be required outside the footprint of the proposed south wharf extension. The proposed riprap at this location will still be installed within the footprint of existing stone fill.

Once the piles and abutments are in place, the cast-in-place pile caps and pre-cast deck planks will be installed. The south wharf extension will be approximately 7,810 square feet and the north extension approximately 8,770 square feet.

The existing fender system will be removed and replaced with a system that can accommodate all required uses of the facility. The proposed fender system will extend to +2 feet MLLW and be designed for both barges and larger vessels. The new fender system will be installed along the entire length of the extended wharf. The fender elements will consist of rubber fender units, with a steel panel and ultra-high molecular weight polyethylene facing.

The deck elevation of the south extension will be +15.1 feet MLLW. This is approximately 1 foot higher than the existing main wharf and barge wharf, which will keep the pile caps out of the water at Mean Higher High Water (MHHW) and accommodate a possible rise in the sea level over the design life of the structure. The north extension deck elevation will be at +15.1 feet MLLW. This elevation will match the adjacent barge wharf and main wharf and provide smooth transitions between the structures, which will all now be connected. A deck elevation of +15.1 feet MLLW at this location will help make facility operations more efficient. Concrete ramps will be constructed between the existing wharf and the extensions.

## **Dredging & Blasting**

Dredging will occur within a 61,450 square foot area directly adjacent to the proposed northern wharf extension to a depth of -36 feet MLLW. The dredging depth was increased by one foot from -35 MLLW (included in the original wetlands permit application) to -36 MLLW. The resulting footprint of the dredging area subsequently increased from 55,000 to 61,450 square feet. The duration of dredging is anticipated to be approximately 3 months. Within the dredge area, an approximately 10,000 square foot area will require blasting to remove approximately 1,000 cubic yards of rock. Blasting will occur to depths of up to eight feet. The duration of blasting is anticipated to be approximately 2 to 4 weeks.

A total of approximately 16,000 cubic yards of sediment (plus a maximum overdredge of 1,800 cubic yards) and 1,000 cubic yards of rock will be removed from the dredge area, with sediment consisting primarily of sand and gravel. The total maximum dredge volume of sediment and bedrock is 18,800 cubic yards. The Contractor will use an excavator or heavy clamshell bucket for removing sediment and debris and the material will be transported by a dredge scow.

A Sampling and Analysis plan was developed through coordination with the ACOE, and sediment sampling is scheduled to be completed in April 2023 to test the sediments within the dredging area for potential contamination. The sediment sampling and analysis will be completed prior to the start of dredging and coordination with the ACOE will continue regarding the results of the sampling.

The preferred disposal site identified in the original wetlands permit application was the Cape Arundel Disposal Site located approximately 2.8 nautical miles southeast of Cape Arundel, Maine. However, this disposal site has since been closed. The disposal site for the dredged materials has been updated from the Cape Arundel Disposal Site to the Isle of Shoals North Disposal Site. The dredged material will be transported to the disposal site by barge, following an approximately 15 nautical mile haul route from the Project location to the mouth of the Piscataqua River, east to the Isle of Shoals North Disposal Site. The material will be transported by a dredge scow, with the number of trips determined by the size of the equipment used by the contractor. Coordination with the ACOE is ongoing and a Section 103 permit for Ocean Disposal of Dredged Materials will be obtained from the ACOE prior to any dredging or disposal activities.

During blasting and dredging activities, the partial demolition of the former SML Bridge abutment and the complete removal of Pier 14 will be carried out in the area of the northern wharf extension. These structures are concrete and will be demolished using a hydraulic breaker or similar equipment to break apart the concrete. Pier 14 will be removed in its entirety. The top of the bridge abutment as well as 1 foot of the exposed facing will also be removed. The remaining abutment will be left in place. All concrete debris will be removed and disposed of in an upland location.

Dredging, blasting, and the majority of concrete demolition will occur between November 15 and March 15. To minimize or avoid impacts to aquatic species, a blasting plan will be submitted by the Contractor for approval by the National Marine Fisheries Service and NHDES prior to detonation of explosives. The following measures will be included in the blasting plan and implemented during blasting:

- Stemming and decking of individual charges;
- Staggered detonation of charges in a sequential blasting circuit;
- Blasting during periods of slack tide;
- Use of a fish detecting and startle system to avoid blasting when fish are present or transiting through the area;
- Use of sonar and the presence of a fisheries and marine mammal observer; and

- Prohibiting blasting during the passage of schools of fish or in the presence of marine mammals.

Dredging and blasting specifications will be included in contract documents and are included with this application.

### **Floating Dock**

An existing floating dock is located in the area of the northern wharf extension and will be relocated off the barge wharf. The existing dock is approximately 80 feet long and 10 feet wide and will require a gangway platform approximately 5 feet wide by 18 feet long. The proposed floating dock and gangway platform will result in approximately 820 square feet of impacts within the Piscataqua River. The floating dock and gangway platform will require six rock socketed guide piles with 22-inch diameter temporary steel casings. The proposed piles for the floating dock and gangway platform will consist of 14-inch diameter, concrete filled steel pipe piles. The pile installation for the floating dock will follow a similar installation procedure as described in the Wharf Extension section above. External guide pile assemblies will be attached to either end of the floating dock. The floating dock configuration will allow for berthing on the outboard side only.

### **Shoreside Work**

The shoreside alterations will consist of the removal of approximately 6,000 cubic yards of soil and rock, grading, and paving the area under the former location of the SML Bridge to increase laydown area by approximately 34,000 square feet, improve access to the barge wharf and small boat facilities, and provide shoreside access to the northern wharf extension. Two shoreside bollards will be installed to secure the forward lines of vessels. The existing shoreside bollards will remain in place. All shoreside work will be located above the Highest Observable Tide Line (HOTL) and will not require in-water work. All appropriate sedimentation and erosion control measures, including silt socks, inlet filters, and sediment traps, will be installed during construction to avoid impacts to the river.

Shoreside work will include grading and paving to direct stormwater to catch basins. The proposed stormwater system is designed to match the existing stormwater treatment devices located on the site. The northern area will be graded to direct stormwater to two new catch basins with double inlet grates for collection. The catch basins will drain to two new offline 6-foot diameter hydrodynamic vortex separators to provide stormwater treatment before discharging through headwalls into the Piscataqua River. The existing drainage on the barge wharf and surrounding areas will remain. The southern area will reestablish drainage directing stormwater into the existing hydrodynamic vortex separator. Stormwater treatment areas are not proposed given the limited space available and also due to concerns with contaminated soils.

The proposed shoreside work will involve approximately 47,490 square feet of impacts within the Developed Tidal Buffer Zone at the northern wharf extension, and 4,230 square feet of impacts within the Developed Tidal Buffer Zone at the southern wharf extension.

Portions of the shoreside alterations described above will be located within the 100-foot tidal buffer zone and 250-foot protected shoreland of the Piscataqua River. The entire tidal buffer zone and protected shoreland within the project area is developed, consisting of approximately 6.5 acres of the existing Port of NH facility. Within this area, approximately 0.5 acre at the north end of the wharf is not currently paved. This area was located under the former Sarah Mildred Long Bridge and is sparsely vegetated with grass. There are no trees or saplings within the 250' protected shoreland. The grassed area is already used as a work area for the Port. The project proposes to pave this area to create a more suitable work area and to provide access to the northern wharf extension.



Area of the lot within 250' of the reference line (highest observable tide line) = 6.5 acres

Percentage of lot covered by pre-construction impervious area within 250' of the reference line = 97.5%

Percentage of lot to be covered by post-construction impervious area within 250' of the reference line upon completion of the project = 100%

As noted above, stormwater runoff will be collected in catch basins that will outlet into hydrodynamic vortex separators. The Port of NH is authorized under an EPA Industrial Multi-Sector General Permit. The facility has a robust maintenance program for stormwater structures.

## **NHDES RFMI Response**

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April 7, 2023

Kristin L. Duclos, Wetlands Specialist  
NHDES Wetlands Bureau  
29 Hazen Drive  
Concord, NH 03302-0095

**RE: NHDES Request for More Information Response  
Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)  
NHDES File Number: 2022-00429  
Subject Property: Market Street Marine Terminal, Portsmouth, Tax Map #119, Lot #5**

The following response is in regard to the NHDES Request for More Information dated June 1, 2022, for the project referenced above.

1. In accordance with Env-Wt 501.01(d) and as required by RSA 482-A:3, I(e)(1), the applicant must provide notice of the application to abutting property owners in writing by certified mail or other delivery method that provides proof of receipt prior to filing an application. Based on the attachments provided with the application, the abutting property owners at Portsmouth Tax Map #119, Lot #6 as well as the owners of the Boston & Maine Railroad right of way (ROW) that abuts the subject property were not notified of the project. Please provide the following as a part of the response to this letter:
  - a. Provide notice of the application to all abutters, in writing by certified mail or other delivery method that provides proof of receipt as required by RSA 482-A:3, I(e)(1) and in accordance with Env-Wt 501.01(d). Provide copies of certified postal receipts or other proof of receipt of the notices that are required by RSA 482-A:3, I(e) as a part of the response to this letter.

**RESPONSE:**

*All project abutters were notified via certified mail on March 29, 2023. See attached certified mail receipts for tax parcels 119-6 and 121-1.*

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- b. Provide a copy or tracing of a town tax map showing the property of the applicant, the location of the proposed project on the property, and the location of properties of abutters with each lot labeled with the abutter's name(s) and mailing address(es) in accordance with Env-Wt 501.02(a)(1). A list containing the names, mailing address, and tax map/lot number(s) of each abutter to the subject property where work is proposed may also be provided to cross reference.

**RESPONSE:**

Figure 2 – Tax Map (see attached), was revised to include the entire property of the applicant, location of the proposed project on the property, and locations of abutting properties with each lot labeled with the map-lot number, property address, abutter’s name, and abutter’s mailing address. A list containing the names, mailing address, and tax map/lot numbers of both abutters is provided in **Table 1** below.

**Table 1. Market Street Marine Terminal Functional Replacement Project Abutters**

Property Location	Map-Lot	Owner	Mailing Address	Mailing City, Zip
MARKET ST	121-1	CSX TRANSPORTATION	500 Water Street, 15th Floor	Jacksonville, FL 32202
227 MARKET ST	119-6	227 MARKET STREET LLC	27 Austin Street	Portsmouth, NH 03801

- 
2. Please provide a copy of the existing conditions plan that includes the following:
- a. The location of all wetlands delineated in accordance with Env-Wt 301.01, and whether any wetlands are designated as prime wetlands in accordance with RSA 482-A:15 as required by Env-Wt 501.02(a)(2)j.

**RESPONSE:**

Please refer to the attached revised Impact Plans for the updated existing conditions plan. There are no palustrine wetlands located in the proposed project area. The Piscataqua River is the only jurisdictional resource in the vicinity of the proposed project. The Highest Observable Tide Line (HOTL) has been delineated and is shown on the plans. The HOTL marks the jurisdictional limit of the Piscataqua River. The 100-foot Tidal Buffer Zone (TBZ) is based on the HOTL and is also depicted on the plans. There are no designated prime wetlands or associated 100-foot prime wetland buffers in the vicinity of the project.

- 
- b. The wetlands classification for all delineated resources identified on plans as required for all major projects in accordance with Env-Wt 301.02(b).

**RESPONSE:**

The Piscataqua River is classified as an Estuarine Subtidal System, with an Unconsolidated Bottom, and a Saltwater Subtidal Water Regime (E1UBL). There are no additional wetlands or surface waters delineated in the project area. The E1UBL classification for the Piscataqua River has been added to the plans in accordance with Env-Wt 301.02(b) (see Sheet 8 of 18).

- 
- c. A plan note identifying the means and methods used to perform the delineation, the date on which the wetland delineation took place, and the name of the wetland scientist responsible for the wetland delineation in accordance with Env-Wt 501.02(a)(2)k. and Env-Wt 501.02(b)(3).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan (Sheet 6 of 18). Wetlands and surface waters were delineated by Christine Perron (CWS No. 294), of McFarland-Johnson, Inc. on April 2, 2019, in accordance with the Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, January 2012, US Army Corps of Engineers.*

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- d. The stamp of the certified wetland scientist responsible for the delineation of the resources as required for all major projects in accordance with Env-Wt 301.01(g).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan (Sheet 6 of 18), including the stamp of Christine Perron (CWS No. 294) of McFarland-Johnson, Inc.*

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- e. The location and footprint of all existing structures on the property in accordance with Env-Wt 501.02(c).

**RESPONSE:**

*Please refer to 3.a., 3.b., 3.c., and 3.d. below for how the requirements of Env-Wt 501.02(c) have been addressed.*

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3. As this project affects the surface water shoreline of the Piscataqua River, please revise the plans to include the following in accordance with Env-Wt 501.02(c):

- a. The general shape of the shoreline of the full project parcel including the full length of frontage and the highest observable tidal line for tidal waters in accordance with Env-Wt 501.02(c)(1).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan (Sheet 6 of 18) that includes the shoreline and HOTL along the full project parcel (tax map 119, lot 5).*

---

- b. The footprint of all existing and proposed structures on the property in accordance with Env-Wt 501.02(c)(2).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan (Sheet 6 of 18) and project overview plan sheet (Sheet 7 of 18) depicting the footprints of existing and proposed structures on the property (tax map 119, lot5).*

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- c. The intended use of each proposed structure in accordance with Env-Wt 501.02(c)(3).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated project overview plan sheet including the intended uses.*

**Northern and Southern Wharf Extension**

*Intended Use: Provide additional berthing length along the main wharf to mitigate the lost functionality of the barge wharf resulting from the Sarah Mildred Long Bridge realignment.*

**Dredging/Blasting**

*Water depths along the northern end of the main wharf are too shallow for some vessels with deeper drafts. The proposed dredging to a depth of -36 foot MLLW would increase the water depth and allow vessels to use the entire length of the wharf.*

**Fender System**

*The proposed fender system will replace the existing deficient fender system that does not currently accommodate barges through all tidal ranges. The new fender system will allow for safe docking during all tidal ranges, increasing the safety and efficiency of the wharf.*

**Floating Dock Relocation**

*The relocation of the floating dock to the northern side of the wharf will provide additional docking for smaller vessels and will allow the entire length of the main wharf to remain open for larger vessels.*

**Shoreside Alterations**

*The shoreside alterations are limited to soil and rock removal, regrading, paving, and drainage improvements. The proposed alterations will increase the operational efficiency and safety of the wharf.*

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- d. The distance from existing and proposed work to abutting property lines in accordance with Env-Wt 501.02(c)(4).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan and project overview plan sheet depicting the distances from existing and proposed work to the abutting property lines.*

*The southern wharf extension and shoreside improvements are located approximately 960 feet north northwest of parcel 119-6.*

*The proposed shoreside improvements at the northern end of the wharf are located approximately 14.5 feet east of parcel 121-1 at the closest point.*

*The proposed dredging limits are located approximately six feet from the Federal navigation Channel at the closest point.*

- 
4. Please revise the plans to include the following in accordance with Env-Wt 501.02(a):
- a. An overview of the full property and proposed impact areas in relation to the property lines in accordance with Env-Wt 501.02(a)(2)(e).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan and project overview plan sheet (Sheets 6 and 7) depicting the full property, proposed impact areas in relation to the property lines, and approximate distances to abutting properties.*

- 
- b. The existing and proposed topography, including a reference elevation as the project is proposing to permanently later the topography of the site in accordance with Env-Wt 501.02(a)(2)(n).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan and project overview plan sheet (Sheets 6 and 7) that includes the existing topography and proposed grading.*

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- c. Lightly shaded or stippled areas indicating the limits of all temporary and permanent impacts in jurisdiction labeled with the square footage of impact, including wetlands, surface water and their banks, and areas within 100 feet from the highest observable tide in accordance with Env-Wt 501.02(a)(2)(o). Additionally, please revise the plans to identify the location and square footage of impact beyond the 100-foot tidal buffer zone and within the protected shoreland to be permitted under separate cover in accordance with RSA 483-B in accordance with Env-Wt 501.02(d)(4).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for updated impact areas. Permanent impacts have been shaded. No temporary impacts outside of permanent impact areas are anticipated. Impacts located beyond the 100-foot TBZ and within the protected shoreland have been added to the impact plans as stippled areas.*

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- d. The location of the 100-year floodplain as required in accordance with Env-Wt 501.02(a)(2)(m).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan that includes the location of the 100-year floodplain. Impacts to the floodplain and base flood elevation associated with the proposed piles, riprap, and seawall will be offset by the proposed dredging. Therefore, the proposed project is not anticipated to result in an increase in the base flood elevation within the floodplain of the Piscataqua River, or otherwise result in increased risks to human life or property.*

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- e. The proposed methods of erosion, siltation, and turbidity controls indicated graphically and labeled, or annotated as necessary in accordance with Env-Wt 501.02(a)(2)(q).

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the proposed methods and locations of erosion, siltation, and turbidity controls.*

*Sedimentation and erosion controls for the proposed shoreside alterations include but are not limited to silt filter socks, inlet filters, and temporary sediment traps. These BMPs will be installed and maintained during construction to minimize and avoid impacts to the water quality of the Piscataqua River.*

*No in-water controls area proposed due to the water velocities of the Piscataqua River in the vicinity of the proposed project. In order to minimize sedimentation and turbidity releases, the proposed in-water work will be completed sequentially. A Turbidity Control and Monitoring Plan has been prepared and is enclosed with this response.*

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- f. As this project involves construction of a steel sheet pile retaining wall in tidal waters, the information required by Env-Wt 404 as required in accordance with Env-Wt 501.02(a)(2)(s).

**RESPONSE:**

*Env-Wt 404 CRITERIA FOR SHORELINE STABILIZATION*



Env-Wt 404.01 Least Intrusive Method.

*The proposed section of sheet pile seawall along the south and north wharf extensions are no longer proposed. Instead, a grade beam will be installed at these location and additional riprap will be placed along this section of the shoreline. In order to minimize impacts, the proposed riprap will be placed overtop and within the footprint of existing riprap and largely within the footprint of the proposed wharf extension.*

*The footprints of proposed riprap have been minimized to reduce impacts to the adjacent river. The additional riprap is required to help stabilize the shoreline and protect the proposed infrastructure.*

Env-Wt 404.02 Diversion of Water.

*Shoreside work will include grading that directs stormwater to catch basins. The proposed stormwater system is designed to match the existing stormwater treatment devices located on the site. The northern area is graded to direct stormwater to two new catch basins with double inlet grates for collection. The catch basins drain to two new offline six-foot diameter hydrodynamic vortex separators to provide stormwater treatment before discharging through headwalls into the river. The existing drainage on the barge wharf and surrounding areas will remain.*

Env-Wt 404.03 Vegetative Stabilization.

*The proposed project is located within and directly adjacent to an active wharf that consists almost entirely of impervious paved surface areas. Vegetation is limited to herbaceous vegetation growing in waste areas and on slopes in the vicinity of the previous Sarah Mildred Long Bridge alignment. There are no saplings or shrubs located within the project area or the entire property boundary. The existing grass areas will be regraded, and paved to create a more suitable work area, increased functionality of the wharf, and to provide access to the northern wharf extension.*

*The location of the proposed project does not allow vegetation, sand beach/dunes, or vegetated dunes to be incorporated into the project. The project is located on a highly developed property with an active wharf used for industrial/commercial purposes.*

Env-Wt 404.04 Rip-rap.

*Riprap is proposed along the southern and northern wharf extensions within areas where riprap is currently installed. Refer to Sheet 14 of 18 of the revised plan set for additional information. The additional riprap would not expand upon the footprint of the existing riprap. Additional riprap material would be installed overtop existing riprap. The shoreline at this location has been armored with riprap due to the velocities of the Piscataqua River, turbulence from vessels, restricted space, and presence of critical infrastructure.*

*At the northern and southern wharf extensions the proposed riprap will have a maximum depth of approximately five feet. The proposed riprap would be Class V or VII.*

*The sizes and particle size distribution are summarized in the Riprap Summary Table on Sheet 14 of 18.*

*Env-Wt 404.05 Walls.*

*Not Applicable – The proposed project no longer includes seawalls. The originally proposed walls have been redesigned and grade beams are no proposed along the north and south wharf extensions. Additional riprap will be installed in these areas as described above.*

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5. The plans indicate that the proposed project is located within 200 feet of a Federal Navigation Project. In accordance with Env-Wt 501.02(b)(2), please provide the distance between any structures associated with the proposed project and the Federal Navigation Project site.

**RESPONSE:**

*Please refer to the attached revised Impact Plans for the updated existing conditions plan that includes the location of the Federal Navigation Channel and the approximate distance between the proposed structures and work from the Federal Navigation Channel. The proposed dredging limits are located approximately six feet from the Federal Navigation Channel at the closest point.*

*The proposed southern wharf extension is located approximately 80 feet southwest of the Federal Navigation Channel. The proposed northern wharf extension is located approximately 170 feet west of the Federal Navigation Channel.*

*The navigation channel is an Army Corps Civil Works project. Coordination with the Army Corps is ongoing under the federal Section 408 program to verify that changes to the authorized Civil Works project will not be injurious to the public interest and will not impair the usefulness of the project.*

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6. Please submit a statement from the Pease Development Authority Division of Ports and Harbors (“DP&H”) chief harbormaster, or designee, relative to the proposed structures’ impact on navigation to demonstrate that the proposed docking structures and associated dredging will not endanger navigation, recreation, or commerce in accordance with Env-Wt 302.04(a)(8).

**RESPONSE:**

*See attached correspondence from the PDA DPH Chief Harbor Master. The PDA DPH is the applicant and project owner.*

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7. Please revise the construction sequence required in accordance with Env-Wt 501.02(a)(5) to include information regarding the installation and maintenance of all proposed erosion,

sedimentation, and turbidity controls to be installed prior to the initiation of each phase of the project and how they will be maintained and utilized throughout the duration of this project.

**RESPONSE:**

*Please refer to the attached revised Construction Sequence that provides additional information regarding the proposed erosion, sedimentation, and turbidity controls. A Turbidity Control and Monitoring Plan (attached) has been developed and will be implemented during construction to ensure that water quality impacts in the Piscataqua River are minimized.*

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8. In accordance with Env-Wt 402.21, regarding the modification of existing structures, the department shall not approve any change in size, location, or configuration of an existing structure unless the applicant demonstrates, and the department finds, that the modification is less environmentally-impacting or provides for fewer boat slips and less construction surface area over public submerged lands than the current configuration. Based on the plans provided, the proposed docking and wharf structures will be adding approximately 26,868 square feet of new construction surface area over public submerged lands for the North pier extension, South pier extension, and floating dock combined. Please provide documentation to support that the proposed modifications of the docking structures are less environmentally-impacting than the existing structure or revise the plans to reduce the surface area of the construction over public submerged lands in accordance with Env-Wt 402.21.

**RESPONSE:**

*A waiver for Env-Wt 402.21 has been prepared and is included with this submittal.*

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9. In accordance with the criteria for Piers, Docks, Wharves, and Floats in Env-Wt 606.03(c), superstructures shall not completely shield the underlying area from direct sunlight. Based on the plans and supplementary application materials provided, the proposed wharf extensions will not meet this design criteria. Please redesign the proposed wharf extensions to allow direct sunlight to pass through the structure in accordance with Env-Wt 606.03(c).

**RESPONSE:**

*A waiver for Env-Wt 606.03(c) has been prepared and is included with this submittal.*

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10. In accordance with the criteria for Piers, Docks, Wharves, and Floats in Env-Wt 606.03(a), projects shall be designed such that supporting cribs, piles, and caissons occupy no more than 5 percent of total volume under the structure at mean high water to allow most wave and current energy to pass through and prevent deepening of the area. Please indicate what percentage of the total volume under the structure will be occupied by cribs, piles, and caissons at mean high water in accordance with Env-Wt 606.03(a).

**RESPONSE:**

*At mean high water (MHW) the supporting piles will occupy approximately 0.8 percent of the total volume under the structure of the north wharf extension, and approximately 0.9 percent of the total volume under the south wharf extension. The proposed wharf extensions are under the five percent threshold and therefore meet the requirements of Env-Wt 606.03(a).*

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11. The application indicates that there is past evidence of eelgrass beds within the vicinity of the project. In order to meet the design requirements in Env-Wt 606.03(f), Env-Wt 606.06(c) and meet the requirements in Env-Wt 302.04(a)(7), please perform a survey for eelgrass beds in the vicinity of the project and submit any supplementary maps and other applicable documentation identifying the project location and extent of all proposed impacts in relation to all historic and existing eelgrass beds and if any are located within the vicinity of the project, please revise the plans to identify the location of those resources.

**RESPONSE:**

*Eelgrass beds have not been documented in the project area. The following is a summary of the historically mapped eelgrass bed data layers included on the NHDES WPPT:*

*2017 – No eelgrass mapped in the vicinity*

*2016 – No eelgrass mapped in the vicinity*

*2006 – Eelgrass bed located approximately 315' north and 1,100' northeast of the wharf.*

*1996 – Eelgrass bed located approximately 120' north and 1,050' northeast of the wharf.*

*1986 – No eelgrass mapped in the vicinity*

*At the request of NOAA, eelgrass surveys were conducted in July and August 2013, by MaineDOT dive crews for the Sarah Mildred Long Bridge Replacement Project. The study areas included in the survey included areas in the vicinity of previously documented eelgrass beds, including the area north of the existing bridge in the vicinity of the proposed floating dock, as well as the northern end of the wharf extending out beyond Pier 15. The results of the survey indicated sporadic eelgrass shoots, but not a dense enough population of plants to form a bed. The study areas from the 2013 surveys are depicted on Figures 1 and 2 below.*

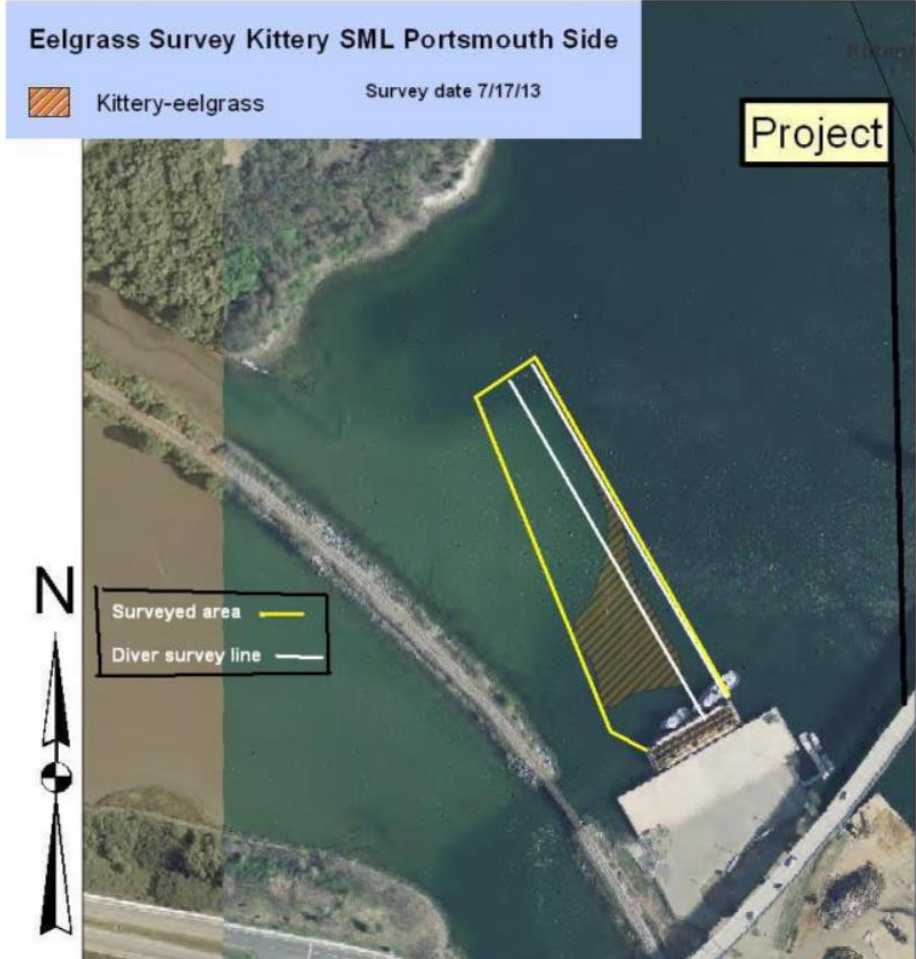


Figure 1: July 7, 2013, Eelgrass Survey Study Area 1

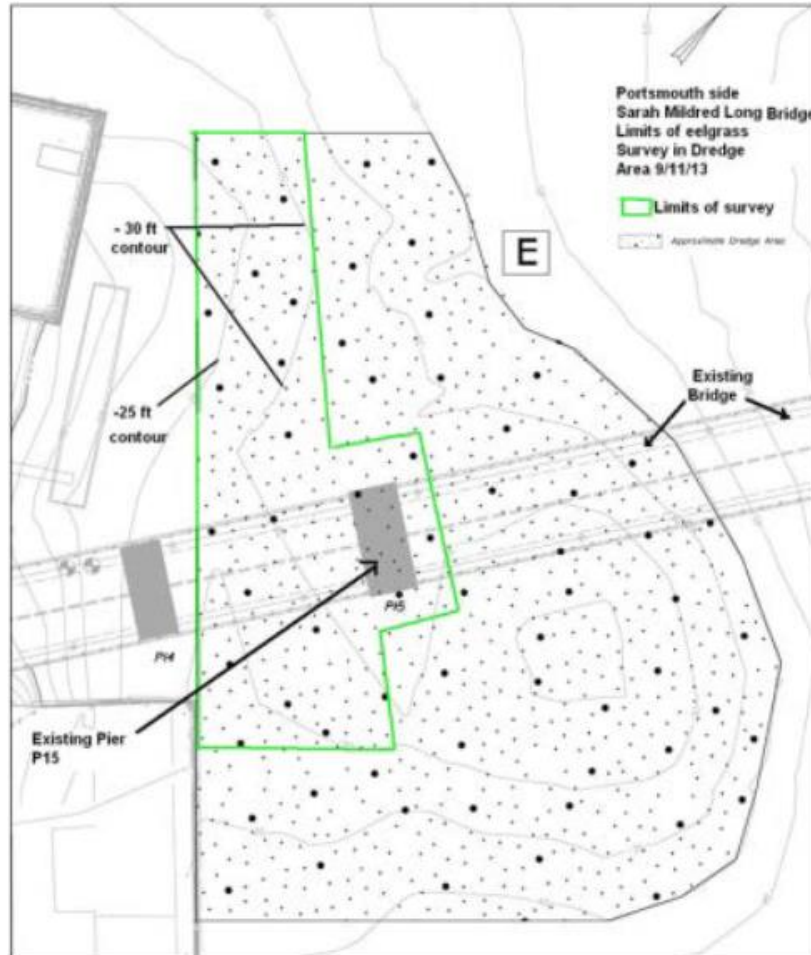


Figure 2: September 11, 2013, Eelgrass Survey Study Area 2

*Coordination regarding the proposed project has occurred with the appropriate resource agencies and eelgrass beds were not identified as a potential concern for the proposed project. The proposed project was submitted to the NH NHB and the DataCheck Results Letter did not identify any eelgrass concerns or documented beds in the vicinity. The project was also discussed at the April 2019 NHDOT Natural Resource Agency Meeting, and no eelgrass concerns were brought up. A field review with agency staff was conducted on April 2, 2019, and Mike Johnson (NOAA NMFS) confirmed that the proposed project is not located within historic eelgrass beds.*

*The proposed wharf extensions and floating dock are not anticipated to result in impacts to eelgrass beds. No further surveys are proposed.*

- 
12. Please submit revised plans that include construction details for the proposed floating dock that meets the design requirements in Env-Wt 606.03.

**RESPONSE:**

*Please refer to the attached revised Impact Plans (Sheet 18 of 18) for details of the proposed floating dock.*

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13. In accordance with Env-Wt 304.11(d), dredging shall not disturb contaminated layers of sediment, unless specifically identified and permitted with protective conditions. In order to meet the requirements of Env-Wt 304.11(d), please provide information about any identified or potential contamination sources within the proposed dredge area and include a dredge management plan that includes details regarding how all identified and potential contamination sources will be fully contained throughout the duration of the project. Please coordinate with the NHDES Waste Management Division, the NH Dredge Management Task Force, and the Water Quality Planning Section of the NHDES Watershed Management Bureau for guidance and provide a copy of all correspondence as a part of the response to this letter.

**RESPONSE:**

*Please refer to the attached Sampling and Analysis Plan for the proposed dredging that has been approved by the US Army Corps of Engineers. The harbor was given a moderate risk ranking due to historical and current industrial uses. However, the project area was given a low-moderate risk ranking due to site characteristics, location, and the available historical data, which all suggest a low potential for contamination because of the coarse nature of the sediments and the high energy environment of the project area.*

*Sediment sampling from three locations within the dredge area is anticipated to be completed in April 2023. Sediment and water samples from the dredge area will undergo physical, chemical, and biological analysis. The attached sampling plan outlines the procedures for the sampling and analysis in greater detail.*

---

14. The pre-application meeting notes submitted with the application indicate that NHDES staff recommended that the applicant meet with the New Hampshire Dredge Management Task Force. Please indicate whether the applicant attended a pre-application meeting with the New Hampshire Dredge Management Task Force and submit a copy of any correspondence or recommendations provided as a part of the response to this letter.

**RESPONSE:**

*The Applicant, the PDA DPH, is a member of the New Hampshire Dredge Management Task Force, and the proposed project has been discussed during at least two of the Task Force's quarterly meetings in September 2018 and October 2019. The meeting minutes from those two meetings are included with this submission. The project will be reviewed at another task force meeting once the sediment sampling is complete.*

15. In accordance with Env-Wt 304.06(c) and Env-Wt 304.11(f), appropriate controls, such as cofferdams, siltation curtains, or non-porous curtains, shall be used to enclose a dredging project

and contain turbidity for all dredging projects. Please submit a dredge management plan identifying the containment methods proposed to prevent contaminants and turbidity from escaping the dredge site in accordance with Env-Wt 304.06(c), Env-Wt 304.11(f), and Env-Wt 304.11(d).

**RESPONSE:**

*The proposed project, including the proposed dredging, does not include cofferdams, siltation curtains, or other non-porous curtains due to the complications with the currents and high velocity of the Piscataqua River. It is not feasible to install these types of physical controls due to the existing conditions and water velocities. The substrate within the action area largely consists of gravel, coarse sand, cobbles, and ledge due to the high water velocities that can approach 3.5 knots per hour (6 feet per second) or more, which flushes the area of lighter, unconsolidated material. The heavier particles that are not moved downstream by the current are not likely to be re-suspended by the proposed socket drilling or seawall construction. Therefore, the increased turbidity in the river is expected to be minimal. In order to minimize impacts to fish species, dredging will occur between November 15 and March 15. Further, construction activities will be sequential, which will further minimize increases in turbidity. A Turbidity Control and Monitoring Plan (attached) has been developed and will be implemented during construction to further minimize potential water quality impacts. Blasting and dredging specifications will be included in contract documents and are enclosed.*

- 
16. In accordance with Env-Wt 304.11(a), dredge spoils shall be disposed of out of the areas under the jurisdiction of the department unless other disposition is specifically permitted. As of the date of this letter, the application indicates that the dredge spoils will be disposed of at the Arundel Disposal site in Maine. If this is the site that will be used for disposal, please provide copies of any permits, contracts, or other supporting documentation that contains detailed information regarding how the dredge spoils will be collected and transported, and where and how the dredge spoils will be disposed.

**RESPONSE:**

*The Cape Arundel Disposal Site was closed after the submittal of this Wetlands Permit Application. Through coordination with the US Army Corps of Engineers, the proposed disposal site is now the Isle of Shoals North Disposal Site. The Isle of Shoals North Disposal Site is located approximately 15 nautical miles east of Portsmouth, NH. The disposal site is located outside the jurisdiction of NHDES. Coordination with the US Army Corps of Engineers regarding dredging and the disposal of dredged material has been ongoing. A Sampling and Analysis Plan was developed through coordination with the Corps and sediment sampling within the dredging area is anticipated to be completed in April 2023, prior to the start of any dredging. A Section 103 permit for Ocean Disposal of Dredged Materials will be obtained from the US Army Corps of Engineers prior to any dredging activities.*

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17. Please revise the plans of the proposed dredge area to include cross section details showing the existing and proposed contours within the proposed dredge area at multiple locations through the proposed dredge area in accordance with Env-Wt 501.02(a)(2)(n).

**RESPONSE:**

*Please refer to Sheets 11 and 12 of the revised plan set for the proposed dredging area, cross section and profile. The Contractor will be required to complete a pre-dredge and post-dredge hydrographic survey.*

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18. All projects for shoreline structures must be constructed in a manner that meets the requirements of RSA 483-B as required in accordance with Env-Wt 401.01(c). Please submit the following to demonstrate compliance with the requirements in RSA 483-B:

- a. This project proposes to increase the total impervious area of this property within the protected shoreland from 97.5% to 100.0%. In accordance with RSA 483-B:9, V(g)(1), no more than 30% of the area of a lot located within the protected shoreland may be impervious, unless a stormwater management system designed and certified by a professional engineer is implemented. Please note that the system design must demonstrate that the post-development volume and peak flow rate based on the 10-year, 24-hour storm event, shall not exceed the pre-development condition. In addition, if the impervious surface area will exceed 30 percent and the tree, sapling, shrub, and groundcover in the waterfront buffer does not meet the point score requirement of RSA 483-B:9, V(a)(2)(D) in any segment, then in accordance with RSA 483-B:9, V(g)(3), the plans would also need to be revised to include the locations and species type of proposed native plantings within the waterfront buffer where restoration is required to meet compliance with RSA 483-B:9, V(a). Please note that the plantings should be in sufficient quantity, type and location either to meet the minimum score for each shoreline grid segment or provide at least an equivalent level of protection as offered by the minimum score. In order to meet this requirement, provide either the information identified above or revise the plans to remove existing impervious area elsewhere on the property in order to result in no net increase in total impervious surface on the property and revise all applicable application materials to reflect this change in order to demonstrate compliance with RSA 483-B:9, V(g)(1).

**RESPONSE:**

*The existing site is a commercial/industrial wharf that has been developed for the current use. A Shoreland Permit Application and Alteration of Terrain Permit Application will be submitted to NHDES. Due to the commercial development of the site and a lack of natural vegetation within the Waterfront Buffer or Natural Woodland Buffer, a waiver will be required for some of the requirements of RSA 483-B that cannot be met.*

*The site currently has a warehouse building, a security kiosk building, several small sheds, truck scales, asphalt pavement for open salt storage and isolated areas of gravel and sparsely vegetated spaces. The existing site has some degree of stormwater treatment for*

certain areas. The pavement adjacent to the main wharf has an existing closed drainage network that provides stormwater treatment through two hydrodynamic particle separators to remove sediment from the runoff before it is discharged through the outfalls. The northern barge wharf and paved area has an existing closed drainage system that does not include any treatment. Both systems discharge into the Piscataqua River, which is a tidal water body. Due to the limited grade change and the high groundwater table, similar methods of stormwater treatment were determined to be the only feasible methods for this site. As part of this project, two new hydrodynamic particle separators are proposed on the drainage outfalls near the northern barge wharf where the site improvements are proposed. A majority of the stormwater runoff from the site's paved surfaces will now be routed through hydrodynamic particle separators, therefore improving the water quality above the current conditions.

A comparison of pre- versus post-development stormwater flows is not provided because the project discharges directly to the Piscataqua River. In addition, infiltration to reduce runoff is not desirable at this site because of the presence of contaminated soils.

It is not feasible to remove existing impervious surface on the property due to the current commercial and industrial uses.

There are currently no saplings, shrubs or trees located on the property. Planting of saplings and shrubs on the site is also not feasible due to a lack of suitable growing conditions within the Waterfront Buffer and Natural Woodland Buffer. The only vegetation on the site consists of herbaceous weeds growing in waste areas.

The details of the waiver requests for some of the minimum standards in RSA 483-B will be addressed in the Shoreland Permit Application.

- 
- b. As this project involves impacts within the waterfront buffer, please revise the plans to include the following as required pursuant to Env-Wt 401.01(c), and Env-Wq 1406.10(f):
- i. A plan showing each segment of waterfront buffer that will be impacted by the project.

**RESPONSE:**

Waterfront Buffer grid segments were not developed due to the existing site conditions and a lack of vegetation within the Waterfront Buffer. A waiver of RSA 483-B:9, V(a) will be requested from NHDES.

- ii. The location and diameter of all existing trees and saplings, at least up to that which is sufficient to meet the point requirement specified in RSA 483-B:9, V(a)(2); and (3).

**RESPONSE:**

*N/A – there are no existing trees and saplings located on the property within the Waterfront Buffer. A waiver of RSA 483-B:9, V(a) is anticipated to be requested.*

- iii. A designation of the trees to be cut during the project, if any, including the diameter of all trees and saplings at 4-½ feet from the ground, and the names of the existing species, using either the scientific names or common names.

**RESPONSE:**

*N/A – The proposed project does not involve any tree cutting.*

- c. Please revise the plans to include the following information as required for all projects within the protected shoreland as defined by RSA 483-B as required in accordance with Env-Wt 501.02(d) and Env-Wq 1406.09:

- i. The reference line, the primary building line, the limits of the natural woodland buffer, and the protected shoreland as those terms are defined in RSA 483-B:4.

**RESPONSE:**

*Please refer to Sheet 9 of 18 for the reference line (HOTL), Waterfront Buffer, Natural Woodland Buffer, and Protected Shoreland lines.*

- ii. The dimensions and locations of all existing and proposed structures, impervious areas, disturbed areas, areas within the natural woodland buffer to remain in an unaltered state, and all other relevant features necessary to clearly define both existing conditions and the proposed project.

**RESPONSE:**

*Please refer to Sheet 9 of 18 for the dimensions and locations of proposed impacts within the Protected Shoreland. The existing lot has been entirely developed for commercial and industrial use. There is no remaining Natural Woodland Buffer located on the lot. A waiver will be requested with the Shoreland Permit Application.*

- iii. The total disturbed area within the protected shoreland including the dimensions, locations, and descriptions of all proposed temporary impacts associated with completion of the project.

**RESPONSE:**

*The total disturbed area within the protected shoreland (beyond the 100' Tidal Buffer Zone – previously permitted wetland impacts) is approximately 26,410 square feet. These impacts are associated with the proposed shoreside improvements, including soil and rock removal, grading, and paving.*

- iv. A delineation of all existing and proposed disturbed areas and all vegetated areas to be maintained in an unaltered state within the natural woodland buffer in accordance with RSA 483-B:9, V(b).

**RESPONSE:**

*N/A – No Natural Woodland Buffer currently exists on the lot due to existing development and commercial/industrial land uses. For this reason, a waiver of RSA 483-B:9, V(b) will be requested with the Shoreland Permit Application.*

19. As stated in the pre-application meeting held for this project on August 21, 2019, mitigation is required for this project in accordance with Env-Wt 302.03(b) and a complete mitigation proposal as specified in Env-Wt 501.06 must be provided with the application in accordance with Env-Wt 501.02(a)(7). However, the submitted compensatory mitigation proposal states that the proposed mitigation for this project is to supply an unspecified amount of funding to complete “Phase II” of the Cutts Cove restoration project (NHDES Wetland Permit #2016-01460) in Portsmouth. This proposal does not meet the completeness requirements in Env-Wt 501.07(b) as an explanation as to why permittee-responsible mitigation is not feasible, was not provided in accordance with Env-Wt 501.05, nor was a preliminary estimate of the in-lieu mitigation payment provided with the application as required in accordance with Env-Wt 501.06(e).

**RESPONSE:**

*The original mitigation proposal for the proposed Project and the associated impacts to the Piscataqua River included funding for the completion of the Cutts Cove Living Shoreline Restoration Project located approximately 500 feet southwest of the Project. However, concerns have been raised regarding the viability and success of the existing restoration project. Therefore, mitigation will instead be provided through the Aquatic Resource Mitigation (ARM) Fund via an in-lieu fee payment. Coordination with the US Army Corps of Engineers and NHDES regarding the final mitigation payment is ongoing, and will be finalized following the submittal of this RFMI response and permit application amendment Details on the mitigation payment will be provided to NHDES prior to permit issuance.*

20. In order to satisfy the mitigation requirements for this project, please contact NHDES Mitigation Coordinator, Lori Sommer, at lori.sommer@des.nh.gov or at (603) 271-4059, to confirm any in-lieu fee calculations and include a copy of all correspondence as a part of the response to this letter and provide a revised mitigation proposal that includes all information required in accordance with Env-Wt 501.06(e) and Env-Wt 803.05.

**RESPONSE:**

*Lori Sommer has retired since the issuance of this RFMI. As stated above, coordination with NHDES and the USACE is ongoing to determine the final in-lieu fee payment amount.*

21. The application mentions the construction of new stormwater management features including the installation of new stormwater outflow structures. Please revise the plans to identify the

location of these proposed outflow structures and revise the application materials to provide all information and documentation necessary to meet Env-Wt 403.02, including the following:

- a. Revise the plans to identify the locations of all known and historic eelgrass beds within the vicinity of the project and provide supplementary documentation to demonstrate that the proposed outflow structures will not cause scouring or endanger vegetation, finfish, crustacea, shellfish or wildlife in accordance with Env-Wt 403.02(a).

**RESPONSE:**

*The proposed 15" stormwater outfall is depicted on the revised plan set (Sheet 7 of 18) included with this response. No current or historic eelgrass beds are located in close proximity to the proposed outfall structure. The outfall is located within an area of existing riprap. The proposed outfall is not anticipated to cause scour or endangered existing vegetation, finfish, crustacea, shellfish or other wildlife.*

- 
- b. Submit a statement from the Pease Development Authority Division of Ports and Harbors ("DP&H") chief harbormaster, or designee, relative to the proposed structure's impact on navigation to demonstrate that the proposed outflow structures will not endanger navigation, recreation, or commerce in accordance with Env-Wt 403.02(b).

**RESPONSE:**

*See attached correspondence from the PDS DPH Chief Harbor Master.*

- 
22. The application mentions the construction of steel sheet pile retaining walls as a part of this project. Please submit all information required for bank stabilization projects involving retaining walls in accordance with Env-Wt 404.05(b) and revise the plans to include all cross sections and other plan requirements in accordance with Env-Wt 501.02(a)(2)(s).

**RESPONSE:**

*The steel sheet pile wall that was originally proposed at the south wharf extension has been replaced with a grade beam and additional riprap overtop and within the footprint of existing riprap. Additional plans and cross sections of the north extension are included on Sheets 10, 13, 14, 15, 16, and 17.*

- 
23. The comments from the NH Fish and Game Department (NHF&G) provided with the application reference a different NHB Datacheck Report ID (NHB18-1674) than the NHB Datacheck that was submitted with this application (NHB21-3815). Please obtain updated comments from NHF&G regarding the sensitive species identified in the updated NHB Datacheck Report (NHB21-3815) and provide a copy of all correspondence as part of your response to this letter in accordance with Rule Env-Wt 302.04(a)(7).

**RESPONSE:**

*An updated NHB DataCheck Results Letter (NHB23-0281) was requested from NHB and issued on February 7, 2023. Follow up coordination with NHFG regarding the updated NHB DataCheck Results Letter occurred on February 8, 2023. NHFG did not have any additional comments or concerns regarding the proposed project. The NHB DataCheck Results Letter (NHB23-0281) and correspondence with NHFG are included with this submittal.*

Sincerely,

Tracy R. Shattuck  
Chief Harbor Master

## **Abutter Notification Certified Mail Receipts**

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Postage \$0.63

Total Postage and Fees \$6.13

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21  
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Portsmouth, NH 03801

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Extra Services & Fees (check box, add fee as appropriate)	\$5.35
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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
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Postage \$0.63

Total Postage and Fees \$6.13

0301  
21  
Postmark Here  
03/28/2023

227 Market Street LLC  
27 Austin ST  
Portsmouth, NH 03801

See Reverse for Instructions











## **Figure 2 – Tax Map (Revised)**

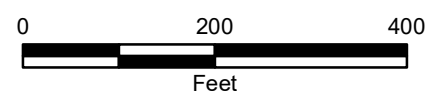
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**Portsmouth Wharf Functional Replacement Project Area**

-  Proposed Dredge Area
-  Proposed Wharf Extension
-  Proposed Shoreside Improvements
-  Proposed Floating Dock

-  Rockingham County Tax Parcels
-  Project/Applicant Property (119-5)
-  Project Abutters
-  New Hampshire Railroads



PEASE DEVELOPMENT AUTHORITY  
MAIN PIER FUNCTIONAL REPLACEMENT

**TAX MAP**

SCALE: 1 inch = 200 feet	DATE: APRIL 2023	FIGURE: 2
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 **McFarland Johnson**

## **PDA Harbor Master Response Letter**

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February 9, 2023

NH Department of Environmental Service  
Coastal Division  
Pease Field Office  
222 International Drive, Suite 175  
Portsmouth, NH 03801

Attn: Kristin Duclos

Re: NH State Pier expansion project


Dear Kristin,

We reviewed plans for the expansion of an existing pier on the Piscataqua River in Portsmouth on property belonging to

State of New Hampshire  
555 Market Street  
Portsmouth, NH  
Map 119 Lot 5

We examined the proposed site and found that the structure will have no negative effect on navigation in the channel.

Sincerely,



Tracy R. Shattuck  
Chief Harbor Master

Cc: Stephanie Desing  
Appledore Marine Engineering  
600 State Street  
Portsmouth, NH 03801

## **Construction Sequence (Revised)**

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**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**Construction Sequence**

The total duration of construction is anticipated to be approximately 18 months. The construction start date is not yet known, and final construction sequencing will be determined by the Contractor. The following is an outline of the likely construction sequence. This sequence may vary slightly depending on the selected contractor. Work along the shoreline will be completed during lower tides when possible.

- Provide blasting plan to the US Army Corps of Engineers, National Marine Fisheries Service, NH Fish & Game, NHDOT, and NHDES at least 21 days prior to anticipated start of blasting.
- Complete dredging and blasting between November 15 and March 15. The duration of dredging is anticipated to be approximately 3 months. The duration of blasting is anticipated to be approximately 2 to 4 weeks. All material from dredging and blasting will be loaded on a dredge scow and transported to the Isle of Shoals North Disposal Site located approximately 15 nautical miles east of Portsmouth, New Hampshire. Due to the water velocities in the Piscataqua River no sedimentation or turbidity controls are proposed during the blasting or dredging. A Turbidity Control and Monitoring Plan has been developed and will be followed during construction.
- Remove Pier 14 and bridge abutment to limits depicted on plans. Remove concrete debris from water. No sedimentation or turbidity controls are proposed during the bridge pier and abutment removal due to the water velocities in the Piscataqua River.
- Remove existing floating dock; cut existing guide piles 5 feet below the river bottom.
- Drill sockets for piles for wharf extensions and floating dock. No sedimentation or turbidity controls are proposed during the drilling and pile driving due to the water velocities in the Piscataqua River. This work will be sequential in nature. Metal debris has been identified in the sediment of the Piscataqua River in the vicinity of the proposed wharf extensions. Some of these obstructions may need to be removed as needed using an excavator mounted on the existing wharf and/or a barge in order to install the proposed piles. A Turbidity Control and Monitoring Plan has been developed and will be followed during construction.
- Install piles; fill with concrete.
- Install floating dock.
- Install additional riprap at south and north wharf extensions. Riprap will be placed with a clamshell bucket and not dumped into place. Riprap will be free of mud, debris, or other materials when it is installed.
- Install cast-in-place grade beam, pile caps, pre-cast deck planks, and cast-in-place deck topping.
- Remove existing fender system.
- Install new fender system.
- Install silt socks, inlet filters, and sediment traps for shoreside work. These sediment and erosion controls will be maintained throughout the duration of construction.

**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**Construction Sequence**

- Construct temporary sedimentation traps.
- Complete shoreside construction (drainage, grading, paving). All work will be carried out according to the Self-Implementing Plan and Materials Management Plan for the proper management of materials generated from each category of impacted soils.
- Remove all erosion and sediment control measures.

## **Sampling and Analysis Plan**

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**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

1. **Project Description:** The applicant is proposing to mechanically dredge approximately 26,300 cubic yards (CY) of material from shoaled areas totaling 3 acres within the property's vessel berth, located in the town of Portsmouth, NH (Figure 1). This area will be dredged to the proposed depth of -36 feet at mean lower low water (MLLW) plus one foot of allowable overdepth (Figure 2). The applicant proposes to dispose of this material at the Isles of Shoals North Disposal Site (IOSN).

This sampling and analysis plan (SAP) has been developed by the New England District (NAE) U.S. Army Corps of Engineers (USACE) to gather information to support a dredged material suitability determination for the open water disposal alternative associated with this project. The first phase of sampling will include sampling and testing of dredge site sediment for grain size in order to confirm exclusionary criteria. If necessary, a second phase of testing will be completed for bulk chemistry in order to identify contaminants of concern and create a biological testing compositing plan. A secondary sampling plan describing sampling of dredge site sediment and water for elutriate and biological testing will be provided if necessary. The results of testing will be evaluated against the most recent NAE dataset for the IOSN reference area. All sampling and analysis activities described in this plan shall follow the requirements set forth in the "*Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters*" (RIM) dated May 6, 2004. A copy of the RIM may be downloaded from the NAE website: <http://www.nae.usace.army.mil/Missions/Regulatory/DredgedMaterialProgram/RegionalImplementationManual.aspx>

2. **Conceptual Site Model:** NAE reviewed historic testing data, water quality data, spill records, and adjacent land use information to develop a conceptual site model (CSM) for the proposed project. The CSM was used to characterize the system and identify potential sources of contamination, site-specific contaminants of concern, exposure pathways, and biological receptors in order to inform this sampling and analysis plan.

Project Setting: The property is associated with the Pease Development Authority Market Street Marine Terminal on the Piscataqua River. The Market Street Terminal is the state's only deep water, public access, general cargo marine terminal. It has 8 acres of paved surface and a 50,000 square foot warehouse. The project site historically started as a railyard for the Boston and Maine Railroad. In the late 1800's, a wood preservative plant was built that used mercuric chloride for the kyanizing process. Starting in this time frame and

**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

continuing to the 1930's and 1940's, an oil company was resident there and established operations along with a scrap metal export company, a road salt storage facility and transfer station for commercial dry cargo. The facility was converted to a marine terminal in 1961. The current configuration was constructed in 1963 and 1977.

The terminal is adjacent to the southwestern side of the Sarah Mildred Long Bridge which carries the US Route 1 Bypass over the Piscataqua River and is located by the tidal outlet for Inner Cutts Cove and North Mill Pond which drains the inner parts of Portsmouth Harbor. The port is less than a mile downriver from Interstate 95, two miles from Pease International Tradeport's airport and business parks, and four miles from the open ocean. Onsite rail access via the Pan Am Railway is also available at the port. Across the river from the Marine Terminal is the Portsmouth Navy Yard. In addition, the Pease Airforce Base is located approximately 2 miles inland of the project site. The Piscataqua Federal Navigation Project (FNP) -35 foot MLLW channel is located adjacent to the project area, to the north.

Water Quality: Water quality in the project area is dictated by tidal exchange with the Gulf of Maine and with freshwater input from the Piscataqua River and its tributaries to the north, North Mill Pond, and overland runoff (Figure 1). In addition, the Peirce Island Wastewater Treatment Facility discharges approximately 1.5 million gallons of effluent into the Piscataqua River each day from a point approximately 1.3 miles southeast of the project area (<https://www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility>). The State of New Hampshire classifies the waters of the lower Piscataqua River as Category 5-P (NHDES, 2020 [https://www4.des.state.nh.us/onestoppub/SWQA/010600031001\\_2020.pdf](https://www4.des.state.nh.us/onestoppub/SWQA/010600031001_2020.pdf)). Category 5-P waters are impaired or threatened for one or more designated uses by a pollutant(s), and requires a total maximum daily load (TMDL).

Dredge History and Existing Testing Data: There is no known dredging that has occurred at the site since its construction in 1963 and 1977. Sampling and testing of the surface material for grain size analysis in 2018 documented sediments as predominately gravel with sand. Historic geotechnical borings within the dredge footprint from 1975, 2013, and 2018 document the entire interval of material to be dredged as predominantly coarse sand and/or gravel.

Spill Data: Based on information provided by the applicant and a review of the New Hampshire Department of Environmental Services (NHDES) One Stop Document Online Search Portal (<https://www4.des.state.nh.us/DESONestop/BasicSearch.aspx>), NAE determined that there have been several spill incidents over the years since the project was last permitted to be dredged. In the last ten years there have been

**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

several small gasoline, diesel, and oil spills in the general area as well as a release of 50,000 gallons of sewage from the Peirce Island Wastewater Treatment Facility. The former Pease International Air Force Base Superfund site is located approximately 2 miles north and inland of the project area. The Superfund site has documented the presence of metals, volatile organic compounds (VOCs), polyaromatic hydrocarbons (PAHs), and pesticides throughout the property in the soil and groundwater. Remedy optimization, operation and maintenance, and long-term monitoring work are ongoing until all cleanup goals have been met at the site.

The adjacent Barge Wharf was used for marine fabrication projects. Soil testing was conducted in 2005 and 2010 at the Barge Wharf site and the 2012 report documented the presence of metals (arsenic, lead, mercury, zinc), PAHs, and polychlorinated biphenyls (PCBs) on land.

Risk Ranking: Following the tier one review of the site, the harbor was given a **moderate** risk ranking according to the following matrix due to historical and current industrial uses. However, the project area was given a **low-moderate** risk ranking due to site characteristics, location, and the available historical data which all suggest a low potential for contamination because of the coarse nature of the sediments and the high energy environment of the project area.

**Table 1: Project Risk Ranking**

<b>Rank</b>	<b>Guidelines</b>
Low	Few or no sources of contamination. Data available to verify no significant potential for adverse biological effects.
Low-Moderate	Few or no sources of contamination but existing data is insufficient to confirm ranking.
Moderate	Contamination sources exist within the vicinity of the project with the potential to produce chemical concentrations that may cause adverse biological effects.
High	Known sources of contamination within the project area and historical data exists that has previously failed biological testing.

3. **Sample Collection:** In the first phase of testing the applicant shall collect sediment cores from four locations within the proposed dredge area as specified in Table 2 (also see Figure 3). These locations were selected based on information from the CSM described above, the low to moderate risk ranking for the project, and shoaled areas identified in the project conditions survey submitted by the applicant. All core samples shall be collected to the proposed dredge depth plus overdredge amount using inert core liners. Estimated core lengths based on the bathymetry provided by the applicant are provided in Table 2, but the actual required core lengths shall be determined at the time of the sampling effort using measured water depths at each location corrected to MLLW. In order to ensure

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that the core samples adequately represent the dredge interval at each location, all cores to be used for this project shall have a recovered length that is within 75% of the core penetration depth. In addition, any cores that display significant disturbance such as compaction or wash out shall be disregarded. If the cores from any location do not meet the acceptability criteria after six attempts, then the applicant should retain the best core from that location and contact NAE for further guidance. The penetration and recovery for the core used for the grain size sample should be recorded on the sample log.

Upon collection, all cores shall be measured and maintained in an upright position for a minimum of 15 minutes to allow any fine-grained material to settle. After a core has settled, it shall be re-measured before any overlying water is drained, taking care to not include overlying water with sediment flocculant in the measurement. All cores shall be split lengthwise, photographed with a stadia rod for scale, and described in accordance with ASTM D 2488 (Standard Practice for Description and Identification of Soils). Samples shall be collected from the dredge interval (dredge depth + overdepth) within each core for grain size as described in the sections below. It is recommended that bulk chemistry samples be collected and archived for possible future analysis in case the results of the grain size analysis show that the project is not exclusionary. If the dredge interval within a core is homogenous then the entire length may be composited as a single sample with the grain size/archive chemistry sample interval noted on the sampling log. If any core shows significant stratification or obvious signs of contamination, then subsamples shall be collected from each layer and noted on the sampling log and the applicant shall consult NAE for guidance prior to the start of analysis. The term “significant stratification” includes any distinct change in sediment composition that could represent a change in depositional history or waterway usage such as a change in color or lithology. Compositing of dissimilar sediment layers without prior approval from NAE will result in the rejection of any resulting data products.

All sediments held for testing shall be stored in accordance with the requirements in Table 3 (from Table 8-2 in *Evaluation of Dredged Material Proposed for Ocean Disposal, Testing Manual, 1991*). Sample chain of custody forms shall be maintained by the applicant and submitted to NAE with the data package described in section 5 of this SAP.

Based on the results of the grain size sediment testing, NAE will decide whether the project meets exclusionary criteria. If it does not, then bulk chemistry analysis will be required. Based on the results of that bulk chemistry analysis, NAE will provide the applicant with a biological testing sampling plan.

Vessel positioning shall be achieved using a Global Positioning System (GPS) that has been calibrated on site using a known reference point. The required

**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

horizontal accuracy at each sample location shall be 10 feet or less. All coordinate data shall be reported in geographic NAD 83 decimal degree format. All depth data shall be reported in tenths of feet. Water depths at each location are to be determined with an accuracy of  $\pm 0.1$  feet (relative to MLLW). All depth data shall be reported in tenths of feet.

Sample data including date, time, latitude, longitude, GPS accuracy at each sample station, measured water depth, tidal correction, core penetration, recovery, and grain size/archive chemistry sample intervals(s) shall be recorded in a sampling log (Figure 4 or equivalent) and provided to NAE with the applicant's core descriptions and photographs.

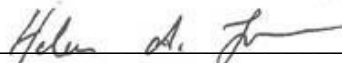
4. **Sample Analysis:** Sediment and water samples from the dredge area shall undergo physical, chemical, and biological analysis as described in the sections below. All laboratories used for this project shall have an approved Laboratory Quality Assurance Plan (LQAP) on file with NAE. Any data produced by a lab without an approved LQAP will not be accepted. The RIM, a list of laboratories with approved LQAPs, and the reporting format and requirements for electronic submission of data are available for download through the NAE website: <http://www.nae.usace.army.mil/Missions/Regulatory/Dredged-Material-Program/>.

Grain Size and Bulk Sediment Chemistry: All samples from the proposed dredge footprint shall be individually analyzed for grain size. If necessary, based on the results of grain size analysis, samples will also need to be analyzed for bulk sediment chemistry. Testing parameters, analytical methods, and reporting limits to be used are outlined in Table 4. The listed analytical methods are recommended but can be replaced by other methods that will provide the required reporting limits. Additional guidance on the physical and chemical analysis of sediments can be found in chapter 5 of the RIM. If necessary, NAE will provide the applicant with a sampling plan for biological testing based on sample proximity, physical characteristics recorded during the core description process, and the results of grain size and bulk chemistry analysis.

5. **Reporting requirements:** All sediment testing data is required to be submitted electronically in the electronic data deliverable (EDD) format available on the NAE website (<http://www.nae.usace.army.mil/Missions/Disposal-Area-Monitoring-System-DAMOS/Electronic-Data-Deliverables.aspx>). Hard copy data submission is also required but may be substituted with a printer friendly, easy-to-read format (e.g., PDF, MS Word). Any analytes not detected shall be reported as half the method detection limit (MDL) and qualified with a "U". RIM quality control summary tables are required to be submitted with each project dataset. These tables are found in Appendix II of the RIM.

**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

6. **Contact Information:** Questions about this plan should be directed to Helen Jones (phone: 978-318-8241 e-mail: [Helen.A.Jones@usace.army.mil](mailto:Helen.A.Jones@usace.army.mil))



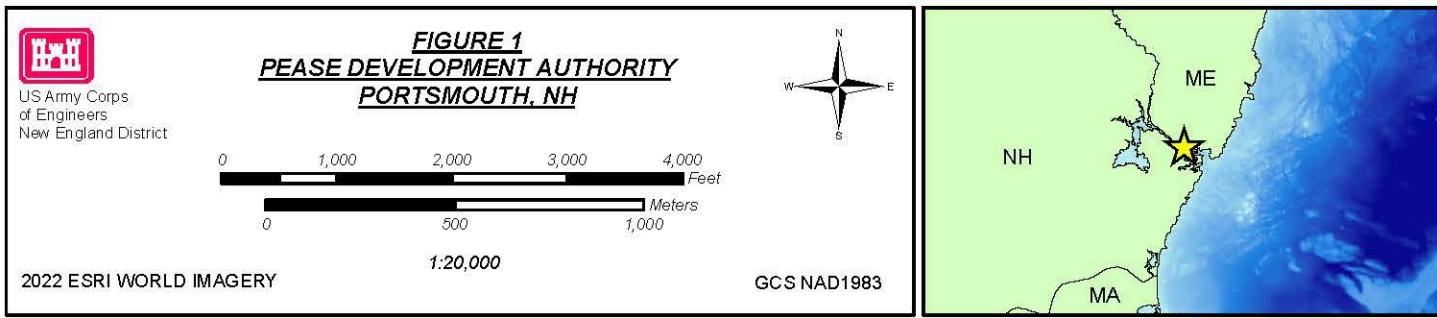
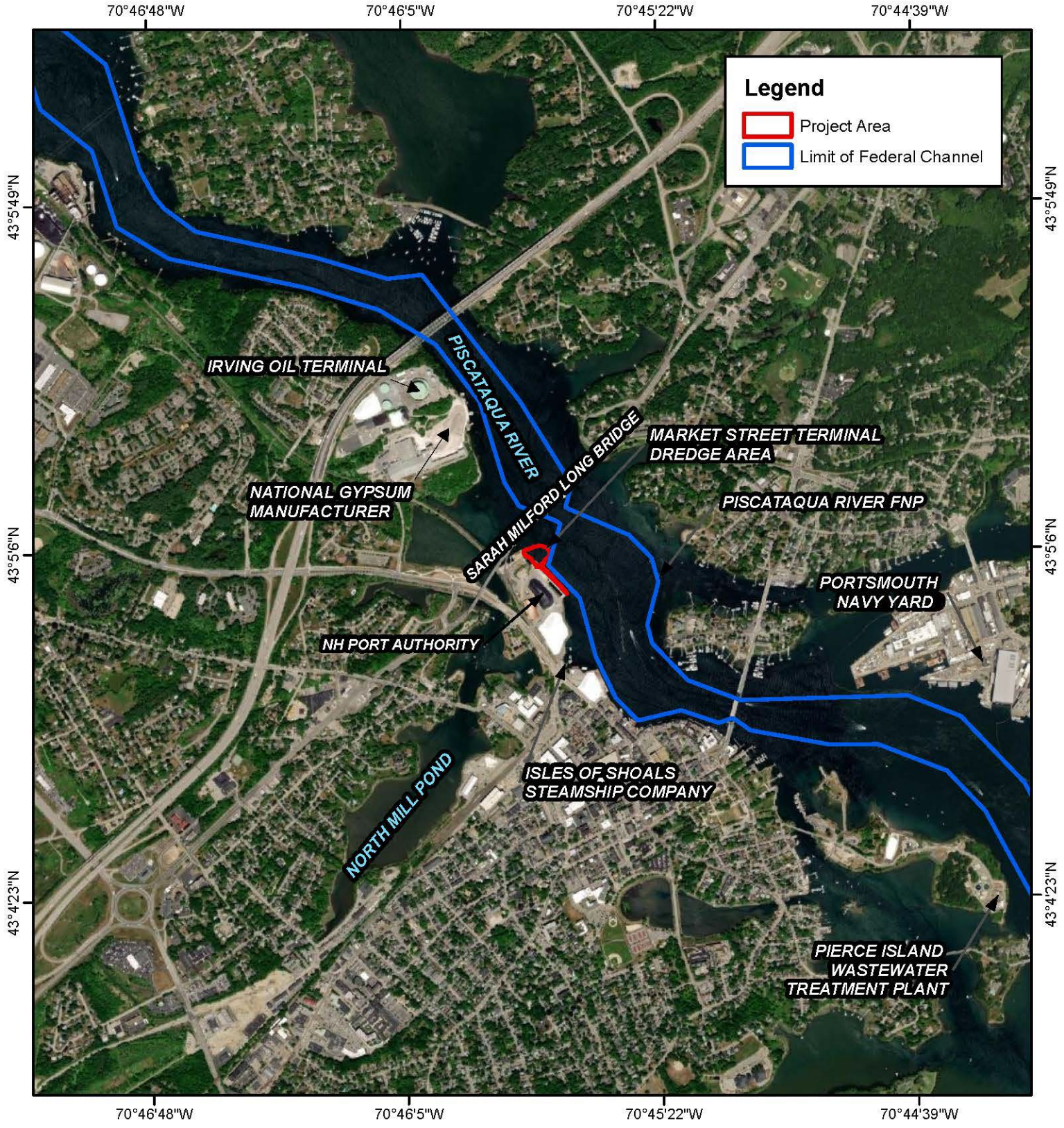
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Helen A. Jones  
Technical Specialist  
Dredged Material Management Team  
New England District  
U.S. Army Corps of Engineers

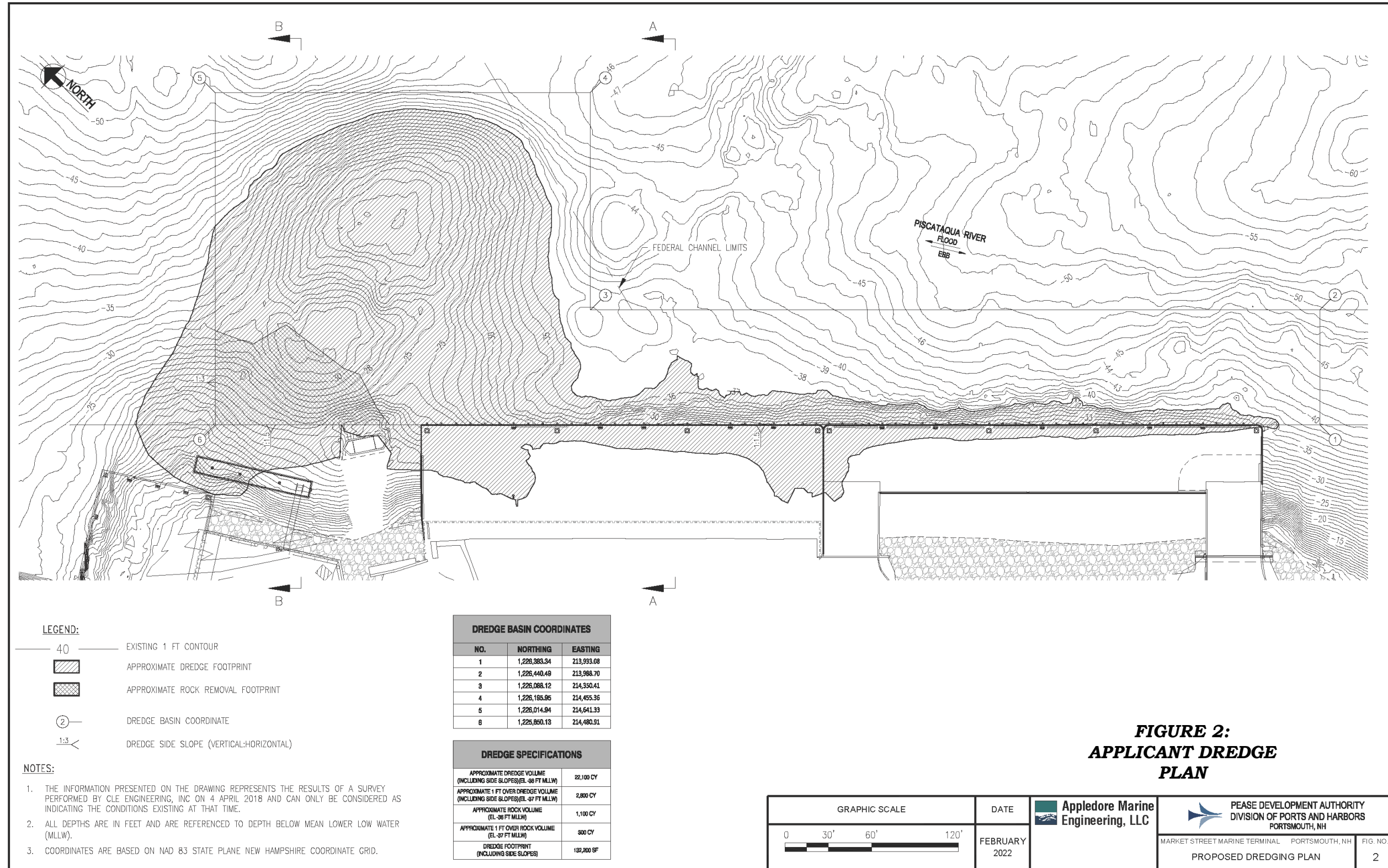
**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

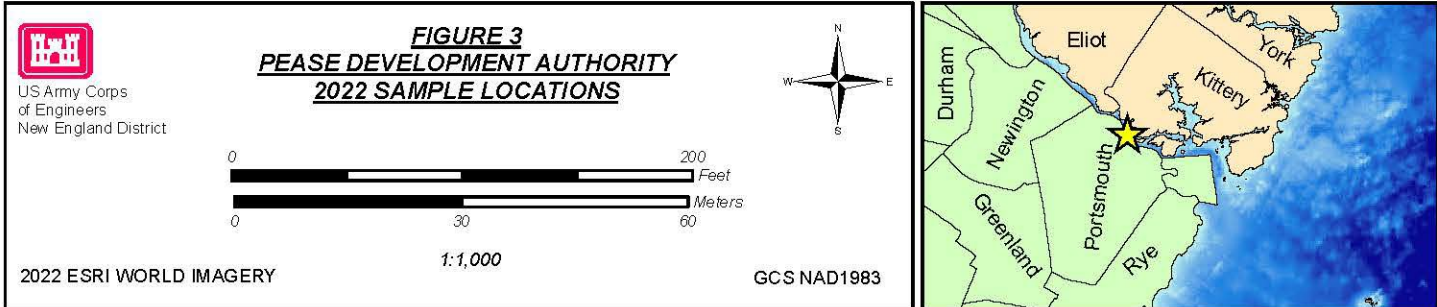
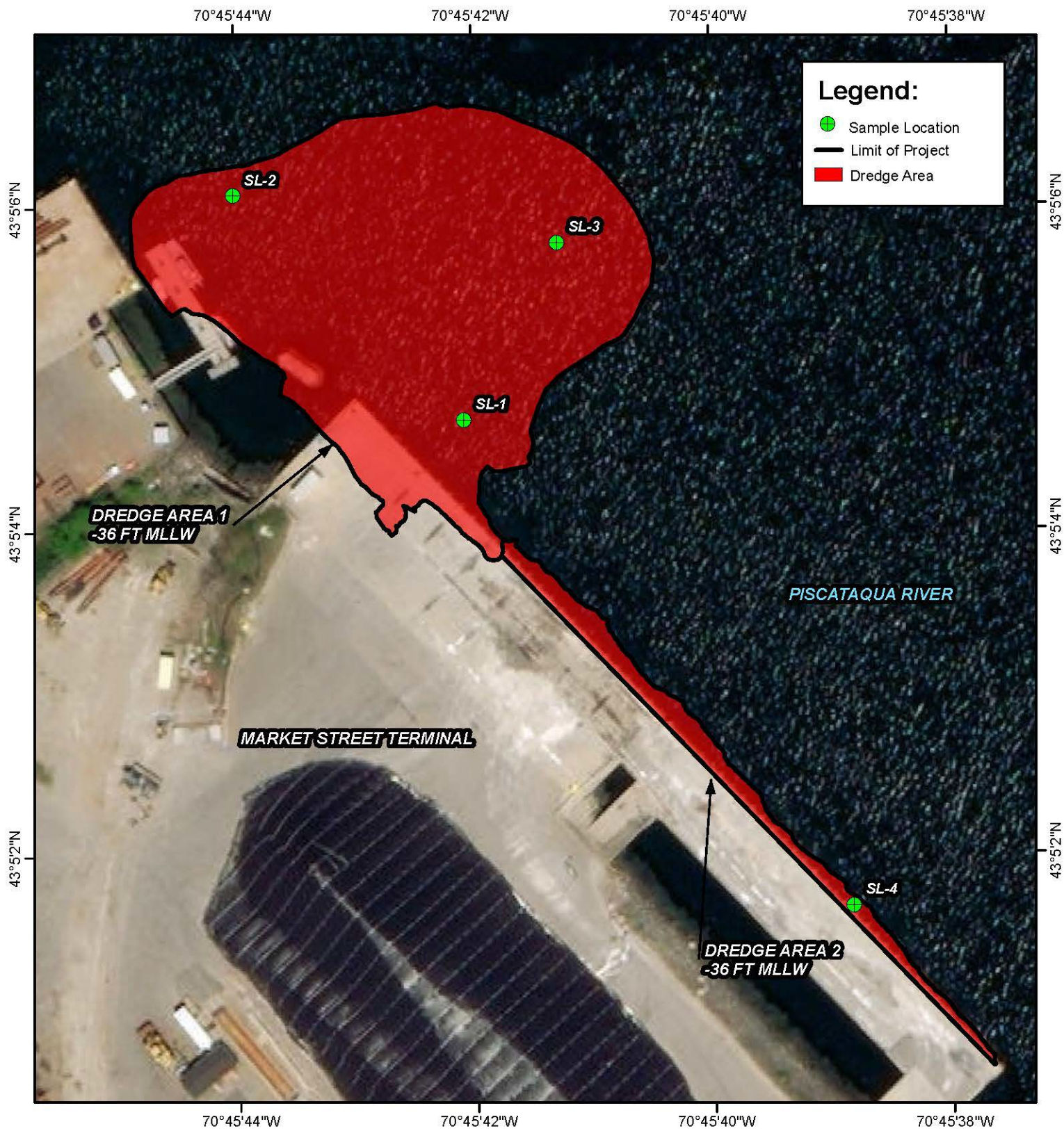
**Table 2: Market Street Marine Terminal Sample Locations**

<b>Station</b>	<b>Latitude (NAD 83)</b>	<b>Longitude (NAD 83)</b>	<b>Survey Depth (Feet MLLW)</b>	<b>Project Depth (Feet MLLW)</b>	<b>Overdepth (Feet)</b>	<b>Estimated Core length (Feet)</b>
SL-1	-70.761688	43.084633	-30.1	-36.0	1.0	6.9
SL-2	-70.762224	43.085020	-23.3	-36.0	1.0	13.7
SL-3	-70.761469	43.084937	-20.8	-36.0	1.0	16.2
SL-4	-70.760787	43.083798	-33.1	-36.0	1.0	3.9









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**TABLE 3: RECOMMENDED PROCEDURES FOR SAMPLE COLLECTION, PRESERVATION, AND STORAGE**

<u>Analyses</u>	<u>Collection Method</u>	<u>Sample Volume</u>	<u>Container</u>	<u>Preservation Technique</u>	<u>Storage Conditions</u>	<u>Holding Time<sup>d</sup></u>
<b>Sediment</b>						
<b>Chemical/Physical Analyses</b>						
Metals	Grab/corer	200 mL	Precleaned polyethylene jar <sup>e</sup>	Refrigerate. Dry ice <sup>b</sup> or freezer storage is recommended for extended holding times.	≤ 4° C <sup>c</sup>	Hg - 30 days Others - 6 Months <sup>d</sup>
Organic Compounds	Grab/corer	475 mL	Solvent-rinsed glass jar with Teflon lid <sup>e</sup>	Refrigerate. Dry ice <sup>b</sup> or freezer storage is recommended for extended holding times.	≤ 4° C/dark <sup>d</sup>	14 days <sup>d</sup>
Particle Size	Grab/corer	75 mL	Whirl-pac bag <sup>c</sup>	Refrigerate	≤ 4° C <sup>c</sup>	Undetermined
Total Organic Carbon	Grab/corer	3 L	Heat treated glass vial with Teflon lined lid <sup>e</sup>	Refrigerate. Dry ice <sup>c</sup> or freezer storage is recommended for extended holding times.	≤ 4° C <sup>c</sup>	14 days

<sup>a</sup> This table contains only a summary of collection, preservation, and storage procedures for samples. The cited references should be consulted for a more detailed description of these procedures.

<sup>b</sup> These holding times are for sediment, water, and tissue based on guidance that is sometimes administrative rather than technical in nature. There are no promulgated, scientifically based holding time criteria for sediments, tissues, or elutriates. References should be consulted if holding times for sample extracts are desired. Holding times are from the time of sample collection.

<sup>c</sup> NOAA (1989).

<sup>d</sup> Tetra Tech (1986a)

<sup>e</sup> Sample may be held for up to one year if maintained ≤ -20° C

**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

**TABLE 4: BULK SEDIMENT TESTING PARAMETERS**

<u>Parameter</u>	<u>Analytical Method</u>	<u>Reporting Limit (ppm)</u>
<b>Metals</b>		
Arsenic	6010B, 6020, 7060, 7061	0.4
Cadmium	6010B, 6020, 7130, 7131	0.07
Chromium	6010B, 6020, 7190, 7191	0.5
Copper	6010B, 6020, 7210	0.5
Lead	6010B, 6020, 7420, 7421	0.5
Mercury	7471	0.02
Nickel	6010B, 6020, 7520	0.5
Zinc	6010B, 6020, 7950	1.0
<b>PCBs (total by NOAA summation of congeners)</b>		
See next page	8082A	0.001
<b>Pesticides</b>		
Aldrin	NOAA (1993), 8081B	0.001
cis- & trans-Chlordane	Heptachlor epoxide	
4,4'-DDT, DDD, DDE	Hexachlorobenzene	
Dieldrin	Lindane	
$\alpha$ & $\beta$ Endosulfan	Methoxychlor	
Endrin	cis- & trans-Nonachlor	
Heptachlor	Oxychlordane	
	Toxaphene	0.025
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>		
Acenaphthene	8270C-SIM	0.01
Acenaphthylene	Chrysene	
Anthracene	Dibenzo(a,h)anthracene	
Benzo(a)anthracene	Fluoranthene	
Benzo(a)pyrene	Fluorene	
Benzo(b)fluoranthene	Indeno(1, 2, 3-cd)pyrene	
Benzo(k)fluoranthene	Naphthalene	
Benzo(g, h, i)perylene	Phenanthrene	
	Pyrene	
Total Organic Carbon	Plumb (1981), APHA (1995)	0.1%
Percent Moisture	Plumb (1981), EPA (1992), PSEP (1986)	1.0%
Grain Size	Wet Sieve (#4, 10, 40, 200)	

**FINAL** Sampling and Analysis Plan for Pease Development Authority Market Street Marine Terminal, Portsmouth, New Hampshire, File Number NAE-2018-1619

**TABLE 4: BULK SEDIMENT TESTING PARAMETERS (CONTINUED)**

PCB CONGENERS

Analytical Method: NOAA (1993), 8082A

Reporting Limit: 1 ppb

Congeners:

8*	2,4' diCB
18*	2,2',5 triCB
28*	2,4,4' triCB
44*	2,2',3,5' tetraCB
49	2,2',4',5 tetraCB
52*	2,2',5,5' tetraCB
66*	2,3',4,4' tetraCB
87	2,2',3,4,5' pentaCB
101*	2,2',4,5,5' pentaCB
105*	2,3,3',4,4' pentaCB
118*	2,3',4,4',5 pentaCB
128*	2,3,3',4,4' hexaCB
138*	2,2',3,4,4',5' hexaCB
153*	2,2',4,4',5,5' hexaCB
170*	2,2',3,3',4,4',5 heptaCB
180*	2,2',3,4,4',5,5' heptaCB
183	2,2',3,4,4',5',6 heptaCB
184	2,2',3,4,4',6,6' heptaCB
187*	2,2',3,4',5,5',6 heptaCB
195*	2,2',3,3',4,4',5,6 octaCB
206*	2,2',3,3',4,4',5,5',6 nonaCB
209*	2,2',3,3',4,4',5,5',6,6' decaCB

\* denotes a congener to be used in estimating Total PCB. To calculate Total PCB, sum the concentrations of all eighteen congeners marked with a "\*" and multiply by 2.

The specified methods are recommendations only. Other acceptable methodologies capable of meeting the Reporting Limits can be used. Sample preparation methodologies (e.g. extraction and cleanup) and sample size may need to be modified to achieve the required Reporting Limits.

**FIGURE 4: EXAMPLE CORE LOG DATA SHEET**

PROJECT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT LOCATION: \_\_\_\_\_ SEA STATE: \_\_\_\_\_

VESSEL: \_\_\_\_\_ POSITIONING EQUIPMENT: \_\_\_\_\_

SAMPLING EQUIPMENT: \_\_\_\_\_

SAMPLING PERSONNEL: \_\_\_\_\_ LOGGED BY: \_\_\_\_\_

CORE ID: \_\_\_\_\_ TIME: \_\_\_\_\_

LATITUDE: \_\_\_\_\_ LONGITUDE: \_\_\_\_\_ POSITION ACCURACY: \_\_\_\_\_

MEASURED WATER DEPTH: \_\_\_\_\_ CORRECTED WATER DEPTH: \_\_\_\_\_

TARGET PENETRATION: \_\_\_\_\_ ACTUAL PENETRATION: \_\_\_\_\_ RECOVERY: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

SAMPLE INTERVAL(S): \_\_\_\_\_

CORE PHOTO:	CORE DESCRIPTION:
<p><i>Insert core photograph with scale</i></p>	<p><i>Insert field notes and ASTM description of core</i></p>

## **Draft Materials Management Plan**

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The Draft Materials Management Plan can be accessed via the link below:

<https://mjinc-my.sharepoint.com/:b:/p/shoffmann/EempMvywYRBMkU1dPMEBUokBO725DW9Z7X7spDVt0U3ouw?e=PHiPJh>

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## **Dredge Management Task Force Meeting Minutes**

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# **New Hampshire Dredge Management Task Force Meeting Minutes – September 12, 2018**

**The meeting was held on Wednesday, September 12, 2018 at 10:00 AM at the New Hampshire Department of Environmental Services, 222 International Drive, Suite 175, Pease Tradeport, Portsmouth, NH 03801.**

## **Attending members in alphabetical order:**

Jean Brochi, Environmental Protection Agency (EPA)  
Olga Guza-Pabst, EPA (via call-in)  
Mark Habel, Army Corps of Engineers (ACOE)  
Kerry Holmes, Senator Hassan  
Sarah Holmes, Senator Shaheen  
Michael Johnson, National Marine Fisheries Service (NMFS)  
Richard Kristoff, ACOE  
Eben Lewis, NH Department of Environmental Services (NHDES) Wetlands Bureau  
Geno Marconi, Pease Development Authority – Division of Ports and Harbors (PDA-DPH)  
Erika Mark, ACOE  
Ed O'Donnell, ACOE  
Cheri Patterson, New Hampshire Fish & Game Department (NHF&G)  
Tracy Shattuck, PDA-DPH  
Dr. Fred Short, University of New Hampshire (UNH)  
Coral Siligato, ACOE  
Matt Tessier, ACOE  
Dr. Larry Ward, UNH  
Chris Williams, Chair, NHDES Coastal Program

## **Guests:**

Leo Axtin, PDA-DPH  
Chris Barron, Normandeau Associates  
Don Blouin, Town of Rye  
Brendan Clifford, NHF&G  
Steve Couture, NHDES Coastal Program  
Elizabeth DeCelles, ACOE  
Mike Dionne, NHF&G  
Les Eastman, Eastman's Fishing Fleet  
Noah Elwood, Appledore Marine Engineering  
Jennifer Hale, Town of Hampton Department of Public Works (DPW)  
Chris Jacobs, Town of Hampton DPW  
Aboul Khan, Town of Seabrook Board of Selectmen  
Theresa Kyle, Town of Seabrook Board of Selectmen  
Deirdre Larkin, Town of Rye  
Dr. Tom Lippmann, UNH  
William Manzi, Manager, Town of Seabrook  
Duncan Mellor, Tighe and Bond  
Andy Nielsen, Senator Shaheen (via call-in)  
Melissa Paly, Conservation Law Foundation  
Alex Pelczar, Senator Collins

**Guests cont...**

Bonita Pothier, Senator King

Seth Prescott, NH Dept. of Natural & Cultural Resources, Division of Parks & Recreation

Mike Rabideau, Town of Seabrook Planning Board

Todd Randall, ACOE

Susan Reynolds, Town of Rye

Vanessa Swasey, Appledore Marine Engineering

Frederick Welch, Manager, Town of Hampton

Phil Winslow, Town of Rye Board of Selectmen

**Legislative Update:**

Sarah Holmes of Senator Shaheen's Office stated that the Army Corps of Engineers (ACOE) is scheduled to receive its full Federal Fiscal Year 2019 (FFY19) funding later this week. The Senator will work to have the Hampton-Seabrook Harbor maintenance dredging project included in the ACOE's work plan for 2019.

Alex Pelczar of Senator Collins Office stated that the Water Resources Development Act (WRDA) Bill was passed out of Senate committee yesterday and is likely to be voted on by the House of Representatives later this week.

Andy Nielsen of Senator Shaheen's Office stated that the Senator is hopeful that WRDA will be passed in the next couple of weeks and then signed into law.

Ed O'Donnell, ACOE, stated that the WRDA Bill includes language keeping the Cape Arundel Dredged Material Disposal Site open until 2021.

**Portsmouth Harbor/Piscataqua River Navigation Improvement Project:**

Ms. Mark, ACOE Project Manager, stated that the ACOE is waiting to see if the project will be funded in the FFY19 Workplan. The ACOE continues to work with the municipalities in Massachusetts to use the dredged material for beach nourishment. The ACOE is also investigating whether to include the Simplex Shoal maintenance dredging project as part of the Turning Basin Improvement Project.

Todd Randall, ACOE, stated that the ACOE recently completed work to incorporate comments provided by EPA on the Draft Environmental Assessment (EA) for Designation of the Isles of Shoals North (ISN) Disposal Site. The ACOE has sent the Draft EA back to EPA for review and intends to convene a meeting with resource agency staff this fall to review the findings of the EA and determine a path forward.

Mike Johnson, NMFS, inquired about the status of eelgrass in the vicinity of the proposed project. He stated that based on a 2017 aerial survey conducted by Dr. Short at UNH, it appears that eelgrass beds in the vicinity of the project have expanded and that surveys conducted by the ACOE may be outdated. Dr. Short confirmed that eelgrass beds in the vicinity of the proposed project have indeed expanded. Todd Randall stated that the ACOE's most recent eelgrass survey was conducted in the summer of 2016. Mr. Randall stated that the ACOE's assessment of proposed eelgrass impacts does not include data from Dr. Short's 2017 survey. Dr. Short agreed to provide the 2017 eelgrass survey data to the ACOE.

### **Rye Harbor Maintenance Dredging:**

Ed O'Donnell, ACOE, stated that the ACOE's most recent survey conducted in 2014 indicates that approximately 42,000 cubic yards of fine-grained material needs to be removed from the federal channels and anchorages and approximately 8,000 cubic yards needs to be removed from the state anchorage. To date the ACOE has spent nearly \$300,000 on surveys and sampling and testing of harbor sediments. The ACOE has completed a suitability determination and determined that the material is suitable for offshore disposal at the Cape Arundel Disposal Site. The ACOE is currently working on the Draft Environmental Assessment (EA) and hopes to complete it by the end of the year. After completion of the Draft EA the ACOE will proceed with coordination with state and federal resource agencies. Mr. O'Donnell reminded members that the ACOE currently does not have funding to conduct dredging. The ACOE estimates that dredging will cost \$1.5 to \$2 million.

Geno Marconi, Pease Development Authority Division of Ports and Harbors (PDA-DPH) stated that PDA-DPH intends to have the state anchorage dredged when the federal channels and anchorages are dredged. Mr. O'Donnell stated that if PDA-DPH intends to have the state anchorage dredged by the same contractor hired by the ACOE to dredge the federal channels and anchorages a Project Cooperation Agreement would be required between the ACOE and PDA-DPH.

Phil Winslow, Town of Rye, stated that there's been additional shoaling of the harbor since ACOE's 2014 survey and asked if the ACOE intends to re-survey the harbor. Mr. O'Donnell stated that the ACOE hopes to re-survey the harbor by the end of the year.

Susan Reynolds, Town of Rye, stated that the shoaling of the harbor is causing boats to run aground at low tide. The shoaling is also causing commercial boats to enter the mooring field to exit the harbor. Cheri Patterson, NHF&G, stated that commercial fishermen have to time their trips into and out of the harbor around the tides.

Don Blouin, Town of Rye, estimates that commercial activity in the harbor generates approximately \$5 million in revenue for the Town of Rye. Mr. O'Donnell requested that any information regarding how the shoaling is impacting commercial users, as well as any economic information about the harbor, be provided to the ACOE.

### **Main Pier Reconstruction, Market Street Marine Terminal, Portsmouth:**

Noah Elwood of Appledore Marine Engineering gave a presentation about the proposed reconstruction of the main pier at the Market Street Marine Terminal in Portsmouth. As part of the construction of the new Sarah Mildred Long Bridge, the barge dock at the Market Street Marine Terminal was removed. To compensate the PDA-DPH for the loss of the barge dock, improvements to the main pier are being proposed. The improvements include a 60-foot long extension of the pier to the south and a 145-foot long extension to the north, as well as dredging approximately 16,000 cubic yards of material from an area adjacent to the pier. Appledore Marine Engineering anticipates having preliminary design plans completed by early next year. Discussion followed to include the potential need for blasting to remove bedrock from the dredge area as well as time of year restrictions for the proposed dredging.

### **Hampton-Seabrook Harbor Hydrodynamic and Sediment Transport Modeling:**

Dr. Tom Lippmann, UNH Center for Coastal and Ocean Mapping, gave a presentation about current hydrodynamic and sediment transport modeling taking place in Hampton-Seabrook Harbor. The modeling efforts are being funded by the National Oceanic and Atmospheric Administration (NOAA), which is responsible for maintaining navigational charts, to identify changes in bathymetry that may impact navigation. Modeling sediment transport can help determine how frequently navigation charts need to be updated.

The models used by UNH simulate flows in 3-dimensions. The flow results can be used to predict sediment transport patterns. The hydrodynamic component of the models is based, in part, on 2017 field observations of water velocities and water levels. The Sediment transport component is based on a 2011 LiDAR survey of the harbor and a 2016 bathymetric survey of the harbor conducted by UNH. The accuracy of the sediment transport component of the model is determined by comparing model results to the change in bathymetry between the 2011 and 2016 surveys. Results of the model depict areas of erosion and accretion that are similar to the erosion and accretion patterns identified by the surveys. Although additional work is needed, the model may prove to be an effective tool for predicting future accretion and erosion areas within the harbor. Dr. Lippmann then discussed proposed improvements to the model and next steps. Discussion followed.

### **Hampton-Seabrook Harbor Maintenance Dredging:**

Carol Siligato, ACOE Project Manager, stated the ACOE has received funds to conduct environmental coordination with state and federal resource agencies and to develop project plans and specifications. She stated that the ACOE currently estimates that a total of approximately 150,000 cubic yards of sand needs to be dredged from the federal navigation project. This includes approximately 35,000 cubic yards of material located in Hampton and approximately 115,000 cubic yards of material located in Seabrook. She also stated that approximately 2,500 cubic yards of sand needs to be dredged from the state recreational anchorage in Hampton. She then gave a presentation summarizing the preliminary dredged material disposal options that the Towns of Hampton and Seabrook and the ACOE have identified. The presentation depicted several beach disposal locations in Hampton and Seabrook as well as five potential nearshore disposal areas that the ACOE has used in the past. Ms. Siligato stated that the ACOE has performed side-scan sonar and benthic analysis at three of the nearshore areas. The ACOE is also in the process of conducting grain size analysis at proposed beach nourishment sites and at all of the potential nearshore placement areas. Ms. Siligato then stressed the importance of identifying practicable dredge material placement locations as soon as possible so that the ACOE can proceed with environmental coordination, secure necessary real estate agreements, and begin developing plans and specifications. Discussion of the merits of the potential beach disposal locations in Hampton and Seabrook followed.

Brendan Clifford, NHF&G, identified areas of the beach south of the Hampton Harbor inlet channel, in both Hampton and Seabrook, where federally-threatened/state-endangered piping plovers have recently and historically nested. He stated that because dredged material attracts piping plovers, areas of the beach nourished with dredged material would be subject to management measures, including fencing and other potential restrictions, during the breeding season to prevent the plovers and their breeding areas from being disturbed. Mr. Clifford suggested that beach nourishment considerations focus on those areas of the beach that are currently managed for piping plovers.

Seth Prescott, NH Dept. of Natural & Cultural Resources, Division of Parks & Recreation, stated that State Parks could use approximately 10,000 cubic yards of sand to fill a large hole at the southern end of the beach near the Hampton Harbor inlet jetty and another  $\pm 10,000$  cubic yards of sand to fill an area behind the rip-rap wall near the RV park that has eroded.

Matt Tessier, ACOE, reiterated the urgency in identifying practicable dredge material placement locations so that the ACOE has all necessary requirements in place to dredge the Harbor next fall should construction money become available.

Chairman recommended that the Hampton-Seabrook Harbor Working Group reconvene in the next 1-2 weeks to continue the discussion regarding dredge material disposal locations. Prior to the Working Group meeting the Towns of Hampton and Seabrook will continue working with the ACOE to identify practicable locations for disposal of the dredged material. At the Working Group meeting the Towns will present their disposal alternatives to the ACOE and state resource agency staff and disposal sites will be selected. All agreed.

# **New Hampshire Dredge Management Task Force Meeting Minutes – October 9, 2019**

**The meeting was held on Wednesday, October 9, 2019 at 10:00 AM at the New Hampshire Department of Environmental Services, 222 International Drive, Suite 175, Pease Tradeport, Portsmouth, NH 03801.**

## **Attending members in alphabetical order:**

Bob Boeri, Massachusetts Office of Coastal Zone Management  
Noah Elwood, Appledore Marine Engineering  
Stefanie Giallongo, NH Department of Environmental Services (NHDES) Wetlands Bureau  
Olga Guza-Pabst, Environmental Protection Agency (EPA) (via call-in)  
Mark Habel, Army Corps of Engineers (ACOE)  
Carol Henderson, New Hampshire Fish & Game Department (NHF&G)  
Chris Holt, Portsmouth Pilots  
Richard Kristoff, ACOE  
Eric Nestler, Normandeau Associates  
Cheri Patterson, NHF&G  
Todd Randall, ACOE  
Coral Siligato, ACOE  
Tracy Shattuck, Pease Development Authority – Division of Ports and Harbors (PDA-DPH)  
David Trubey, NH Division of Historical Resources  
Mike Walsh, ACOE  
Chris Williams, Chair, NHDES Coastal Program  
Cara Wry, Senator Shaheen

## **Guests:**

Leo Axtin, PDA-DPH  
Don Blouin, Town of Rye  
John Brosnihan, Kittery Harbormaster  
Wendy Gendron, ACOE (via call-in)  
Kate Hill, Senator Shaheen (via call-in)  
Vincent Iacozzi, Hampton River Marina  
Aboul Khan, Town of Seabrook Board of Selectmen  
Theresa Kyle, Town of Seabrook Board of Selectmen  
Reid Lichwell, ACOE  
Dot Lundberg, ACOE  
Regina Lyons, EPA  
Nick Malatesta, Senator Hassan (via call-in)  
Dorothy Parsons, Senator Hassan  
Alex Pelczar, Senator Collins  
Bonita Pothier, Senator King  
Susan Reynolds, Town of Rye  
Chris Veinotte, ACOE  
Phil Winslow, Town of Rye Board of Selectmen

### **Approve Minutes from May 22<sup>nd</sup> Meeting:**

Minutes from the May 22, 2019 Dredge Management Task Force meeting were approved and will be posted on the Task Force web page at <https://www.des.nh.gov/organization/divisions/water/wmb/coastal/dmtf/index.htm>.

### **Legislative Update:**

Kate Hill of Senator Shaheen's Office in Washington stated that the Senator visited Rye Harbor in August to witness the shoaling and is working with key leadership at the Army Corps of Engineers (ACOE) to ensure that the ACOE has the resources it needs to complete projects like Rye Harbor. She stated that the Senate Appropriations Committee, on which Senator Shaheen is a member, recently passed an Energy and Water Appropriations Bill for the upcoming fiscal year. The bill proposes \$7.75 billion for the ACOE, which is approximately \$750 million above last year's funding level. The bill provides \$200,000 for the maintenance dredging of Rye Harbor and includes two construction new start allocations for navigation projects for which the Piscataqua River Turning Basin Improvement Project can compete. The bill also includes language offered by Senator Shaheen to encourage the ACOE to expedite scheduled maintenance at small harbors. The bill must still be passed by the full Senate and conferenced with the House of Representatives before it can be signed into law. Once the bill becomes law, the funding for Rye Harbor and the new start allocation for the Piscataqua River Turning Basin project will have to be designated in the ACOE's Work Plan.

Dorothy Parsons of Senator Hassan's Office stated that the Senator continues to advocate for New Hampshire's priorities in Washington and asked that members reach out directly to her or Kerry Holmes of the Senator's Office with questions or concerns.

Mark Habel stated that the 2020 Water Resources Development Act (WRDA) bill is currently being debated in the Senate. Kate Hill of Senator Shaheen's Office stated that the Senate Environment and Public Works Committee is currently working on the WRDA bill and Senators have been asked to submit their state's priorities before the end of October. She encouraged members to reach out to their Congressional delegation with priority projects.

### **Hampton-Seabrook Harbor Maintenance Dredging:**

Coral Siligato, ACOE Project Manager, gave a brief summary of the proposed project. Approximately 150,000 cubic yards of sand will be dredged from the federal navigation project, including approximately 115,000 cubic yards of material located in Seabrook and approximately 35,000 cubic yards of material located in Hampton. An additional  $\pm 2,500$  cubic yards of sand will be dredged from the state recreational anchorage in Hampton. The dredged material will be used beneficially as follows: a) approximately 105,000 cubic yards of sand will be placed on Seabrook Beach; b) approximately 25,000 cubic yards of sand will be placed on the beach at Hampton Beach State Park; c) approximately 10,000 cubic yards of sand will be placed adjacent to the southwest corner of the Route 1A bridge in Hampton; and d) approximately 10,000 cubic yards of sand will be placed behind an existing sheet pile wall built in 2005 to protect the middle ground sand flat in Seabrook.

The ACOE awarded a contract, in the amount of approximately \$4.4 million, to H&L Contracting of New York on September 12<sup>th</sup>. The ACOE gave the contractor notice to proceed on September 26<sup>th</sup> and the contractor is now completing safety plans and inspecting equipment. Dredging is scheduled to begin on October 18<sup>th</sup>. The contractor



plans to work 24 hours a day, seven days a week. Dredging of the inner harbor can begin October 15<sup>th</sup> and must be completed by February 1, 2020, while dredging of the entrance channel can begin October 15<sup>th</sup> and must be completed by March 15, 2020. All work on the receiving beaches must be complete by March 15, 2020.

Mark Habel, ACOE, reminded members that the ACOE has received a request from the Pease Development Authority – Division of Ports and Harbors to determine the feasibility of initiating a study, funded partially by the ACOE, to help identify long-term solutions to the shoaling issues in the harbor. The ACOE New England District has ranked the request highly and is awaiting funding. Mr. Habel stated that while a feasibility study of this nature typically costs approximately \$50,000 the ACOE would have up to \$100,000 available. If the ACOE were to proceed based on recommendations in the study, costs would be split 50/50 between the ACOE and the state.

Vinny Iacozzi, Hampton River Marina, requested a schedule of dredging activity. Ms. Siligato stated that the contractor would be required to provide daily updates of dredging activity and that she'd make sure that Mr. Iacozzi received such updates.

Aboul Khan, Town of Seabrook, thanked the Congressional Delegation for their efforts and requested an update on the project at the next Task Force meeting.

### **Rye Harbor Maintenance Dredging:**

Mike Walsh, ACOE Project Manager, reminded members that approximately 50,000 cubic yards of fine-grained material needs to be removed from the federal channels and anchorages and approximately 8,000 cubic yards of material needs to be removed from the state anchorage. Total construction costs are estimated at \$3.5 million, which include approximately \$500,000 to dredge the state anchorage.

Mr. Walsh stated he anticipates completing the Environmental Assessment and all necessary environmental coordination by the end of the calendar year. He reminded members that the ACOE does not have money for project construction. If construction funds are made available, he anticipates putting a contract out to bid in June 2020 with construction anticipated to begin in November 2020.

Phil Winslow, Town of Rye, asked where the ACOE anticipated placing the dredged material from the project. Mr. Walsh stated that the ACOE is pursuing two disposal options, the Cape Arundel Disposal Site (CADS) and the proposed Isles of Shoals North Disposal Site (IOSN). The IOSN is the ACOE's preferred disposal location because it is closer to Rye Harbor. However, because the IOSN has not yet been designated to receive dredged material, the Environmental Assessment includes both sites as potential alternatives. Mr. Walsh stated that current project cost estimates are based on hauling the dredged material to CADS. Mr. Walsh then stated that the ACOE has identified one structure that's currently encroaching into the federal anchorage. The ACOE is working with the owner to ensure that it's removed prior to construction.

Richard Kristoff, ACOE, reminded members that the proposed dredging of the state anchorage will require an Individual Permit (IP) from the ACOE. Before the ACOE can issue the IP, the state must obtain Coastal Zone Management Act federal consistency decisions from both New Hampshire and Maine. The state must also obtain a 401 Water Quality Certificate from the state of Maine in case the dredged material is placed at CADS.

### **Portsmouth Harbor/Piscataqua River Navigation Improvement Project:**

Wendy Gendron stated that the ACOE is still awaiting federal construction funds and a new start authorization. She is hopeful that both will be authorized in the ACOE's workplan.

The ACOE also continues to work with communities in Massachusetts that have expressed interest in using the sand for beach nourishment. She believes the communities of Salisbury and Newbury have permits and funds in hand to receive the sand and are working on where the sand will be placed and in what quantities.

Bob Boeri, Massachusetts CZM, confirmed that the Towns of Newbury and Salisbury have permits in hand and that the beaches there can handle a total of approximately 300,000 cubic yards of sand. He stated permits are also in hand for the placement of sand approximately 300,000 cubic yards of sand directly on Nantasket Beach in Hull. It is estimated that this project would cost \$13-\$15 million. The Massachusetts Department of Conservation and Recreation (DCR) has requested an ACOE Section 204 study start to help reduce project costs. The Town of Scituate has also received the necessary permits to place material directly on the beach at an estimated cost of \$12-\$15 million. Due to the estimated project cost, the Town has determined not to pursue the project.

Mr. Habel, ACOE, stated that if construction funding for the Turning Basin project is made available in the ACOE's FY20 workplan, construction would begin before the Section 204 Study for Nantasket Beach would be initiated. As a result, the ACOE would not likely enter into a Section 204 study agreement with Mass DCR. Mr. Boeri stated that he is uncertain whether Mass DCR would proceed with the project without ACOE funding.

Given that the Turning Basin project is estimated to generate approximately 680,000 cubic yards of sand, and only the Towns of Newbury and Salisbury have secured permits and funds to accept approximately 300,000 cubic yards of that material, there will be nearly 380,000 cubic yards of sand available for use beneficially. If the material cannot be used beneficially, it will be placed at an offshore disposal site. Discussion followed.

### **Isles of Shoals North Dredged Material Disposal Site Designation:**

Regina Lyons, EPA, gave a presentation summarizing that status of the proposal by EPA and the ACOE to designate a new ocean dredged material disposal to serve southern Maine, New Hampshire and northern Massachusetts. She discussed the difference between site designation and site selection and reviewed the criteria that EPA must consider when proposing a site for designation. She also reviewed site alternatives which included the no action alternative, the historic Isles of Shoals Disposal Site, the Cape Arundel Disposal Site and the Isles of Shoals North Disposal Site. She stated that based on a number of factors, EPA's and the ACOE's preferred alternative is the Isles of Shoals North Disposal Site (IOSN). She then discussed next steps in the site designation process and encouraged Task Force members review and provide comments on EPA's proposed rule to designate IOSN, which was published in the Federal Register on September 18, 2019, and the draft environmental assessment developed by EPA and the ACOE. Finally, Ms. Lyons informed members that EPA and the ACOE are holding a public meeting on October 9, 2019 at 6pm at the Kittery Community Center to discuss the proposed designation of IOSN.

### **Main Wharf Reconstruction, Market Street Terminal, Portsmouth:**

Noah Elwood of Appledore Marine Engineering gave a presentation summarizing the proposal to reconstruct the main wharf at the Market Street Marine Terminal in Portsmouth. He stated that when the Sarah Mildred Long Bridge was replaced the new bridge alignment resulted in removal of a portion of the Pease Development Authority – Division of Ports and Harbors (PDA-DPH) barge wharf. To compensate PDA-DPH for the loss of the barge wharf, an agreement was reached to improve the main wharf at the Market Street Terminal. The proposed improvements include extending the wharf to the north and south and dredging the north end of the wharf to provide sufficient water depths for the commercial vessels. The proposed dredging will remove approximately 18,000 cubic yards of sand and gravel and approximately 1,000 yards of ledge that will require blasting. The preferred alternative is to place the dredged material at an offshore disposal site. The ACOE and EPA are currently working to determine if the material would be suitable for offshore disposal. Mr. Elwood stated that he anticipates that applications for both state and federal permits will be submitted in the next couple of months. When asked about the timing of construction, Mr. Elwood stated that the timing is uncertain due to funding issues.

### **Other Business:**

Wendy Gendron, ACOE, stated that a Supplemental Appropriations Act was recently passed that provides additional funding for ACOE projects that have been damaged by natural disasters. One of the projects that has been authorized is the repair to the three breakwaters at the Isles of Shoals. The ACOE is not anticipating and changes to the footprint of the breakwaters at this time, but the extent of the repairs will be based on the results of future site inspections. Once the ACOE receives funding, it will begin project design and environmental coordination with the states of New Hampshire and Maine. The timing for the repair work is dependent on funding but the ACOE is hopeful that work could begin in the next 2-3 years.

Next meeting date: December 18, 2019 @ 10am

Meeting adjourned @ 11:15

## **Draft Dredging Specifications**

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## SECTION 35 20 23

DREDGING  
08/20

## PART 1 GENERAL

## 1.1 GENERAL INFORMATION

The work under this section includes Contractor's operations for dredging at the Market Street Marine Terminal and offshore disposal at Isles of Shoals Dredge Disposal Site. Work under this section also includes quality control of dredging operations through pre, post, and periodic check hydrographic surveys.

The Contractor is responsible for making their own investigation of submerged, surface, and overhead structures in the work areas and other locations they find necessary to traverse. The exact location, depths, and heights of various structures including, but not limited to submarine cables, pipes, highlines, docks, piers, bulkheads, and bridges (as applicable), are not known and it will be necessary for the Contractor to ascertain interference problems and notify the respective owners in advance of dredging operations. The Contractor is responsible for making necessary arrangements with the respective owners of the structure(s) to assure satisfactory completion of dredging in the vicinity with a minimum interruption of service, and shall perform their operations in such a manner as will avoid damage to these facilities.

Dredging must occur between November 15 and March 15.

## 1.2 DEFINITIONS

## 1.2.1 Maintenance Material

Maintenance material is defined as that comprising shoaling which has occurred since the channel areas were last dredged.

## 1.2.2 New Work Material

New work material is defined as previously undredged material.

## 1.2.3 Hard Material

Hard material is defined as material requiring blasting or the use of special equipment for economical removal, and includes boulders or fragments too large to be removed in one piece by the dredge.

## 1.2.4 Specified Limits

Specified limit is defined as the dredge depth, including side slopes.

## 1.2.5 Overdredge Depth

Overdredge depth is that depth that may be necessary in order to achieve the specified limit. It is dependent on the contractors, means, methods, equipment, and operator experience.

### 1.3 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety -- Safety and Health Requirements Manual

EM 1110-2-1003 (2013) Hydrographic Surveying

### 1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

Letter Of Acceptance Of Owner's Pre-Dredge Hydrographic Survey And Associated Dredge Volumes

Pre-Dredge Hydrographic Survey

Method For Computing Dredge Quantities

Dredging Operations Plan

Schedule Of Plant And Equipment

Contractor Quality Control Survey Plan

Charts

Survey Personnel

Scow Cards

#### SD-05 Design Data

Contractor Quality Control Surveys

#### SD-07 Certificates

USACE Notification

#### SD-11 Closeout Submittals

Post-Dredge Hydrographic Survey

Approved Manifest

### 1.5 MATERIAL TO BE REMOVED

The material to be removed is silt, sand, gravel, and debris that may be present from historical operations at the facility.

#### 1.5.1 Debris

It is anticipated that debris of various size/composition will be encountered and may include items such as rocks and construction debris.

#### 1.5.2 Submerged Cables

There are six known steel cables located within the dredge area that require removal. Approximate location is shown on the Contract Drawings.

#### 1.5.3 Hard Material

Removal of hard material must be in accordance with Section 31 23 01 UNDERWATER BLASTING.

#### 1.6 ARTIFICIAL OBSTRUCTIONS

The Owner has knowledge of debris of various size/composition such as, but not limited to, rocks and construction debris. The Owner has no knowledge of existing wrecks, wreckage, or other material of such size or character as to require the use of explosives or special or additional equipment for its economical removal.

Prior to dredging, rake the dredge areas and remove debris encountered. Debris removed from the dredged area must be removed from the water and placed in the dewatering area separate from the dredge material, and must be rinsed for review by the Owner. All artificial obstructions shall become the property of the Contractor unless otherwise directed or indicated, and must be properly disposed of off the Owner's property at the end of the project, at no additional cost to the Owner.

#### 1.7 QUANTITY OF MATERIAL

The total estimated amount of material to be removed from within the specified limits, including side slopes, but excluding overdepths, is shown on the Contract Drawings. The dredge slope shown is the maximum permissible slope and basis for permitted sediment removal quantity. Complete the work specified whether the quantities involved are greater or less than those estimated.

#### 1.8 OVERDEPTH DREDGING

To cover unavoidable inaccuracies of dredging processes, material removed to a depth of one foot below the depth specified and within the dredging limits will be measured and paid for at full contract price. The one foot overdepth is the maximum permitted. The Contractor is not required to utilize the full permitted overdepth volume and shall only over dredge the minimum required to ensure the contracted dredge depths are achieved.

#### 1.9 SIDE SLOPES

Dredging on side slopes shall follow, as closely as practicable, the lines indicated or specified. Side slopes depicted on the Contract Drawings are maximum permissible slope and are the basis of the permitted sediment removal quantity. Contractor is not required to dredge the slope limits depicted as long as the design dredge depth elevations can be achieved and the slopes remain stable.

Dredging is not permitted under marine structures.

#### 1.10 EXCESSIVE DREDGING

Material removed beyond the limits stated in paragraph entitled OVERDEPTH DREDGING and SIDE SLOPES and on the Contract Drawings will be deducted from the total amount dredged as excessive overdepth dredging, and payment will not be made for this additional quantity.

#### 1.11 USACE NOTIFICATION

Notify the USACE of dredge operations and disposal plan. Notification must include confirmation of disposal site location. Do not proceed with disposal operations until USACE issues a letter of authorizing disposal.

#### 1.12 ENVIRONMENTAL COMPLIANCE AND PROTECTION

Comply with conditions and requirements of State or Federal permits. The Owner will secure the permit for dredging and placement of material as indicated. Permits are included in Appendix D.

During the life of the contract, provide and maintain environmental protective measures. Also, environmental protective measures required to correct conditions, such as oil spills or debris, that occur during the dredging operations, must be provided. Comply with Federal, State, and local regulations pertaining to water, air, and noise pollution.

#### 1.13 CHARGES

The Contractor must pay all costs associated with dredging, transportation, and disposal of the dredge materials.

#### 1.14 BASIS FOR BIDS

Base bids on the quantity of dredging indicated. Should the total quantity of dredging vary from that specified as the basis for bidding, the contract price will be adjusted. The dredging conditions specified and indicated describe conditions which are known. However, the Contractor is responsible for other conditions encountered which are not unusual when compared to the conditions recognized in the dredging business as usual in dredging activities such as those required under this contract.

#### 1.15 SCHEDULE OF PLANT AND EQUIPMENT

Submit a schedule of the plant and equipment the Contractor will employ in the performance of the work on this contract. Submit copies of all applicable inspections and certifications for all floating plant and equipment.

#### 1.16 DREDGING OPERATIONS PLAN

Submit a Dredging Operations Plan indicating the proposed method by which the dredge work will be conducted. Describe in detail the operations, equipment, personnel, and processes to complete the work. The plan must include discussion of the following items:

- a. Implementation and compliance with State and Federal Permit requirements
- b. Type of dredge equipment to be used throughout the project



- c. Coordination and communication efforts between site personnel to minimize impact to facility operations
- d. Horizontal and vertical survey control
- e. Means to avoid damage to adjacent structures, vessels, and moorings
- f. Means to avoid dredging beyond the limits
- g. Methods to dispose of all dredge materials
- h. Methods to prevent spillage from barges when transporting, loading, and unloading material
- i. Provide name and resume of contractor's third party hydrographic surveyor as well as details explaining how survey will be incorporated into dredge quality control

#### 1.17 LAYOUT WORK AND SURVEYS

Employ a licensed surveyor to layout the limits of the work, establish vertical control, and perform surveys. Provide all buoys, ranges, and other controls necessary to accomplish the work and facilitate inspection.

Hydrographic surveys must use multi-beam sonar transducers and must provide 100 percent bottom coverage including a method to correct for side slope and beam angle error. Survey methodology must conform to the US Army Corps of Engineers specification EM 1110-2-1003. Survey accuracy shall be as follows: horizontal positioning: less than 1 meter; NADIR (vertical): plus or minus 0.15 feet.

The surveys must be corrected to Mean Lower Low Water (MLLW) and must be in an Owner approved format. Submit the hydrographic surveys to the Owner within five days after completion. Survey plans must be stamped by a licensed surveyor.

Submit the information electronically, together with hard copies of the information. Drawings shall be accessible with AutoCAD 2015 by AutoDesk, Inc. Software.

##### 1.17.1 Contractor Quality Control Survey Plan

Submit a detailed plan describing the survey methods to be used during the work. Include the equipment to be utilized, tidal data, general site plan map, line designation map, any corrections to the MLLW datum used, calibration procedures to be used, expected horizontal and vertical accuracies, and pertinent information to describe the methods, and results to be obtained. Do not begin field surveys until these plans are approved.

##### 1.17.2 Charts

Submit current and tide charts to be used for the areas being dredged.

##### 1.17.3 Survey Personnel

Furnish a listing of the personnel who will perform the survey work required by this contract.

#### 1.17.4 Horizontal Positioning Procedures and Accuracies

Vessel positioning systems utilized on this contract must conform to the allowable horizontal positioning criteria in EM 1110-2-1003. The positioning system used shall be capable of meeting or exceeding the accuracy requirements and must not exceed the allowable ranges where indicated. The Contractor may be required to demonstrate to the Owner's Representative that its positioning system is capable of meeting or exceeding the accuracy requirements in EM 1110-2-1003.

#### 1.17.5 Vertical Reference Datums

Depth measurements must be reduced to the specified datum using RTK GPS or staff/gage readings, as described in EM 1110-2-1003. Recording tides using RTK GPS is recommended and can be used in lieu of tide staffs/gages. RTK tide data must be referenced and documented to an existing tide gage daily. When needed, tide staffs/gages must be constructed, referenced, maintained, stilled, and read in accordance with the criteria in EM 1110-2-1003.

#### 1.17.6 Field Data Recording, Reductions, and Plotting Requirements

The data format fields for submitting reduced hydrographic data to the Owner is x y (+)z. Digital data must be emailed, unless the data set is too large for email. In such cases, data must be sent via CD-ROM or file transfer site as established by the Owner.

#### 1.17.7 Volume Computations by the Contractor

The Contractor must have the capability to compute excavation quantities from work performed under this contract. Compute volumes using any of the techniques given in Chapter 15 of EM 1110-2-1003. Section drawings must be made at the horizontal and vertical scales given in EM 1110-2-1003.

#### 1.17.8 Automated System Synchronization Checks

The Owner's Representative reserves the right to check each automated hydrographic survey system to insure adequacy of correlation between position and depth. Methods for performing this check are given in EM 1110-2-1003.

#### 1.17.9 Contractor Quality Control Surveys

Examine the dredge work by conducting hydrographic surveys at the following interval: monthly. Additionally, conduct a hydrographic survey prior to any request for a Owner survey for final acceptance. Submit Contractor Quality Control Surveys to the Owner and when a progress payment request is submitted.

#### 1.17.10 Pre-Dredge Hydrographic Survey

Prior to commencing work, complete a Pre-Dredge Hydrographic Survey to confirm that the Owner's pre-dredge Hydrographic Survey and associated dredge volumes accurately reflect conditions prior to dredging. Submit a Pre-Dredge Hydrographic Survey indicating the original depth of the river bottom prior to dredging. Survey must be conducted by a Licensed Professional Land Surveyor.

Submit a Letter of Acceptance of Owner's Pre-Dredge Hydrographic Survey and associated dredge volumes shown in the Contract Drawings.

## 1.17.11 Post-Dredge Hydrographic Survey

After completion of all work, perform a post-dredge hydrographic survey throughout the dredge area. The survey must be taken within five days after completion of the dredging. Notify the Owner seven days in advance of the scheduled survey. The submitted survey must clearly depict any areas that are within the specified limits that are shallower than the designed dredge elevation depicted.

## 1.17.12 Data Submission Requirements for All Contractor Surveys

All Contractor Quality Control Surveys submissions shall include the following:

## a. Field Data

- (1) Raw multibeam data zipped by day
- (2) Sound velocity casts zipped by day
- (3) Daily tide tables and/or files
- (4) Depth sounder rolls (if used) corrected for tide and corresponding boat plot
- (5) Reduced hydrographic 3x3 average and 3x3 minimum XY(+)Z files. The 3x3 average file shall have the average sounding in the center of the cell and the 3x3 minimum file shall have the minimum sounding in its actual location
- (6) Field notes, daily logs, and quantity computations

## b. 3x3 Minimum Plot

- (1) Noted Information
  - (a) Name of project
  - (b) Name of surveying/contract company
  - (c) Date(s) of survey
  - (d) Horizontal Datum
  - (e) Distance units
  - (f) Vertical Datum
  - (g) Sonar system
  - (h) Sounding frequency
  - (i) GPS System
  - (j) Software used
  - (k) Sounding sort distance and confirmation that soundings shown

- (l) represent shoalest values
- (m) V-Datum version used (if applicable)
- (2) Plotted Information
  - (a) dredge area
  - (b) Minimum sorted soundings
  - (c) 3x3 minimum contour at design depth
  - (d) 3x3 minimum contour at design depth
  - (e) Scale bar
  - (f) North arrow
  - (g) Grid
  - (h) Stationing
  - (i) Navigation aids
  - (j) Sheet setup
  - (k) The scale of the plot shall match that of the contract drawings and the soundings shall be sorted as appropriate (e.g., 20 feet for 100 scale plot, 40 feet for 200 scale plot, etc). The font size shall be the appropriate size to prevent soundings from being overwritten on the plot

The above data will be used by the Owner's Representative to verify achievement of contract depth, and compare actual progress and in-place quantities dredged with scheduled progress.

#### 1.17.13 Contractor Progress Payment

Submit Contractor Quality Control Survey data for any periods for which progress payments are requested. Furnish the data listed above in subpart "Data Submission Requirements for Contractor Surveys", to the Owner, who will use the data as necessary to determine the amount of progress payments. The owner does not conduct progress surveys.

#### 1.18 METHOD FOR COMPUTING DREDGE QUANTITIES

Submit Method for Computing Dredge Quantities. Method must be a generally recognized technique using TIN subtraction or average end area method of calculation and must be compatible with AutoCAD Civil 3D 2010 software.

#### 1.19 MATERIALS TRANSPORTATION

Contractor must transport materials to disposal site and submit Approved Manifest.

## 1.20 WORK AREA

### 1.20.1 Protection of Existing Waterways

Conduct operations in such a manner that the material or other debris are not pushed outside of dredging limits or otherwise deposited in existing side channels, basins, docking areas, or other areas being utilized by vessels or moored boats. The Contractor will be required to change his method of operations to comply with the above requirements. Should any bottom material or other debris be pushed into areas described above as a result of the Contractor's operations, the material must be promptly removed.

### 1.20.2 Adjacent Property and Structures

Conduct dredging operations such that it does not undermine, weaken, or otherwise impair existing structures located in or near the areas to be dredged.

Damage to private or public property or structures resulting from disposal or dredging operations must be repaired promptly by the Contractor at his expense. Damage to structures resulting from the Contractor's negligence will require prompt repair at the Contractor's expense.

## PART 2 PRODUCTS

Not Used.

## PART 3 EXECUTION

### 3.1 INSPECTION

Inspect the work, keep records of work performed, and ensure that gages, targets, ranges, and other markers are in place and usable for the intended purpose. Provide, at the request of the Owner, boats, boatmen, laborers, and materials necessary for inspecting, supervising, and surveying the work. When required, provide transportation for the Owner and inspectors to and from the placement area and between the dredging plant and adjacent points on shore.

Before any machinery or mechanized equipment is placed in service, it must be inspected and tested by the Contractor and certified to be in safe operating condition.

### 3.2 DREDGING

#### 3.2.1 Order of Work

The Owner will direct the Contractor on the order of work. The Owner reserves the right to change the order of work at any time.

#### 3.2.2 Interference with Navigation

Coordinate all marine vessel movements with the Owner. Submit a weekly updated schedule showing proposed dredge locations and vessel movements.

Minimize interference with facility operations and the use of channels and passages. The Contractor is responsible for shifting or moving of dredges or the interruption of dredging operations to accommodate the movement of

vessels and floating equipment, if necessary. Adhere to Coast Guard Regulations for passing vessels.

### 3.2.3 Lights

Each night, between sunset and sunrise and during periods of restricted visibility, provide lights for floating plants, pipelines, ranges, and markers. Also, provide lights for buoys that could endanger or obstruct navigation. When night work is in progress, maintain lights from sunset to sunrise for the observation of dredging operations. Lighting must conform to United States Coast Guard requirements for visibility and color.

### 3.2.4 Ranges, Gages, and Lines

Provide, set, and maintain ranges, buoys, and markers needed to define the work and to facilitate inspection. Establish and maintain gages in locations observable from each part of the work so that the depth may be determined. Suspend dredging when the gages or ranges cannot be seen or followed.

### 3.2.5 Dredge Plant and Equipment

Maintain all dredge plant and associated equipment such as, but not limited to, scows, coamings, barges, and pipelines, to meet the requirements of the work.

#### 3.2.5.1 Location Data Collection for Dredge Bucket

The dredge plant must be equipped to record real time location data for the position of the bucket, to include horizontal and vertical positioning (xyz data). This data must be available on a continuous basis.

#### 3.2.5.2 Sufficient Capacity

Keep on the job sufficient plant and equipment to meet the requirements of the work. The plant and equipment must be in satisfactory operating condition and be capable of safely and efficiently performing the work.

#### 3.2.5.3 Reduction in Capacity

No reduction in the capacity of the plant and equipment employed on the work shall be made except by written permission of the Owner. The measure of the capacity of the plant and equipment must be its actual performance on the work covered by this contract.

#### 3.2.5.4 Inspections and Certifications

Prior to commencement of work at the site provide copies of all applicable inspections and certifications of floating plant and equipment as required by Federal, State and local laws and regulations. See also EM 385-1-1, Sections 16, 18, 19, and 20. Such inspections and certifications must be current and maintained in force for the duration of this contract. Each item of floating plant and equipment must have on board a waste oil management plan which details the intended disposal method for waste oil.

Each vessel exceeding twenty-six feet in length, excluding sheer, which is used for pushing, hauling alongside, or any other method of towing must adhere to the requirements set forth in 46 CFR Subchapter M.

The plant and equipment shall be subject to the inspection of the Owner at all times. The responsibility for actual supervision and direction of dredging operations including the safe and efficient operation of dredge plant and equipment lies with the Contractor.

#### 3.2.5.5 License Requirements

Each vessel exceeding twenty-six feet in length, excluding sheer, which is used for pushing, hauling alongside, or any other method of towing, and not required by law to have a valid Certificate of Inspection by the U.S. Coast Guard, must be under the actual direction and control of a person licensed for towing in the geographic area of the work by the U.S. Coast Guard. Licensed persons shall not perform command or other duties in excess of twelve hours in any consecutive twenty-four hour period except in an emergency.

#### 3.2.5.6 Automatic Identification System Requirements

All dredge and plant equipment, including scows, must be registered with the AUTOMATIC IDENTIFICATION SYSTEM (AIS) in order to ensure that the entire footprint of the Contract's working vessels and scows are available on marine trafficker's electronic chart displays.

#### 3.2.5.7 Tow Boats

All tow boats used for towing to disposal areas must be equipped with DGPS navigational equipment, radar, corrected compass, marine radio, and depth sounding equipment which is to be maintained in operating condition during each tow. The tow boats utilized by the Contractor for this purpose must be a size adequate for towing in heavy seas and must have necessary reserve power for maneuvering with scows in rough seas and under emergency conditions as well as for control of scows at the disposal site.

#### 3.2.5.8 Scows

Provide and maintain markings on all scows clearly indicating the draft of the scow and provide scow cards for each scow used on the contract work. Submit scow cards for each scow to be used for contract work. The scow cards must show dimensions and volumes of individual pockets of scows and total volumes for varying depths below coaming or top of pockets. This is to enable the Owner to make a determination of scow volume and corresponding drafts under partial and full load conditions. These measurements are to be made at the time of initial use of each scow. This information will then be furnished to disposal inspectors to enable them to estimate scow volume from draft of scows for each scow being towed to the disposal area. The scow volume estimates are for use in connection with disposal area monitoring studies and are not intended to be used in determining quantities dredged. At the beginning of the work and as additional scows arrive on the project, sufficient time shall be allowed by the Contractor and assistance of Contractor personnel shall be made available by the Contractor for the purpose of obtaining the measurements of each scow under various partial and full load conditions's. During the entire period of contract work, the Contractor must provide and maintain sufficient spot of floodlights to permit the reading of the draft on the sides of scows at bow and stern from the tow boat at night and when visibility is impaired. The draft readings and each pocket/compartments measurement are required for each scow towed to the disposal area and will be made by the disposal inspector. Measurements are to be taken and recorded prior to departure from the dredge site and upon arrival at the

immediate disposal location. Ensure that adequate time is allowed by the tow boat captain for these readings to be obtained.

#### 3.2.5.9 Scow Pocket Doors

Due to the fine nature of some of the dredged material, the Contractor must achieve proper closure and watertightness of the bottom-dumping scow pocket doors to eliminate seepage or leakage of material. The use of plastic material to cover cracks in scow pockets is not be allowed.

#### 3.2.6 Dredging

Dredging is limited to mechanical methods.

#### 3.2.7 Disposal of Excavated Material

Provide for safe transportation of dredged materials to the designated disposal site. Transportation must include measures to prevent loss of material during movement. Contractor is responsible to follow all haul restrictions and requirements imposed by the permits. The deposit of dredged materials in unauthorized places is forbidden. Comply with rules and regulations of local port and harbor governing authorities.

#### 3.2.8 Dredging Requirements

Dredge area and depth is shown on the Contract Drawings.

#### 3.2.9 Method Of Communication

Provide a system of communication between the dredge crew and the crew at the disposal area. A portable two-way radio is acceptable.

#### 3.2.10 Quality Control

Establish and maintain quality control for operations to assure compliance with contractual requirements and maintain records of this quality control for dredging operations.

While performing all dredging work control the horizontal positioning of the dredge with electronic positioning.

#### 3.2.11 Salvaged Material

Anchors, chains, firearms, and other articles of value, which are brought to the surface during dredging operations, must remain or become the property of the Owner and will be placed on shore at a convenient location near the site of the work, as directed by the Owner.

#### 3.2.12 Safety of Structures

The prosecution of work must ensure the stability of piers, bulkheads, and other structures lying on or adjacent to the site of the work, insofar as structures may be jeopardized by dredging operations. Repair damage resulting from dredging operations is the responsibility of the Contractor, insofar as such damage may be caused by variation in locations or depth of dredging, or both, from that indicated or permitted under the contract. The Contractor is responsible for coordinating with the owner of the structure for any necessary repairs.



### 3.2.13 Plant Storage

When not in use, plant equipment must be stored at an approved location. Stored plant equipment must not interfere with Facility operations.

### 3.2.14 Plant Removal

Upon completion of the work, promptly remove plant, including ranges, buoys, piles, and other markers or obstructions.

### 3.2.15 Blasting

Hard material is expected. Blasting must be completed in accordance with Section 31 23 01 UNDERWATER BLASTING.

## 3.3 PLACEMENT OPERATIONS

### 3.3.1 Misplaced Dredged Material

Any dredged materials deposited at locations other than in areas designated or approved by the Owner's Representative will be considered misplaced material and will not be paid for until the Contractor, at his own expense, removes and deposits such misplaced material where directed. This required removal and redeposit of the misplaced material and any necessary placement site restoration work is not the basis for a time extension or additional compensation under this contract.

## 3.4 MEASUREMENT

Complete a pre-dredge hydrographic survey before dredging and a post-dredge hydrographic survey after dredging and submit a plan showing the results of each survey(s) to the Owner for review. Total dredge volume measurement shall be determined based on the differences between the pre and post dredge survey.

### 3.4.1 Method of Measurement

The material removed will be measured by cubic yard in place, by means of surveys taken before and after dredging. The drawings represent existing conditions based on current available information, but will be verified and corrected, if necessary, by surveys taken before dredging. Surveys must be taken by multibeam sonar methods, as determined by the Owner; results of survey will be the basis for payment. Areas surveyed more than 30 days prior to dredging will be re-surveyed when requested by the Owner.

### 3.4.2 Periodic Estimates

Periodic estimates of work completed will be based on the result of soundings taken during the progress of the work. Deductions will be made for dredging and placement not in accordance with the specifications.

## 3.5 FINAL EXAMINATION AND ACCEPTANCE

As soon as practicable after the completion of areas, which in the opinion of the Owner, will not be affected by further dredging operations, each area will be examined by the Owner by sounding or sweeping, or both. Remove shoals and lumps as required by methods approved by the Owner. Notify the Owner when soundings or sweepings are to be made and will be

permitted to accompany the sounding or sweeping party and to inspect the data and methods used in preparing the final estimate. When areas are found to be in a satisfactory condition, the work therein will be accepted as complete. Final estimates will be subject to deductions or correction of deductions previously made because of excessive overdepth, dredging outside or authorized areas, or disposal of material in an unauthorized manner.

-- End of Section --

DRAFT

## **Draft Blasting Specifications**

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## SECTION 31 23 01

UNDERWATER BLASTING  
02/21; CHG 1: 11/21

## PART 1 GENERAL

Work under this section covers the removal of underwater bedrock. Blasting operations outlined in this specification are only intended for removal of bedrock as depicted in the drawings and not general overburden excavation.

Blasting must occur between November 15 and March 15.

## 1.1 SCOPE

The breakage of rock and hard/unyielding materials may be conducted by any means, unless otherwise stated herein. If the contractor elects to use drilling and blasting for breakage or displacement of any units, this entire section is applicable and covers activities associated with drilling and blasting for rock excavation at the surface. Contained herein are procedures for all activities relating to drilling; blasting and the transportation, storage and use of explosives; breakage and displacement of rock. The Contractor's blasting program and methods are those necessary to accomplish the excavation shown on the Contract drawings in accordance with the provisions specified herein. Control the quantity of explosives fired in all blasting to prevent injuries to persons and to avoid damage to all structures, properties, governmental and nonprofit entities, commerce and businesses, and natural resources and their habitat.

## 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

## ACOUSTICAL SOCIETY OF AMERICA (ASA)

ASA S1.13 (2005; R 2010) Methods for the Measurement of Sound Pressure Levels in Air (ASA 118)

## AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/ASSE A10.12 (1998; R 2005) Safety Requirements for Excavation

ANSI/ASSE A10.7 (1997; R 2005) Commercial Explosives and Blasting Agents - Safety Requirements for Transportation, Storage, Handling and Use

ANSI S2.2 (1959; R 2006) American National Standard Methods for the Calibration of Shock and Vibration Pickups

## AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

ASSE/SAFE A10.6 (2006) Safety Requirements for Demolition Operations

## BUREAU OF ALCOHOL, TOBACCO, FIREARMS AND EXPLOSIVES (ATF)

ATF P 5400.7 Federal Explosives Law and Regulations  
(ACC).

## INTERNATIONAL SOCIETY OF EXPLOSIVE ENGINEERS (ISEE)

Blaster's Handbook 18th Edition, 2014. Hardcover, 742pp., 7th  
Printing, 2014.

EE Handbook 4 (1989) Explosives Eng. Handbook Paper #4 -  
Blasting for Underwater Rock Excavation.  
IEE, by R.D.G Roberts, Summer

## INTERNATIONAL SOCIETY OF AUTOMATION (ISA)

ISEE PSBS (2017) ISEE Performance Specification for  
Blasting Seismographs

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 495 (2018) Explosives Materials Code

## U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety -- Safety and Health  
Requirements Manual

EM 1110-2-3800 (2018) Engineering and Design -- Blasting  
for Rock Excavations

ER 385-1-95 (2014) Safety -- Safety and Health  
Requirements for Operations and Activities  
Involving Munitions and Explosives of  
Concern

ETL 1110-1-142 (1989) Blasting Vibration Damage and Noise  
Prediction and Control

## 1.3 DEFINITIONS

## 1.3.1 Controlled Blasting

Controlled blasting refers to blasting techniques used to better distribute the explosive charge to minimize adverse impacts. For underwater blasting, adverse impacts may be cited for the public's and contracted personnel's safety, lessening the fracturing of the rock being blasted, surrounding facilities' protection, and the avoidance of impacting natural resources or their habitats. Controlled blasting techniques must be deployed, such as careful loading to the pattern's design using the drilling log for each shot hole, stemming effectively the top of firm rock and any soft zones or voids, carefully observing maximum charge weight per delay, using delays between holes and rows of 25 milliseconds or greater, and avoiding rifling plumes by proper blasting techniques.

## 1.3.2 Flyrock

Flyrock is one of the three primary adverse impacts from blasting. Flyrock

is defined as any airborne projectile flying the lesser distance of either 200 ft horizontally from the shot pattern or one-half the distance between the shot pattern and the Contractor work limits, whichever distance is the lesser.

#### 1.3.3 Green Concrete

Green concrete is recently placed concrete that has initiated setting but may have substantial strength reduction from strong vibrations before the concrete has fully cured. Green concrete also includes the materials of shotcrete or cementitious grouts. Each Individual Shot Plan is required to consider vibrations emanating from its blast pattern reaching the location of the reported newly placed concrete to remain below allowable vibration levels depending upon the age of the concrete. Note the paragraph GREEN CONCRETE.

#### 1.3.4 Pressure Waves

Pressure Waves, both Airblast (or noise) and Underwater Pressure Waves, are one of the three, primary adverse impacts from blasting. Airblast and Underwater Pressure Waves are solely compression waves passing through the air or water, respectively. Their units of measure may be in terms of pressure, Pascals (Pa) or pounds per square inch (psi), or in terms of the logarithmic scale, Decibels (dB). Note that pressures in dB have different reference values for Airblast and Underwater Pressure Waves, so the pressure waves through air are of a lower magnitude than pressure waves through water with the same numeric dB value.

#### 1.3.5 Rock, Hard/Unyielding Material, Weathered Rock, Voids (Bit Drops), Sediment

##### 1.3.5.1 Rock

Rock is natural solid, interlocking material with firmly cemented, laminated, and crystalline fabric, foliated masses or conglomerate deposits, none of which can be removed without systematic drilling and blasting, drilling and the use of expansion jacks or feather wedges, or the use of high-energy mechanical devices; and, so classified for this project as submerged large boulders, which may be the minimum volume of 0.50 cubic yard.

##### 1.3.5.2 Hard/Unyielding Material

Hard/Unyielding materials comprise weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" with stones greater than 1.0 inch in any dimension. These materials usually require the use of heavy excavation equipment or high-energy mechanical devices for breakage or displacement to remove the materials .

##### 1.3.5.3 Weathered Rock

Weathered rock, for underwater percussion-drilling logging, is any original rock unit that has been altered to a weaker state that will not retain stemming when explosives are loaded into that material.

##### 1.3.5.4 Voids

Voids, for underwater percussion-drilling logging, is any rapid bit drop

with little or no resistance to the downward drilling pressure. Voids may be water or sediment filled, which may possibly determine that the original rock unit has been altered to a weaker state that will not retain the gaseous detonation products when the explosives are shot.

#### 1.3.5.5 Sediment

Sediment is both: the loose to firm material that may be dredged above the surface of weathered or firm rock, which cannot be easily dredged; and the infill of voids as solid particles.

#### 1.3.6 Unstable Material

Unstable materials are loose, submerged sediment that are easily displaced by water flow or turbulence and by vibrations or incidental impact.

#### 1.3.7 Vibrations

Vibrations are one of the three, primary adverse impacts from blasting. Vibrations are the result of various wave forms emanating from the detonation or deflagration of ignited materials from a shot pattern. Peak particle velocity (PPV) is defined as the maximum absolute value among the three ground vibration velocities measured in the vertical, longitudinal, and transverse directions over a time of a record. Peak, total vector-sum particle velocity is the peak value over the full, time history of each time-unit's value of the square-root sum of the squared, component velocities. Velocity units are expressed in centimeters per second (cps) or inches per second (ips).

### 1.4 SYSTEM DESCRIPTION

Boring logs are shown on the Contract Drawings.

#### 1.4.1 Blasting

Perform blasting in accordance with EM 385-1-1 and in conformance with all Federal, State, and local laws, regulations, and ordinances. Submit notice 30 days prior to starting work. Submit a Master Blasting Plan for approval, prepared and signed by the Blasting Specialist that includes: a listing of all federal, state and local regulations and ordinances to conduct blasting at the project; the support documentation and certifications for all proposed blasting personnel; information and data sheets for all the explosives to be used at the project; the design approach to blasting; outlines of all required reports and formats for all the forms of the respective reports; and, the procedures to control all the adverse effects of blasting. Use the non-electric blasting caps for all underwater blasting. Obtain written approval prior to performing any blasting and notify the Owner 24 hours prior to blasting. Include provisions for storing, handling, and transporting explosives as well as for the blasting operations in the plan.

### 1.5 QUALITY ASSURANCE

When the nature of the material to be dredged requires blasting, the Contractor's blasting processes and methods shall be in accordance with the applicable rules, regulations and standards established by the Regulatory Agencies, codes and professional societies listed herein, including rules and regulations for storage, transportation, and use of explosives. In case of conflict between codes and regulations, the more stringent shall apply.

Comply with ASA S1.13, ANSI/ASSE A10.12, ANSI/ASSE A10.7, ANSI S2.2, ASSE/SAFE A10.6, ATF P 5400.7, Blaster's Handbook, EE Handbook 3, EE Handbook 4, EM 385-1-1, ER 385-1-95, ETL 1110-1-142, EM 1110-2-3800 and local regulations.

Regulatory Agencies: All operations with explosives shall be conducted in accordance with controlling transportation, storage, and use are listed below:

a. U.S. Code of Federal Regulations (CFR)

(1) TITLE 27 CFR, PART 555, subparts D, G, and K - Commerce in Explosives, Bureau of Alcohol, Tobacco, and Firearms (ATF), U.S. Government Printing Office, Washington, D.C. 20402

(2) TITLE 29 CFR, SUBPARTS H 1910.109 AND 1926.900 - Occupational Health and Safety Organization (OSHA) U.S. Government Printing Office, Washington, D.C. 20402.

(3) TITLE 30 CFR, PART 55 - Mine Safety and Health Administration (MSHA), U.S. Department of Labor, Washington, D.C., 20402.

(4) TITLE 33 CFR, PART 126 - Handling of Dangerous Cargo at Waterfront Facilities, United States Coast Guard, Washington, D.C. 20593.

(5) TITLE 49, CFR, Chapter 1, PARTS 106, 107, 171-77 AND Chapter III, PARTS 383 and 390-394 - Transportation of Explosives on Highways, Rail, Air, or Water, Department of Transportation, (DOT), U.S. Government Printing Office, Wilmington, Delaware, 19899.

(6) TITLE 27, CFR, PART 55 Internal Revenue Service regulations Commerce in Explosives.

b. State Statute and Administrative Code

c. Non-regulating Industry Support Organizations:

(1) Vibration Subcommittee of the International Society of Explosive Engineers (ISEE), blast monitoring equipment operation standards (1999).

(2) IME (Institute of Makers of Explosives) Safety Library Publications (SLPs).

Legal Requirements: Comply with all applicable federal, state, and local laws pertaining to the purchase, transportation, storage, handling, and use of explosives. Obtain all required permits and licenses.

## 1.6 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Master Blasting Plan



Blasting Safety Plan  
Navigation Control Plan  
Test-Blast Plan  
Certified Marine Survey  
Pre-Blast Surveys  
Blasting Consultant's Qualifications  
Blasting Specialist's Qualifications  
Blaster-In-Charge Qualifications  
Blaster Qualifications  
Blasting Administrator's Qualifications  
Vibration Monitoring Specialty Firm  
Public Notice Of Blasting Operations  
Structural Inspection/Evaluation Specialist  
Fisheries Observer  
Marine Mammal Observer

SD-03 Product Data  
Explosives and Blasting Equipment  
Lightning Detection Device  
Seismographs  
Explosives, Boosters And Initiation System  
Blast Initiators  
Explosives And Blasting Agents  
Delay Device

SD-05 Design Data  
Individual Shot Plan

SD-06 Test Reports  
Test-Blast Evaluation Report  
Individual Shot Reports  
Drilling Logs

Individual Shot Vibration Monitoring Report

Individual Shot Videos

Daily Blasting And Removal Log

Blasting Consultant's Report

Post-Blast Surveys

Reports of Required Safety, Protective, and Natural Resource Programs

Post-Test Blast Evaluation Report

#### SD-07 Certificates

Blasting Licenses and Credentials

Seismic Specialist

Seismograph Technicians

Magazine Keeper

#### SD-11 Closeout Submittals

Summary Report

### 1.7 COORDINATION

A coordination plan, with the appropriate authorities that mitigates navigation and traffic delays must be included in the Master Blasting Plan.

Coordinate, through the Owner, with other Contractors working onsite to minimize work stoppages during blasting.

### 1.8 LIABILITY

Compliance with provisions in the contract will not relieve the Contractor of their responsibility for any damages or injuries caused by, related to, or arising out of blasting or associated blasting activities. Notwithstanding federal, state, and local laws, regulations and ordinances, the Contractor assumes all liability and hold and save the Owner, its agents, officers, and employees harmless for any and all claims for personal injuries, property damage, or other claims arising out of or in connection with the handling of explosives or blasting under this contract.

### 1.9 CLOSEOUT SUBMITTALS

On completion of the work, furnish a Summary Report, countersigned by the Blasting Specialist, certifying that:

- a. All blasting is complete and all explosives materials, including detonators, detonating cord, explosives, and any unmixed components of a two-component explosive system, have been removed from the PNSY project limits.
- b. All boreholes loaded with explosives and any other sets of

explosive charges have either been detonated or unloaded and explosives have been properly disposed.

## PART 2 PRODUCTS

### 2.1 MATERIALS

All project blasting will take place underwater. Only water-resistant explosives, boosters and initiation system are to be used. Furnished materials and equipment required for underwater blasting operations, monitoring, protection to structures and the environment, material usage, including transportation and storage, shall conform to all applicable regulatory agency and permit requirements.

A. Blast Initiators: Non-electric (NONEL) or electronic blast initiators shall be used. Cap and fuse method and electric detonators shall not be used.

B. Explosives and Blasting Agents: Type recommended by Blasting Consultant and explosive manufacturer, and as allowed by authorities having jurisdiction. All explosives must be contained in cartridges or other manufacturer's semi-rigid container and/or loose granular, free flowing, pourable or pumpable explosives.

C. Delay Device and Timing: As recommended by Contractor. Delay timing shall be no less than 17 ms.

### 2.2 TRANSPORTATION, STORAGE AND USE OF EXPLOSIVES

#### 2.2.1 General

Store, transport, handle, use, and otherwise secure explosives in accordance with best practices as approved by the Owner and in accordance with all Federal, State and Local laws and regulations. Comply with all special rules and regulations that may be made by the authorities having jurisdiction, or by the Owner, regarding construction of, and storage in magazines and precautions in blasting. Times and imposed restrictions concerning the use of explosives must be conducted in accordance with local, State, and Federal regulations. The Owner reserves the right to establish restrictions or time windows when blasting will not be allowed.

#### 2.2.2 Blasting Products

##### 2.2.2.1 Requirements

All explosive materials to be used on site must be proposed for approval in the Master Blasting Plan. Cartridged and bulk explosives may be used in different sections of the project. All explosive materials used on the project must be six months or less of age or no older than one half the shelf life shown on the explosives manufacturer's technical data sheet for that product. Millisecond delay, shock-tube initiators, must be used as the initiation system. To ensure the accuracy of firing times of blasting caps, it is required that each cap period come from one lot number. Mixing of lot numbers for any single cap delay period within a shot pattern is strictly prohibited. For underwater blasting's ability to displace rock against the water load, the minimum delay both between shot holes and shot rows will be 25 milliseconds.

#### 2.2.2.2 Prohibited Explosive Materials

Explosives that do not meet the manufacturer's specifications must not be used. Blasting products without date batch codes will not be permitted on site.

Bulk explosives, which are water sensitive, are strictly prohibited.

Detonation Cord is strictly prohibited for initiation transmission through the air and water to the shot holes. An approved non-electric shock tubing, proposed in the Master Blasting Plan, must be used to transmit the firing initiation to each shot hole. Detonation cord may be used within the shot hole by proper connection to the shock tubing beneath the highest elevation of firm-rock stemming.

#### 2.2.3 Magazines

No explosives will be stored onsite. There must be no permanent explosive storage or overnight explosive storage onsite. The Contractor will either obtain daily deliveries of the explosives to the site from a manufacturer or supplier or secure offsite explosive magazines.

The Contractor must have two temporary magazines on board the drilling and loading barge of sufficient volume to hold the largest day's use of explosives and initiators separately. These temporary magazines must meet all ATF requirements and all regulations and ordinances of state and local government. No explosives may remain overnight in the temporary magazines. A daily-use log of explosives delivered, loaded by shot hole through the day, and removed at the last shift must account for the use of all explosives.

#### 2.2.4 Magazine Keeper

Each magazine keeper must be experienced and familiar with the laws and general practices concerning the handling, care, use, and storage of explosives and detonators. The magazine keeper is responsible for maintaining a cleared area around each magazine. The magazine keeper will not be required to perform any duties that will in any way interfere with their duties as magazine keeper and being physically present at the magazines for every entry to the magazines for delivery, disbursement, and review of explosives at the magazines.

If explosives are delivered and returned daily from the manufacturer or supplier to the project, the driver of the truck will serve as the magazine keeper.

### PART 3 EXECUTION

#### 3.1 GENERAL EXCAVATION AND REMOVAL

Perform the excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Dredging, breakage, displacement, and excavation of all the materials will be accomplished by appropriate techniques and with special care, such that no individuals, cited natural resources, structures, navigation and other sensitive features, and activities suffer any adverse effects from blasting. Perform the submerged removal in accordance with the typical sections shown and the tolerances specified in paragraph SUBMERGED MATERIAL DISPOSAL.

The Contractor's blasting program and methods will be those controlled blasting techniques necessary to accomplish the excavation shown on the contract drawings in accordance with the procedures specified in this section. Make necessary plans, examinations, surveys, and test blasts to determine the quantity of explosives that can be fired to accomplish the breakage (or displacement) and removal of materials without injuries to persons, and aquatic wildlife (or other natural resources), or damage to personal or public property. Test blasts will be performed to slowly build to acceptable loading and timing of production shot patterns, to verify that the monitoring network performs as designed, to begin to assemble monitoring data collection, and to resolve that the submerged material is adequately broken or displaced for removal. Use the test blasting results to optimize remainder of work. The blasting program must abide by all applicable Federal, state, and local laws, regulations, and ordinances established for the project's location.

Process any and all claims of public entities, companies and private citizens arising from the transportation, storage, and use of explosives promptly in an acceptable time period set by the Owner; in particular, all injury and property damage claims must be acknowledged by the Contractor, or their representative, and be submitted immediately as directed by the Owner providing name of claimant, location, time and description of alleged injury, and damage, and estimated value. The claimed injury or damage will be evaluated and inspected by an appropriate specialist within 48 hours following initial notification, and processed to a conclusion (honored, denied, or compromised) within 90 days after cessation of all blasting on the contract; but, in no case will the claims remain unresolved for a period exceeding 6 months (180 calendar days). Submit evaluation and inspection results and actions taken to the Owner on a weekly basis.

### 3.1.1 Removal of Submerged Materials

#### 3.1.1.1 Sediment Within the Project Limits for Removal Displacement

Sediment vertically above the project rock limits must be removed by dredging, prior to action upon deeper materials.

#### 3.1.1.2 Breakage of Rock and Hard/Unyielding Materials for Excavation and Disposal

Blasting may be conducted to break or displace the rock and hard/underlying materials into sizes that may be removed by dredging or excavation equipment. Test blasting will be conducted to determine the parameters for the following production blasting. Care must be taken to prevent damage to any of the remaining specified materials, features or structures noted in the drawings; and avoid adverse effects from blasting to personnel, the public, natural resources, structures, and features. The Contractor must curtail blasting activities in designated areas when, in the opinion of the Owner, damage to in-place units or adverse impacts may have occurred. Blasting will be curtailed in these designated areas until both remediation, as directed by the Owner, has been completed, and the Contractor has resolved a means to conduct the blasting without the damage or adverse impacts.

#### 3.1.2 Disposal of Materials Within the Project Limits

Transport and place all dredged, displaced, or excavated materials within the limits of the disposal zones below the specified elevations, according

to the requirements specified in paragraph SUBMERGED MATERIAL DISPOSAL.

### 3.2 SAFETY PROCEDURES

#### 3.2.1 General

Ensure all work completed under this Contract is executed safely. Follow the safety procedures outlined in EM 385-1-1. EM 385-1-1 will govern all activity unless more stringent safety requirements are specified in other applicable Federal, State, and local laws, regulations, and ordinances.

#### 3.2.2 Weekly Coordination Meeting

Coordinate all blasting schedules with the Owner at least one week in advance and hold a weekly blasting coordination meeting with the Owner. Provide an agenda for the blasting coordination meeting that lists project's prior week's shots, the forecasted shot schedule, and displays a scale site plan showing the locations of the schedule shots. The Blasting Specialist, Blaster in Charge, and Seismic Specialist are required to participate in discussion of agenda items and lessons learned.

#### 3.2.3 Public Notice of Blasting Operations

Thirty days, prior to any blasting operations, prepare and submit to the Owner a public notification letter of the proposed blasting activities. The Owner will distribute copies of this notification letter by certified mail to local governments, law enforcement, public utilities, public users of project recreational facilities, and residents and commercial interests located within one half mile of the blast site. This notification letter must contain at minimum:

- a. Name, address, telephone number and e-mail address of the Contractor;
- b. Plan maps identifying the specific areas in which blasting will take place, and major and secondary roads, geographic features and auxiliary features;
- c. Duration of blasting activities, and on which days of the week and hours of the day that blasts can be expected to occur;
- d. Vehicular and pedestrian traffic control measures to be taken;
- e. Methods to limit access to the blasting area; and,
- f. Types, patterns and duration of audible warning and all-clear signals to be used before and after blasting.

#### 3.2.4 Public Meetings

Fifteen calendar days prior to any blasting operations, provide the approved Blasting Specialist, Blasting Consultant, and Seismic Specialist to attend a public-relations meeting to be conducted on an evening to be determined by the Owner. This meeting will inform the public about the anticipated blasting operations. The Blasting Specialist, Blasting Consultant, and Seismic Specialist must each make a short presentation of blasting operations and answer any questions pertaining to public concerns dealing with the blasting operations, the magnitude of vibrations, airblast and potential for flyrock that may impact the public, and the project's required natural resource activities. Distribute points of contact should

the public and local entities have an event of concern related to the blasting program.

### 3.2.5 Warnings and Signals

Establish a method of warning all employees on the job site of an impending blast following the guidance of EM 385-1-1. The signals must consist of a five-minute warning signal to notify all in the area that a blast will be initiated in five minutes. A second warning signal must be sounded one-minute before the blast. After the blast is over, sound an all-clear signal, once the blast site has been inspected for misfires by the Blaster in Charge to notify all in the area that the blasting operation is finished. No personnel other than the Blaster in Charge must enter the blast area, until it has been determined to be all clear.

### 3.2.6 Notification to Navigation

Notify the NHDOT a minimum of 14 calendar days prior to the commencement of blasting operations to allow for sufficient time to send out navigation notices. The information to be supplied will include the dates and time window of blasting operations.

### 3.2.7 Navigation Control During Drilling, Loading, and Blasting Operations

Notify the Coast Guard 24 hours prior to a scheduled blast and 2 hours prior to the actual blast's initiation. Contact should be made with: US Coast Guard's contact, whose name and an alternate's name will be provided at time of contract award.

Provide the number of patrol vessels as required by the U.S. Coast Guard and local harbormaster. Operate patrol vessel during blasting operations equipped with a visible yellow flashing light, audible horn, and radio with a hailer, whose sole function will be to monitor and maintain security in the blast area. Use patrol vessels during all blasting operations. Inspect and insure there is no vessel traffic within the work area prior to the firing of the blasting caps and until such time as the Contractor has sounded the "All-Clear Signal".

Establish and maintain a warning system as required by EM 385-1-1 and as stated in paragraph WARNINGS AND SIGNALS. Equip and maintain the floating plant with radio equipment capable of communications with the Coast Guard. The Contractor, after each blast, upon inspecting the area, notify the Coast Guard and the Owner if all clear or misfire is noted. Buoy the area with warning signs. The warning signs are to be legible at a distance required by the U.S. Coast Guard and local harbormaster and contain the message "DANGER - EXPLOSIVES IN USE" visible on either side of the sign. Station patrol vessels at the drill barge and remain in the blasting area during all blasting operations.

### 3.2.8 Lightning Detection Device

Furnish, maintain, and operate lightning detection equipment during the entire period of blasting operations and during the periods that explosives are used at the site. Equipment must provide real time audio and visual alarm/signal and detection based on combined detection of electromagnetic, electrostatic, light wave spectral and audio disturbances, or a commercial service based on these, as a minimum for approved. Equipment must be capable of detecting lightning within 25 miles as a minimum of the blast area. Provide the equipment after approval. When and where the lightning

detection device indicates a blasting hazard potential, immediately evacuate personnel from all areas where drilling is being conducted or explosives are present. When a lightning detector indicates a blasting hazard, perform the following actions.

- a. Clear the blasting area of all personnel. Place guards at all access points to the blast area.
- b. Immediately notify the Owner of the potential hazards and precautions being taken.
- c. Terminate the loading of holes and secure the unused explosives to an approved location.
- d. When the hazard dissipates, inform the Owner that the drilling and loading of holes will continue.

### 3.2.9 Drill-Boat or Barge Safety

All onboard day magazines must be permanently secured to the deck as required by the Coast Guard. No high explosives will be stored on the boat or barge deck in the open except for the one case that is to be loaded immediately into the shot holes. Any explosives remaining on deck must be returned to the day magazine prior to the firing of any blast. The firing line reel or spool will be mounted on the rig in a manner that it cannot be lost overboard. An approved blasting machine will be used for detonation regardless of the number of caps used. No electric blasting system can be used. The amount of explosives permitted aboard the drill boat or barge at any one time will be subject to the approval of the Owner, but in no case will such amount exceed the amount permitted by appropriate codes and regulations.

Make necessary arrangements to prevent damage to any vessel, moored or underway, building or structure and to preserve the crew or occupants thereon from exposure to injury because of the Contractor's operations. Automatic fire extinguishers of an appropriate type must be installed on air compressors and in all engine compartments aboard vessels (drill boats, barges) where explosives are stored, handled, and used. The Owner may require additional arrangements. Have a Certified Marine Survey of all floating plant proposed for underwater blasting work on this contract performed prior to starting any work and provide the results to the Owner. Remote fuel shut-offs and fire-signaling devices must be provided aboard the drill boat.

### 3.2.10 Inspection for the All-Clear Signal

The Blaster in Charge must thoroughly inspect the entire blast area for a minimum of five minutes following a blast. The five-minute delay between blasting and commencing work is needed to ensure that no misfires have occurred. Details of the misfire procedures were provided in the Blasting Safety Plan, including the distance of the restricted area when a misfire is discovered.

#### 3.2.10.1 Check for Misfires

During the five-minute delay, it is the responsibility of the Blaster in Charge to enter and inspect the shot-pattern area and verify for all loaded shot holes that all explosives have been detonated.



### 3.2.10.2 Misfire-Handling Procedures

Should an inspection indicate that complete detonation of all charges did not occur, only critical personnel involved in the blasting operation or excavation of the unexploded material are allowed within the established shot-pattern area. Restrict the site until the Blaster in Charge or the Blasting Specialist indicate the site is safe. If the misfire poses problems that cannot be safely corrected by the Blaster in Charge or the Blasting Specialist, a consultant, or an explosives company representative skilled in correcting misfires must be called to resolve the problem. Provide within 60 minutes of the recognition of a misfire, a notice to the Owner and all applicable agencies and offices for public safety. Compliance with this or any other provision in the Contract will not relieve the Contractor of responsibility for any damages or injuries caused by, related to, or arising out of blasting or associated blasting activities.

Provide the details of the misfire and the correction measures in the Individual Shot Report for shot with the misfire to the Owner and the emailed addressees the next business day.

### 3.2.11 Natural Resource Protection (Environmental Resource Protection)

The Contractor is required to utilize the following to avoid and minimize techniques designed to mitigate the impacts of underwater blasting that have been developed, in coordination with other Federal agencies, in compliance with the federal, state, and local environmental laws and regulations and with applicable regulations and requirements of Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. All activities requiring the Contractors' action or coordination are included in paragraph NATURAL RESOURCE ASSESSMENTS, Mitigation and Monitoring. The Contractor has full responsibility for not violating all the mitigation requirements. Associated fines for violations will be borne by the Contractor.

## 3.3 OPERATIONAL REQUIREMENTS

### 3.3.1 Coordination

#### 3.3.1.1 Schedules

Coordinate schedules for blasting with the proper authorities, federal, state, local. No blasting will be conducted unless the Contractor is notified by the appropriate parties that blasting may proceed. In addition, if channel restrictions of navigable waters are required for drilling and blasting, the Contractor must coordinate with the U.S. Coast Guard.

#### 3.3.1.2 Permits

Obtain all necessary permits from the state and local authorities to transport explosives and all blasting agents necessary. The Owner will be notified in writing that all permits have been obtained and will be furnished copies of all permits. All work must be in accordance with the issued permits.

### 3.3.2 Work Restrictions

#### 3.3.2.1 Confined Detonations

The rock excavation after blasting will be more effective if each loaded drill hole is well confined by stemming within sound rock. The intent is to confine the gaseous detonation products of each shot hole, such that no rifling plumes, the visual result, are produced in any shot patterns. The premature release of the gaseous products reduces or eliminates effective fracturing and displacement and causes large water-borne pressures potentially damaging to natural resources. Drill-hole logging is required to recognize the depth of firm rock and voids, and to adjust the designed Individual Shot Plan loading of each shot hole with explosives and stemming according to the position of sound rock relative to the paid elevation of removal. Video recording of each blast will detail the effectiveness of avoiding rifling plumes.

#### 3.3.2.2 Temporal, Weekly and Seasonal Restrictions for Blasting

Blasting must occur between November 15 and March 15. Blast initiation is only permitted, during the period from one-hour after sunrise to one-hour before sunset. The Contractor will not be constrained by weather conditions, except for lightning, for underwater blasting in depths of water greater than 3.0 ft for which airblast is often negligible. Drilling and blasting must take place between November 15 and March 15.

#### 3.3.2.3 Allowable Vibration

Conduct all the required monitoring as noted in paragraph IMPACT MONITORING. Conduct all blasting by controlled blasting methods to avoid exceeding the allowable vibration in applicable federal, state, and local laws, regulations and ordinances at all structures and facilities, as monitored by blast seismographs.

The allowable vibration at any structure or facility must not exceed the maximum PPV of 2.0 inches/second (ips), nor exceed the PPV amplitude in the Frequency versus Particle Velocity Graph Figure in NFPA 495 (Figure 11.2.1) for the frequency of the half-cycle amplitude.

#### 3.3.2.4 Limiting Blast-Induced Vibrations at Green Concrete

During the performance period, other construction activities may be placing concrete at varied locations on or near the project. Coordinate with other project contractors.

- a. Assuree that a seismograph is monitoring vibrations from blasting at a location, which is closer to the blast pattern than the Green Concrete. Seismic monitoring must be conducted near the concrete placement from prior to placement until 72 hours after placement.
- b. The table below indicates that maximum allowable peak particle velocity (PPV) permitted, relative to the age of the recently-place concrete, as measured at an acceptable location or within 50 ft of the most recently placed concrete on the side of closest approach to the blast.

Age of Concrete (hours)	less than 12	12 to 24	24 to 72
PPV (inch/second)	0.1	1.0	2.0

- c. Adjust all blasting to conform to the table's maximum allowable PPV at the seismograph near the Green Concrete. See paragraph BLAST-EFFECTS MONITORING.

### 3.3.2.5 Allowable Airblast

Conduct all the required monitoring as noted in paragraph IMPACT MONITORING. Conduct all blasting by controlled blasting methods to avoid exceeding the allowable airblast in applicable federal, state, and local laws, regulations and ordinances at all structures and facilities, as monitored by blast seismographs. Peak airblast overpressure must be held below 133 dB (linear peak scale), 0.015 pounds/square inch (psi) at the nearest residential or inhabited structure or other designated location.

## 3.4 BLASTING PERSONNEL

### 3.4.1 Blasting Consultant

The Blasting Consultant, Blasting Specialist, Blasting Administrator, Blaster in Charge, and Vibration Specialist cannot be the same person. Retain a recognized Blasting Consultant to assist both with the project's blast design and with the resolution of any blasting issues for the project. Submit the Blasting Consultant's expertise submission within 15 days of the Notice to Proceed. The Blasting Consultant must be approved by the Owner two weeks prior to the submission of the Master Blasting Plan.

#### 3.4.1.1 Blasting Consultant's Responsibilities

The Contractor's Blasting Consultant must be available to review the Master Blasting Plan, assist with controlled blasting techniques, and resolve difficult or complex issues with blasting for the project. The Blasting Consultant will recommend controlled blasting methods, as necessary, to meet safety and natural resource requirements, retain airblast and vibration within the allowable limits, and protect the rock foundation. Proposed controlled blasting methods must be submitted in the Master Blasting Plan.

The Blasting Consultant must provide advice for, and review, the Master Blasting Plan, attend the public meeting(s), and be available for consultation on an "as needed" basis, as determined separately by the Contractor or by the Owner. The Blasting Consultant is not required to be at the project site for review of the Master Blasting Plan or of any specific shot plans or records. The Blasting Consultant must be present at the project site for any required shot issue or, if requested, for the subsequent shot following a misfire or significant exceedance of any onsite blasting issues.

The Blasting Consultant must provide a written summary of all site visits and special assignments within 2 business days of performing such actions to both the Contractor and the Owner.

The Blasting Consultant must submit a short, signed Blasting Consultant's Report each month stating that he/she has briefly reviewed the individual shot documents, including blast videos, and has collaborated with the

Contractor on all issues, concerns, or errors in the individual shot documents. This report is due within 3 business days after the end of the month.

If problems with vibration, airblast, rifling of a shot hole producing a water column plume, or production blasting occur, the Owner will require the Contractor to immediately summon the approved Blasting Consultant and have their presence on site within 10 days after the problem develops to:

- a. Approve each Individual Shot Plan;
- b. Observe in person shot-hole drilling, logging, revision to that hole's plan, and loading with the full authority to stop or delay any blast he/she considers unsafe;
- c. Review and sign each Individual Shot Record at no additional cost to the Owner; and,
- d. Submit and sign a written checklist that all necessary precautions were reviewed and followed by the drilling and blasting crews.

The checklist must be as defined under the section on Individual Shot Reports. The signed checklist must be attached to each Individual Shot Report.

#### 3.4.1.2 Blasting Consultant's Expertise

The consultant must be able to demonstrate involvement in at least 15 projects with controlled blasting. The consultant must provide, as a minimum, the credentials and experience for each outlined following items:

- a. The consultant must have at least 10 years of experience in construction blasting within 250 ft of protected structures, and had consultation on three underwater blasting programs;
- b. The consultant must be able to demonstrate that he has attended at least 15 short courses, seminars, or conferences on blasting technology, or university engineering class studies on blast design during the past 20 years, including a complete understanding of blasting seismology with emphasis on vibration frequency, acceleration, and displacement (ground strain);
- c. For the past 10 years the consultant must have derived their primary source of income from providing specialized blasting consulting services;
- d. A list of recent projects containing a description of the projects' details, summarize the blasting plans, and any modifications made during the projects from your consulting;
- e. Provide the names and telephone numbers of contacts, who have sufficient stature with, and knowledge of, their individual project to verify the submitted information in competency and ability, for at least three recent projects;
- f. Hands-on experience as a blaster for at least 3 years; and,
- g. The Blasting Consultant, Blasting Specialist, Blaster in Charge, and Seismic Specialist cannot be the same person.

### 3.4.1.3 Blasting Consultant's Qualifications Submissions

Submit the resume, education, experience, current blasting licenses and credentials, and training of the proposed Blasting Consultant, and a formal letter of commitment from the consultant verifying their availability on an "as needed" basis for the duration of the Contract. The consultant must be a drilling and blasting expert, who has derived their primary source of income by providing specialized blasting and blasting consulting services. The provided consultation must have included at least three, large underwater blasting projects. The consultant must not be an employee of the Contractor, an explosives manufacturer, an explosives distributor, or any other sub-contractor. There must be no additional cost to the Owner for the Blasting Consultant's duties, even when required by the Owner.

### 3.4.2 Blasting Specialist

The Blasting Specialist is the Contractor's employee most responsible for the project's blasting and conducting all coordination and providing all documentation for the underwater blasting. The Blasting Specialist must coordinate with the Owner on all issues dealing with blasting. The Blasting Specialist must be on the job site each day. The Contractor must submit the Blasting Specialist's expertise submission within 15 days of the Notice to Proceed. The Blasting Specialist must be approved by the Owner two weeks prior to the submission of the Master Blasting Plan.

#### 3.4.2.1 Blasting Specialist's Responsibilities

The Blasting Specialist is responsible for the project's blast design, preparing and submitting all necessary blasting documentation, and conducting quality control. The Contractor may employ a documentation assistant to aid the Blasting Specialist with all the blasting documentation creation and submissions. The Blasting Specialist is solely responsible for the accuracy and timely submission of all blast documentation.

#### 3.4.2.2 Blasting Specialist's Expertise

The Blasting Specialist must be able to demonstrate involvement in at least three projects with underwater blasting. The Blasting Specialist must provide, as a minimum, the credentials and experience for each outlined following items:

- a. The proposed individual must have at least 10 years of verifiable experience utilizing controlled blasting techniques and have had conducted controlled blasting on three underwater projects;
- b. Within the last five years, the proposed individual must have completed at least five days of classroom training that has familiarized the person with the most current drilling and controlled blasting methods;
- c. The proposed individual must be a licensed blaster in the State of New Hampshire and hold all credentials that may be required by local jurisdictions;
- d. In the last five years the proposed individual must have been responsible for the blast design or execution of underwater rock excavation projects, similar in scope and complexity as this project;

- e. The names and telephone numbers of contacts, who have sufficient stature with, and knowledge of, their individual project to verify the submitted information in competency and ability, for at least three underwater blasting projects; and,
- f. The Blasting Consultant, Blasting Specialist, Blaster in Charge, and Seismic Specialist cannot be the same person.

#### 3.4.2.3 Blasting Specialist's Qualifications Submission

Submit the resume, education, experience, current blasting licenses and credentials, and training of the proposed Blasting Specialist. Their credentials must include a list of the projects, including the location, duration, scope, description, geologic conditions, and the challenges that developed through the course of the projects and how the challenges were resolved.

#### 3.4.3 Blaster in Charge

The Blaster in Charge may create the Individual Shot Plan for approval by the Blasting Specialist. The Blaster in Charge, in the absence of the Blasting Specialist, is the Contractor's employee responsible for on-deck supervision of all underwater blasting activities and its documentation. The Contractor must submit the Blaster-in-Charge's expertise submission within 15 days of the Notice to Proceed. The Blaster in Charge must be approved by the Owner two weeks prior to the submission of the Master Blasting Plan.

##### 3.4.3.1 Blaster-in-Charge's Responsibilities

The Blaster in Charge, in the absence of the Blasting Specialist, is responsible for on-deck supervision of the drilling, shot-hole logging, possible revisions of the Individual Shot Plan, loading or abandoning of individual shot holes, and firing the blast. The Blaster in Charge is responsible for: the accurate placement of the shot holes' locations for drilling; conducting the drilling and shot-hole logging accurately; accounting for the relevant geology within each shot-hole's log; assuring the careful recording of every shot-hole's log and their submission with the Individual Shot Report; loading the blastholes according to the Individual Shot Plan or the revision thereto based on the shot-hole's log; coordinating the likely time of the blast pattern's initiation; coordinating all notices of imminent blasting and providing the signaling before and after the shot; initiating the blast; performing the post-blast inspection; providing the All-Clear signal or instituting the notices and actions for a misfire; and, providing the documentation for, and signing, the Individual Shot Report.

##### 3.4.3.2 Blaster-in-Charge's Expertise

The Blaster in Charge must be able to demonstrate involvement in at least two projects with underwater blasting. The Blaster in Charge must provide, as a minimum, the credentials and experience for each outlined following items:

- a. The proposed individual must have verifiable experience in equivalently responsible roles for controlled blasting projects for at least 3 years and with underwater projects;
- b. Within the last 5 years, the proposed individual must have completed at

least five days of classroom training that has familiarized the person with the most current drilling and controlled blasting methods;

- c. The proposed individual must be a licensed blaster in the State of New Hampshire and hold all credentials that may be required by local jurisdictions; and,
- d. The Blasting Consultant, Blasting Specialist, Blaster-in-Charge, and Seismic Specialist cannot be the same person.

#### 3.4.3.3 Blaster-in-Charge Qualifications Submission

Submit the resume, experience, current blasting licenses and credentials, and training of the proposed Blaster-in-Charge. Their credentials must include a list of the projects, including the location, duration, scope, description, geologic conditions, and the challenges that developed though the course of the projects and how the challenges were resolved.

#### 3.4.4 Blasters

The Contractor may elect to employ multiple Blasters. Each Blaster is a Contractor's employee responsible for on-deck, underwater drilling and blasting activities under the supervision of the on-deck, Blasting Specialist or Blaster in Charge, whoever is present. The Blaster in Charge or a Blaster will log each shot hole, as the hole is being drilled. Each Blaster must be approved by the Owner after the submission of the Master Blasting Plan.

Blaster qualifications require each Blaster must be able to demonstrate prior experience with drilling and blasting. The proposed individuals must be a licensed or certified blaster in the State of New Hampshire and hold all credentials that may be required by local jurisdictions. Submit the resume, experience, current blasting licenses and credentials, and training of each proposed Blaster with the Master Blasting Plan.

#### 3.4.5 Blasting Administrator

The duties of the Blasting Administrator are to be the direct assistant of the Blasting Specialist in preparing all necessary paperwork, and in performing quality control on all issues dealing with blasting. The primary function is to assist the Blasting Specialist in the preparation and completion of submittals, prepare the detailed post blast report, and the individual shot videos for submittal to the Owner, and submit the drilling logs with the post blast report. The Blasting Administrator cannot sign any paperwork. The Blasting Administrator must be approved by the Owner.

Blasting Administrator's qualifications require the Blasting Administrator to possess the following minimum qualifications and experience:

- a. Holds a current Blaster's license;
- b. Have prior experience in underwater blasting;
- c. Must have completed at least five days of classroom training within the last five years that has equipped the person with the most current knowledge in blasting procedures; and the software to be used on the project; and,

- d. Have proven proficiency with blasting software and spreadsheets.

#### 3.4.6 Vibration Monitoring Specialty Firm

Retain the services of a vibration monitoring specialty firm that specializes in the prediction, monitoring, and control of ground vibration and airblasts. The firm must have experience conducting installation of seismographs for vibration monitoring, communicating vibration and airblast results, and developing and maintaining a site attenuation curve. The firm must have on staff at least two Seismic Specialists that specialize in vibration monitoring and analysis. The firm must have on staff at least four Seismograph Technicians that have five years or more experience with seismograph installation and vibration monitoring. Submit resumes for all personnel and for the firm for approval citing, in addition to other pertinent data, experience, training, and education, at least 60 days prior to the commencement of blasting. The Seismograph Technicians must be persons capable of setting up the seismographs at designated locations, effectively recording the blast, and appropriately interpreting results. The Seismic Specialists must interpret the seismograph records to ensure that the seismic data must be effectively utilized in the control of the blasting operations with respect to the existing structures. The Seismograph Technicians must supervise the placement, operation, and maintenance of the seismographs. The Seismic Specialists must conduct the airblast and particle velocity regression analysis as described in this Section. The Owner may require the Seismic Specialists and Seismograph Technicians to be present during the test blast program, production blasting, or both.

#### 3.4.7 Seismic Specialist

The Contractor will retain the services of an independent, seismic-monitoring firm with employees capable of monitoring, assessing, and predicting vibrations and airblast due to blasting. The Seismic Specialist must be an employee of the independent, seismic-monitoring firm, and must not be an employee of the Contractor. The Seismic Specialist will conduct, or assure the actions are being taken to obtain, the required blast seismograph monitoring for the project. The Seismic Specialist will supervise all Seismograph Technicians deployed to the project to deploy and maintain all the seismographs for recording vibrations and airblast, and to properly retain, store and submit all seismic records of the blasting. The Contractor must submit the independent, seismic-monitoring firm's, Seismic Specialist's expertise submission within 15 days of the Notice to Proceed. The firm and Seismic Specialist must be approved by the Owner two weeks prior to the submission of the Master Blasting Plan.

##### 3.4.7.1 Seismic Specialist's Responsibilities

The Seismic Specialist must be a person able to deploy blast seismographs, effectively record and transmit the seismic data, comprehensively assess, and interpret seismic data regarding the monitored blast's parameters, and remotely supervise the firm's Seismograph Technicians. The Seismic Specialist must also interpret the seismic records to ensure that the seismic data will be effectively utilized in the control of the blasting operations with respect to the existing structures and conduct of an optimized blasting program.

##### 3.4.7.2 Seismic Specialist's Expertise

The Seismic Specialist must be able to demonstrate monitoring deployment,



seismic data assessment and interpretation, prediction of vibration and airblast from blasting, and remote supervision of field personnel for five blasting projects. The Seismic Specialist must provide, as a minimum, the credentials and experience for each outlined following items:

- a. The proposed individual must have verifiable experience in equivalently responsible roles for controlled blasting projects for at least 3 years;
- b. Within the last five years, the proposed individual must have completed at least five days of classroom training concerning seismic monitoring equipment, data telemetry, and seismic data interpretation;
- c. The Blasting Consultant, Blasting Specialist, Blaster in Charge, and Seismic Specialist cannot be the same person. The proposed Seismic Specialist and Structural Inspection/Evaluation Specialist may be the same person.

#### 3.4.7.3 Seismic Specialist Qualifications' Submission

Submit the credentials of the proposed seismic-monitoring firm with documentation for the Seismic Specialist. Submit the firm's history for this office, if there are multiple offices, years under the present office's leadership, the regional extent of clients, the approximate number of projects in the past year, and the number of present employees at this office. Submit the resume, education, experience, credentials, and training of the proposed Seismic Specialist. Their credentials must include a list of the projects, including the location, duration, scope, description, and the monitoring challenges that developed through the course of the projects and how the challenges were resolved. The documentation must provide experience and capability for the proposed Seismic Specialist to provide remote blast monitoring and supervision of support personnel while the individual is not on site.

#### 3.4.8 Seismograph Technicians

The approved, independent, seismic-monitoring firm may provide Seismograph Technicians to assist the Seismic Specialist with the project's vibration and airblast monitoring. Each Seismograph Technician must be approved by the Owner after the submission of the Master Blasting Plan.

Each Seismograph Technician must be able to demonstrate prior experience with blast seismic monitoring on a prior project of equivalent size and similar telemetry requirements. The proposed individuals must have the required training and hold all credentials that may be required by local jurisdictions. Submit the resume, experience, credentials, and training of each proposed Seismograph Technician with the Master Blasting Plan.

#### 3.4.9 Structural Inspection/Evaluation Specialist

Pre- and Post-Blast structural inspections must be performed by specialists with at least five years' experience in pre-blast and post-blast surveys. Submit the resume, education, experience, credentials, and training of the proposed Structural Inspection/Evaluation Specialist to the Owner with the Master Blasting Plan. The proposed Seismic Specialist and Structural Inspection/Evaluation Specialist may be the same person.

#### 3.4.10 Magazine Keeper

The Magazine Keeper and an Alternate are the Contractor's employees

responsible for explosive magazines and its record keeping. The position of Magazine Keeper is required only if the Contractor elects to have explosives' magazines under his control. The Magazine Keeper must be approved by the Owner after the submission of the Master Blasting Plan.

The Magazine Keeper must be familiar with the laws and general practices concerning the handling, care, use, and storage of explosives and detonators. The Magazine Keeper must be responsible for maintaining a cleared area around each magazine, and accounting for by record the throughput of explosives and detonators. The Magazine Keeper must be present for any transfer of explosives and detonators into or out of the magazines. The Magazine Keeper must not be required to perform any duties that will in any way interfere with his or her duties as Magazine Keeper.

The Magazine Keeper must be able to demonstrate prior experience explosives' magazines. The proposed individual must hold all credentials that may be required by the State of New Hampshire and local jurisdictions. Submit the resume, experience, credentials, and training of the proposed Magazine Keeper with the Master Blasting Plan.

### 3.5 RECORD KEEPING

#### 3.5.1 Pre-Blast Surveys

Prior to the commencement of blasting, conduct a pre-blast survey of nearest buildings, structures, and utilities within 1,000 ft from the blast area by azimuth about the blasting zone to document pre-existing conditions. The pre-blast surveys will be conducted by, or under the supervision of, the Structural Inspection/Evaluation Specialist, who will also sign and date each survey. The survey extent and method used must be acceptable to both the Contractor's insurance company and the Owner. Submit a copy of all pre-blast surveys at least two weeks prior to the first Test Blast. Provide owners of surveyed structures a copy of their Pre-Blast Survey before, or with the notice of, blasting commencement. Notify owners and occupants of local buildings 10 days prior to the commencement of blasting.

Perform the following when conducting pre-blast survey.

- a. Provide methodology to be used in conducting the pre-blast survey and listing of structures, determined from the survey to be sensitive, with reasons for these structures being sensitive.
- b. Each structure must be documented (including photography and video recordings) as to its construction, foundation type, condition, and closest distance to excavation blasting. The general condition and all observable defects of each structure must be documented.
- c. The Commodity storage facilities that may be impacted by blasting must be addressed by the Contractor for safety and continued operation during the blasting program.
- d. Freestanding structures (such as retaining walls) must be inspected on the exterior and on the interior as a room. All concrete walks, driveways, etc. must be inspected for cracks, level condition, holes, and defects.
- e. Industrial structures, silo/elevators and special facilities, and office space must be described relative to their present conditions and

tolerance to vibration. Besides the inspection of walls, columns and stairwells, the Contractor must survey the work areas and structures for distress.

- f. An inspection of accessible structures must be made and a list of all structures, which could not be surveyed or refused to allow survey, must be completed. The dates of possible subsequent surveys and physical constraints prohibiting the survey must be documented.
- g. Certify that the survey was prepared prior to the start of any blasting under this Contract.

### 3.5.2 Post-Blast Surveys

Post-blast surveys must be conducted at any location, where a reasonable notice of damage from blasting has been provided. Post-blast surveys will be conducted by, or under the supervision of, the Structural Inspection/Evaluation Specialist, who will also sign and date each survey. The survey extent and method used must be acceptable to both the Contractor's insurance company and the Owner. The post-blast surveys must be conducted within a week of the notice of damage from blasting. Submit a copy of all post-blast surveys within two business days of the on-premises surveys to both the structure's owner and the Owner.

### 3.5.3 Daily Explosives' Magazine Inventory and Daily Explosives' Accounting

Accurate daily records must be kept by the Magazine Keeper, who must account for each piece of explosive, detonator, and equipment from the time of delivery at the magazine until its discharge in use or return to the magazine. If explosive products will be delivered and returned daily, the records of the driver must agree with the amount used in the day and a copy of each driver's record must be provided with the Daily Blasting and Removal Log submission. No explosive can be accepted until it has been plainly labeled and delivered as new stock in sound condition. Dates of manufacture and lot numbers will be recorded for all explosives delivered to the site. No explosive material older than 1 year will be used. Containers for explosives must be approved in advance by the Owner. Remaining inventory must be checked each day and any discrepancies must be immediately reported, regardless of the potential of accounting error, loss, or theft of explosive material.

Should a loss or theft of explosives occur, all circumstances and details of the loss or theft must be immediately reported to the nearest office of Alcohol, Tobacco and Firearms, as well as to the local law enforcement authorities and the Owner.

## 3.6 BLASTING DOCUMENTS

### 3.6.1 Master Blasting Plan

The Master Blasting Plan must be submitted for approval by the Owner and by the environmental agencies before the first anticipated Test Blast. No blasting may be conducted prior to the approval of the Master Blasting Plan. No deviation from the Master Blasting Plan will be conducted by the Contractor. Any request for change or revision to the Master Blasting Plan must be provided in writing and approved by the Owner and environmental agencies before such change or revision can be performed. The Owner's Representative will have a minimum of 30 calendar days to review prior to submitting to the environmental agencies. The agencies will have a minimum

of 21 calendar days to review.

Submit a Test Blasting Plan within the Master Blasting Plan that includes calculations for all noted adverse impacts. Non-electric blasting caps must be used for all underwater shots. The Master Blasting Plan must contain provisions for storing, handling, and transporting explosives, as well as for the blasting operations. The means of surveying and locating the shot-hole positions horizontally and vertically must be described in detail within the Master Blasting Plan. Provide a signed statement by the Blasting Consultant that the plan represents a safe and efficient set of means and methods with which to achieve the goals of the work. The Master Blasting Plan must be submitted with the signature and date of the Blasting Specialist.

#### 3.6.1.1 Proposed Blasting Personnel

Submit all the approved and proposed blasting personnel and their required information from paragraph BLASTING PERSONNEL. List and copies of licenses, permits, and clearances required, including permit numbers, when applied for, and date of approval or anticipated approval by Federal, State, and local concerns. Provide their police records for every approved and proposed blasting individual. Submit the complete Project Team Organization with duties, responsibilities and authorities clearly defined. Identify the on-site Safety Officer and include a listing of all personnel authorized to sign for, receive and use explosives on this contract.

#### 3.6.1.2 Explosives and Blasting Equipment

Submit all the explosives, their use, and their data sheets for the project. Data sheets, which include the products' specific gravity and water resistance, for all explosives and blasting agents that may be used.

#### 3.6.1.3 Blasting Safety Plan

Submit Blasting Safety Plan, that is in accordance with EM 385-1-1, Section 29, and all other Federal, state, and local regulations. Implement all other applicable safety requirements in addition to that required below. Include, as a minimum, the following items.

- a. Permanently secure all onboard magazines to the deck as required by all applicable Code of Federal Regulations.
- b. Do not store explosives on the boat or barge deck in the open except for the one case that is to be loaded immediately into the shot holes. Return explosives remaining on deck to the day magazine prior to the firing of any blast. Clearly identify the location of the day magazine in the 'Blasting Safety Plan'.
- c. Mount the non-electric, shock tubing spool on the rig in a manner that it cannot be lost overboard. Use an approved blasting machine for detonation regardless of the number of caps used. Do not use an electric blasting system.
- d. Limit the amount of explosives aboard the drill boat at any one time to be in accordance with the amount permitted by appropriate codes and regulations. Do not exceed the amount permitted.
- e. Make arrangements to prevent damage to any vessel, moored or underway,

building or structure and preserve the crew or occupants thereon from exposure to injury as a result of the Contractor's operations. The Owner may require additional arrangements.

- f. Perform a certified marine survey of all floating plant proposed for underwater blasting work on this contract prior to starting any work.
- g. Install automatic fire extinguishers of an appropriate type on air compressors and in all engine compartments aboard vessels including but not limited to (drill boats, barges) where explosives are stored, handled, and used.
- h. Provide remote fuel shut-offs and fire signaling devices aboard the drill boats.
- i. Coordination Plans with the local Coast Guard office to provide notice of blasting and for vessel traffic control.
- j. Alert sequence signals and public notice of blasting and all clear. See paragraph PUBLIC NOTICE OF BLASTING OPERATIONS in this section.

#### 3.6.1.4 Navigation Control Plan

Submit the Navigation Control Plan in accordance with EM 385-1-1, Section 29, and all other Federal, state, and local laws and regulations. Implement all other applicable safety requirements in addition to that are required below.

Develop a Navigation Control Plan, which is incorporated into the Master Blasting Plan, that will provide the procedures required to maintain safe passage of all vessels during the project.

The Contractor will buoy the area with floating warning signs. The warning signs will be legible from a distance of 200 ft and must contain the message "DANGER - EXPLOSIVES IN USE" visible on either side of the sign.

Operate two or more patrol vessels during blasting operations equipped with a visible yellow flashing light, audible horn, and radio with a hailer, whose sole function will be to monitor and maintain security in the blast area. A patrol vessel will be stationed at the drill barge and remain in the blasting area during all blasting operations. Land oriented access control and visual observation locations should be determined and approved by the Owner. Inspect and insure there is no vessel traffic within the buoyed work area prior to providing the Shot's Warning Signals and until such time as the "All Clear Signal" has sounded. Establish and maintain a warning system as required by the Corps of Engineers Safety Manual. Equip and maintain floating plant with radio equipment capable of communications with the Coast Guard. After each blast, upon inspecting the area, immediately notify the U.S. Coast Guard and the Owner of the all clear or of a misfire.

#### 3.6.1.5 Production Blasting Design

No blasting, including the Test Blasting, may differ from the approved Master Blasting Plan. Shot-hole drilling must not begin until the Master Blasting Plan is approved in writing. Reflect changes to the blasting or monitoring procedures, equipment, plant, products or personnel in a revised Master Blasting Plan or portion thereof. Obtain approval from the Owner, in writing, prior to implementation of any Master Blasting Plan changes or

revisions.

Confine the loaded charge with angular, granular stemming materials, placed within competent rock, to perform the most work and to avoid a rifling plume from occurring within any shot hole. See paragraph STEMMING. The shortest delay period both between two adjacent shot holes and between two adjacent shot rows in the shot pattern is 25 milliseconds (ms). The maximum charge weight per delay may not exceed (to be determined) pounds of all combined explosives and blasting agents in each 25-ms delay period.

Include in the Production Blasting Design Section, as a minimum, the following items.

- a. Proposed method of transportation, storage, and handling of explosives.
- b. Procedure for monitoring the blast operations and handling misfires.
- c. Plan showing the intended layout of the shot-hole patterns, timing and sequence, anticipated burden dimensions and depth of sub-drilling for a specified maximum charge weight per delay. Identify each drill hole by a unique, sequential identifier.
- d. Typical size, depth, and spacing of blast holes; methodology to assure loading of explosives is only within sound rock; the maximum load density (in pounds per foot of drill hole length) and the maximum powder factor (in pounds of explosive per cubic yard of rock shot); type of explosive and method of loading and detonating; procedure to confine the charge with stemming; and maximum number of holes to be detonated for a production shot pattern. Initiation system to be deployed and the means to assure each shot hole fires on its own delay.
- e. Sequencing of delays for each shot hole that will be employed during blasting and the maximum explosive loading in pounds of explosive per delay.
- f. Indication as to whether decking or boosters will be used.
- g. Type and number of drill frames, including drill hole diameter, and expected production rates/day.
- h. Type of blast seismographs to be used, manufacturer, and when last calibrated or certified, and types of video cameras.
- i. The formats of all logs and reports to be used throughout the life of the project designed to record pertinent data before, during, and after the blasting operation. Pertinent information includes, but not be limited to, those items specified in paragraphs detailing the submittals.
- j. Names, office mailing addresses and phone numbers of Contractor's representatives (Blasting Consultant, Blasting Specialist, Blaster in Charge, and Seismic Specialist) to which any informational inquiries may be addressed.
- k. Location plan, manufacturer's literature, and parameters to be used in site selection for the blast seismographs and video cameras. The location of any other monitoring equipment, when used.
- l. The methods that will be used to prevent all cited adverse impacts

during the blasting activities, including protection of natural resources.

- m. Complete list of floating plant involved in production blasting operations.
- n. Within the blasting plan consider the multiple types of commercial vessels that will be on the water over the period of the excavation and removal program. Notify the sail/yacht clubs, etc., of plans to blast in advance and what traffic control and proximity restrictions will be implemented.
- o. Cite the methods to be used to recover and dispose of all shock cord/tubing and initiation transmission-line debris immediately following each shot.

#### 3.6.1.6 Test-Blast Plan

In conjunction with the Master Blasting Plan, submit a copy of the Test Blast Plan for review. The Contractor may be required to revise and resubmit the plan. Concurrence with the revised plan will not relieve the Contractor of responsibility to produce safe and satisfactory results as set forth by these specifications.

The test blast program must be conducted by the Contractor consisting of at least 3 test blasts, consisting of 5 to 10 blast holes, for underwater excavation. Demonstrate that the test blasting program complies with all requirements described within the specifications and meets the needs of the Contractor in determining the amount of rock breakage for the equipment being used. If the results of the test blast are determined to be unsatisfactory by the Owner's Representative, revise methods as necessary to achieve required results. All costs incurred by the Contractor in adopting revised blasting methods necessary to produce an acceptable test shot shall be considered incidental to the contract unit prices for controlled blasting. The test blast plan shall be conducted and reported in strict accordance with procedures outlined in the sections of these specifications covering Vibration and Air Blast Control and the following:

- a. The Contractor will not be allowed to drill ahead of the test shot area until the test section has been evaluated and approved by the Owner's Representative.
- b. Notify the Owner's Representative sufficiently in advance of each test blast in order for Owner representatives to be present during the test blasts.
- c. Each test blast program shall involve all drill boats that will be used for any portion of the contract. No drill boat shall be used for the contract that has not participated in a test blast program.
- d. After the test blasts, the examine the representative structures of the pre-blast survey as previously specified. All new damage resulting from the test blasting shall be reported in detail to the Owner's Representative, including photographs.
- e. Upon evidence of any damage to test structures, test blasting shall cease until the Owner's Representative has been notified, and adjustments made.

f. The test events must begin with a small number of charges and extend upward to the maximum yield to be used. The final test event shall simulate as close as practicable to the explosive charge type, size, overlying water depth, charge configuration, charge separation, initiation methods, and emplacement conditions anticipated for the production blasting. One copy of the record for the test blasts shall be submitted in tabular form to the Owner's Representative daily.

g. At the conclusion of the test blast program, the Contractor shall produce a Post-Test Blast Evaluation Report which examines all reports, surveys, test data, and other pertinent information and conclusions reached to produce a complete Operational Blasting procedure. Submit a copy of the Post-Test Blast Evaluation Report for review. In no event shall operational blasting plan proceed until review of the report's proposed blasting procedure has been completed. If the report's proposed blasting procedure is not acceptable, revise and resubmit the report. The report shall include sketches showing blasting patterns, weights of explosives, wiring, charge emplacement, and determination of the safe peak particle velocity (PPV) for all structures identified in the pre-blasting surveys. Four copies of the Post-Test Blast Evaluation Report shall be submitted for review to the Owner's Representative and upon completion of the review and acceptance; it shall be appended to and become a part of the Operational Blasting Plan.

#### 3.6.1.7 Marine Species Minimization Measures

The following minimization measures are required to protect marine species and must be included in the Master Blasting Plan.

- a. Stemming and decking of individual charges;
- b. Staggered detonation of charges in a sequential blasting circuit;
- c. Blasting during periods of slack tide
- d. Use of a fish detecting and startle system to avoid blasting when fish are present or transiting through the area;
- e. Require the use of sonar and the presence of a fisheries and marine mammal observer;
- f. Prohibiting blasting during the passage of schools of fish, or in the presence of marine mammals, unless human safety is a concern.

#### 3.6.2 Individual Shot Plans

Submit an Individual Shot Plan 24 hours prior to any subsequent drilling and blasting for that shot pattern. The format may utilize a spreadsheet for ease data entry but requires an actual signature and handwritten date for its submission.

Prior to each blast, including Test Blasts, the Contractor must submit for the Owner's documentation a plan detailing all the data required in the Individual Shot Plan's format of the approved Master Blasting Plan. The plan will provide all the pertinent aspects of the blast design including, but not limited to, the loading, firing, delay sequence, and special considerations. The Individual Shot Plan will provide the location and depth of holes, inclination of all holes that will not be vertical, the proposed depth and the spacing of the blast holes, amount, and strength of



explosives per hole and per pattern, the proposed sequence of firing and time delays, and estimated time and day for the pattern's initiation. Each proposed shot pattern will be designed by the Contractor's Blasting Specialist with changes being determined by observation of the way the rock breaks as the operations progress. The Contractor must take such precautions as are necessary to prevent displacement, cracking or damaging the rock outside the prescribed limits of dredging or excavation. The rock outside the limits of the dredging must be left in as sound and undamaged a condition as possible.

- a. Submit an Individual Shot Plan to the Owner, with the anticipated plan for the next shot pattern prior to drilling the shot holes. Furnish each submitted Individual Shot Plan as a signed paper copy and in digital form to the e-mail listing required by the Owner. The Individual Shot Plan may be developed in a format that easily provides data that remains the same for the actual shot information in the Daily Blasting and Removal Log and the Individual Shot Report with its included reports.
- b. The Individual Shot Plan includes, as a minimum, the following items:
  - (1) The shot pattern's name/number, coordinate locations of the outermost holes of the shot pattern, any specific purpose for the shot, the anticipated time, date, weather conditions, and the water conditions and its elevation at the anticipated time of the shot;
  - (2) The total number of holes to be shot, the shot-hole diameter, the total weight of explosives, number of delays, load density and powder factor for the shot, the maximum charge weight per delay, the closest approach, scaled distance and estimated PPV and airblast overpressures at each monitoring location;
  - (3) A large-scale plan map depicting the proposed layout of shot hole pattern, timing and delay sequence;
  - (4) An elevation sketch showing a typical hole's loading from the water surface to the bottom of the drill hole with an elevation scale, including the elevation of the removal grade, the top of sound rock, the top and bottom elevation of stemming, the top and bottom position of explosive materials, and the position of all detonators, boosters and primers in the hole;
  - (5) A tabular listing, which may be a printed spreadsheet page, by hole in the ascending total delay time order by the describing: row and number within the row of the shot hole, total delay time, the total charge weight of explosive materials for the entire hole, the largest charge weight of any deck within a hole on a separate 25-ms delay if any, top of sound rock elevation, bottom hole elevation or the top of stemming elevation at the bottom of a shot hole that was over-drilled in depth and backfilled, stemming elevations, and detonator, primer and booster elevations in the hole;
  - (6) The estimated PPV and airblast overpressure at each seismograph location and the lateral close approach distance from the shot pattern to each seismograph;
  - (7) the means to remove and dispose of all shock cord/tubing and/or

initiation transmission-line debris immediately following the shot;

- (8) The name, title, and signature of the Blasting Specialist providing the form with the date of the signature.

### 3.6.3 Test-Blast Evaluation Report

Provide a report summarizing the Test Blasting and submit the report with the Individual Shot Report of the first apparently successful production shot.

### 3.6.4 Individual Shot Reports

Submit an Individual Shot Reports, both in writing to the Owner and by e-mail distribution to the required e-mail addresses, on the next business day and prior to any subsequent drilling and blasting for the next shot pattern. The supporting reports related to each shot pattern, which was not included with the Individual Shot Report, must be provided with their required data by the submission date of each supporting submission. The Individual Shot Report may utilize the spreadsheets, maps, and sketches of that shot's Individual Shot Plan, which have been corrected or revised for the actual shot-hole use, loading, timing firing, and observed or recorded impacts.

Submit for the Area Office's documentation a specific set of reports of all the actual information from an initiated shot pattern, including Test Blasts, required in the Individual Shot Report's format of the approved Master Blasting Plan. The record will provide all the pertinent aspects of the blast design including, but not limited to: the time, date and weather conditions at the blast's initiation; proposed shot holes that were abandoned; the actual shot holes' positions and elevations of stemming, loading, decking, its delay and firing sequence, and special considerations; the total weight of explosives and the maximum charge weight per delay for the pattern; all pertinent factors about signaling and providing the all-clear signal; the peak particle velocity of all seismographs; and, any delays to shot initiation and all blast impediments, including by not limited to, shot-hole rifling plumes, observed impacts from blasting, misfiring, and reports of damage from blasting. The Individual Shot Report will include or be followed with all the supporting reports from the shot pattern. Each Individual Shot Report will be signed by the Contractor's Blasting Specialist or Blaster in Charge, whoever initiated the shot pattern's firing. Take such precautions as are necessary to prevent displacement, cracking or damaging the rock outside the prescribed limits of dredging or excavation. The rock outside the limits of the dredging must be left in as sound and undamaged a condition as possible.

- a. The Individual Shot Report may be developed in a format that easily provides data that remains the same from the proposed design of the Individual Shot Plan and the actual shot information for the shot's supporting reports and in the Daily Blasting.
- b. The Individual Shot Record includes, as a minimum, the following items:
  - (1) The shot pattern's name/number, coordinate locations of the outermost holes of the shot pattern, any specific purpose for the shot, the anticipated time, date, weather conditions, water conditions and its elevation at the time of the shot;

- (2) The total number of holes to be shot, the shot-hole diameter, the total weight of explosives, number of delays, load density and powder factor for the shot, the maximum charge weight per delay, the closest approach, scaled distance and recorded PPV and airblast overpressures at each monitoring location;
- (3) A large-scale plan map depicting the layout of shot hole pattern, timing, and delay sequence;
- (4) A tabular listing, which may be a printed spreadsheet page, by the loaded shot hole in the ascending total delay time order by the describing: row and number within the row of the shot hole, total delay time, the total charge weight of explosive materials for the entire hole, the largest charge weight of any deck within a hole on a separate 25-ms delay if any, top of sound rock elevation, bottom hole elevation or the top of stemming elevation at the bottom of a shot hole that was over-drilled in depth and backfilled, stemming elevations, and detonator, primer and booster elevations in the hole;
- (5) The recorded PPV and airblast overpressure at each seismograph location and the lateral close approach distance from the shot pattern to each seismograph;
- (6) The removal and disposal of all shock cord/tubing and initiation transmission-line debris immediately following the shot;
- (7) A short narrative of any peculiarities or impediments or adverse impacts or accident/misfire with the shot, if any;
- (8) The name, title, and signature of the Blasting Specialist providing the form with the date of the signature.

#### 3.6.4.1 Drilling Logs

The Blaster in Charge or a Blaster with the assistance of the driller will log each shot hole, as the hole is being advanced. No drilling will be initiated without the Blaster in Charge or a Blaster to log the hole by a measurement means of drill bit's depth, the downward rig pressure, advancement rate of drilling, and air-water return of cutting with the driller's full assistance. The log must record the material encountered at the drill bit's depth to a precision of 0.1 ft. The drilling for each shot hole must be assessed to determine, and the log must record, the vertical depth/elevation of encountering sediment, weathered rock, the Top of Firm Rock, and voids to the total drilled depth. The shot-hole logs for all the shot holes in a shot pattern must be provided at the same time as the Individual Shot Report. An acceptable sample drilling log is provided in EM 1110-2-3800.

#### 3.6.4.2 Individual Shot Vibration Monitoring Report

After each shot, submit an Individual Shot Vibration Monitoring Report, which will require the use of blast seismographs, to measure the vibration created from the blasting activities. Submit the Individual Shot Vibration Report to the Owner by or before Noon of the second business day following the shot, which is being reported. Submit each Individual Shot Vibration Report as a signed paper copy and in digital form to the e-mail listing required by the Owner. This will be provided at the pre-construction meeting.

Direct the specialty firm providing the seismic specialist, with approval of the Owner, to place blast seismographs, consisting of three component seismographs, (1) at important structures, and (2) other locations designated by the Owner. At least three seismograph locations will be required for every blast during this project.

Samples of possible Individual Shot Vibration Report formats are in EM 1110-2-3800, pp B-9 and B-10. The minimum required information to be submitted in the Individual Shot Vibration Report includes:

- a. Date and time of recording from each seismograph;
- b. Type (brand and model) of three-component seismographs used, serial #, and position name;
- c. Who performed, and the date of, the most recent calibration of each seismograph, and its sensitivity;
- d. The firm and employee who placed the blast seismograph;
- e. Seismograph installation procedures to prevent disturbance during monitoring, vandalism, and damage, and whether the seismic data is being telemetered or downloaded individually;
- f. Set trigger levels;
- g. Maximum for each of the three, component PPV in units of pounds per square inch (psi), the maximum total vector-sum peak particle velocity in units of pounds per square inch (psi), and a log-log graph of all maximum total vector-sum peak particle velocity versus square-root scaled distance in units of sq ft/lb for all seismic records of all prior shots for this project;
- h. A graph of the PPV versus frequency for each seismograph location that triggered;
- i. The maximum airblast overpressures in units of pounds per square inch (psi) at any triggered monitoring location and the results from noise tests before blasting in the first report;
- j. A narrative description of any peculiarities or impediments or adverse impacts or accident/misfire for the shot; and,
- k. The name, title, and signature of the Seismic Specialist processing and interpreting the data and providing the report with the date of the signature.

#### 3.6.4.3 Individual Shot Videos

The Contractor will make a video recording of each shot pattern in a clear and consistent manner. Video recording must include date, time, and location. The digital video file must be furnished with the Individual Shot Report in a format noted within the Master Blasting Plan and approved by the Owner. The submission must be made to the Project Office and to all on the e-mail address listing. A library of blast videos will be maintained for all blasts and will be readily cross referenced with individual blast plans and post blast evaluations.

#### 3.6.4.4 Reports of Required Safety, Protective, and Natural Resource Programs

Specify the data submission for required safety, protective, and natural-resource actions. A summary report must be submitted by noon 2 business days after the shot of the special monitoring of a critical or essential facility or commercial structure, an avian or mammalian watch program for assurance that a shot is not initiated at a time when the cited species is present, underwater pressure wave monitoring, or other agreed/negotiated program.

#### 3.6.5 Daily Blasting and Removal Log

The Contractor must submit a Daily Blasting and Removal Log, both in writing to the Owner and by e-mail distribution to the required e-mail addresses, on the next business day. The Daily Blasting and Removal Log summaries all the drilling and blasting activities, surveying, dredging or removal of spoils, and disposal operations for any day that one or more of those operations were conducted. The Daily Blasting and Removal Log will be signed by the designated representative of the Contractor, approved in the Master Blasting Plan.

### 3.7 DRILLING AND BLASTING

#### 3.7.1 Underwater Shot Holes

No drilling will be initiated without the Blaster in Charge or a Blaster to log the hole and confirm the proper positioning of the shot hole. For underwater blasting, the Contractor must be prepared to: drill; log the hole; resolve the units encountered in drilling; reassess the Shot Plan's intent for that particular shot hole; load explosives, boosters, initiators and delays, place stemming in sound rock; and raise the firing line. If a shot hole cannot be drilled or cleaned out, the Contractor will be required to re-drill that shot hole or properly correct the shot design to delete that hole.

#### 3.7.2 Shot Hole Logging

The Blaster in Charge or a Blaster will log each drilled hole, as the hole is being drilled. The Blaster in Charge or a Blaster will log the shot hole by a measurement means of drill bit's elevation, the downward rig pressure, advancement rate of drilling, and air-water return of cutting with the driller's full assistance. The shot holes must be logged during drilling and measured upon completion with a weighted tape for its full depth before any explosives are loaded into any of the holes.

If any holes are too deep, then these holes will be filled to the proper depth with stemming. Repeated, significant voids, 0.5 ft or larger, must be reported to the Owner. The Blasting Consultant may need to assess the issue of voids. Should voids become confinement issue blasting will be delayed until the Contracting Office is satisfied that potential problems related to blasting around the void have been properly addressed.

#### 3.7.3 Stemming

All shot holes must have appropriately sized stemming material of the proper vertical placement length to optimize the blast design. Loss of explosive confinement can be due to improper stemming material type and poorly placed stemming. Tamped stemming must be placed from the top of

firm rock (or hard material), as determined from the drilling log, to the top of the explosive charge. Stemming must also be used to fill voids, if any, as noted on the drilling log of that shot hole.

#### 3.7.3.1 Stemming Material

Stemming must consist of well-graded, crushed, angular stone without fines. The gradation of the crushed, angular stone is between 1/8 inch and 3/8 inch in diameter. No soil or drill cuttings or rounded particles of the noted grading may be used as stemming material.

#### 3.7.3.2 Length of Stemming

The minimum vertical length of tamped stemming within rock, or hard materials, of a shot hole must be the greater of 2.0 ft or eight times the shot hole's diameter. This minimum length of stemming must be placed in firm rock, or hard materials, to contain the gaseous products of detonation both below the top of firm rock and on either side of (above or below) voids, if any, with an explosive charge.

#### 3.7.4 Loading Shot Holes

Stemming, decking, shot hole explosives' loading, and shot plan revisions for each shot hole must be made upon completion of drilling to the total depth from the logging of that underwater shot hole. Resolve whether to abandon the shot hole or load the hole from the Shot Plan's intent and the information resolved by the shot hole's log.

### 3.8 IMPACT MONITORING

Monitoring of the blasting may be required for public safety or natural-resource protection. The Contractor will be responsible for the payment and services of one or more, independent, third-party firms to conduct the required monitoring. The Contractor will make available the schedule and blasting documents to coordinate with other specialists monitoring issues for: the public's safety; environmental concerns for air, water, and property; natural resource protection; and the safety of structures and features.

#### 3.8.1 Public-Use Area Effects

The Contractor will provide personnel, patrolling vessels or vehicles, and the signage necessary to assure safe distances from all shot patterns are maintained and physically monitored at public-use areas on land or on water, and at occupied structures or highways or other features requiring control.

#### 3.8.2 Airblast and Seismic Monitoring

Airblast and vibration monitoring must conform to current industry standards and use equipment developed for blast monitoring. The Contractor will hire a subcontracted specialty firm, independent of the Contractor's firm and other sub-contractors to locate, maintain, and record the airblast and vibrations from every shot. The subcontracted seismic firm through their employee, the Seismic Specialist, will monitor the three seismic positions shown on the plans or accepted by the Owner. Additional seismographs may be required temporarily for (green) concrete placement or other temporary considerations or as required by the Owner for specific airblast or vibration issues due to blasting suspected at locations without

seismographs. The seismic records and the Individual Shot Vibration Monitoring Reports will inform the Contractor of the actual airblast and vibration parameters from every shot and assure the Owner that the blasting has remained within the allowable airblast and vibration levels.

Provide 3 blast Seismographs capable of sampling rates of 15,000 samples per second or higher that meets ISEE PSBS. The 15,000 samples per second accuracy is required to acquire reproducible vibration readings. Each seismograph provided to the project must have been calibrated by the manufacturer within six months of its installation. No seismograph may be used at the project may have manufacturer's calibration longer than eleven months prior to its date of use. The units must be self-contained except for external geophones and microphones. The seismographs without erasing the stored data must be capable of telemetering the digital data or downloading the digital data to a portable device. The units must be programmed with specific data for each site of seismograph placement, which includes seismograph location, geophone burial or mounting method, calibration signal, date, and time of the record. The seismographs must be housed in protective enclosures, if vandalism or high-traffic concerns or weather or other conditions could limit the continuous, proper recording by the seismographs.

The blast seismographs must not be placed inside of a structure, unless required for the designated purpose and authorized by the Owner. The seismographs should not be placed near a structure unless the intent is to measure that particular structure's specific response to the blast. The microphone must be positioned to avoid wave reflections of the airblast from the vertical, front or side of a structure, wall or rock face. The microphone should be placed at a height of 3.0 ft. The geophone for each seismograph must appropriate for buried in soil or for being physically secured to rock or sidewalk or pavement or a concrete foundation.

The seismographs must be operated continuously beginning seven days before the first anticipated Test Blast. All The airblast and vibration amplitudes' maximal, frequencies of those amplitudes, repeated occurrences, and other parameters for the first period of operation before the first Test Blast will be reported as the project's background conditions in the first Individual Shot Vibration Monitoring Report.

The seismographs must be operated continuously until the excavation has been approved by the Owner. The seismograph may be removed from the project and replaced after their initial deployment, if there will be no blasting for a period of seven days or longer and if there will be no explosives stored onsite during that period.

### 3.8.3 Individual Shot Videos

Record every shot pattern's blast with Full High Definition, 1080p, digital video recordings with a minimum of 30 frames per second from two designated locations, approximately perpendicular to one another, that provide side and front or rear views of the blast and area above it. The video images must not contain any other text than the shot number. Include metadata consisting of the blast ID, date, and time of the blast. Index the two video recordings to properly identify each blast. Submit the proposed locations of the two video recorders on a map with the Individual Shot Plan. Furnish electronic file copies of video recordings on the sFTP within 24 hours of a blast. If the Owner requests that a copy of the video be submitted earlier, then deliver a copy within one hour of the request. Maintain a digital video library of all blasts.

#### 3.8.4 Air, Water or Land Protections

Assure that all escaping or released gases, fluids, and solids are within applicable limits of all federal, state, and local laws, regulations, ordinances, and guidelines. Any releases of fluids or solids that are not such limits will be immediately reported, mitigated, retained, and removed from the project.

Remove all shock cord/tubing and initiation transmission-line debris immediately following each shot.

#### 3.8.5 Natural Resource Assessments, Mitigation and Monitoring

Conduct blasting during periods of slack tide. Blasting will be prohibited during the passage of schools of fish or in the presence of marine mammals. Include the following sections in the Master Blasting Plan.

##### 3.8.5.1 Fish-Repelling Noise

Use a fish detecting and startly system to avoid blasting when fish are present or transitioning through the area.

##### 3.8.5.2 Watch Program

A fisheries observer and marine mammal observer must be present during blasting operations. Sonar will be used to detect fish and mammals. Submit name and qualifications of the fisheries observer and marine mammal observer for approval by approved by the Owner. Qualifications acceptable to the National marine Fisheries services.

##### 3.8.5.3 Post-Blast Fish Surveys

Submit a plan to count, collect, ID, and report on any fish kills that occur during blasting. This report will be reviewed by National Marine Fisheries Services (NMFS) within seven days of blasting. If fish kills exceed 100, notify NMFS within 24 hours and before the next scheduled blast. Alternate measures may be required to reduce fish kills.

#### 3.8.6 Sub Title

Text

#### 3.9 SUBMERGED MATERIAL DISPOSAL

Transport and place all dredged, displaced, or excavated materials within the limits of the disposal zones below the specified elevations, as specified in Section 35 20 23 DREDGING.

-- End of Section --



## **NHDOT Natural Resource Agency Coordination Meeting Minutes (February 2023)**

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**BUREAU OF ENVIRONMENT  
CONFERENCE REPORT**

*Final*

**SUBJECT:** NHDOT Monthly Natural Resource Agency Coordination Meeting

**DATE OF CONFERENCE:** February 15, 2023

**LOCATION OF CONFERENCE:** Virtual meeting held via Zoom

**ATTENDED BY:**

**NHDOT**

Matt Urban  
Andrew O’Sullivan  
Jon Evans  
Marc Laurin  
Rebecca Martin  
Arin Mills  
Samantha Fifield  
Jennifer Reczek  
Meli Dube

**ACOE**

Mike Hicks

**USCG**

Gary Croot

**EPA**

Jean Brochi

**NHDES**

Karl Benedict  
Mary Ann Tilton  
Christian Williams

**NHB**

Ashley Litwinenko

**NH Fish & Game**

Mike Dionne

**Federal Highway**

Jamie Sikora

**US Fish & Wildlife**

Absent

**The Nature Conservancy**

Absent

**NH Transportation &  
Wildlife Workgroup**

Absent

**Consultants/ Public  
Participants**

Alanna Gerton  
Michael Leach  
Gerard Fortin  
Megan Ooms  
Bill McCloy  
A Hubbard  
Christine Perron  
Noah Elwood  
Geno Marconi  
Michael Riccardi

**PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:** *(minutes on subsequent pages)*

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## **Finalize Meeting Minutes**

Finalized and approved the January 18, 2023 meeting minutes.

### **Meredith Culvert Replacement, #44048**

Arin introduced the project for replacement of a stone box culvert which carries Meredith Neck Road (MNR) over and un-named tributary to Lake Winnepesaukee. This is a state funded betterment project which is designed in-house and will be contracted for construction. The existing crossing is a 2.5' span by 5' rise stone box constructed about 1833 by local residents. The un-named stream is a Tier 2, 1<sup>st</sup> Order stream crossing, draining primarily undeveloped forestland. From the crossing the stream flows approx. 1,400 feet where it enters Lake Winnepesaukee. There is one additional town owned culvert downstream of the crossing. The structure has had limited work since construction, although it has been looked at multiple times to address safety concerns due to the drop hazard and the narrow width of the crossing as it does not meet modern transportation needs. The area surrounding the crossing is mainly forested with residential development. Conservation lands are in the vicinity, although none immediately adjacent to the project. Photos were shown of the crossing and surrounding landscape.

The purpose and need of the project are to address safety concerns and structural deficiencies of the crossing, propose a design that meets both current safety and design standards, and meets current environmental requirements. Project design coordination to date has included the Town of Meredith, the Division of Historic Resources, US Army Corp of Engineers, and Lakes Region Conservation Trust. The structure is eligible for the National Historic Register and much of the coordination and alternatives analysis that have resulted in the proposed design presented are a result of comments and concerns received over the last few months.

Sam presented the considerations for the design include: MNR is a Tier 4 (low-traffic volume), Class II roadway that is non-eligible for Federal Transportation Funding (ie: state funded), no impact to adjacent Smith Cemetery, minimize impacts to the rock wall located perpendicular to the culvert inlet, minimize impacts to rock walls located parallel to Meredith Neck Road, protect the traveling public from drop hazards (18' at the outlet and 12.5' at the inlet) and upgrading existing closed drainage to improve stormwater management. Design constraints include improved stormwater treatment, meet current stream crossing rules, address downstream perch of 7' total from outlet invert to the bottom of the scour hole, alternative chosen should match, as much as practicable, existing aesthetics, constructability and Traffic Control of the proposed alternative, environmental permitting and agency approval, long term maintenance and cost (100% state funded project).

Sam further presented alternatives considered. No build, which would not address the structural deficiencies and current safety hazards. Borings determined there is little structural material below the roadway with 20" pavement. Repair to existing crossing with use of a moment slab design was reviewed and determined to result in a narrowing of the roadway. Replacement options include relocation of the walls 25' from centerline and install guardrail, which was not accepted through coordination with both the town or DHR due to the adverse effects to the historic elements of the crossing. Construction of a 4:1 slope without walls or guardrail was reviewed and determined to have an increase natural and cultural resource impact. The preferred alternative, presented today, is rebuild walls 35' from centerline and outside of the clear zone to eliminate guardrail.

The proposed project is to replace a 3.5'W (varies throughout) x 5'H x 34.5'L stone box with a 5'W x 4'H x 75.4'L concrete box with scour countermeasures at the outlet. DOT will construct upstream and downstream granite block retaining walls incorporating existing stones. The existing closed drainage running along Smith cemetery will be upgraded to improve draining and water quality. Preliminary wetland impact plans were shown to depict the proposed concrete box and scour countermeasures. Both temp and permanent impacts to the stream (R3RB12) and Palustrine forest (PFO1E) are anticipated for construction and installation of erosion control measures. A profile was shown to depict the existing and proposed structure and removal of the downstream perch and scour hole. A drawing of the scour countermeasures proposed at the outlet was shown, to include placement of streambed material layered within and over Class B stone.

Sam provided a construction sequence as follows: Full closure of Meredith Neck Road for an anticipated 2-week time; installation of Erosion controls (EC), and a Clean water bypass (CWB); removal of the existing stone culvert, headwall, and retaining wall; installation of the proposed concrete box culvert and downstream scour protection at which time the CWB can be removed. The culvert will be filled over, roadway granular materials will be placed, and temporary steep roadway slopes will be constructed. This will allow for single lane alternating two-way traffic to resume on MNR. The upstream and downstream stone block retaining walls and 4:1 roadway slopes will then be constructed. Once 4:1 roadway slopes are constructed, two-way traffic may be allowed on MNR during non-work hours. Next, the site will be revegetated, pavement will be placed, and pavement markings will be installed,. Finally, the site will be cleaned, and EC measures will be removed once site is permanently stabilized. MNR will be fully returned to 2-way traffic once all tasks are completed.

Hydraulic calculations were provided to show both the existing and proposed design will pass the 100-year storm with a reduction in velocities with the widened crossing.

Arin provided an overview of the environmental review for the project. The stream is a first order stream from headwater to lake, a Tier 2 crossing with watershed of 312 acres. The project is not located within ¼ mile of a Designated River and does not fall under Shoreland jurisdiction. A previous permit was identified (1996-00337), although work was not completed. The existing outlet has a 7.2' cascade with a 4.3' perch resulting in a 9.5'W x 10'L x 1.9' deep scour pool. Upstream of the stream crossing, a reference reach with 8% slope was identified; the proposed crossing's slope is 6.9% ; the existing crossing is 3.5' wide (the proposed crossing 5' wide), and a perch of 4.3' is proposed to be eliminated. NHB review NHB22-1888 had no known occurrence or rare species; the NH online fish survey mapper showed no recorded E. brook trout or protected species in stream. Results of the Wetland Permit Planning Tool (WWPT) show no predicted PRA; Fish and Games habitat ranking showed supporting landscape nearby, and showed no prioritized habitat. The Aquatic Restoration Mapper identified Page Pond Forest nearby, which is not hydrologically connected to this stream. Low Meadow Farm is near the outlet and the project is located outside of the limits of the Conservation Easement held by Lakes Region Conservation Trust (LRCT). The LRCT have been involved in alternatives analysis and proposed design. No impacts to conservation lands anticipated.

Arin provided an overview of applicable wetland rules and classified the project as a minor impact under Env-Wt 903.01(f)(1)(e) with no waivers. No mitigation is anticipated as the design meets Env-Wt 904.08 with PE certification that the proposed crossing :maintains hydraulic capacity; enhances aquatic organism passage; enhances connectivity by eliminating perch; does not promote degradation by installing scour protection (incorporating streambed material) at outlet; enhances the crossing's ability to handle flooding events. A review of Env-Wt 904.01

determined that the proposed design meets all general design considerations. The project timeline is to present to the residents of Meredith on March 1, 2023 under Section 106 of Historic Preservation Act, submit wetland permit application to DES in late March, received construction approval and permit by August 2023 (Advertise on September 12<sup>th</sup>) and construct late summer/fall 2024.

Karl B said we were on track with 904.08 with addressing perch and appreciated the additional coordination required for cultural concerns. He questioned the possible need for mitigation as the increased length of the box results in >200 lf of channel and bank impacts. Karl also asked if the topography change for grading of slopes could be reduced. Sam stated that the fill required in front of the downstream dry laid stone wall is necessary for global stability of the wall and Karl asked a narrative be included in the application. Karl B questioned the no required mitigation for permanent impacts to the bank and channel from the increased length and grading. Andy O stated the project qualified for a Project Type Exception (PTE) under the stream crossing rules (900). Andy further clarified that the increase in length is required to eliminate the perch and scour hole. Karl asked that justification be provided for the impacts that are required to eliminate the perch, allowing the project to fully be classified under the stream crossing (900) rules. Additional communication and information within the permit will be conducted and provided. Karl asked for native planting along the stream banks and Sam said that would be incorporated into the design. Karl lastly asked about the outlet of the closed drainage and Sam described new catch basins will be installed and outlet outside wetland resources.

Mike D (F&G) had no comments. Mike H had no comments and stated ACOE would be the lead federal agency. Jeanie B (EPA) had no comments. Gary C (CG) said the water is non-navigable and had no comment.

### **Portsmouth, 15731 (A000(909))**

Christine Perron introduced the project, which involves the functional replacement of the barge wharf at the NH Port Authority Market Street Marine Terminal in Portsmouth to compensate for impacts caused by the new alignment of the Sarah Mildred Long Bridge carrying US Route 1 Bypass over the Piscataqua River. The project has been discussed at several monthly meetings and the purpose of today's discussion is to provide an update on the status of the permitting effort, proposed impacts, and mitigation.

An aerial view of existing conditions at the project site was reviewed to show the locations of the former and current bridge alignment, barge wharf, floating dock, and main pier. A separate project entails the rehabilitation of the main pier and infill of the open area of the main wharf. This project was previously permitted (NHDES Permit 2021-02950) and is currently under construction.

A plan view of the proposed improvements was reviewed. The key components of the project have not changed from when the project was last discussed:

- Construction of a new dock structure approximately 60 x 120 feet to extend the south end of the existing wharf.
- Construction of a new dock structure approximately 145 x 80 feet to extend the north end of the existing wharf.
- Dredging of approximately 55,000 square feet of the riverbed adjacent to the north end of the extended wharf.
- Relocation of the floating dock currently located off the north end of the wharf.
- Shoreside alterations, including soil and rock removal, grading, drainage, and paving within an 80,000-square foot area.

As the project progresses through final design, there have been a few design changes identified from what was previously discussed during preliminary design. These changes will be included in the upcoming permit applications:

- The Cape Arundel disposal site noted in preliminary design has closed. The alternative disposal site will be the Isle of Shoals North Disposal Site. The Corps requires a Sampling and Analysis Plan for the dredged material before it can be approved for off-shore disposal.
- The dredging depth will increase from -35' mllw to -36' mllw, which will slightly expand the footprint.
- The south wharf extension may not have a steel sheet pile wall along the shoreline as originally proposed, but instead have a grade beam with additional riprap. New riprap is anticipated to be added to existing riprap without expanding footprint.
- The proposed 40" steel piles for the north and south wharf extensions will be rock socketed into bedrock. Casing will be spun to the top of bedrock and the bedrock drilled to create the socket. The rock socket method reduces the amount of pile driving required and reduces underwater noise impacts. es require some pile driving that was not clearly defined in the original consultation.
- Removal of buried steel obstructions in locations of new piles (as needed to allow for pile driving).

The proposed dredging will require removing approximately 450 CY of bedrock and just over 18,000 CY of sediment. The dredge area is located at the former bridge alignment so it has never been dredged. A pier from the bridge is still in place and will be removed as part of this project. The south extension of the wharf will require a total of 30 piles, with a 40" diameter socket, and the north extension will require a total of 44 piles of the same diameter. The estimated area of direct impacts from the piles is approximately 600 square feet.

Environmental consultation and reviews were completed in 2019 during preliminary design in compliance with Section 7 (Endangered Species), Essential Fish Habitat, Section 106 (Historic Resources), and NEPA. Consultation under Section 7 and Essential Fish Habitat will be reinitiated to address the design changes noted above.

Now that the project is in final design, permit applications are being prepared and are expected to be submitted in March. The NHDES Dredge & Fill application was submitted last year to meet requirements for being reviewed under the old DES wetland rules. NHDES issued a Request for More Information (RFMI), and a response to the RFMI will be submitted concurrently with a request for an application amendment to address design changes. Required permits consist of the following:

- NHDES Dredge & Fill (Major impact)
- Army Corps Individual Permit
- Army Corps Section 408
- Section 401 Water Quality Certificate
- Coastal Zone Management Act Federal Consistency Finding
- NHDES Shoreland
- NHDES Alteration of Terrain

Minimization measures related to dredging and blasting are as follows:

- Dredging, blasting, and concrete demolition will occur between November 15 and March 15.
- A blasting plan will be submitted by the Contractor for approval prior to detonation of explosives.
- The following mitigation techniques will be implemented to reduce the sound pressure resulting from blasting:
  - Stemming and decking of individual charges;

- Staggered detonation of charges in a sequential blasting circuit;
- Blasting during periods of slack tide;
- Use of a fish detecting and startle system to avoid blasting when fish are present or transiting through the area;
- Require the use of sonar and the presence of a fisheries and marine mammal observer;
- Prohibiting blasting during the passage of schools of fish, or in the presence of marine mammals, unless human safety is a concern.

Turbidity considerations were reviewed. A sediment boom could be used for the water surface during construction; however, the currents make full turbidity curtains ineffective at this location. Cofferdams are not practicable given the depth of water, cost, and presence of the navigation channel. The Army Corps Piscataqua River turning basin project upstream of this project assumed that the majority of the sand and gravel to be dredged for that project would settle out within 1,000 feet of dredging. This assumption was based on prior monitoring conducted during Boston Harbor and other dredging operations while dredging silty material, which showed that the majority of resuspended material settled within 1,000 feet from the dredge. Given the coarse substrate at the SML and the high velocities, it is reasonable to assume that any turbidity plume would be less than 1,000 ft. Based on the strong currents (1.7 to 2 feet per second on average) and what has been observed during past construction projects in this area of the river, any turbidity is expected to dissipate sooner than 1,000 feet and would not extend across the river, which is approximately 1,600 feet wide.

Minimization measures related to pile driving are as follows:

- In-water pile driving will be completed outside of the window of anadromous fish spawning (April through June).
- A 'startle noise' will be implemented each day before any pile driving. This will consist of hitting the piles a couple times and then waiting 5-10 minutes prior to production driving.
- Piles will be installed using a vibratory hammer as much as possible and then impact driven using a cushion block.
- A safe unimpacted zone of passage of approx. 1,000 feet in width will be available for any sensitive species that may be foraging or migrating in the river during construction.

Jurisdictional impacts have not yet been finalized but are expected to consist of the following approximate totals:

IMPACT LOCATION	JURISDICTIONAL AREA	PROPOSED IMPACT	PERMANENT IMPACT (SQUARE FEET)	PERMANENT IMPACT (LINEAR FEET)
A	PISCATAQUA RIVER (E1UBL)	DREDGING	55,000	280
B	PISCATAQUA RIVER (E1UBL)	NORTH PIER EXTENSION	15,135	149
C	PISCATAQUA RIVER (E1UBL)	SOUTH PIER EXTENSION	10,370	90
D	PISCATAQUA RIVER (E1UBL)	FLOATING DOCK	1,363	136
E	TIDAL BUFFER ZONE (DEVELOPED)	GRADING	46,500	N/A
F	TIDAL BUFFER ZONE (DEVELOPED)	GRADING	4,100	N/A

The impacts shown for the wharf extensions account for the entire footprint of each extension. The actual direct impacts to the river bottom will be the piles only, which is approx. 600 SF.

When coordinating on mitigation during preliminary design, there was agreement on providing funding for the completion of the Cutts Cove living shoreline. However, in the last year or so, there have been concerns with the condition of what has been completed so far at Cutts Cove and, in talking with Lori Sommer last year, there seemed to be consensus that funding the completion of Cutts Cove no longer made sense. For this reason, mitigation will instead be via an in-lieu fee.

Input was requested on the most appropriate way to calculate an in-lieu fee. When originally discussed, mitigation was based on the 55,000 SF of dredge area, plus the 375 linear feet of impact to the river from the wharf extensions and floating dock. This approach results in a payment of more than \$800,000. This approach results in an overlap in the dredge and linear feet of impacts from the north extension, which is seemingly double counting impacts for mitigation. This approach also doesn't account for the fact that, once the project is completed, there will still be riverine habitat in the dredge area and under the wharf. An alternative approach to calculating the in-lieu fee should be considered that is based on linear feet of impact alone, which would be consistent with how mitigation is typically calculated for stream and river impacts. This alternative approach would be based on 506 linear feet of impact, resulting in a payment of approximately \$154,000.

The following is a summary of questions and comments from attendees:

Karl Benedict:

- Noted that he is taking a high-level approach in his comments given that there are other permit reviewers involved already.
- Should confirm that the amendment doesn't exceed 20% of additional impacts.
  - C. Perron noted that it would not exceed this threshold.
- The application should address dredge rules, PRA, TBZ, and account for TBZ mitigation.
  - C. Perron noted that the tidal buffer zone is developed and no mitigation is required.
- He will discuss the mitigation calculation internally and follow up.

Mike Dionne:

- Stated that he had previously coordinated with C. Perron on this project and NH Fish & Game's concerns are addressed in the minimization measures that were reviewed.

Mike Hicks:

- Was the need for an Individual Permit already confirmed?
  - C. Perron said that it was previously confirmed.
- Where would dredge spoils be taken?
  - C. Perron noted that spoils would be disposed of offshore, pending the results of the required sediment testing.
- The application will need to address Appendix B Section 6.
- Have historic resource concerns been addressed?
  - C. Perron stated that the project has a signed No Adverse Effect memo for Section 106 and there will be an archaeological monitor during construction in the location of archaeological sensitivity.
- Noted that the project has been reviewed at several meetings, including on site, and seems to be on track.

Jean Brochi (Due to technical issues, these comments were provided via email following the meeting):

- There was consensus that this project required an Individual Permit
- Recommend a separate mitigation meeting to discuss mitigation that includes DES, Corps, and EPA.



- Since the next submittal in March is an amendment, the Corps and DES may want to discuss what will need to be involved and included in the submittal.

Gary Croot:

- No bridge impacts involved so no Coast Guard permitting is required.
- If construction involved barges adjacent to/in channel, the Coast Guard will coordinate with the Port to issue notice to mariners.

Jamie Sikora:

- Noted that FHWA is the lead federal agency and approved the NEPA Categorical Exclusion document. Design changes will be reevaluated, which includes reinitiating consultation on EFH and ESA.

Chris Williams:

- Notification to mariners and the fishing industry will be required due to the dredging and increase in vessel traffic during construction.

### **Fremont #23793**

This is the second presentation to the Natural Resources meeting. Alanna Gerton introduced the Stantec project team to the meeting attendees, and stated this project is being presented on behalf of the Town of Fremont. She then began the presentation regarding Fremont 23793 – Culvert Replacement Project at Martin Road over Brown Brook, and noted the primary focus is project mitigation. She reviewed the existing condition of the site:

- Located at the Eastern side of Fremont
- Brown Brook (Tier 3 Stream) crosses under existing bridge
- Existing bridge is a 1930 cast in place concrete deck on steel beams
- 10' w x 4.5' h x 18' l
- Brown Brook is backwatered thru culvert to depth approximately 2 feet
- 9-10' travel lanes along Martin Road
- 520 AADT (2020)
- The project is adjacent to Prime Wetland

Photos of the inlet and outlet were presented along with photos of the existing bridge. Alanna noted the existing bridge has been on the State's Municipal Red List since 1992. The abutments are poorly aligned with the channel and the recent bridge inspection report dated December 21, 2021, notes the abutments are undermined and the north abutment has settled about 3 inches. The preferred alternative cross section was presented of a 22' span x 7' rise x 30' long precast concrete box with simulated channel bottom. Alanna noted the gravel fill material beneath the culvert to address the unsuitable material found during the geotechnical survey conducted for the project. A profile of the preferred alternative along the stream channel was presented showing the limits of work. Per comments received at the January 18th meeting, Alanna indicated the limits of riprap had been reduced by about 15 LF on the downstream side. A typical channel cross section and plan view of the preferred alternative was presented on the next slides. Alanna noted the extent of the simulated streambed material was clarified on the plan view. A color plan was presented of the entire work area that provided a visualization of the stream limits, wetland limits, roadway improvement limits, proposed riprap, and the 100' prime wetland buffer line.

A construction phase plan view for the bridge replacement was presented. It showed a temporary 48" diversion pipe and temporary upstream and downstream coffer dams to be used during the removal of the existing structure, installation of the box culvert, and grading and installation of the stream channel material. Martin Road would be closed temporarily during the 2-3 weeks needed to complete the installation of the new box culvert.

Alanna turned the presentation over to Mike Leach to discuss the project wetland impacts. He noted the summation of temporary and permanent impacts to the stream, wetlands, prime wetlands, and 100' prime wetland buffer was reduced to 10,478 SF. A separate plan was presented showing the temporary and permanent impacts to the 100' prime wetland buffer. Mike noted the permanent impacts to the downstream area was reduced as was requested at the January 18th meeting. In addition, he presented and noted the permanent impacts associated with the 100-ft Prime Wetland buffer are for the roadway widening and approach for the new bridge. Mitigation for the project was presented and notes as:

- The culvert sizing is based on  $1.2 \times \text{bank full width} + 2'$  equal to 22 feet which is an increase in width of greater than 200%.
- The preferred alternative preserves the natural alignment of the stream channel.
- The proposed opening is 2.1 times greater than existing, which benefits aquatic passage, enhances stream conductivity and sediment transport, and minimizes the potential for inlet obstructions.
- A simulated stream bottom material will be provided as part of the preferred alternative.
- The design does not restrict high flows and maintains low flows.
- The preferred alternative will pass the 100-year storm for Brown Brook with more than 1' of freeboard.
- The project reduces the upstream 100-year floodplain elevation by approximately 1.5'.
- The project increases the 100-year flood volume storage by approximately 200 CF.
- The preferred alternative maintains approximately 2' of water through opening under normal flow conditions to promote aquatic passage.
- The design intent is to not cause erosion, aggregation, or scouring upstream or downstream of the crossing or water quality degradation.
- An alternative design report will be provided for the project.
- A waiver will be requested for the impacts to the Prime Wetland and 100-foot buffer.

Mike stated that for these reasons, he believes the project to be self-mitigating. At this point, the presentation was opened to questions.

Karl Benedict of NHDES stated this project overlaps two priority resource areas (PRA's) – the wetlands associated with the Tier 3 stream, and the 100' prime wetland buffer. He noted mitigation will be required for the permanent impacts associated with these PRA's. Mike said he would follow-up separately with Karl; Stantec will provide a color plan highlighting the permanent impacts within the PRA's for discussion regarding the mitigation fees.

Karl indicated the specification for the simulated streambed material should define a material similar to the existing reach streambed material; Mike acknowledged.

For the surface restoration identified as item 583.32 – Riprap, Class III Intermixed with Humus, Karl asked that Stantec consider using a native plantings for the banks; Mike acknowledged.

Andy O'Sullivan acknowledged the PRA areas require mitigation and noted impact areas D and E upstream and areas F, G, and H downstream will require mitigation.

Mike Leach noted the permanent 100-ft wetland buffer area impact for the roadways widening would also be included in the mitigation.

Michael Dionne of NH F&G had no comment on the presentation.

Michael Hicks of USACE asked if a historical assessment had been conducted for the project.

Mike responded Stantec had completed the historical evaluation process in 2014; the bridge was determined to be not eligible and the NHDHR information would be included in the permit application.

Jean Brochi of the EPA had no comments on the presentation.

Gary Croot of the USCG had no comments on the presentation since Brown Brook is not a navigable waterway so the USCG has no jurisdiction.

Jamie Sikora of FHWA had no comment on the presentation.

### **Littleton-Waterford, #27711 (A003(594))**

Today's NRACM meeting was a virtual meeting over Zoom. Megan Ooms (Dubois & King) and Bill McCloy (Normandeau) were present. Megan introduced the project team and summarized the existing bridge including its general location, surrounding landmarks and reviewed some photos of the site. Megan then summarized the details of the existing bridge, its deficiencies, and the project's purpose and need. The purpose of the project is to provide a safe and efficient highway crossing of the Connecticut River and to rehabilitate or replace the structurally deficient bridge thereby removing it from the State Bridge Red List and optimizing its remaining service life. The existing bridge exhibits substructure and steel superstructure deterioration and does not meet current width or railing standards. The bridge is a vital crossing for community. Megan discussed seven (7) alternatives currently under consideration in high-level detail: 1) Do Nothing (Does Not Meet Purpose & Need), 2) Deck Replacement, 3) Full Superstructure Replacement, 4) Full Superstructure Replacement & Widening, 5) Convert to Multi-Use Path (Does Not Meet Purpose & Need), 6) Full Replacement and 7) Demolition and Addition of New Ramps. A summary table of the alternatives was presented including the relative degree of impact to various factors including environmental impacts, traffic, historical resources, and others such as cost and service life.

Bill McCloy (Normandeau) summarized known natural resources and other related findings about the project site based on initial desktop due diligence and field investigations. Coordination with NHNHBB indicated four known plant species, one wildlife species and no natural communities in the bridge vicinity. Follow up coordination with NHNHBB and NHFG indicated that it was unlikely that the nearby rare plants would be present at the project site due to lack of appropriate habitat and that the wildlife species of concern was not utilizing the Route 18 bridge for nesting. Coordination with VTFW indicated three wildlife and one plant species of concern in the area of the bridge. VTFW is recommending a mussel survey in the river and review of the bank of the river on the VT shore for the rare plant known upstream of the site. Scattered invasive species were noted during the wetland delineation. VTANR reviewed the delineation boundaries and wetland classification pursuant to the VT Wetland Rules in 2022 and concurred. Coordination with USFWS IPaC indicated that the project falls within the range of the northern long-eared bat (NLEB), Canada lynx and monarch butterfly. A visual inspection of the bridge structure in Nov 2020 did not reveal any signs of bat utilization or roosting per the USFWS guidance and methodology at the time. An Essential Fish Habitat (EFH) study is not required at this time.

FEMA floodplains are present within the project area, and Normandeau has coordinated with the Floodplain Management Program. The hydraulics of the crossing are not anticipated to be altered. The Connecticut River is a 6<sup>th</sup> Order, designated waterway with a contributing watershed of 1,598 square miles (1,002,720 acres) which places the crossing squarely within Tier 3 criteria. Coordination with LCHIP/LCIP/LWCF was negative. Supporting habitat mapped by the NH Wildlife Action Plan is near the project area. Great River Hydro provided feedback during outreach efforts indicating that Much of land on NH and VT sides owned in fee and Rt 18/Bridge are within the FERC Hydroelectric Project Boundary of Fifteen Mile Falls Hydro Project (No 2077) and coordination may be needed with FERC if there would be impacts to those lands, or if easements were required to support the project.

The following questions and comments were made by participants in the meeting:

Karl Benedict (NHDES):

- Noted that wetlands in floodplains are Priority Resource Areas (PRA) along with Tier 3 river wetlands
- He acknowledged that coordination will likely be needed with the dam operators/owners and potentially with FERC
- He inquired about use of barge or trestle and it was discussed that barges have a few issues including required depth of water that may not work so trestle may be needed for at least a portion of work.

Mike Dionne (NHFG):

- Encouraged a mussel survey to determine if any protected species are present in the project area; this aligns with VTFW recommendations.

Ashley Litwinenko (NHNHB):

- Acknowledged prior coordination and indicated that if no work proposed in NH wetlands there should not be any concerns. There are very small wetlands present adjacent to a stream on the NH side of the river – those should be able to be avoided but will follow up as needed.

Mike Hicks (USACE):

- Mike H. asked if we had coordinated with Mike Adams of the Corps VT Project Office; Bill indicated limited coordination to date.
- Mike H. indicated he would reach out to Mike A. in VT
- Mike H. indicated he anticipated this would qualify for a General Permit
- Subsequent coordination with Mike A. and Mike H. indicate that the project will probably be evaluated under 2 GP's and that a site visit may be needed to review wetland delineations.

Jean Brochi (US EPA):

- Jean indicated she would reach out to Beth Alafat who is the US EPA representative covering VT

Jamie Sikora (FHWA)

- Indicated that two SHPO and FHWA offices would be involved and NH likely to lead the environmental studies/reviews

Gary Croot (USCG):

- Noted that the CT River is navigable and he assumed that the current bridge was permitted although the precise status of a USCG bridge permit is uncertain.
- Gary indicated that if the chosen alternative was repair or in-kind than it would be a simple process related to a repair and would not need much additional permitting or coordination effort with USCG; if the chosen alternative would alter the bridge more substantially, a CG Permit amendment would be needed AND in the case it was never permitted in the first place, it may still be able to be exempted based on the type of vessels using the river in that location (between two dams) and based on other existing bridges in that section of the river; a little more review needed here to determine the permit status of the current bridge.

## Mitigation

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**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**MITIGATION NARRATIVE**

Impacts to jurisdictional areas have been minimized to the extent practicable while still accomplishing the purpose and need of the project. The project requires compensatory mitigation for unavoidable permanent impacts to the Piscataqua River associated with replacing the lost functionality of the barge wharf at the Port of NH.

Proposed impacts and mitigation have been discussed with State and Federal resource agencies at three NHDOT Natural Resource Agency Coordination Meetings (June 20, 2018, September 19, 2018, August 21, 2019, and February 15, 2023), as well as at a field review on April 2, 2019, at a virtual meeting on March 20, 2023, and via email correspondence.

Based on coordination noted above, impacts that will require mitigation are as follows:

Dredging (325 linear feet) – required by the Army Corps and NHDES

North Extension, South Extension, Floating Dock (289 linear feet) – required by NHDES

When coordinating on mitigation during preliminary design, there was agreement on providing funding for the completion of the Cutts Cove living shoreline restoration project. However, over the last two years, there have been concerns raised about the condition of what has been completed to date at Cutts Cove. For this reason, mitigation for the functional replacement project will instead be via an in-lieu fee.

The Army Corps confirmed that mitigation for the proposed dredging should be calculated based on linear feet of impact to the channel. NHDES previously confirmed that mitigation for the wharf extensions and floating dock should also be based on linear feet of impact. The NHDES Aquatic Resource Mitigation Fund Stream Payment Calculator was utilized to calculate the in-lieu fee payment as follows:

Dredging (325 linear feet) – \$99,017.10

North Extension, South Extension, Floating Dock (289 linear feet) – \$88,049.05

Based on the above calculations, the total in-lieu fee that will be provided for impacts associated with the functional replacement project will be **\$187,066.15**.

**NHDES AQUATIC RESOURCE MITIGATION FUND  
STREAM PAYMENT CALCULATION**



<b>INSERT LINEAR FEET OF IMPACT on BOTH BANKS AND CHANNEL</b>	<b>Right Bank</b>	
	<b>Left Bank</b>	
	<b>Channel</b>	325.0000
	<b>TOTAL IMPACT</b>	325.0000
	<b>Stream Impact Cost:</b>	\$82,514.25
	<b>NHDES Administrative cost:</b>	
		\$16,502.85
<b>***** TOTAL ARM FUND STREAM PAYMENT*****</b>		
		\$99,017.10



**NHDES AQUATIC RESOURCE MITIGATION FUND  
STREAM PAYMENT CALCULATION**

<b>INSERT LINEAR FEET OF IMPACT on BOTH BANKS AND CHANNEL</b>	<b>Right Bank</b>	
	<b>Left Bank</b>	
	<b>Channel</b>	289.0000
	<b>TOTAL IMPACT</b>	289.0000
	<b>Stream Impact Cost:</b>	\$73,374.21
	<b>NHDES Administrative cost:</b>	
		\$14,674.84
<b>***** TOTAL ARM FUND STREAM PAYMENT*****</b>		
		\$88,049.05



## Christine J. Perron

---

**From:** Bell, Taylor M CIV USARMY CENAE (USA) <Taylor.M.Bell@usace.army.mil>  
**Sent:** Monday, April 10, 2023 8:04 AM  
**To:** Christine J. Perron; Lefebvre, Lindsey E CIV USARMY CENAE (USA)  
**Cc:** Farris, Charles N CIV USARMY CENAE (USA); Hicks, Michael C CIV USARMY CENAE (USA)  
**Subject:** RE: Portsmouth 15731, DES File 2022-00429 - Market St Marine Terminal Functional Replacement Project

Hi Christine,

Mitigation for streams(Bed/Bank/OHWM) is measured in linear feet. All other resources are measured in square feet.

Thanks,

Taylor

---

**From:** Christine J. Perron <CPerron@mjinc.com>  
**Sent:** Friday, April 7, 2023 11:33 AM  
**To:** Lefebvre, Lindsey E CIV USARMY CENAE (USA) <Lindsey.E.Lefebvre@usace.army.mil>; Bell, Taylor M CIV USARMY CENAE (USA) <Taylor.M.Bell@usace.army.mil>  
**Cc:** Farris, Charles N CIV USARMY CENAE (USA) <Charles.N.Farris@usace.army.mil>; Hicks, Michael C CIV USARMY CENAE (USA) <Michael.C.Hicks@usace.army.mil>  
**Subject:** [URL Verdict: Neutral][Non-DoD Source] RE: Portsmouth 15731, DES File 2022-00429 - Market St Marine Terminal Functional Replacement Project

Good morning,

Permit applications for the subject project will be submitted by Monday and we are still looking for input on mitigation. Mitigation will be via an in lieu fee. An updated impact plan is attached. Based on prior coordination with the Corps, mitigation will not be required for the proposed wharf extensions or for riprap added within the footprint of existing riprap. The area of proposed dredging in the Piscataqua River is 61,450 sq ft (325 linear feet of channel).

Mitigation for impacts to a watercourse are typically based on linear feet of impact in accordance with NHDES rules. Prior coordination with the Corps seemed to indicate that mitigation should be based on square feet of impact from dredging. Table C3 of the Corps' mitigation SOP indicates that the impact should be based on linear feet. Could we get confirmation on which approach will be required?

Also, dredging will not permanently eliminate the resource. The work is in Section 10 waters adjacent to an industrial docking facility and the federal navigation channel. Could a multiplier of 0.5 be used to calculate the in lieu fee?

Please let me know if any additional information is needed.

Thanks,  
Christine



Christine J. Perron, CWS | Regional Environmental Manager

603-931-3327

Visit our [website](#) to see how MJ employee owners are innovating to improve our world.



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**From:** Lefebvre, Lindsey E CIV USARMY CENAE (USA) <[Lindsey.E.Lefebvre@usace.army.mil](mailto:Lindsey.E.Lefebvre@usace.army.mil)>  
**Sent:** Thursday, March 23, 2023 9:32 AM  
**To:** Christine J. Perron <[CPerron@mjinc.com](mailto:CPerron@mjinc.com)>  
**Cc:** Farris, Charles N CIV USARMY CENAE (USA) <[Charles.N.Farris@usace.army.mil](mailto:Charles.N.Farris@usace.army.mil)>; Hicks, Michael C CIV USARMY CENAE (USA) <[Michael.C.Hicks@usace.army.mil](mailto:Michael.C.Hicks@usace.army.mil)>  
**Subject:** RE: Portsmouth 15731, DES File 2022-00429 - Market St Marine Terminal Functional Replacement Project

Hi Christine,

Thank you for sending this information. Unfortunately Taylor is out until early next week.

Lindsey Lefebvre  
US Army Corps of Engineers  
New England District  
Regulatory Division  
696 Virginia Rd  
Concord, MA 01742  
(o) (978)-318-8295  
(c) (978)-471-0741

---

**From:** Christine J. Perron <[CPerron@mjinc.com](mailto:CPerron@mjinc.com)>  
**Sent:** Thursday, March 23, 2023 9:18 AM  
**To:** Lefebvre, Lindsey E CIV USARMY CENAE (USA) <[Lindsey.E.Lefebvre@usace.army.mil](mailto:Lindsey.E.Lefebvre@usace.army.mil)>  
**Cc:** Farris, Charles N CIV USARMY CENAE (USA) <[Charles.N.Farris@usace.army.mil](mailto:Charles.N.Farris@usace.army.mil)>; Hicks, Michael C CIV USARMY CENAE (USA) <[Michael.C.Hicks@usace.army.mil](mailto:Michael.C.Hicks@usace.army.mil)>  
**Subject:** [URL Verdict: Neutral][Non-DoD Source] RE: Portsmouth 15731, DES File 2022-00429 - Market St Marine Terminal Functional Replacement Project

Good morning Lindsey,  
I am attached the updated wetland impact plan with the final impact totals. Will it be possible to get Taylor's input on mitigation by tomorrow morning?  
Thanks,  
Christine



Christine J. Perron, CWS | Regional Environmental Manager



## **NH NHB DataCheck Results Letter (Updated)**

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**Memo**

NH Natural Heritage Bureau  
NHB DataCheck Results Letter

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

**To:** Stephen Hoffmann  
53 Regional Drive  
Concord, NH 03301

**From:** NHB Review, NH Natural Heritage Bureau

**Date:** 2/7/2023 (valid until 02/07/2024)

**Re:** Review by NH Natural Heritage Bureau

**Permits:** NHDES - Alteration of Terrain Permit, NHDES - Shoreland Standard Permit, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permit, USCEQ - Federal: NEPA Review, USEPA - Stormwater Pollution Prevention

**NHB ID:** NHB23-0281

Town: Portsmouth

Location: 555 Market Street

**Description:** This DataCheck request is to update NHB21-3815. This project will consist of the following components: 1) Construction of a new dock structure approximately 60 x 120 feet to extend the south end of the existing wharf; 2) Construction of a new dock structure approximately 145 x 80 feet to extend the north end of the existing wharf; 3) Installation of a new fender system along the length of the main wharf; 4) Dredging of approximately 55,000 square feet of the river bed adjacent to the north end of the extended wharf; 4) Shoreside alterations, including soil and rock removal, grading, drainage, and paving within a 80,000-square foot area. Dredging, blasting, and the majority of concrete demolition will occur between November 15 and March 15. A blasting plan will be prepared by the contractor.

**cc:** NHFG Review

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

**Comments** NHB: No comments at this time.

**F&G:** Please continue coordination with Mike Dionne NHFG Environmental Review Coordinator.

**Vertebrate species**

**State<sup>1</sup> Federal Notes**

Atlantic Sturgeon ( <i>Acipenser oxyrinchus oxyrinchus</i> )	T	T	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).
Shortnose Sturgeon ( <i>Acipenser brevirostrum</i> )	E	E	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).

<sup>1</sup>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.

## Memo

## NH Natural Heritage Bureau NHB DataCheck Results Letter

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

*For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section below.*

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Disclaimer: 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.

---

### **IMPORTANT: NHFG Consultation**

If this NHB Datacheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

If this NHB Datacheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to <https://wildlife.state.nh.us/wildlife/environmental-review.html>. All requests for consultation and submittals should be sent via email to [NHFGreview@wildlife.nh.gov](mailto:NHFGreview@wildlife.nh.gov) or can be sent by mail, and **must include the NHB Datacheck results letter number and “Fis 1004 consultation request” in the subject line.**

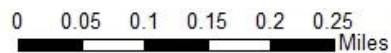
If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule*), coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email: Kim Tuttle [kim.tuttle@wildlife.nh.gov](mailto:kim.tuttle@wildlife.nh.gov) with a copy to [NHFGreview@wildlife.nh.gov](mailto:NHFGreview@wildlife.nh.gov), and include the NHB Datacheck results letter number and “review request” in the email subject line.

Contact NH Fish & Game at (603) 271-0467 with questions.

**CONFIDENTIAL – NH Dept. of Environmental Services review**

**NHB23-0281**

**REDACTED**





## New Hampshire Natural Heritage Bureau - Animal Record

### **Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)**

<b>Legal Status</b>	<b>Conservation Status</b>
Federal: Listed Threatened	Global: Rare or uncommon
State: Listed Threatened	State: Critically imperiled due to rarity or vulnerability

<b>Description at this Location</b>	
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:	

<b>Location</b>	
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.

<b>Dates documented</b>			
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**

Federal: Listed Endangered  
State: Listed Endangered

#### **Conservation Status**

Global: Rare or uncommon  
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.

## **NHFG Coordination**

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## Stephen Hoffmann

---

**From:** Dionne, Michael <Michael.A.Dionne@wildlife.nh.gov>  
**Sent:** Wednesday, February 8, 2023 11:10 AM  
**To:** Christine J. Perron  
**Cc:** Tuttle, Kim; Stephen Hoffmann; Patterson, Cheri  
**Subject:** Re: NH Port Authority, Functional Replacement Project - updated NHB memo (NHB23-0281)

Hi Christine,  
Yes I can confirm the comments submitted on 12/20/22 are still applicable to the NH Port Authority, Functional Replacement Project (NHB23-0281).

Thank you.

Mike Dionne  
Environmental Review Coordinator  
NH Fish & Game Department  
11 Hazen Drive  
Concord, NH 03301  
(603) 271-1136, michael.dionne@wildlife.nh.gov  
NH Fish and Game...*connecting you to life outdoors*  
[www.wildnh.com](http://www.wildnh.com), [www.facebook.com/nhfishandgame](https://www.facebook.com/nhfishandgame)

*Did you know? New Hampshire Fish and Game has been conserving New Hampshire's wildlife and their habitats since 1865.*

---

**From:** Christine J. Perron <CPerron@mjinc.com>  
**Sent:** Wednesday, February 8, 2023 8:25 AM  
**To:** Dionne, Michael <Michael.A.Dionne@wildlife.nh.gov>  
**Cc:** Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>; Stephen Hoffmann <SHoffmann@mjinc.com>; Patterson, Cheri <Cheri.A.Patterson@wildlife.nh.gov>  
**Subject:** NH Port Authority, Functional Replacement Project - updated NHB memo (NHB23-0281)

**EXTERNAL:** Do not open attachments or click on links unless you recognize and trust the sender.

Good morning Mike,

The previous NHB review memo (NHB21-3815) for the subject project expired and we requested an updated memo in anticipation of submitting permit applications next month. The updated memo (NHB23-0281) is attached. There are no changes in species of concern.

The NHDES reviewer has requested that comments from NHFG should reference the current NHB memo. Could you please confirm that the comments you provided below in December are still applicable to the project?

Thank you,  
Christine



Christine J. Perron, CWS | Regional Environmental Manager

603-931-3327

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**From:** Dionne, Michael <Michael.A.Dionne@wildlife.nh.gov>  
**Sent:** Tuesday, December 20, 2022 9:55 AM  
**To:** Christine J. Perron <CPerron@mjinc.com>; Patterson, Cheri <Cheri.A.Patterson@wildlife.nh.gov>  
**Cc:** Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>  
**Subject:** Re: NH Port Authority, Functional Replacement Project (NHB21-3815)

Hi Christine,

We have reviewed the minimal design changes to the NH Port Authority, Functional Replacement Project (NHB21-3815) and have no new comments and will not require further consultation prior to submitting permit applications. The following avoidance and minimization measures should be followed during any pile driving:

- In-water pile driving will be completed outside of the window of anadromous fish spawning (April through June).
- A 'startle noise' will be implemented each day before any pile driving. This will consist of hitting the piles a couple times and then waiting 5-10 minutes prior to production driving.
- Piles will be installed using a vibratory hammer as much as possible and then impact driven using a cushion block.
- A safe unimpacted zone of passage of approximately 1,000 feet in width will be available for any sensitive species that may be foraging or migrating in the river during construction.

If you have any further questions or concerns please reach out.

Thanks

Mike Dionne

Environmental Review Coordinator

NH Fish & Game Department

11 Hazen Drive

Concord, NH 03301

(603) 271-1136, [michael.dionne@wildlife.nh.gov](mailto:michael.dionne@wildlife.nh.gov)

NH Fish and Game...*connecting you to life outdoors*

[www.wildnh.com](http://www.wildnh.com), [www.facebook.com/nhfishandgame](https://www.facebook.com/nhfishandgame)

*Did you know? New Hampshire Fish and Game has been conserving New Hampshire's wildlife and their habitats since 1865.*

---

**From:** Christine J. Perron <CPerron@mjinc.com>  
**Sent:** Thursday, December 8, 2022 10:52 AM  
**To:** Patterson, Cheri <Cheri.A.Patterson@wildlife.nh.gov>  
**Cc:** Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>; Dionne, Michael <Michael.A.Dionne@wildlife.nh.gov>  
**Subject:** RE: NH Port Authority, Functional Replacement Project (NHB21-3815)

**EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.**

---

Good morning,

Just checking in to see if you've had a chance to discuss this project.

Thanks,

Christine



Christine J. Perron, CWS | Regional Environmental Manager

603-931-3327

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---

**From:** Patterson, Cheri <[Cheri.A.Patterson@wildlife.nh.gov](mailto:Cheri.A.Patterson@wildlife.nh.gov)>  
**Sent:** Wednesday, November 23, 2022 12:01 PM  
**To:** Christine J. Perron <[CPerron@mjinc.com](mailto:CPerron@mjinc.com)>  
**Cc:** Tuttle, Kim <[Kim.A.Tuttle@wildlife.nh.gov](mailto:Kim.A.Tuttle@wildlife.nh.gov)>; Dionne, Michael <[Michael.A.Dionne@wildlife.nh.gov](mailto:Michael.A.Dionne@wildlife.nh.gov)>  
**Subject:** RE: NH Port Authority, Functional Replacement Project (NHB21-3815)

Good morning, Christine.

Mike and I will confer on Monday morning and one of us will get back to you. Thank you for checking back in.

Happy Thanksgiving.

Cheri Patterson

Chief, Marine Division

NH Fish and Game Department

225 Main Street

Durham, NH 03824

(603)868-1095 – office

(603)868-3305 – fax

*Did you know? New Hampshire Fish and Game is the steward for New Hampshire's marine resources, from lobsters and clams to stripers and bluefish, and also manages the Great Bay National Estuarine Research Reserve.*

---

**From:** Christine J. Perron <[CPerron@mjinc.com](mailto:CPerron@mjinc.com)>  
**Sent:** Wednesday, November 23, 2022 9:55 AM  
**To:** Patterson, Cheri <[Cheri.A.Patterson@wildlife.nh.gov](mailto:Cheri.A.Patterson@wildlife.nh.gov)>  
**Cc:** Tuttle, Kim <[Kim.A.Tuttle@wildlife.nh.gov](mailto:Kim.A.Tuttle@wildlife.nh.gov)>; Dionne, Michael <[michael.dionne@wildlife.nh.gov](mailto:michael.dionne@wildlife.nh.gov)>  
**Subject:** RE: NH Port Authority, Functional Replacement Project (NHB21-3815)

**EXTERNAL:** Do not open attachments or click on links unless you recognize and trust the sender.

---

Good morning Cheri,

Have you had a chance to consider the email below? I have attached responses from NOAA on EFH and Section 7. We will likely be reinitiating consultation under Section 7 though don't expect any concerns with the avoidance and minimization measures listed below. I will keep you in the loop as that reinitiation is carried out; however, it would be helpful to have your comments at this stage so that we can start finalizing permit applications.

Thanks Cheri. Happy Thanksgiving.

Christine



Christine J. Perron, CWS | Regional Environmental Manager

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---

**From:** Christine J. Perron

**Sent:** Wednesday, October 19, 2022 4:14 PM


**To:** Patterson, Cheri <[Cheri.A.Patterson@wildlife.nh.gov](mailto:Cheri.A.Patterson@wildlife.nh.gov)>; Michael R. Johnson <[mike.r.johnson@noaa.gov](mailto:mike.r.johnson@noaa.gov)>; 'zachary.jylkka@noaa.gov' <[zachary.jylkka@noaa.gov](mailto:zachary.jylkka@noaa.gov)>

**Cc:** Dionne, Michael <[Michael.A.Dionne@wildlife.nh.gov](mailto:Michael.A.Dionne@wildlife.nh.gov)>; 'Tuttle, Kim' <[Kim.A.Tuttle@wildlife.nh.gov](mailto:Kim.A.Tuttle@wildlife.nh.gov)>; Stephanie Desing <[sdesing@appledoremachine.com](mailto:sdesing@appledoremachine.com)>

**Subject:** NH Port Authority, Functional Replacement Project (NHB21-3815)

Good afternoon,

The subject project was originally reviewed back in 2019 but stalled for a few years due to funding issues. Final design and permitting is now getting underway again. This is a FHWA funded project that has gone through NEPA, EFH, and ESA review. The following OneDrive folder includes copies of the original BA and EFHA:

 [Consultation](#)

The project requires wetland, shoreland, and alteration of terrain permits from NHDES. It will also require an Individual Permit from the Corps and Water Quality Certification.

The key components of the project have not changed:

- Construction of a new dock structure approximately 60 x 120 feet to extend the south end of the existing wharf.
- Construction of a new dock structure approximately 145 x 80 feet to extend the north end of the existing wharf.
- Dredging of approximately 55,000 square feet of the river bed adjacent to the north end of the extended wharf.

- Relocation of the floating dock currently located off the north end of the wharf.
- Shoreside alterations, including soil and rock removal, grading, drainage, and paving within a 80,000-square foot area.

A few design changes are anticipated to be finalized over the next few months prior to permitting. These changes were not included in original consultation with NH Fish & Game and NOAA:

- A Sampling and Analysis Plan will be implemented for the dredged material and it is still assumed that material will be approved for off-shore disposal. The Cape Arundel disposal site noted in consultation has since closed. The alternative disposal site will be the Isle of Shoals North Disposal Site.
- The dredging depth may change from -35' mllw to -36' mllw, which would slightly expand the footprint. The avoidance and minimization measures outlined in the original consultation have not changed.
- The south wharf extension may not have a steel sheet pile wall along the shoreline, but instead have a grade beam with additional riprap. New riprap is anticipated to be under the extension footprint or added to existing riprap.
- The proposed 40" steel piles for the north and south wharf extensions will be rock socketed into bedrock. Casing will be spun to the top of bedrock and the bedrock drilled to create the socket. The rock socket method reduces the amount of pile driving required and reduces underwater noise impacts. However, this method does require some pile driving that was not clearly defined in the original consultation. The following avoidance and minimization measures are proposed for pile driving:
  - In-water pile driving will be completed outside of the window of anadromous fish spawning (April through June).
  - A 'startle noise' will be implemented each day before any pile driving. This will consist of hitting the piles a couple times and then waiting 5-10 minutes prior to production driving.
  - Piles will be installed using a vibratory hammer as much as possible and then impact driven using a cushion block.
  - A safe unimpacted zone of passage of approximately 1,000 feet in width will be available for any sensitive species that may be foraging or migrating in the river during construction.

We are reaching out now to determine if additional consultation is required prior to submitting permit applications. Please let me know if a Teams meeting would be helpful.

Thanks,  
Christine



Christine J. Perron, CWS | Regional Environmental Manager

603-931-3327

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## **NHDES Wetland Rule Waiver Requests (Env-Wt 402.21; 6066.03(c))**

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**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**REQUEST FOR WAIVER**

Rule for which a waiver is sought: Env-Wt 402.21

Project Location

Market Street Marine Terminal, 555 Market Street  
Portsmouth, NH 03801  
Tax Map 119/Lot Number 5

Waiver Requester\*

Christine Perron, McFarland-Johnson, Inc.  
53 Regional Drive, Concord, NH 03301  
cperron@mjinc.com  
(603) 931-3327

\*Requester is not the applicant

Applicant Information

Geno Marconi, Director of Ports and Harbors  
NH Division of Ports and Harbors  
555 Market Street, Portsmouth, NH 03801  
g.marconi@peasedev.org  
(603) 436-8500

The Pease Development Authority (PDA) Division of Ports and Harbors (DPH) oversees the management, maintenance, operation, and maritime security of the ports, harbors, and navigable tidal rivers of the State of New Hampshire. Included in this charge is the Market Street Marine Terminal located on the Piscataqua River. The site is also known as the Port of New Hampshire and is the state's only deep water, public access, general cargo marine terminal.

The proposed project is part of, and necessitated by, the replacement of the Sarah Mildred Long (SML) Bridge carrying US Route 1 Bypass over the Piscataqua River. The Market Street Marine Terminal is adjacent to the SML Bridge. Until recently, the bridge divided the port between the main wharf and the barge wharf. The bridge was recently replaced and a new alignment was selected to better accommodate current and future marine navigation. The new bridge now passes through the western end of the barge wharf. The new alignment required partial demolition of the wharf, blocked access to the boat ramp, and substantially reduced the berthing length along the barge wharf. The Federal Highway Administration (FHWA) through NHDOT is funding the functional replacement of the barge wharf to compensate for impacts caused by the new alignment of the SML Bridge. Functional replacement is a federally authorized method of right of way compensation for public facilities (23 CFR 710.509).

The purpose of this project is to replace the lost functionality of the barge wharf by incorporating that functionality into the main wharf. With the new bridge alignment, the barge wharf can no longer be used to moor barges and the available laydown area has been reduced.

**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

Chapter Env-Wt 400 addresses shoreline structures and Part Env-Wt 402 addresses design and construction criteria for shoreline structures. Env-Wt 402.21 states the following:

*Modification of Existing Structures. The department shall not approve any change in size, location, or configuration of an existing structure unless the applicant demonstrates, and the department finds, that the modification is less environmentally-impacting or provides for fewer boat slips and less construction surface area over public submerged lands than the current configuration.*

Strict adherence to Env-Wt 402.21 would not be in the best interest of the public or the environment. Therefore, a waiver of this rule is requested per Env-Wt 204.

**Env-Wt 204.03 (f): A complete explanation of why a waiver is being requested, including an explanation of the operational and economic costs of complying with the rule.**

The purpose of the proposed project is to address a loss in functionality at the Port caused by the relocation of public infrastructure that necessitated the removal of a portion of the barge wharf. The need for this project is evidenced by the following factors that prevent the main wharf in its current configuration from fully replacing the lost operational capacity of the barge wharf:

- The new bridge alignment required the partial demolition of the barge wharf, which reduced the berthing length along the barge wharf. This, combined with the proximity of the new bridge structure, prevents the use of the barge wharf for mooring barges.
- A 75-foot section of the north end of the main wharf is too shallow for some vessels since it has never been dredged to the necessary -36 foot Mean Lower Low Water (MLLW) dredge depth due to its proximity to the former bridge.
- The existing fender system is not designed to accommodate barges through all tidal ranges. Due to the loss of space at the barge wharf, barges must now use the main wharf and they cannot safely do so during all tide ranges with the current fender system.
- The new bridge alignment reduced the available laydown area at the barge wharf.

The proposed project is meeting the Env-Wt rules to the greatest extent practical. However, strict adherence to Env-Wt 402.21 would not allow for the proposed project to be constructed and would require the Market Street Marine Terminal to continue to operate under reduced capacity. The Market Street Marine Terminal is the state's only deep water, public access, general cargo marine terminal. The Terminal also handles special cargo, thus providing a unique service for the region. Continuing to operate under reduced capacity would lead to substantial economic costs to the State of New Hampshire and beyond. With a regional economic impact of approximately \$275 million in 2012, the Market Street Marine Terminal is a driving economic force for the State of New Hampshire and southern coastal Maine communities. In addition to commercial activity, the port is critical to emergency response capabilities in Portsmouth Harbor. The facility supports fire, security, and terrorist response drills with local and federal law enforcement. If there is an emergency on board a ship, the pilot brings the ship to the Terminal.

The loss of the barge wharf prohibits the berthing of a ship and a barge as was possible previously with the two wharfs. Therefore, the added length on the main wharf will remedy the problem.

**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**Env-Wt 204.03 (g): If applicable, a complete explanation of the alternative that is proposed to be substituted for the requirement in the rule, including written documentation or data, or both, to support the alternative.**

The proposed project will include the construction of a new dock structure approximately 60 x 120 feet to extend the south end of the existing wharf and construction of a new dock structure approximately 145 x 80 feet to extend the north end of the existing wharf. This equates to approximately 18,800 SF of additional wharf area.

**Env-Wt 204.03 (h): Whether the waiver is needed for a limited duration and, if so, an estimate of when the waiver will no longer be needed.**

The waiver is needed to obtain a permit to construct a permanent structure with a design life of at least 50 years.

**Env-Wt 204.03 (i): A complete explanation of why the applicant believes that having the waiver granted will meet the criteria in Env-Wt 204.05.**

**Env-Wt 204.05**

**(1) Granting a waiver will not result in:**

- a. An avoidable adverse impact on the environment or natural resources of the state, public health, or public safety;**
- b. An impact on abutting properties that is more significant than that which would result from complying with the rule; or**
- c. A statutory requirement being waived; and**

**(2) Any benefit to the public or the environment from complying with the rule is outweighed by the operational or economic costs to the applicant.**

The proposed project is located at an existing industrial port. The locations of the proposed wharf extensions are along a shoreline that is currently riprap, and the location of the north extension is in the footprint of the former Sarah Mildred Long bridge. Impacts from construction of the project to the Piscataqua River will be minimized to the maximum extent practicable by implementing construction best management practices to avoid or minimize impacts to water quality and sensitive species.

The project will not adversely impact public health or public safety.

The project is located entirely on property owned by the NH Division of Ports and Harbors. The Port is located within the waterfront industrial zone in the City of Portsmouth and is surrounded by areas zoned as commercial. There are two abutting properties, the railroad line and a commercial dock. The project will not adversely impact abutting properties.

The requested waiver does not require waiver of a statutory requirement.

As noted above, strict compliance with Env-Wt 402.21 would not allow for the proposed project to be constructed and would require the Market Street Marine Terminal to continue to operate at reduced capacity. If the proposed project is not constructed, there would be little benefit to the environment since this area would continue to be a waterfront industrial zone and the port would continue to be in operation. There would also be potential negative environmental impact from not constructing this project in the form of increased highway truck traffic in the region if certain ships were forced to dock at ports


**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

elsewhere in the Northeast and complete shipments over highways, a less efficient means of transportation. The operational and economic costs to the applicant (NH Division of Ports and Harbors) and State of New Hampshire that would result from compliance with this rule would outweigh the minimal benefit to the environment. The economic activities of the Port and the Piscataqua River terminals generated state and local taxes of \$22.8 million across New Hampshire and Maine. The Port and the Piscataqua River have a positive impact on the regional economy contributing \$274.5 million to the regional economy and generating 2,350 jobs.

Initials: The information provided is true, complete, and not misleading to the knowledge and belief of the signer.

Initials: The signer understands that:

- Any waiver granted based on false, incomplete, or misleading information shall be subject to revocation; and
- He or she is subject to the penalties for falsification in official matters, currently established in RSA 641.

SIGNATURE (APPLICANT):  
  
\_\_\_\_\_

PRINT NAME LEGIBLY:  
Geno Marconi

DATE: 3/28/2023

SIGNATURE (REQUESTOR):  
  
\_\_\_\_\_

PRINT NAME LEGIBLY:  
Christine Perron

DATE: 3/28/2023

**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**REQUEST FOR WAIVER**

Rule for which a waiver is sought: Env-Wt 606.03(c)

Project Location

Market Street Marine Terminal, 555 Market Street  
Portsmouth, NH 03801  
Tax Map 119/Lot Number 5

Waiver Requester\*

Christine Perron, McFarland-Johnson, Inc.  
53 Regional Drive, Concord, NH 03301  
cperron@mjinco.com  
(603) 931-3327

\*Requester is not the applicant

Applicant Information

Geno Marconi, Director of Ports and Harbors  
NH Division of Ports and Harbors  
555 Market Street, Portsmouth, NH 03801  
g.marconi@peasedev.org  
(603) 436-8500

The Pease Development Authority (PDA) Division of Ports and Harbors (DPH) oversees the management, maintenance, operation, and maritime security of the ports, harbors, and navigable tidal rivers of the State of New Hampshire. Included in this charge is the Market Street Marine Terminal located on the Piscataqua River. The site is also known as the Port of New Hampshire and is the state's only deep water, public access, general cargo marine terminal.

The proposed project is part of, and necessitated by, the replacement of the Sarah Mildred Long (SML) Bridge carrying US Route 1 Bypass over the Piscataqua River. The Market Street Marine Terminal is adjacent to the SML Bridge. Until recently, the bridge divided the port between the main wharf and the barge wharf. The bridge was recently replaced and a new alignment was selected to better accommodate current and future marine navigation. The new bridge now passes through the western end of the barge wharf. The new alignment required partial demolition of the wharf, blocked access to the boat ramp, and substantially reduced the berthing length along the barge wharf. The Federal Highway Administration (FHWA) through NHDOT is funding the functional replacement of the barge wharf to compensate for impacts caused by the new alignment of the SML Bridge. Functional replacement is a federally authorized method of right of way compensation for public facilities (23 CFR 710.509).

The purpose of this project is to replace the lost functionality of the barge wharf by incorporating that functionality into the main wharf. With the new bridge alignment, the barge wharf can no longer be used to moor barges and the available laydown area has been reduced.

Chapter Env-Wt 600 addresses projects in tidal waters and Part Env-Wt 606 addresses design and construction criteria for tidal waters. Env-Wt 606.03 addresses Piers, Docks, Wharves, and Floats Criteria. Env-Wt 606.03(c) states the following:

*Superstructures shall not completely shield the underlying area from direct sunlight.*

**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

Strict adherence to Env-Wt 606.03(c) would not be in the best interest of the public or the environment. Therefore, a waiver of this rule is requested per Env-Wt 204.

**Env-Wt 204.03 (f): A complete explanation of why a waiver is being requested, including an explanation of the operational and economic costs of complying with the rule.**

The purpose of the proposed project is to address a loss in functionality at the Port caused by the relocation of public infrastructure that necessitated the removal of a portion of the barge wharf. The need for this project is evidenced by the following factors that prevent the main wharf in its current configuration from fully replacing the lost operational capacity of the barge wharf:

- The new bridge alignment required the partial demolition of the barge wharf, which reduced the berthing length along the barge wharf. This, combined with the proximity of the new bridge structure, prevents the use of the barge wharf for mooring barges.
- A 75-foot section of the north end of the main wharf is too shallow for some vessels since it has never been dredged to the necessary -36 foot Mean Lower Low Water (MLLW) dredge depth due to its proximity to the former bridge.
- The existing fender system is not designed to accommodate barges through all tidal ranges. Due to the loss of space at the barge wharf, barges must now use the main wharf and they cannot safely do so during all tide ranges with the current fender system.
- The new bridge alignment reduced the available laydown area at the barge wharf.

The proposed project is meeting the Env-Wt rules to the greatest extent practical. The new structures have been designed to have the fewest number of pilings necessary to support the structures. The wharf extensions must match into the existing wharf structure; therefore, the height of the new wharf structures cannot be increased to reduce under-structure shading. Strict adherence to Env-Wt 606.03(c) would require a design that would not meet design and safety standards of an industrial port facility. The proposed wharf structures will serve large vessels, including tankers and cargo ships, and must have the capacity for safely and efficiently allowing ship-to-shore and shore-to-ship transfers.

**Env-Wt 204.03 (g): If applicable, a complete explanation of the alternative that is proposed to be substituted for the requirement in the rule, including written documentation or data, or both, to support the alternative**

The two sections of proposed wharf will consist of concrete filled steel pipe piles with a reinforced concrete deck structure. There will be a total of 74 piles for the north (44 piles) and south wharf (30 piles) extensions. As proposed, the project has been designed for the following loads:

- |   |                            |
|---|----------------------------|
|   | 2. DESIGN VESSEL           |
| DEAD LOAD: ACTUAL WEIGHT OF THE STRUCTURE   | a. 750 FOOT LOA            |
|   | b. 35 FOOT DRAFT           |
| LIVE LOAD:                                  | c. 63,000 TON DISPLACEMENT |
| 1. VEHICLE AND EQUIPMENT                    | 3. MOORING FITTINGS        |
| a. 1,000 PSF UNIFORM LIVE LOAD              | a. 100 TON BOLLARD         |
| b. 250 TON CRAWLER CRANE (MAX PICK 55 TONS) | b. 42" CLEAT (25 TON)      |

**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

**Env-Wt 204.03 (h): Whether the waiver is needed for a limited duration and, if so, an estimate of when the waiver will no longer be needed.**

The waiver is needed to obtain a permit to construct a permanent structure with a design life of at least 50 years.

**Env-Wt 204.03 (i): A complete explanation of why the applicant believes that having the waiver granted will meet the criteria in Env-Wt 204.05.**

**Env-Wt 204.05 (a)(1): Granting a waiver will not result in:**

**a. An avoidable adverse impact on the environment or natural resources of the state, public health, or public safety;**

**b. An impact on abutting properties that is more significant than that which would result from complying with the rule; or**

**c. A statutory requirement being waived; and**

**(2) Any benefit to the public or the environment from complying with the rule is outweighed by the operational or economic costs to the applicant.**

The proposed project is located at an existing industrial port. The locations of the proposed wharf extensions are along a shoreline that is currently riprap, and the location of the north extension is in the footprint of the former Sarah Mildred Long bridge. There are no eelgrass beds, shellfish beds, or other sensitive habitats in the vicinity of the wharf extensions. Impacts from construction of the project to the Piscataqua River will be minimized to the maximum extent practicable by implementing construction best management practices to avoid or minimize impacts to water quality and sensitive species.

The project will not adversely impact public health or public safety.

The project is located entirely on property owned by the NH Division of Ports and Harbors. The Port is located within the waterfront industrial zone in the City of Portsmouth and is surrounded by areas zoned as commercial. There are two abutting properties, the railroad line and a commercial dock. The project will not adversely impact abutting properties.

The requested waiver does not require waiver of a statutory requirement.

As noted above, strict adherence to Env-Wt 606.03(c) would require a design that would not meet design and safety standards of an industrial port facility. A design that complies with this rule would likely require open grating on the deck, which would be a safety concern and would also increase the potential for contaminants to enter the river. Strict compliance with this rule would provide little benefit to the environment since this area would continue to be a waterfront industrial zone and the area currently contains no sensitive habitats. The operational and economic costs to the applicant (NH Division of Ports and Harbors) and State of New Hampshire that would result from compliance with this rule would outweigh the minimal benefit to the environment. If the new wharf extensions did not meet safety and design standards, the port would need to continue operating at a reduced capacity. The economic activities of the Port and the Piscataqua River terminals generated state and local taxes of \$22.8 million across New Hampshire and Maine in 2011. The Port and the Piscataqua River have a positive impact on the regional economy contributing \$274.5 million to the regional economy and generating 2,350 jobs.




**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731**

Initials: The information provided is true, complete, and not misleading to the knowledge and belief of the signer.

The signer understands that:

- Initials:
- Any waiver granted based on false, incomplete, or misleading information shall be subject to revocation; and
  - He or she is subject to the penalties for falsification in official matters, currently established in RSA 641.

SIGNATURE (APPLICANT): \*

  
\_\_\_\_\_

PRINT NAME LEGIBLY:

Geno Marconi

DATE: 3/28/2023

SIGNATURE (REQUESTOR):

  
\_\_\_\_\_

PRINT NAME LEGIBLY:

Christine Perron

DATE: 3/28/2023

## **Turbidity Control and Monitoring Plan**

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**MARKET STREET MARINE TERMINAL (PORT OF NH)  
FUNCTIONAL REPLACEMENT PROJECT  
PORTSMOUTH 15731  
NHDES File Number: 2022-00429**

## **Turbidity Control and Monitoring Plan**

The Pease Development Authority Division of Ports and Harbors (PDA-DPH) is proposing a 2,000-foot defined mixing zone (approximately 1,000 feet downstream and 1,000 feet upstream from the proposed project) to control discharges from the proposed dredging and pile installation associated with the Functional Replacement Project at the Market Street Marine Terminal (NHDES File Number: 2022-00429).

The river depths in the main channel to the east of the Port are about 35 to 45 feet, with a maximum tidal range of 9.6 feet upstream at Dover Point to 13.2 feet downstream at Kittery Point. The river depths in the vicinity of the wharf are 24 to 34 feet. Currents in the Piscataqua River can reach speeds that exceed 5 knots. The NOAA-predicted tidal currents for this section of the river show a typical flood tide velocity of around 2 knots and ebb flows of about 4 knots. The Piscataqua River bottom is primarily a hard substrate, consisting largely of rock ledge, gravel, and cobble. Fine sediments generally do not settle on the substrate due to the high tidal currents in the lower estuary. The river is between 1,300 feet and 1,600 feet wide in the vicinity of the Port.

The Functional Replacement Project will consist of in-water work, with the following activities expected to have the greatest potential for generating turbidity in the river:

- Dredging

Dredging of the riverbed adjacent to the north end of the extended wharf is proposed. The dredge area consists of approximately 61,450 sq ft, removing approximately 16,000 CY of sediment and 800 CY of rock to a depth of -36' MLLW.

- Removal of Buried Debris

Metal debris and other obstructions including steel and timber from remnant structures and large boulders that are partially or entirely buried in the sediment of the Piscataqua River have been identified in the vicinity of the northern and southern wharf extensions. These obstructions could potentially pose a barrier to the installation of the casings and piles. Obstructions will be identified during the installation of the proposed piles and will be removed as necessary using an excavator or auger type drill mounted on the existing wharf and/or a barge.

- Pile Installation

The pile installation process consists of rotary and percussion drilling contained within a steel casing. The casing will be installed through the overburden to the top of bedrock. The typical process would be to vibrate the casing down using a vibratory hammer, with a short period using

an impact hammer to assure firm bearing on bedrock. Depending on the depth of overburden, the casing may be installed with an impact hammer the entire depth. The typical duration of casing installation is approximately 60 minutes. Typically, 1- 2 piles may be installed per day depending on production and challenges encountered.

Once the temporary casing is installed to bedrock, a drilling bucket will be used within the casing to remove the remaining sediments and overburden soils. Sediment removed from the casing with the drilling bucket will be placed into containers and transferred to stockpiles on shore. After the overburden material is removed, an air hammer is used to advance a socket into bedrock. Once the bedrock is drilled, the permanent casing is installed in the rock socket. Concrete is placed within the rock socket and permanent casing using the tremie method and displacing standing water. The temporary casing is then removed using a vibratory hammer.

Drilling water released from the top of the casing from the beginning of the drilling process through installation of the piles will contain some sediment and rock fragments. Turbidity generated from the pile driving activities will be monitored as outlined below.

Cofferdams are not a viable option in the project location due to water depths, substantial cost, as well as the proximity to the Federal Navigation Channel. Additional turbidity control BMPs such as turbidity curtains would not be effective due to the high current velocity in the river.

The Army Corps Piscataqua River turning basin project located upstream of the proposed project assumed that the majority of the sand and gravel to be dredged for that project would settle out within 1,000 feet of dredging. This assumption was based on prior monitoring conducted during Boston Harbor and other dredging operations while dredging silty material, which showed that the majority of resuspended material settled within 1,000 feet from the dredge. Other projects in the river that have been completed, including the replacement of the Sarah Mildred Long Bridge (2014-01053) and the Maine DOT underwater cable project (2021-01126), did not generate large turbidity plumes during sediment-generating construction activities. Given the coarse substrate in the project area and the high water velocities, it is reasonable to assume that any turbidity plume would be less than 1,000 ft. Based on the strong currents (1.7 to 2 feet per second on average) and what has been observed during past construction projects in this area of the river, any turbidity is expected to dissipate sooner than 1,000 feet and would not extend across the river, which is between 1,300 and 1,600 feet wide.

There is potential for turbidity to exceed effluent limitations during construction. Therefore, the Department is proposing a defined mixing zone to ensure compliance with the CGP effluent limitations during the construction activities described above.

Water quality sampling during construction to meet New Hampshire specific effluent limitations as published in Part 9.1.1.c of the 2017 Construction General Permit (CGP) is considered too hazardous due to river velocities and boat traffic in the river. Turbidity will instead be monitored visually as described below.

**The Turbidity Control and Monitoring Plan will entail the following:**

1. All turbidity monitoring during dredging, debris removal, and pile installation will be completed by a qualified Contractor.

2. Visual monitoring is proposed due to potential safety concerns associated with obtaining water samples upstream and downstream from the wharf. Visual monitoring will take place from a consistent location as determined by the Contractor. The vantage point is anticipated to be from the Sarah Mildred Long Bridge, from the Contractor's barge, or with a drone.
3. Visual monitoring will start within 30 minutes after the start of work, once every two hours that work is underway, and end 30 minutes after the in-water work ends.
4. Visible turbidity will be allowed during in-water work under the parameters outlined below. Visible turbidity is assumed to be approximately 25 NTUs or greater.
5. Visual markers will be established in the river at four (4) locations (two (2) upstream and two (2) downstream). Due to the presence of the Federal Navigation Channel, it is not feasible to place permanent markers (i.e. buoys or similar devices) in the Piscataqua River. Visual markers will be established by the Contractor using landmarks along the banks of the river as well as using the width of the existing lift span as a reference for estimating the width of a potential plume. Location of the markers will be based on distance from the work being monitored – it is assumed that pile installation or debris removal at the south end of the wharf will not be carried out concurrently with dredging, pile installation, or debris removal at the north end.

A marker will be established 500' and 1,000' upstream of the work being monitored, and 500' and 1,000' downstream of the work being monitored. The purpose of the 500' marker is to evaluate aquatic organism passage within the mixing zone. It is assumed that if turbidity is visible but does not extend more than halfway across the width of the river, then there is adequate aquatic organism passage through the mixing zone. The approximate middle of the river channel is the lift span of the Sarah Mildred Long Bridge.

6. Action:
  - a. If turbidity is visible at either of the 500' markers and extends more than halfway across the river, work will stop temporarily until there is no visible turbid discharge. It is assumed that if a turbidity plume extending more than halfway across the river is visible at either of the 500' markers, the turbid discharge could potentially be impacting aquatic organism passage.
  - b. If turbidity is visible at either of the 1,000' markers, there is potential that turbidity at the end of the mixing zone will be greater than 10 NTUs above background or the CGP effluent limitation has been exceeded. Work will be temporarily stopped until there is no visible turbid discharge seen at the 1,000 markers and the NHDES Wetlands Bureau will be notified within 24 hours of stopping work.
  - c. Work will be allowed to continue only if and once turbidity is not visible at the 500' markers.
  - d. During dredging operations, monitoring will take place as specified in Item 3 above for the entire duration of dredging activity.

- e. Monitoring will take place during the first three days of debris removal and pile installation as specified in Item 3 above. Monitoring may be reduced to no less than twice a day (at least once within 30 minutes after the start of work and once after 4 hours) for the remaining duration of debris removal and pile installation provided there are no temporary work stoppages. If temporary work stoppages occur, daily monitoring will be resumed until there are no temporary work stoppages for at least two consecutive days of in-water work.
- f. Photographs will be taken during each monitoring event.

7. Reporting:

- a. A report will be submitted to the NHDES Wetlands Bureau every two weeks of monitoring or following a temporary work stoppage.
- b. Each report will summarize observations, timing, and status of work, and provide photo documentation.

## **Impact Plans (Revised)**

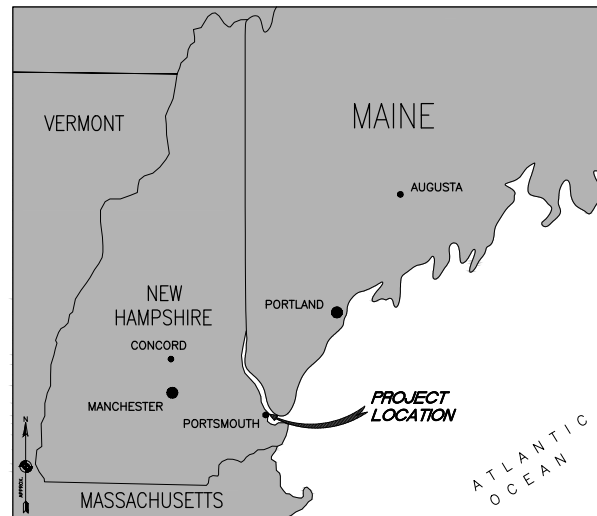
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# PEASE DEVELOPMENT AUTHORITY

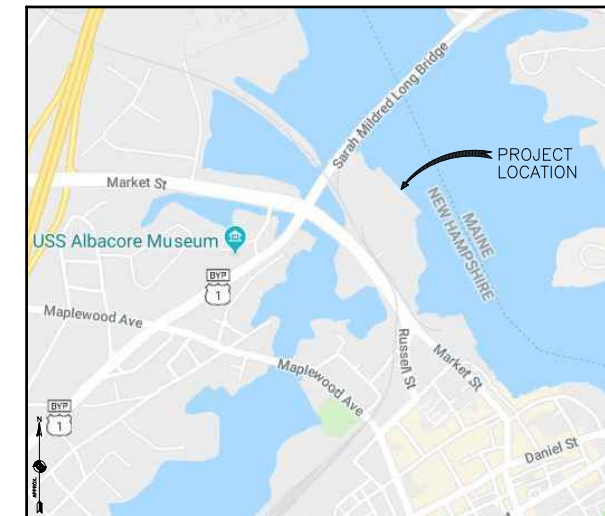
## Division of Ports and Harbors Portsmouth, New Hampshire

# MARKET STREET MARINE TERMINAL FUNCTIONAL REPLACEMENT BARGE DOCK ENVIRONMENTAL IMPACT PLANS

APRIL 2023



VICINITY MAP  
N.T.S.

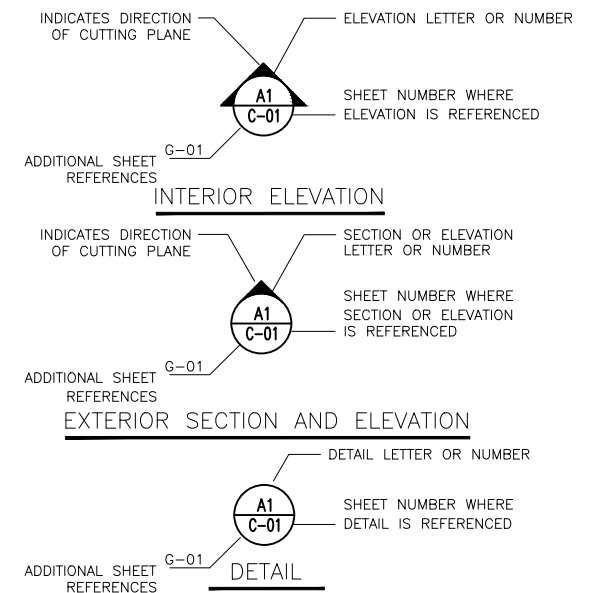


LOCATION MAP  
N.T.S.

### LIST OF DRAWINGS

NUMBER	NAME	TITLE
<u>GENERAL</u>		
1	G-001	TITLE SHEET
2	G-002	GENERAL NOTES
3	G-003	SITE PHOTOS - 01
4	G-004	SITE PHOTOS - 02
5	G-005	SITE PHOTOS - 03
6	G-101	EXISTING CONDITIONS PLAN
7	G-102	PROJECT OVERVIEW PLAN
<u>CIVIL</u>		
8	C-101	WETLAND IMPACT PLAN
9	C-102	SHORELAND IMPACT PLAN
10	C-103	GENERAL SECTIONS
11	C-104	DREDGING PLAN
12	C-105	DREDGE SECTIONS
13	C-106	RIPRAP PLAN
14	C-107	RIPRAP SECTIONS
<u>STRUCTURAL</u>		
15	S-101	PILE PLAN
16	S-102	PILE SECTION AND DETAILS
17	S-103	FRAMING PLAN
18	S-104	FLOATING DOCK PLAN AND DETAILS

### ELEVATION, SECTION OR DETAIL SYMBOLS



<p>603.766.1870 inquiry@appledoremarine.com</p> <p><b>Appledore Marine Engineering, LLC</b> 600 State St, Suite E Portsmouth New Hampshire 03801</p> <p>603.766.1870 inquiry@appledoremarine.com</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISION	DATE	DESCRIPTION	BY				
REVISION	DATE	DESCRIPTION	BY						
<p>PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b></p>									
<p>PROJECT No.: 5213 CAD DWG FILE: S213_permit_01_G-001.dwg DESIGNED BY: SMD DRAWN BY: KMV CHECKED BY: NUJE SCALE: AS SHOWN</p>									
<p><b>G-001</b></p>									
<p>SHEET 1 OF 18</p>									



**GENERAL NOTES:**

- THE DRAWINGS AND SPECIFICATIONS FORM A PART OF THE CONTRACT DOCUMENTS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS AND THE DRAWINGS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE. A COPY OF THE DRAWINGS AND SPECIFICATIONS MUST BE KEPT ONSITE AT ALL TIMES DURING THE PROJECT.
- COORDINATE ALL WORK WITH FACILITY PERSONNEL AND PORT OPERATIONS ON A DAILY BASIS. THE CONSTRUCTION WORK SHALL NOT INTERFERE WITH ONGOING OPERATIONS. SCHEDULE AND COORDINATE ALL WORK, INCLUDING ALLOWABLE WORK WINDOWS, WITH THE OWNER. MAINTAIN THE WORK SITE TO THE SATISFACTION OF THE OWNER.
- COORDINATE MATERIAL STORAGE AND LAYDOWN AREAS WITH THE OWNER.
- COORDINATE ALL BARGE ACCESS AND MOORING LOCATIONS WITH THE OWNER.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY. DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING ALL PHASES OF CONSTRUCTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE OWNER'S PROPERTY AFTER COMPLETION OF THE PROJECT. ALL PROPOSED STAGING AREAS SHALL BE COORDINATED WITH THE OWNER BEFORE STARTING WORK. TEMPORARY CONSTRUCTION STAGING/STORAGE AREA SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE PROJECT.
- DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION ARE FROM LIMITED ARCHIVE DRAWINGS AND FIELD INVESTIGATIONS. CHECK AND VERIFY ALL DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION PRIOR TO COMMENCING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- EXISTING CONDITIONS DRAWINGS ARE INTENDED TO PROVIDE GENERAL OVERVIEW OF STRUCTURES BUT DO NOT INCLUDE ALL APPURTENANCES AND CONDITIONS.
- METHODS OF DEMOLITION, CONSTRUCTION, AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED.
- PREVENT ANY DISTURBANCE OR DAMAGE TO EXISTING STRUCTURES.
- CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DONE TO EXISTING STRUCTURES AND VESSELS AS A RESULT OF PERFORMING THE WORK.
- AT THE END OF EACH WORKING DAY, THE CONSTRUCTION SITE MUST BE LEFT IN A NEAT AND CLEAN CONDITION.
- COMPLY WITH ALL APPLICABLE O.S.H.A REGULATIONS AND SAFETY REQUIREMENTS.
- REPORT SPILLS AND LEAKS OR OIL OR OTHER HAZARDOUS SUBSTANCES (IE OIL, ANTIFREEZE, CHEMICALS, ETC.) OCCURRING DURING THE PERFORMANCE OF THIS CONTRACT IMMEDIATELY UPON DISCOVERY, REGARDLESS OF THE QUANTITY.
- THE OWNER WILL CHARGE TO THE CONTRACTOR ANY ADDITIONAL COSTS OF INSPECTION OR TESTING WHEN PRIOR REJECTION MAKES REINSPECTION OR RETESTING NECESSARY.

**REFERENCES AND STANDARDS:**

- AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2019 (ACI 318-19)
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, 16TH EDITION, 2022 (AISC-16)
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES, 2022 (ASCE 7-22)
- ASCE SEISMIC DESIGN OF PIERS & WHARVES, 2014 (ASCE 61-14)
- DEPARTMENT OF DEFENSE UNIFIED FACILITIES CRITERIA (UFC) DESIGN: PIERS AND WHARVES, 2017 (UFC 4-152-01)

**DESIGN CRITERIA:**

THE NORTH AND SOUTH WHARF EXTENSIONS HAVE BEEN DESIGNED AND ANALYZED FOR THE FOLLOWING LOADS:

DEAD LOAD: ACTUAL WEIGHT OF THE STRUCTURE

LIVE LOAD:

- VEHICLE AND EQUIPMENT
  - 1,000 PSF UNIFORM LIVE LOAD
  - 250 TON CRAWLER CRANE (MAX PICK 55 TONS)
- DESIGN VESSEL
  - 750 FOOT LOA
  - 35 FOOT DRAFT
  - 63,000 TON DISPLACEMENT
- MOORING FITTINGS
  - 100 TON BOLLARD
  - 42" CLEAT (25 TON)

**UTILITIES NOTES:**

- THE EXACT SIZE & LOCATION OF ALL EXISTING UTILITIES IMPACTED BY THE WORK SHALL BE FIELD VERIFIED PRIOR TO START OF CONSTRUCTION. NOTIFY "DIG SAFE" (1-888-344-7233) AT LEAST 14 CALENDAR DAYS PRIOR TO COMMENCEMENT OF GROUND PENETRATING ACTIVITY.
- TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE. NOTIFY THE OWNER A MINIMUM OF 5 DAYS IN ADVANCE OF ANY OUTAGES.

**ENVIRONMENTAL CONTROL NOTES:**


- THIS PROJECT REQUIRES THE IMPLEMENTATION OF A BEST MANAGEMENT PRACTICES PLAN (BMP) DURING ALL CONSTRUCTION WORK TO PREVENT/MINIMIZE ENVIRONMENTAL IMPACTS DURING THE CONSTRUCTION ACTIVITY.
- ENVIRONMENTAL CONTROLS MUST CONFORM TO ALL STATE, LOCAL, AND FEDERAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT NOT BE LIMITED TO MEASURES TO CONTROL TURBIDITY, PH, AND DUST.
- A COPY OF ALL PERMITS MUST BE POSTED ON SITE DURING CONSTRUCTION IN A PROMINENT LOCATION VISIBLE TO INSPECTING PERSONNEL.
- USE NETS, TARPS, WORK PLATFORMS, OR OTHER APPROVED EQUIVALENT MEANS TO PREVENT DEBRIS FROM FALLING INTO THE RIVER. REMOVE DEBRIS THAT HAS FALLEN INTO THE RIVER. THE OWNER MAY CONDUCT UNDERWATER INSPECTIONS TO ENSURE THAT ALL DEMOLITION AND CONSTRUCTION DEBRIS HAS BEEN REMOVED PRIOR TO DEMOBILIZING.
- STORAGE, FUELING AND LUBRICATION OF EQUIPMENT AND MOTOR VEHICLES MUST BE CONDUCTED IN A MANNER THAT AFFORDS THE MAXIMUM PROTECTION AGAINST SPILL AND EVAPORATION. FUEL, LUBRICANTS AND OIL MUST BE MANAGED AND STORED IN ACCORDANCE WITH ALL FEDERAL, STATE, REGIONAL, AND LOCAL LAWS AND REGULATIONS. THERE SHALL BE NO STORAGE OF FUEL ON THE PROJECT SITE. FUEL MUST BE BROUGHT TO THE PROJECT SITE AS NEEDED. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.
- ALL PILE DRIVING MUST OCCUR DURING DAYLIGHT HOURS AND MUST FOLLOW ALL RESTRICTIONS REQUIRED BY THE APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS. PILE DRIVING IS NOT PERMITTED FROM APRIL 1 THROUGH JUNE 30.
- DREDGING MUST OCCUR BETWEEN NOVEMBER 15 AND MARCH 15.

**SURVEY CONTROL NOTES:**

- MAINTAIN ADEQUATE SURVEY CONTROL AT ALL TIMES TO ESTABLISH AND MAINTAIN ALL LINES AND ELEVATIONS.
- HORIZONTAL DATUM BASED ON NAD 1983, NEW HAMPSHIRE STATE PLANE (CONUS) ZONE-NH 2800.
- ELEVATIONS ARE IN FEET BASED ON MEAN LOWER LOW WATER (MLLW) PROJECT DATUM. TIDAL ELEVATIONS ARE BASED ON THE 1983-2001 TIDAL EPOCH AND NOAA TIDE STATION 8419870 SEAVEY ISLAND, MAINE.
- TOPOGRAPHIC SURVEY PERFORMED BY DOUCET SURVEY. IN MAY AND JULY 2018 USING VARIOUS SURVEY METHODS. FEATURES SHOWN CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS EXISTING AT THAT TIME.
- HYDROGRAPHIC SURVEY PERFORMED BY STEELE ASSOCIATES IN DECEMBER 2022 USING VARIOUS SURVEY METHODS. FEATURES SHOWN CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS EXISTING AT THAT TIME.

**ABBREVIATIONS**

APPROX	APPROXIMATE
DIA, Ø	DIAMETER
℄	BASELINE
EA	EACH
EL	ELEVATION IN FEET
EQ	EQUAL(LY)
HOTL	HIGHEST OBSERVABLE TIDE LINE
IN	INCH(S)
MHW	MEAN HIGH WATER
MHHW	MEAN HIGHER HIGH WATER
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
MLW	MEAN LOW WATER
NAVD88	NATIONAL VERTICAL DATUM 1988
NTS	NOT TO SCALE
OC	ON CENTER
PSF	POUNDS PER SQUARE FOOT
SQ	SQUARE
SSP	STEEL SHEET PILE
TYP	TYPICAL

BY	-	-	-	-	-	-	-
DESCRIPTION	-	-	-	-	-	-	-
REVISIONS	-	-	-	-	-	-	-
DATE	-	-	-	-	-	-	-
REVISION	-	-	-	-	-	-	-
 <b>Appledore Marine Engineering, LLC</b> 600 State St, Suite E Portsmouth New Hampshire 03801 603.786.1970 inquiry@appledoremarine.com							DATE
SUBMITTED BY:							DATE
TITLE							DATE
(UNFILED)							DATE
(SEAL)							DATE
PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b>							DATE
GENERAL NOTES							DATE
PROJECT No.: 5213							DATE
CAD DWG FILE: S213_permit_01_G-001.dwg							DATE
DESIGNED BY: SNID							DATE
DRAWN BY: KMV							DATE
CHECKED BY: NJE							DATE
SCALE: AS SHOWN							DATE
G-002							DATE
SHEET 2 OF 18							DATE

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D

C

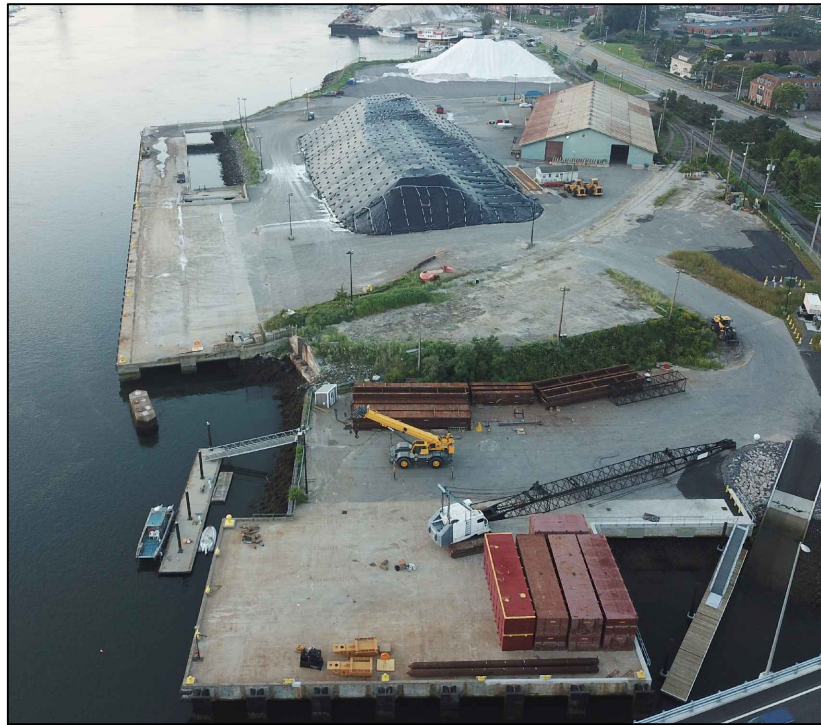
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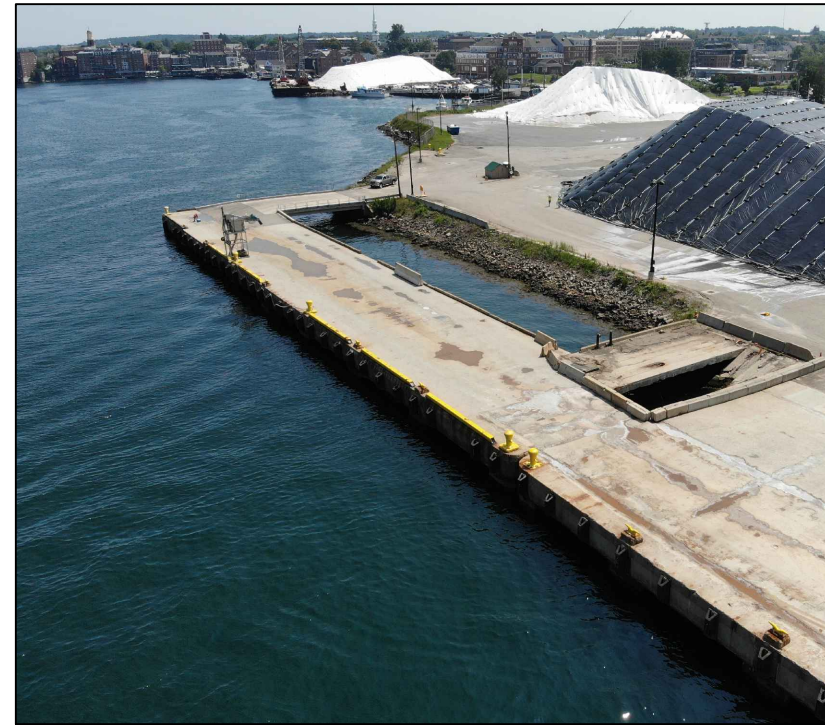
OVERALL SITE  
LOOKING SOUTH

C1



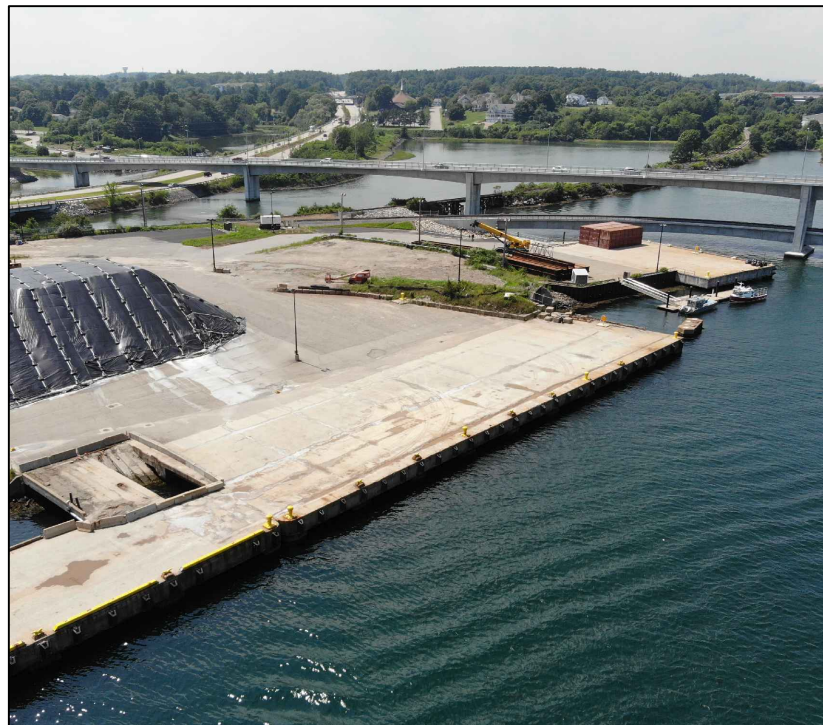
OVERALL SITE  
LOOKING SOUTHEAST

C3



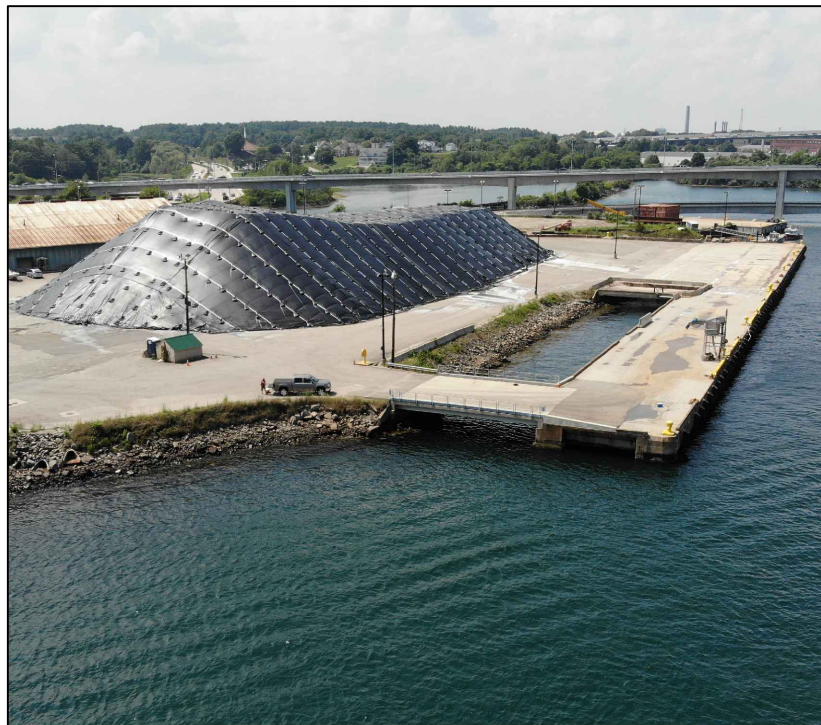
MAIN WHARF (1964 VINTAGE)  
LOOKING SOUTHEAST

C4



MAIN WHARF (1977 VINTAGE)  
LOOKING WEST

A1



SOUTH WHARF EXTENSION LOCATION  
LOOKING WEST

A3



NORTH WHARF EXTENSION LOCATION  
LOOKING SOUTH

A4

REVISION	DATE	DESCRIPTION	BY

603.766.1870  
inquiry@appledoremarine.com

**Appledore Marine Engineering, LLC**  
600 State St., Suite E  
Portsmouth New Hampshire 03801

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

PEASE DEVELOPMENT AUTHORITY  
DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
MARKET STREET MARINE TERMINAL

**FUNCTIONAL REPLACEMENT BARGE DOCK**

SITE PHOTOS - 01

PROJECT No.:	5213
CAD DWG FILE:	S213_permit_02_G-003.dwg
DESIGNED BY:	SND
DRAWN BY:	KMV
CHECKED BY:	NJE
SCALE:	AS SHOWN

G-003

SHEET 3 OF 18

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CHECK GRAPHIC SCALE BEFORE USING.

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**NORTH WHARF EXTENSION LOCATION**  
LOOKING SOUTHWEST (C1)



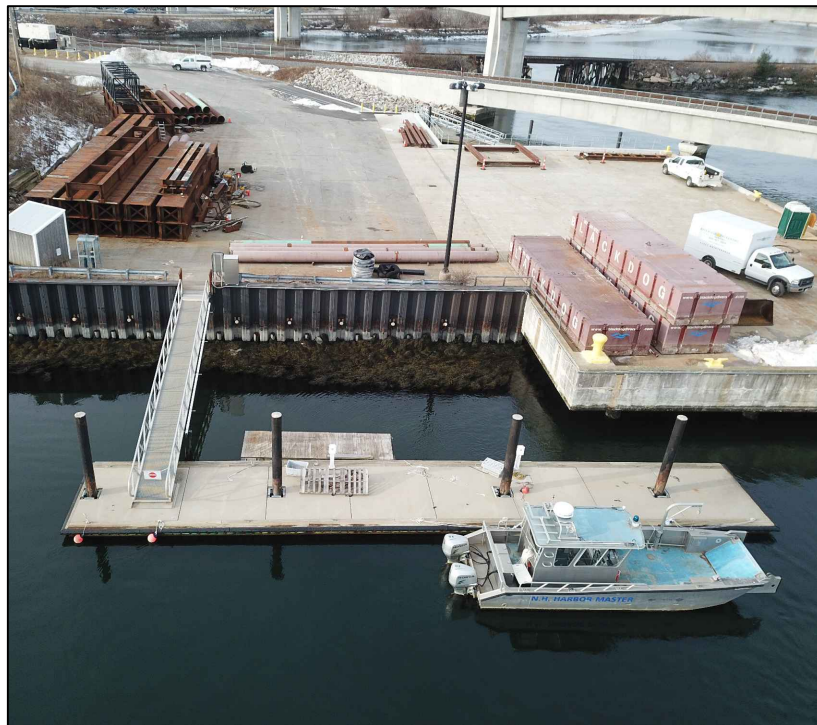
**BRIDGE PIER 14**  
LOOKING SOUTHWEST (C3)



**BRIDGE ABUTMENT 13**  
LOOKING SOUTHWEST (C4)



**BARGE WHARF BULKHEAD**  
LOOKING WEST (A1)



**FLOATING DOCK**  
LOOKING SOUTHWEST (A3)



**FLOATING DOCK - NEW LOCATION**  
LOOKING SOUTHWEST (A4)

REVISION	DATE	DESCRIPTION	BY

603.766.1870  
inquiry@appledoremarine.com  
**Appledore Marine Engineering, LLC**  
600 State St., Suite E  
Portsmouth New Hampshire 03801  
SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

(SEAL)

PEASE DEVELOPMENT AUTHORITY  
DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**  
SITE PHOTOS - 02

PROJECT No.: 5213  
CAD DWG FILE: 5213\_permit\_02\_G-003.dwg  
DESIGNED BY: SMD  
DRAWN BY: KMV  
CHECKED BY: NJE  
SCALE: AS SHOWN

G-004  
SHEET 4 OF 18

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3

4

5

CHECK GRAPHIC SCALE BEFORE USING.



MAIN WHARF - END SECTION  
LOOKING NORTHWEST

C1



MAIN WHARF - SOUTH ACCESS BRIDGE  
LOOKING SOUTHWEST

C3



MAIN WHARF - BRIDGE ABUTMENT  
LOOKING WEST

C4



SOUTH WHARF EXTENSION REVETMENT  
LOOKING WEST

A1



MAIN WHARF - FENDER SYSTEM  
LOOKING SOUTHWEST

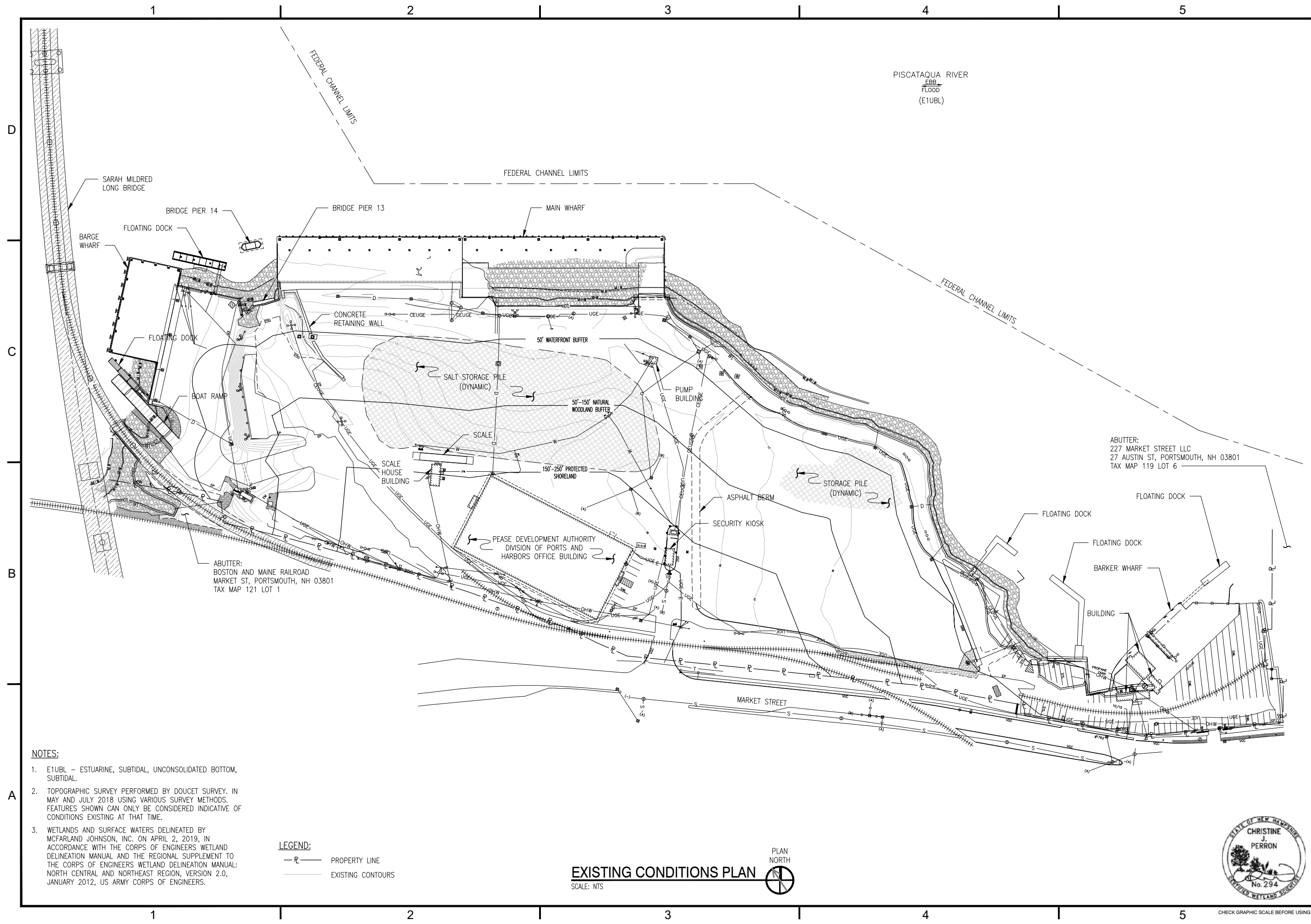
A3



BARGE WHARF - FENDER SYSTEM  
LOOKING SOUTH

A4

<p>603.766.1870 inquiry@applecoremarine.com</p> <p><b>Applecore Marine Engineering, LLC</b> 600 State St., Suite E Portsmouth New Hampshire 03801</p> <p>DATE: _____</p>		<p>REVISION</p> <p>DATE</p> <p>DESCRIPTION</p> <p>BY</p>	
<p>PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b></p> <p>SUBMITTED BY: _____</p> <p>DATE: _____</p>		<p>PROJECT No.: 5213</p> <p>CAD DWG FILE: 5213_permit_02_G-003.dwg</p> <p>DESIGNED BY: SIND</p> <p>DRAWN BY: KMV</p> <p>CHECKED BY: SIND</p> <p>SCALE: AS SHOWN</p>	
<p>PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b></p> <p>SUBMITTED BY: _____</p> <p>DATE: _____</p>		<p>SITE PHOTOS - 03</p>	
<p>G-005</p>		<p>SHEET 5 OF 18</p>	



**NOTES:**

1. E1UBL - ESTUARINE, SUBTIDAL, UNCONSOLIDATED BOTTOM, SUBTIDAL.
2. TOPOGRAPHIC SURVEY PERFORMED BY DOUCET SURVEY, IN MAY AND JULY 2018 USING VARIOUS SURVEY METHODS. FEATURES SHOWN CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS EXISTING AT THAT TIME.
3. WETLANDS AND SURFACE WATERS DELINEATED BY MCFARLAND JOHNSON, INC. ON APRIL 2, 2019, IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

**LEGEND:**

- P - PROPERTY LINE
- - - - - EXISTING CONTOURS

**EXISTING CONDITIONS PLAN**

SCALE: NTS



REVISION	DATE	DESCRIPTION	BY

603.766.1870  
 inquiry@appledoremarine.com  
**Appledore Marine Engineering, LLC**  
 600 State St, Suite E  
 Portsmouth New Hampshire 03801  
 SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

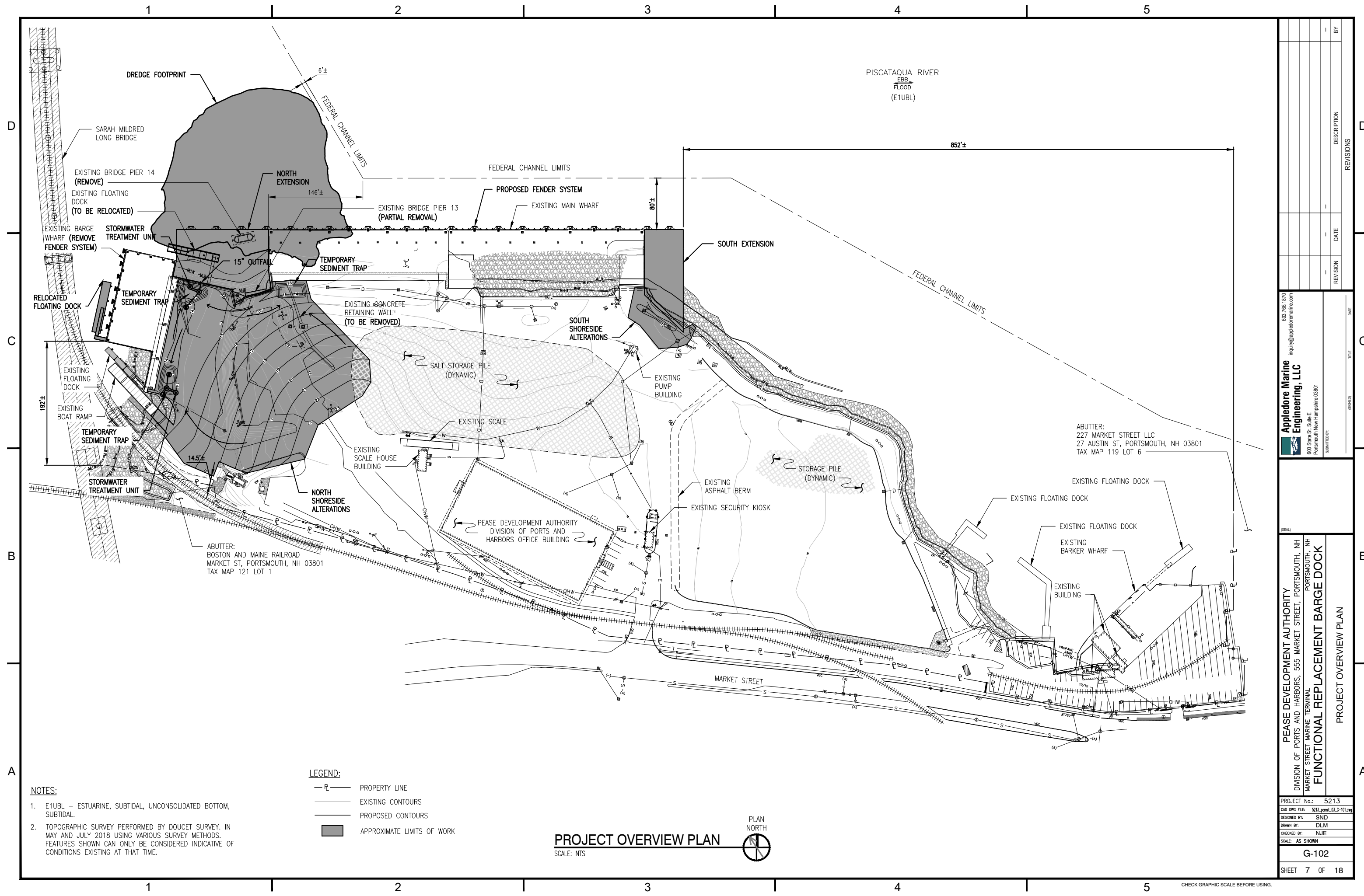
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PEASE DEVELOPMENT AUTHORITY  
 DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
 MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**  
 EXISTING CONDITIONS PLAN

PROJECT No.:	5213
CAD DWG FILE:	S213_permit_03_G-101.dwg
DESIGNED BY:	SND
DRAWN BY:	DLM
CHECKED BY:	NJE
SCALE:	AS SHOWN

G-101  
 SHEET 6 OF 18

CHECK GRAPHIC SCALE BEFORE USING.



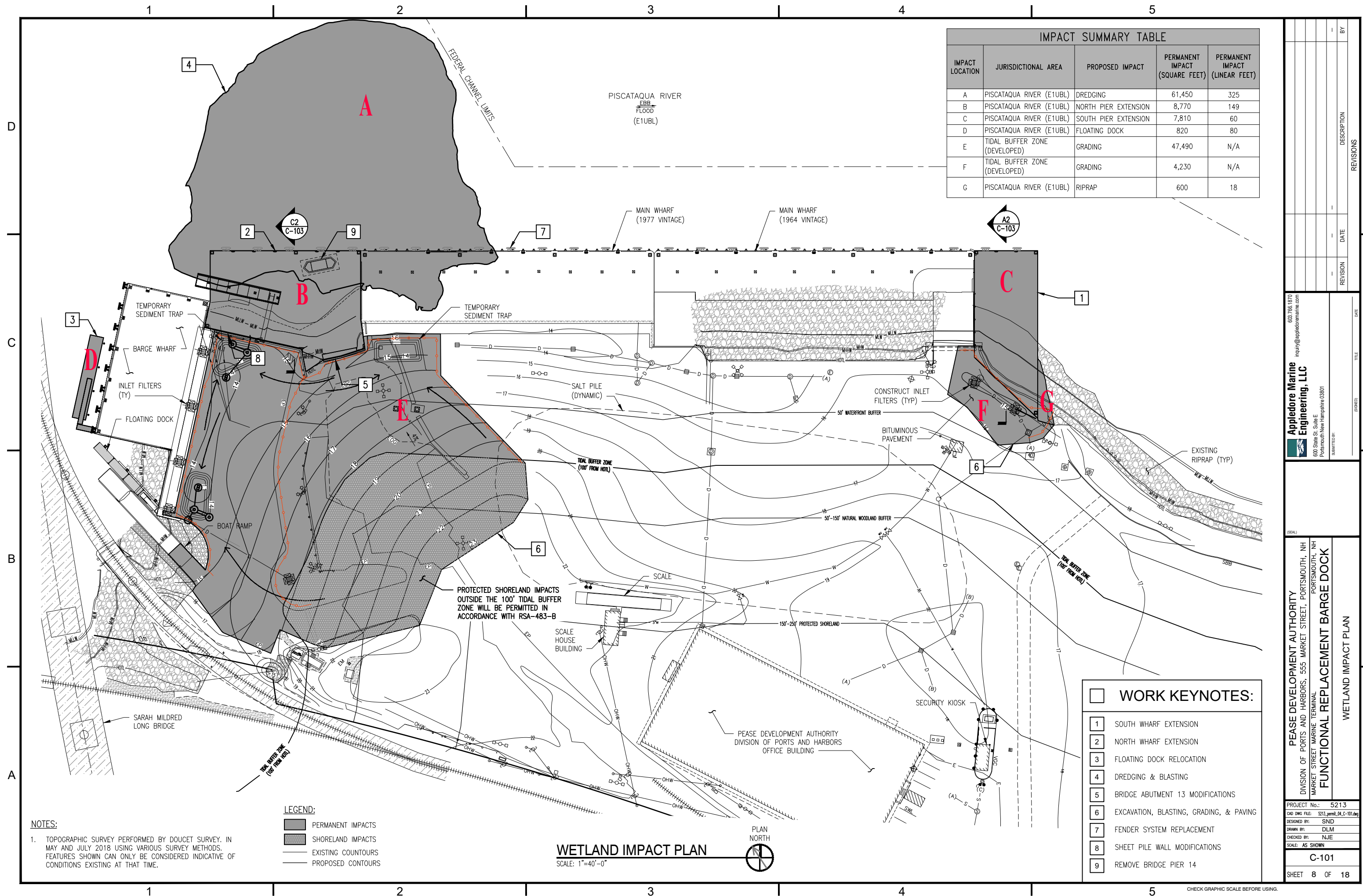
- NOTES:**
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- LEGEND:**
- P — PROPERTY LINE
  - EXISTING CONTOURS
  - PROPOSED CONTOURS
  - APPROXIMATE LIMITS OF WORK

**PROJECT OVERVIEW PLAN**  
SCALE: NTS



<p>603.766.1970 inquiry@applecoremarine.com</p> <p><b>Applecore Marine Engineering, LLC</b> 600 State St, Suite E Portsmouth New Hampshire 03801</p> <p>DATE: _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>	<p>603.766.1970 inquiry@applecoremarine.com</p> <p><b>Applecore Marine Engineering, LLC</b> 600 State St, Suite E Portsmouth New Hampshire 03801</p> <p>DATE: _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>
<p>PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b></p> <p>PROJECT OVERVIEW PLAN</p>	
<p>PROJECT No.: 5213 CAD DWG FILE: S213_permit_03_G-101.dwg DESIGNED BY: SND DRAWN BY: DLM CHECKED BY: NJE SCALE: AS SHOWN</p>	
<p><b>G-102</b></p>	
<p>SHEET 7 OF 18</p>	



IMPACT SUMMARY TABLE				
IMPACT LOCATION	JURISDICTIONAL AREA	PROPOSED IMPACT	PERMANENT IMPACT (SQ. FEET)	PERMANENT IMPACT (LINEAR FEET)
A	PISCATAQUA RIVER (E1UBL)	DREDGING	61,450	325
B	PISCATAQUA RIVER (E1UBL)	NORTH PIER EXTENSION	8,770	149
C	PISCATAQUA RIVER (E1UBL)	SOUTH PIER EXTENSION	7,810	60
D	PISCATAQUA RIVER (E1UBL)	FLOATING DOCK	820	80
E	TIDAL BUFFER ZONE (DEVELOPED)	GRADING	47,490	N/A
F	TIDAL BUFFER ZONE (DEVELOPED)	GRADING	4,230	N/A
G	PISCATAQUA RIVER (E1UBL)	RIPRAP	600	18

**NOTES:**  
 1. TOPOGRAPHIC SURVEY PERFORMED BY DOUCET SURVEY, IN MAY AND JULY 2018 USING VARIOUS SURVEY METHODS. FEATURES SHOWN CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS EXISTING AT THAT TIME.

**LEGEND:**  
 [Solid Grey] PERMANENT IMPACTS  
 [Hatched Grey] SHORELAND IMPACTS  
 [Dashed Line] EXISTING CONTOURS  
 [Solid Line] PROPOSED CONTOURS

**WETLAND IMPACT PLAN**  
 SCALE: 1"=40'-0"



- WORK KEYNOTES:**
- 1 SOUTH WHARF EXTENSION
  - 2 NORTH WHARF EXTENSION
  - 3 FLOATING DOCK RELOCATION
  - 4 DREDGING & BLASTING
  - 5 BRIDGE ABUTMENT 13 MODIFICATIONS
  - 6 EXCAVATION, BLASTING, GRADING, & PAVING
  - 7 FENDER SYSTEM REPLACEMENT
  - 8 SHEET PILE WALL MODIFICATIONS
  - 9 REMOVE BRIDGE PIER 14

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 Portsmouth New Hampshire 03801  
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 DATE: [Blank]  
 REVISION: [Blank]  
 DATE: [Blank]  
 DESCRIPTION: [Blank]

PEASE DEVELOPMENT AUTHORITY  
 DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
 MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**  
 WETLAND IMPACT PLAN

PROJECT No.: 5213  
 CAD DWG FILE: S213\_permit\_M\_C-101.dwg  
 DESIGNED BY: SND  
 DRAWN BY: DLM  
 CHECKED BY: NJE  
 SCALE: AS SHOWN  
**C-101**  
 SHEET 8 OF 18

1 2 3 4 5

IMPACT SUMMARY TABLE			
IMPACT LOCATION	JURISDICTIONAL AREA	PROPOSED IMPACT	PERMANENT IMPACT (SQUARE FEET)
A	50'-150' NATURAL WOODLAND BUFFER	GRADING	15,400
B	150'-250' PROTECTED SHORELAND	GRADING	11,010

D  
C  
B  
A

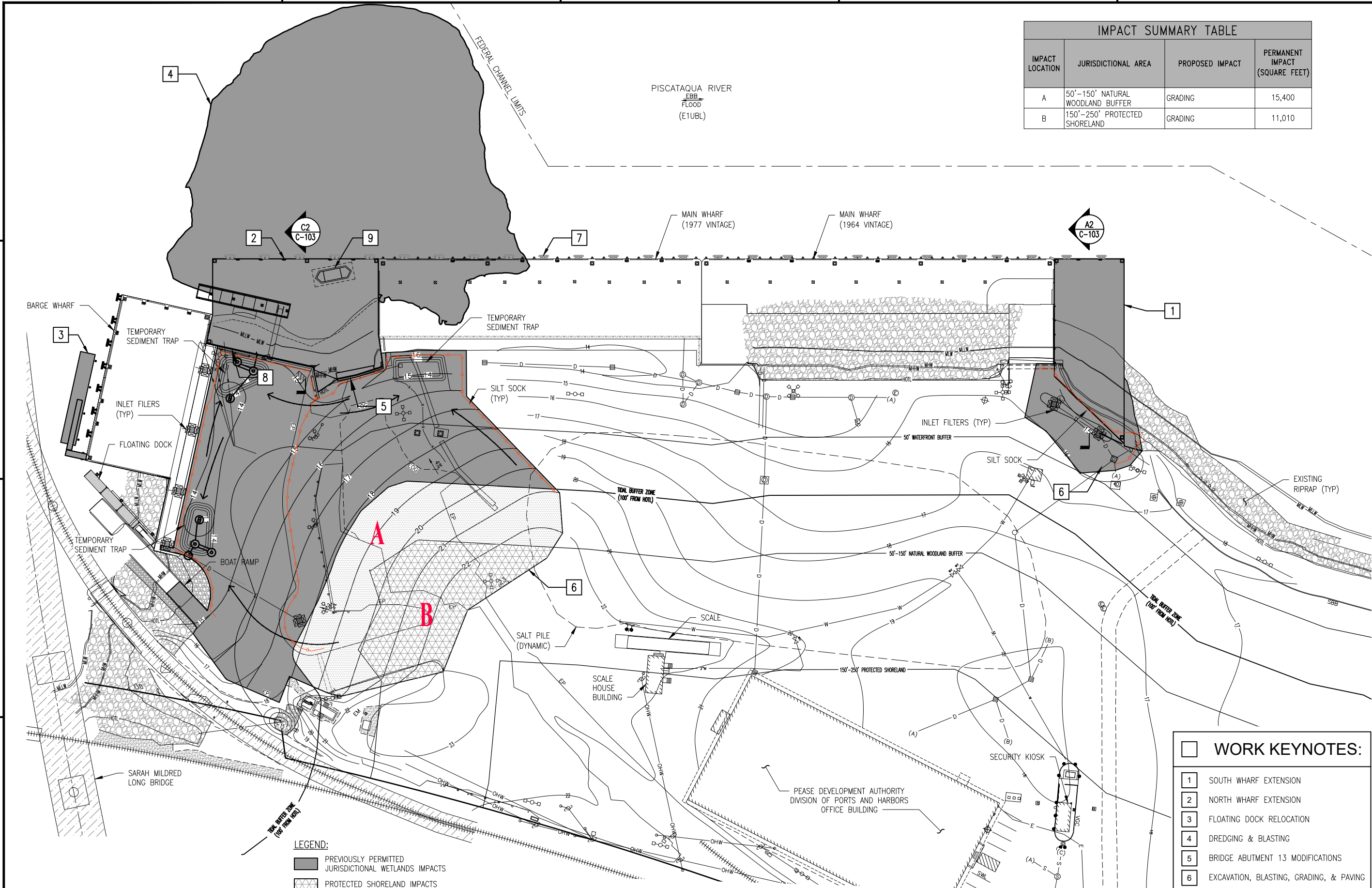
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inquiry@appliedmarine.com  
**Applied Marine Engineering, LLC**  
600 State St, Suite E  
Portsmouth New Hampshire 03801  
SUBMITTED BY: [ ]  
DATE: [ ]

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PEASE DEVELOPMENT AUTHORITY  
DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**  
SHORELAND IMPACT PLAN

PROJECT No.: 5213  
CAD DWG FILE: S213\_permit\_M\_C-101.dwg  
DESIGNED BY: SND  
DRAWN BY: DLM  
CHECKED BY: NJE  
SCALE: AS SHOWN  
**C-102**  
SHEET 9 OF 18



**NOTES:**  
1. TOPOGRAPHIC SURVEY PERFORMED BY DOUCET SURVEY, IN MAY AND JULY 2018 USING VARIOUS SURVEY METHODS. FEATURES SHOWN CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS EXISTING AT THAT TIME.

**LEGEND:**  
 [Grey Shaded] PREVIOUSLY PERMITTED JURISDICTIONAL WETLANDS IMPACTS  
 [Cross-hatched] PROTECTED SHORELAND IMPACTS  
 [Stippled] NATURAL WOODLAND BUFFER IMPACTS  
 [Solid Line] EXISTING CONTOURS  
 [Dashed Line] PROPOSED CONTOURS

**SHORELAND IMPACT PLAN**  
SCALE: 1"=40'-0"  
PLAN NORTH

WORK KEYNOTES:	
1	SOUTH WHARF EXTENSION
2	NORTH WHARF EXTENSION
3	FLOATING DOCK RELOCATION
4	DREDGING & BLASTING
5	BRIDGE ABUTMENT 13 MODIFICATIONS
6	EXCAVATION, BLASTING, GRADING, & PAVING
7	FENDER SYSTEM REPLACEMENT
8	SHEET PILE WALL MODIFICATIONS
9	REMOVE BRIDGE PIER 14

1 2 3 4 5

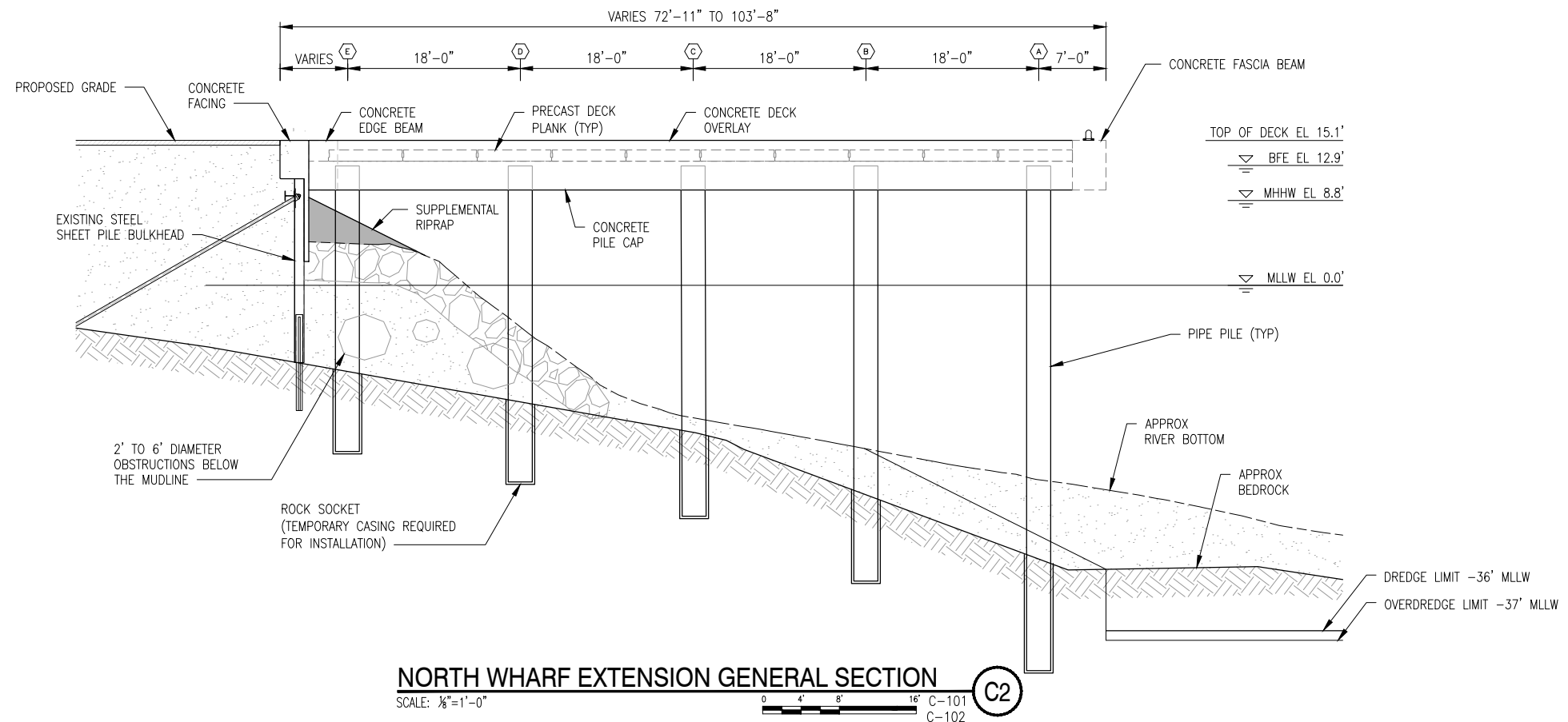
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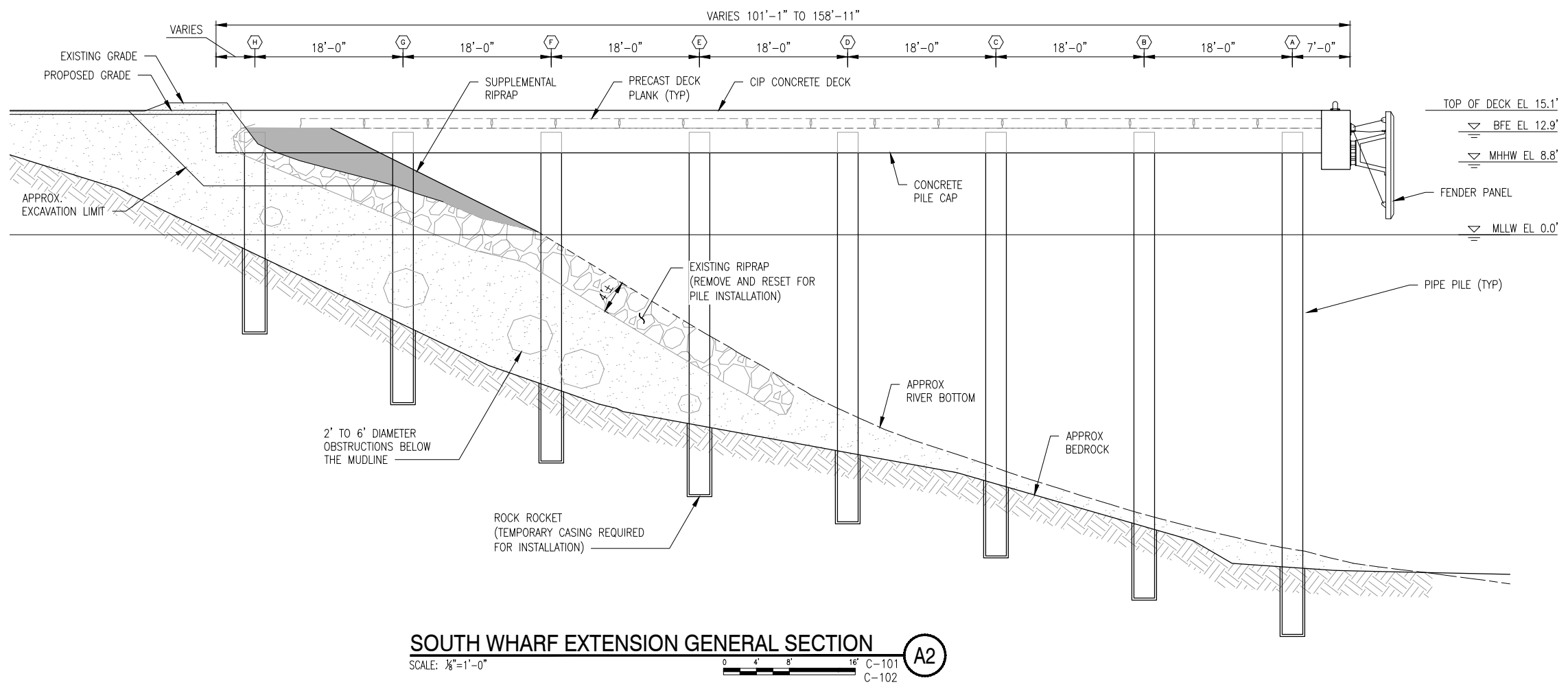
**ELEVATION REFERENCE TABLE**

REFERENCE	MLLW
DECK ELEVATION	15.10
BASE FLOOD ELEVATION (BFE)	12.86
HIGHEST OBSERVED TIDE (02/07/1978)	12.52
HIGHEST ASTRONOMICAL TIDE (HAT) (06/15/1995)	10.52
MEAN HIGHER HIGH WATER (MHHW)	8.84
MEAN HIGH WATER (MHW)	8.43
NORTH AMERICAN VERTICAL DATUM (NAVD88)	4.62
MEAN SEA LEVEL (MSL)	4.43
MEAN TIDE LEVEL (MTL)	4.38
NATIONAL GEODETIC VERTICAL DATUM (NGVD29)	3.86
MEAN LOW WATER (MLW)	0.32
MEAN LOWER LOW WATER (MLLW)	0.00
LOWEST ASTRONOMICAL TIDE (LAT)	-1.67
LOWEST OBSERVED WATER LEVEL (11/30/1955)	-3.35

THE LOCAL TIDAL DATUM INFORMATION AND THE RELATIONSHIP BETWEEN LOCAL TIDE AND NAVD88 IS BASED ON DATA PUBLISHED BY THE U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE FOR STATION "SEAVEY ISLAND, PORTSMOUTH HARBOR", STATION ID: 8419870, TIDAL EPOCH 1983-2001.



**NORTH WHARF EXTENSION GENERAL SECTION** C2  
 SCALE: 1/8"=1'-0"  
 0 4' 8' 16' C-101 C-102



**SOUTH WHARF EXTENSION GENERAL SECTION** A2  
 SCALE: 1/8"=1'-0"  
 0 4' 8' 16' C-101 C-102

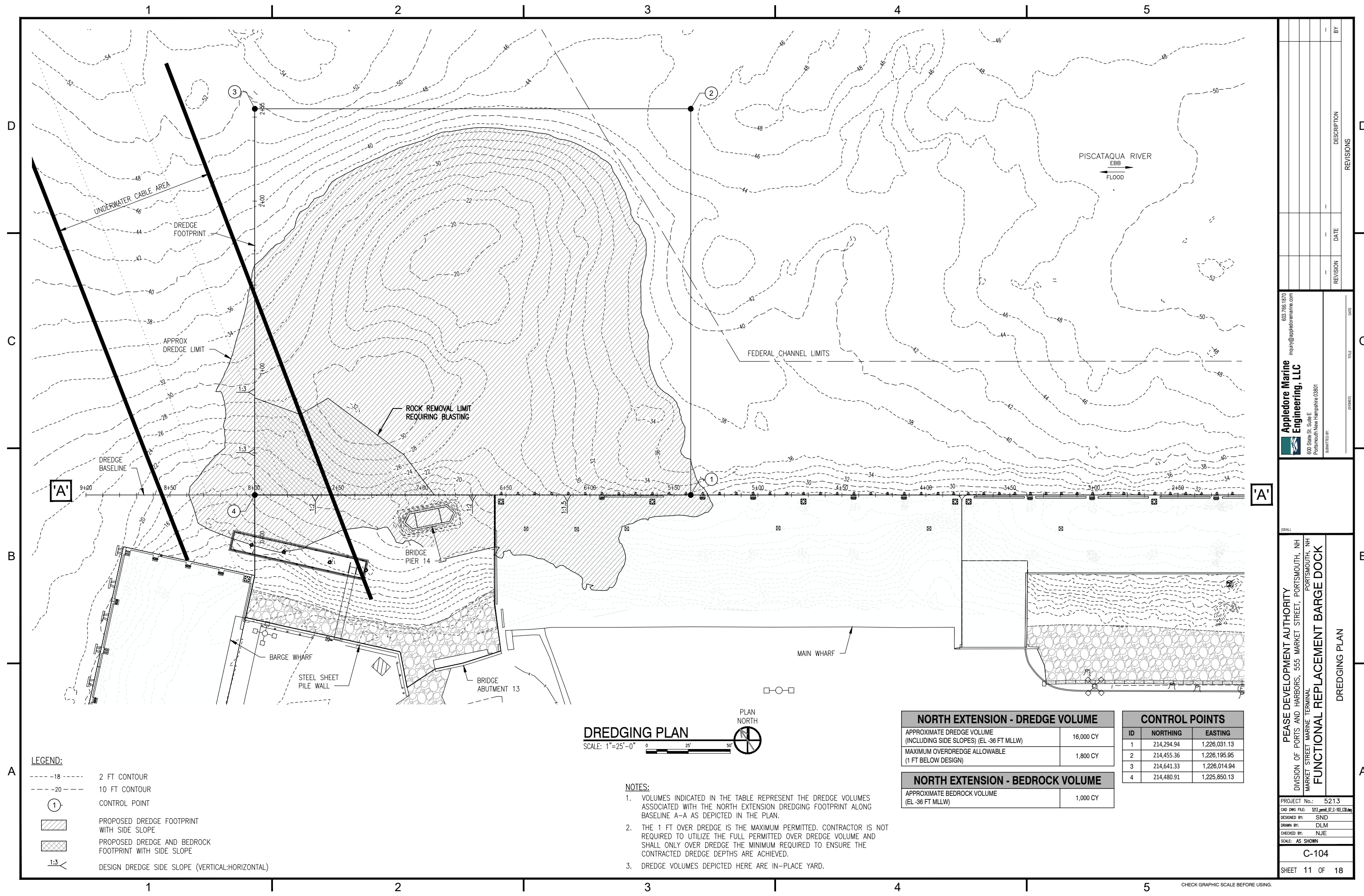
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 Portsmouth New Hampshire 03801  
 SUBMITTED BY: (NAME)  
 (SEAL)

PEASE DEVELOPMENT AUTHORITY  
 DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
 MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**  
 GENERAL SECTIONS

PROJECT No.: 5213  
 CAD DWG FILE: S213\_permit\_06\_S-101.dwg  
 DESIGNED BY: SND  
 DRAWN BY: KMV  
 CHECKED BY: NJE  
 SCALE: AS SHOWN

C-103  
 SHEET 10 OF 18



**DREDGING PLAN**

SCALE: 1"=25'-0"



**LEGEND:**

	2 FT CONTOUR
	10 FT CONTOUR
	CONTROL POINT
	PROPOSED DREDGE FOOTPRINT WITH SIDE SLOPE
	PROPOSED DREDGE AND BEDROCK FOOTPRINT WITH SIDE SLOPE
	DESIGN DREDGE SIDE SLOPE (VERTICAL:HORIZONTAL)

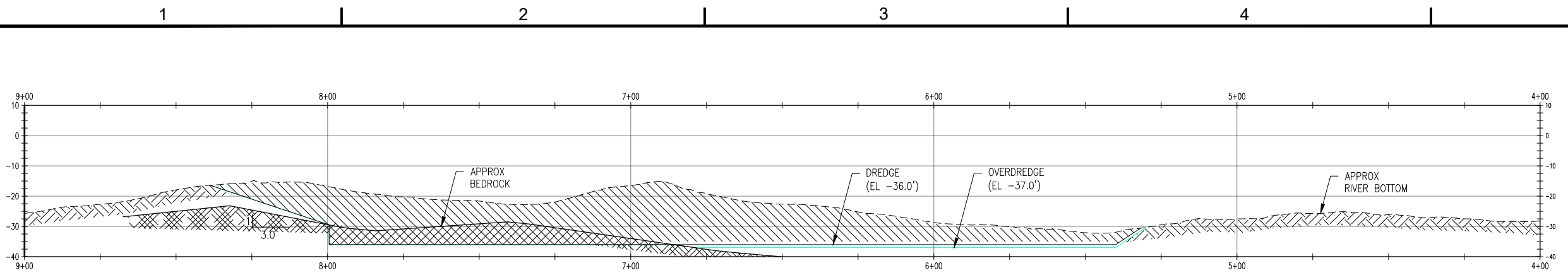
- NOTES:**
- VOLUMES INDICATED IN THE TABLE REPRESENT THE DREDGE VOLUMES ASSOCIATED WITH THE NORTH EXTENSION DREDGING FOOTPRINT ALONG BASELINE A-A AS DEPICTED IN THE PLAN.
  - THE 1 FT OVER DREDGE IS THE MAXIMUM PERMITTED. CONTRACTOR IS NOT REQUIRED TO UTILIZE THE FULL PERMITTED OVER DREDGE VOLUME AND SHALL ONLY OVER DREDGE THE MINIMUM REQUIRED TO ENSURE THE CONTRACTED DREDGE DEPTHS ARE ACHIEVED.
  - DREDGE VOLUMES DEPICTED HERE ARE IN-PLACE YARD.

NORTH EXTENSION - DREDGE VOLUME	
APPROXIMATE DREDGE VOLUME (INCLUDING SIDE SLOPES) (EL -36 FT MLLW)	16,000 CY
MAXIMUM OVERDREDGE ALLOWABLE (1 FT BELOW DESIGN)	1,800 CY

NORTH EXTENSION - BEDROCK VOLUME	
APPROXIMATE BEDROCK VOLUME (EL -36 FT MLLW)	1,000 CY

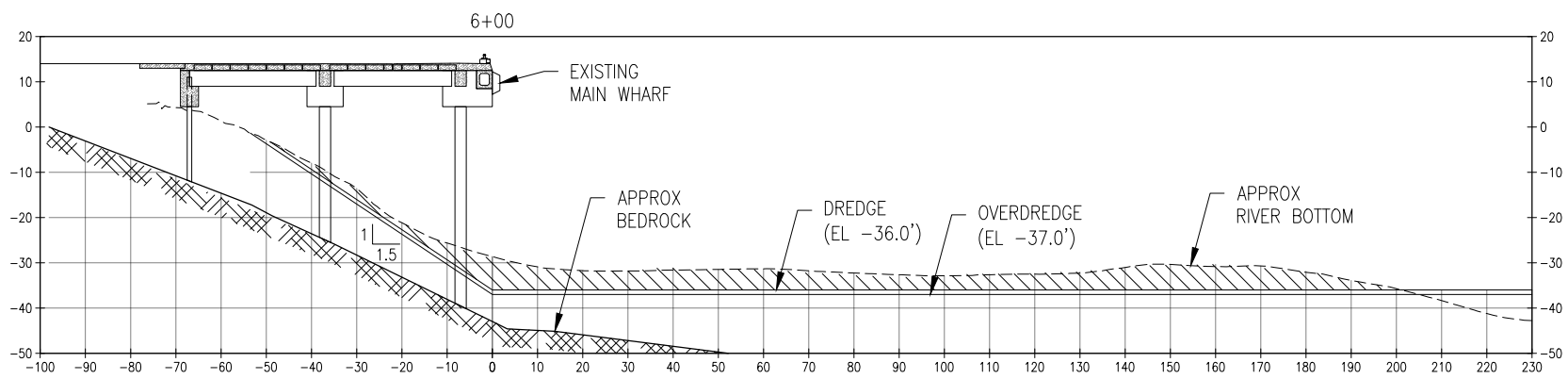
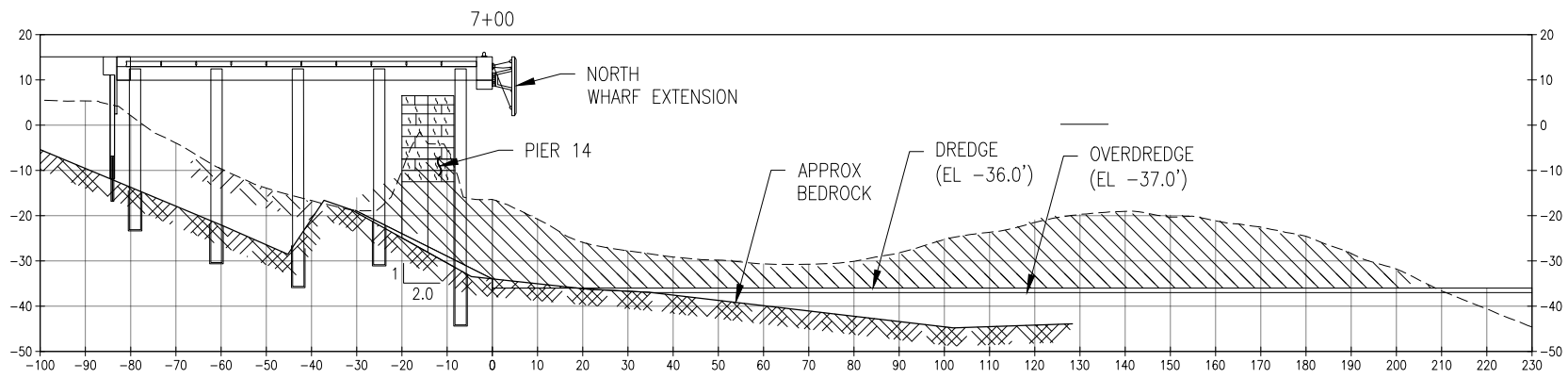
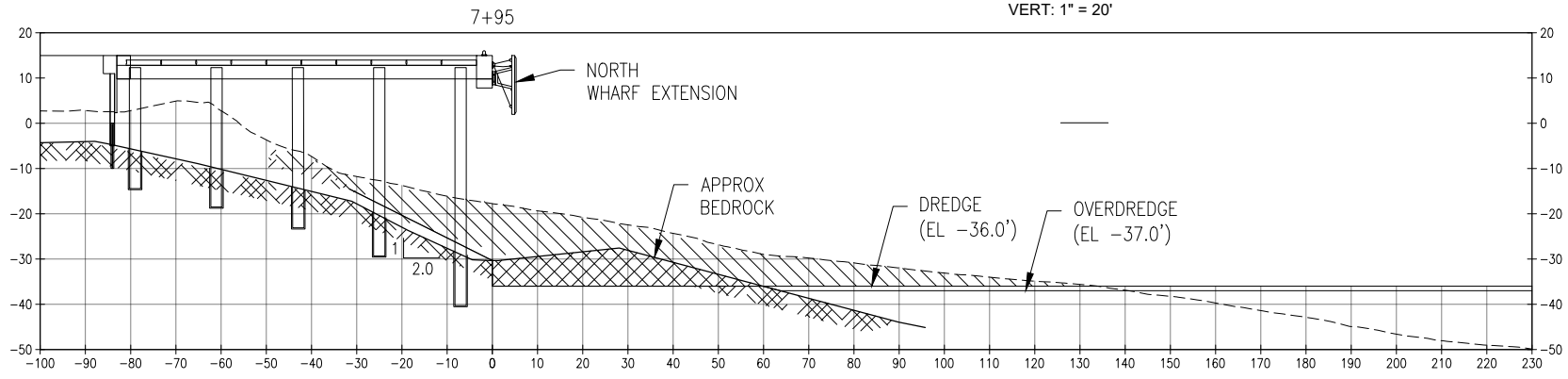
CONTROL POINTS		
ID	NORTHING	EASTING
1	214,294.94	1,226,031.13
2	214,455.36	1,226,195.95
3	214,641.33	1,226,014.94
4	214,480.91	1,225,850.13

<p style="text-align: center;"><b>Appledore Marine Engineering, LLC</b></p> <p style="font-size: small;">603.786.1870 inquiry@appledoremarine.com 600 State St, Suite E Portsmouth New Hampshire 03801</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REVISION</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REVISION	DATE	DESCRIPTION	BY				
REVISION	DATE	DESCRIPTION	BY						
<p>PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b></p>									
<p>DREDGING PLAN</p>									
<p>PROJECT No.: 5213 CAD DWG FILE: 5213_psm1_07_C-104.dwg DESIGNED BY: SND DRAWN BY: DLM CHECKED BY: NJE SCALE: AS SHOWN</p>									
<p><b>C-104</b></p>									
<p>SHEET 11 OF 18</p>									



**DREDGING PROFILE A-A**

HORIZ: 1" = 20'  
VERT: 1" = 20'



**DREDGING SECTIONS A-A**

HORIZ: 1" = 20'  
VERT: 1" = 20'

- LEGEND:**
- DREDGE REMOVAL
  - BEDROCK REMOVAL
  - APPROXIMATE MUDLINE
  - APPROXIMATE BEDROCK

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Portsmouth New Hampshire 03801

DATE: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_

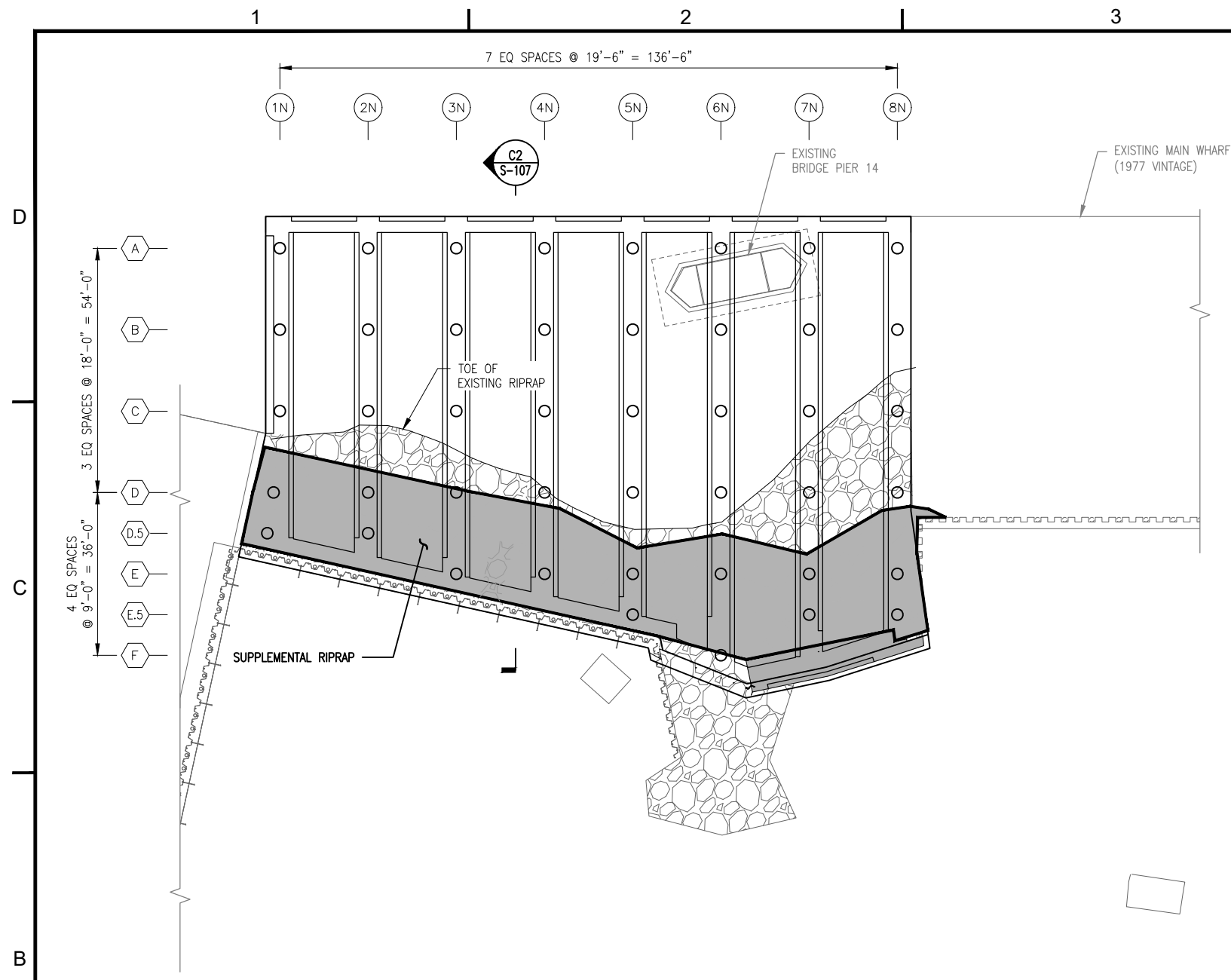
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DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
MARKET STREET MARINE TERMINAL  
PORTSMOUTH, NH

**FUNCTIONAL REPLACEMENT BARGE DOCK**

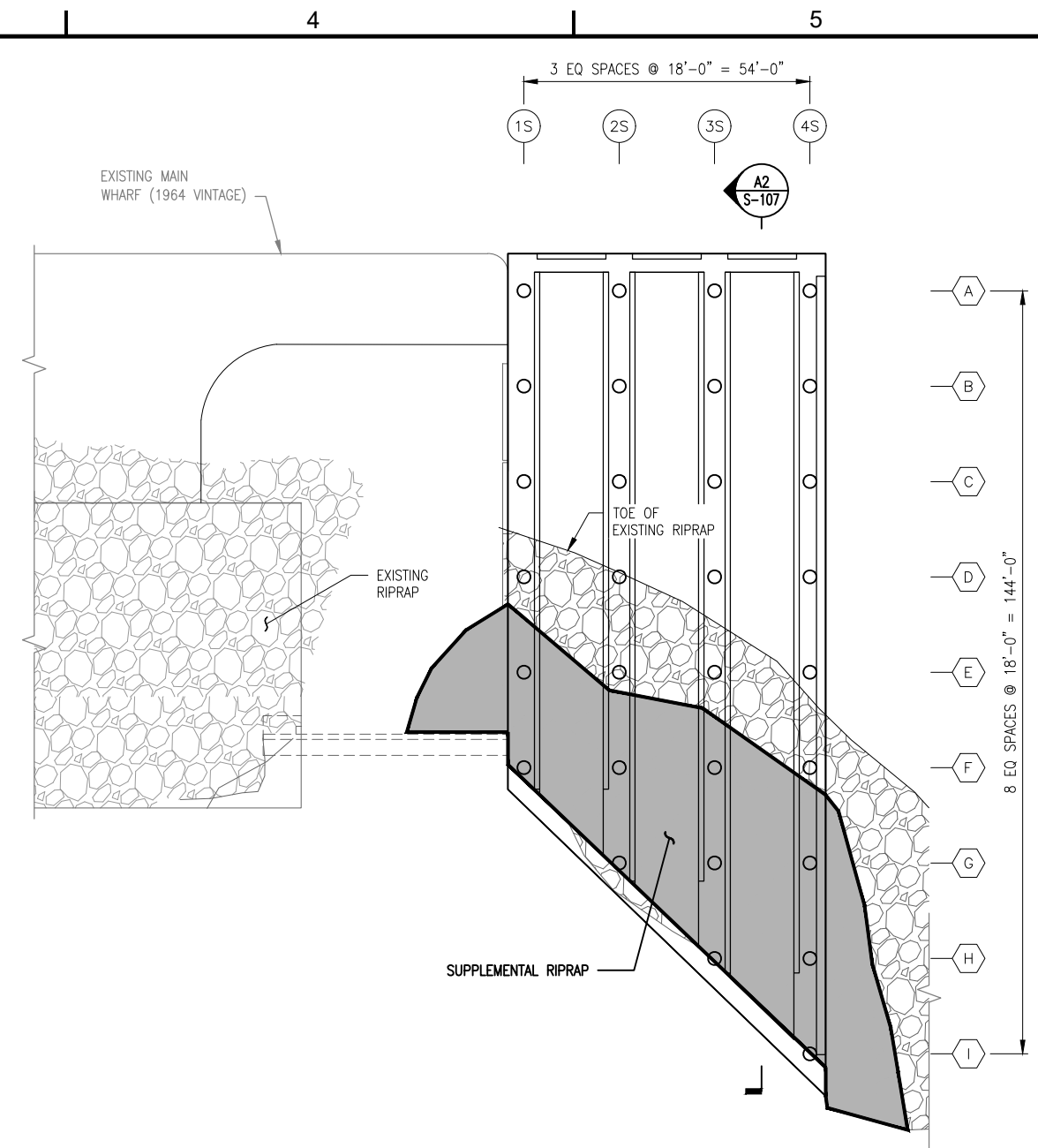
DREDGE SECTIONS

PROJECT No.: 5213  
CAD DWG FILE: 0213\_pem\_07\_C-105.dwg  
DESIGNED BY: SND  
DRAWN BY: DLM  
CHECKED BY: NJE  
SCALE: AS SHOWN

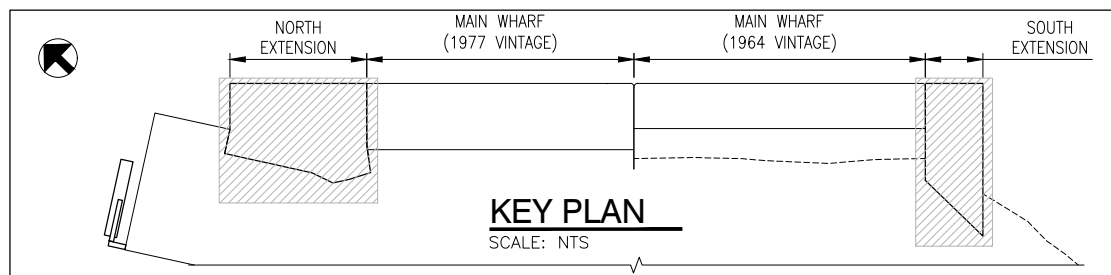
C-105  
SHEET 12 OF 18



**NORTH WHARF EXTENSION RIPRAP PLAN**  
 SCALE: 1/16" = 1'-0"  
 PLAN NORTH



**SOUTH WHARF EXTENSION RIPRAP PLAN**  
 SCALE: 1/16" = 1'-0"  
 PLAN NORTH



**KEY PLAN**  
 SCALE: NTS

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PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b>	PROJECT No.: 5213 CAD DWG FILE: S213_permit_06_S-101.dwg DESIGNED BY: SND DRAWN BY: MDM CHECKED BY: NJE SCALE: AS SHOWN
RIPRAP PLAN SHEET 13 OF 18	

CHECK GRAPHIC SCALE BEFORE USING.

1

2

3

4

5

D

C

B

A

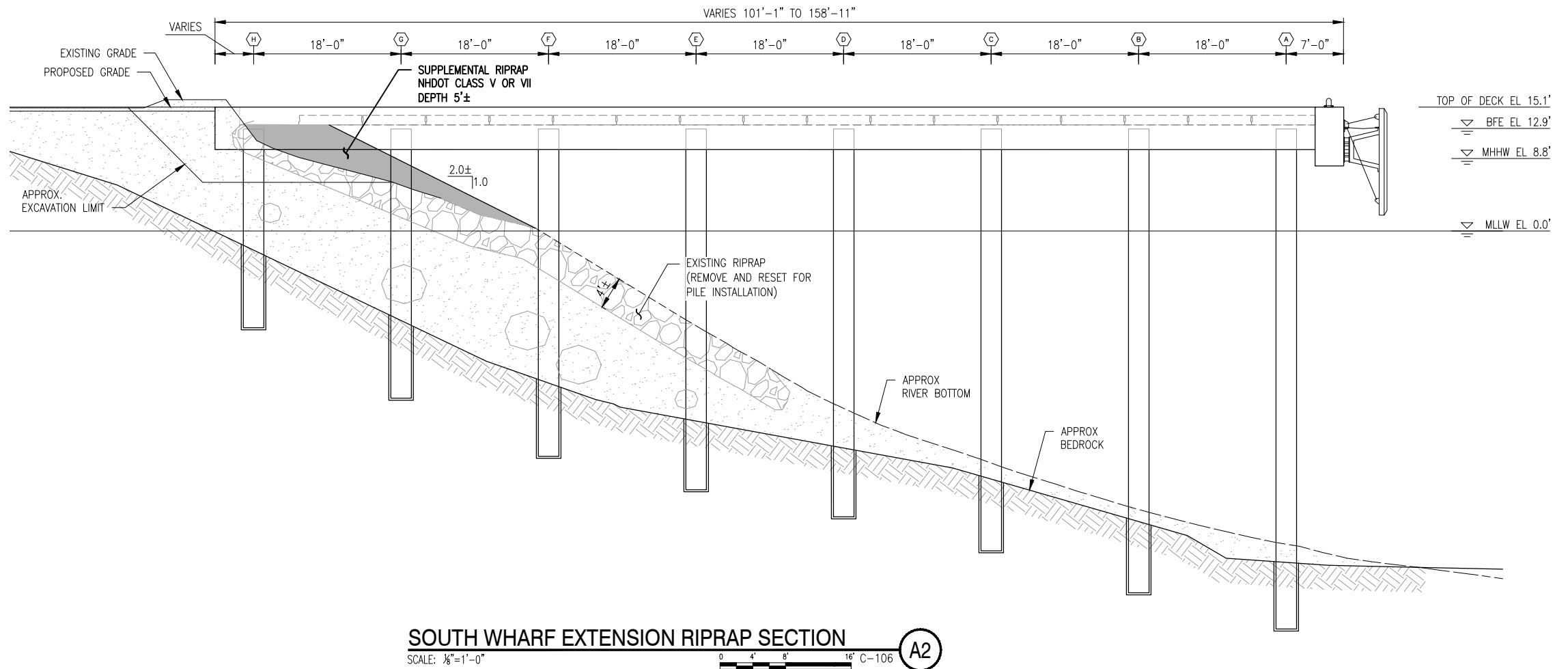
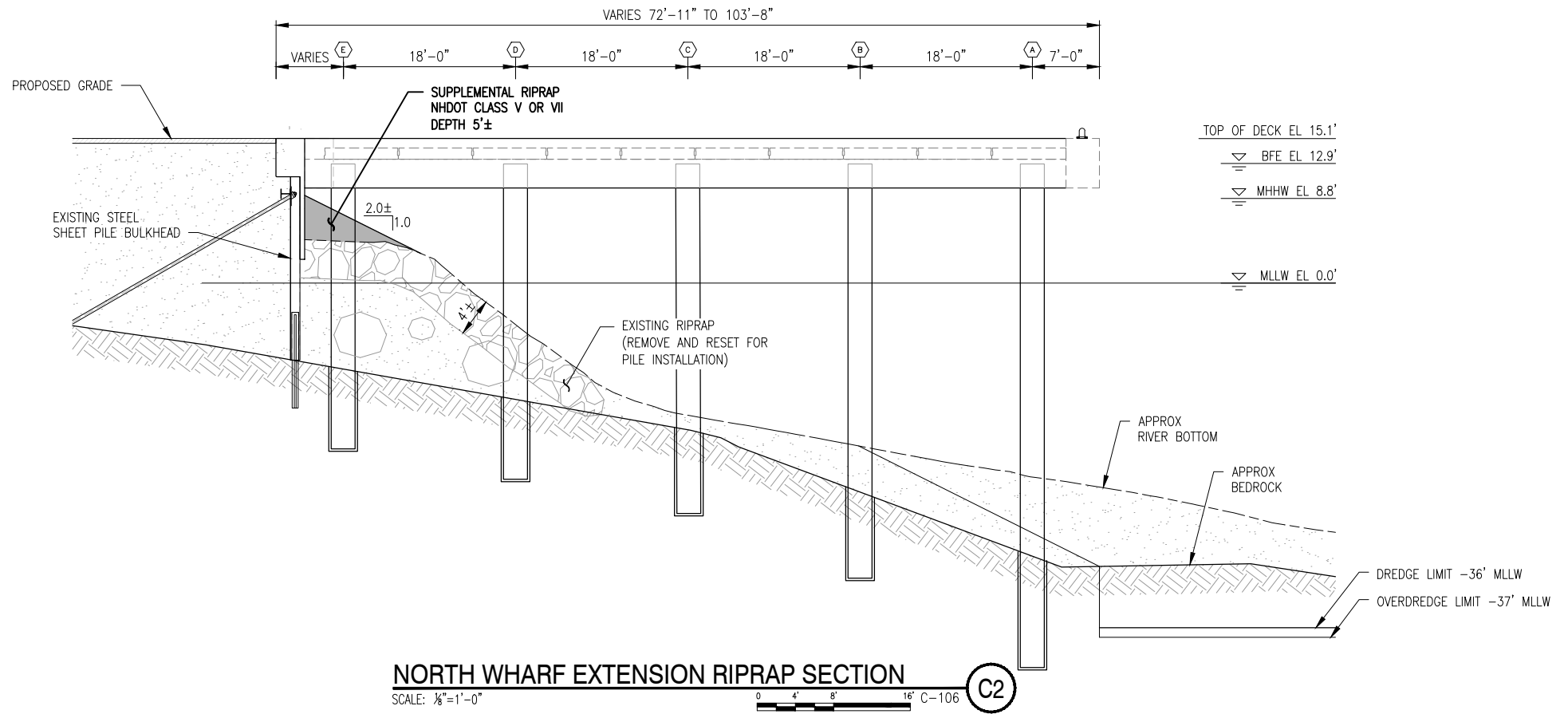
D

C

B

A

RIPRAP SUMMARY TABLE						
RIPRAP CLASSES AND SIZES			PERCENT DISTRIBUTION OF PARTICLE SIZE BY VOLUME (CF)			
NHDOT CLASS	NOMINAL SIZE (IN)	MAXIMUM SIZE (IN.)	<15%	15%-85%	>85%	MAXIMUM
V	18	36	1.3	3.5	8.5	22
VII	24	48	3	8	19	53



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DATE

TITLE

DATE

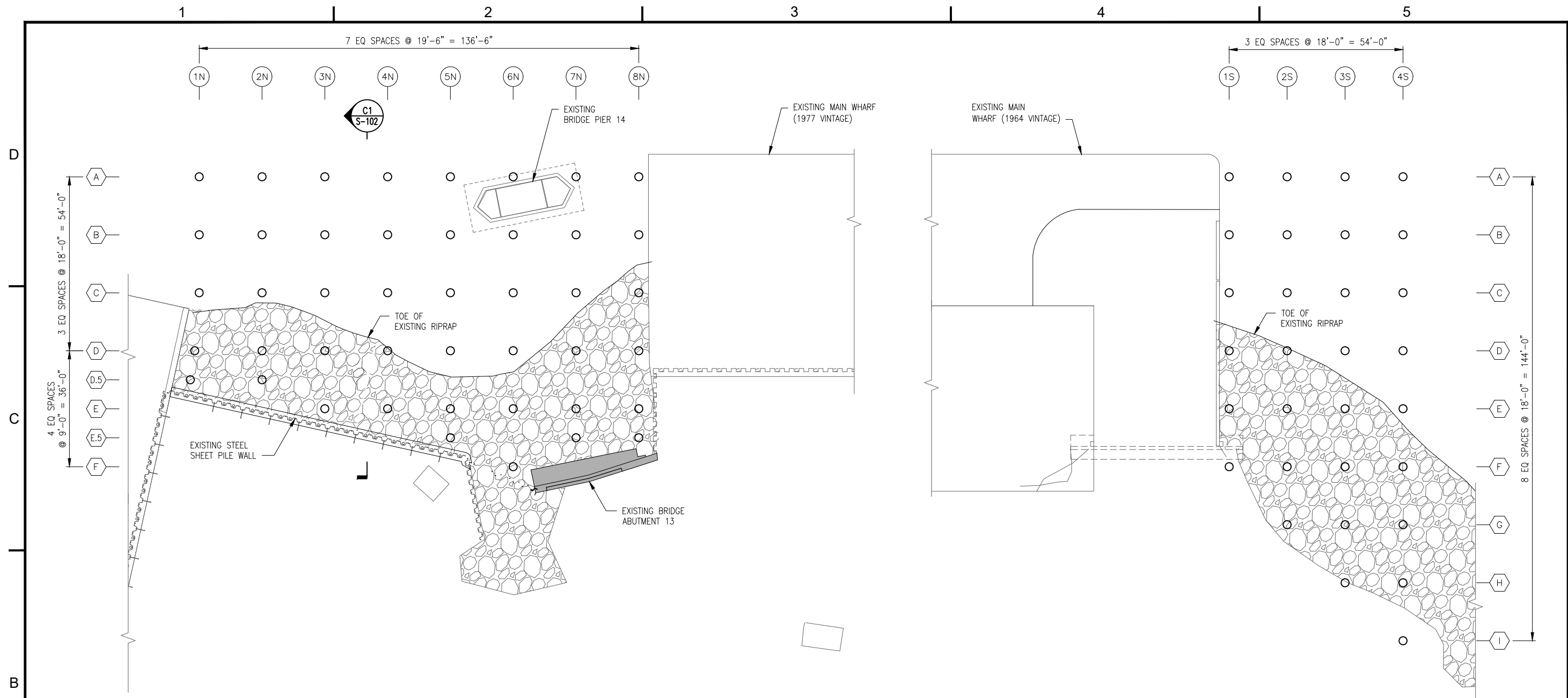
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MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**

RIPRAP SECTIONS

PROJECT No.:	5213
CAD DWG FILE:	S213_permit_06_S-101.dwg
DESIGNED BY:	SND
DRAWN BY:	KMV
CHECKED BY:	NJE
SCALE:	AS SHOWN

C-107

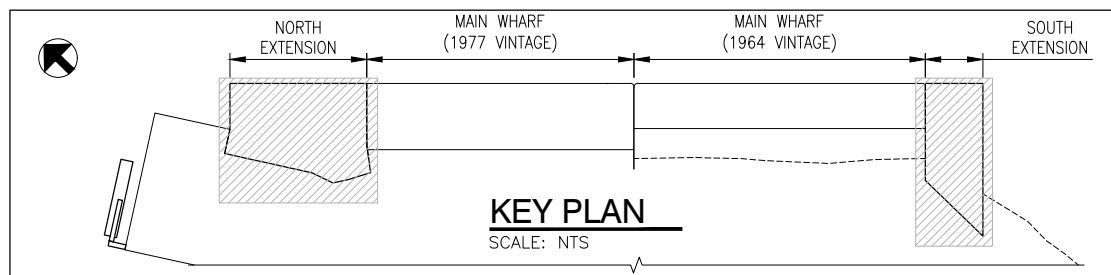
SHEET 14 OF 18



**NORTH WHARF EXTENSION PILE PLAN**  
 SCALE: 1/16"=1'-0"  
 PLAN NORTH

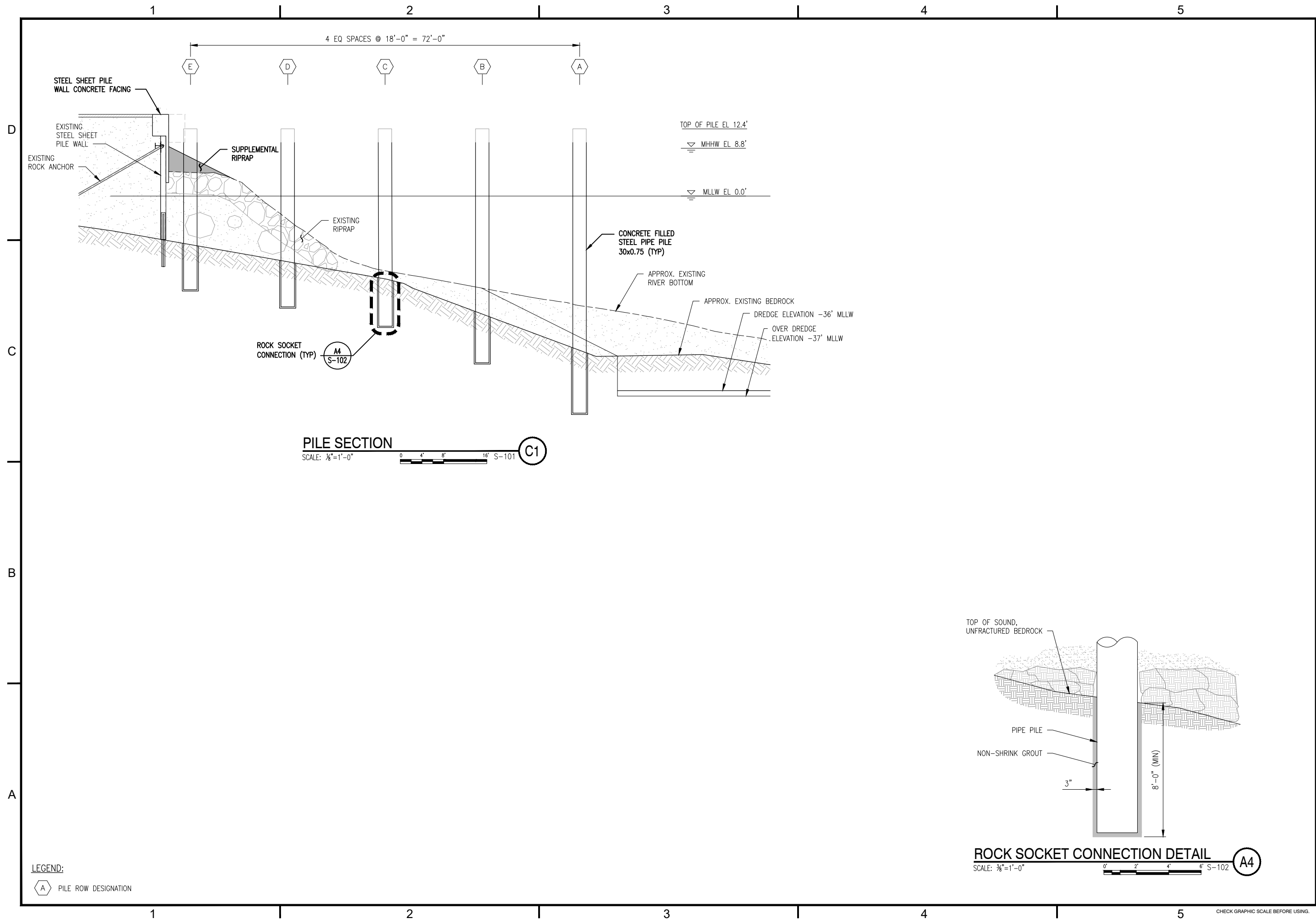
**SOUTH WHARF EXTENSION PILE PLAN**  
 SCALE: 1/16"=1'-0"  
 PLAN NORTH

- LEGEND:**
- ① PILE BENT DESIGNATION
  - Ⓐ PILE ROW DESIGNATION
  - CONCRETE FILLED 30" DIA STEEL PIPE PILE

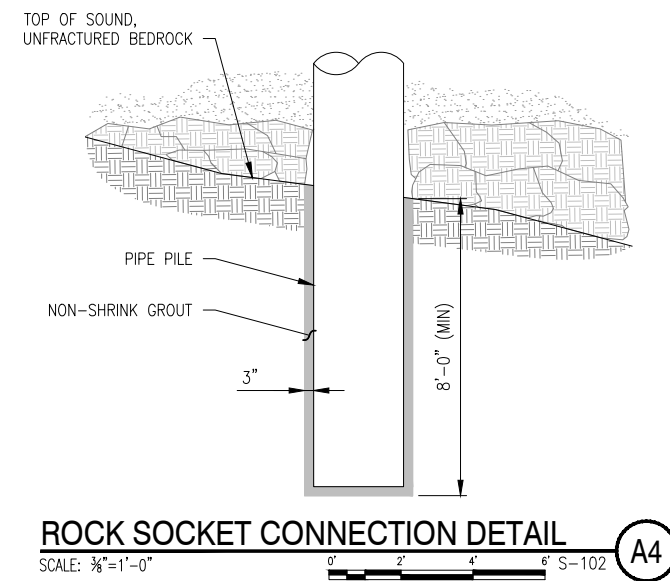


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<p>PEASE DEVELOPMENT AUTHORITY          DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH          MARKET STREET MARINE TERMINAL  <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b></p>									
<p>PROJECT No.: 5213          CAD DWG FILE: S111_permit_06_S-101.dwg          DESIGNED BY: SMD          DRAWN BY: MDM          CHECKED BY: NJE          SCALE: AS SHOWN</p>									
<p><b>S-101</b></p>									
<p>SHEET 15 OF 18</p>									

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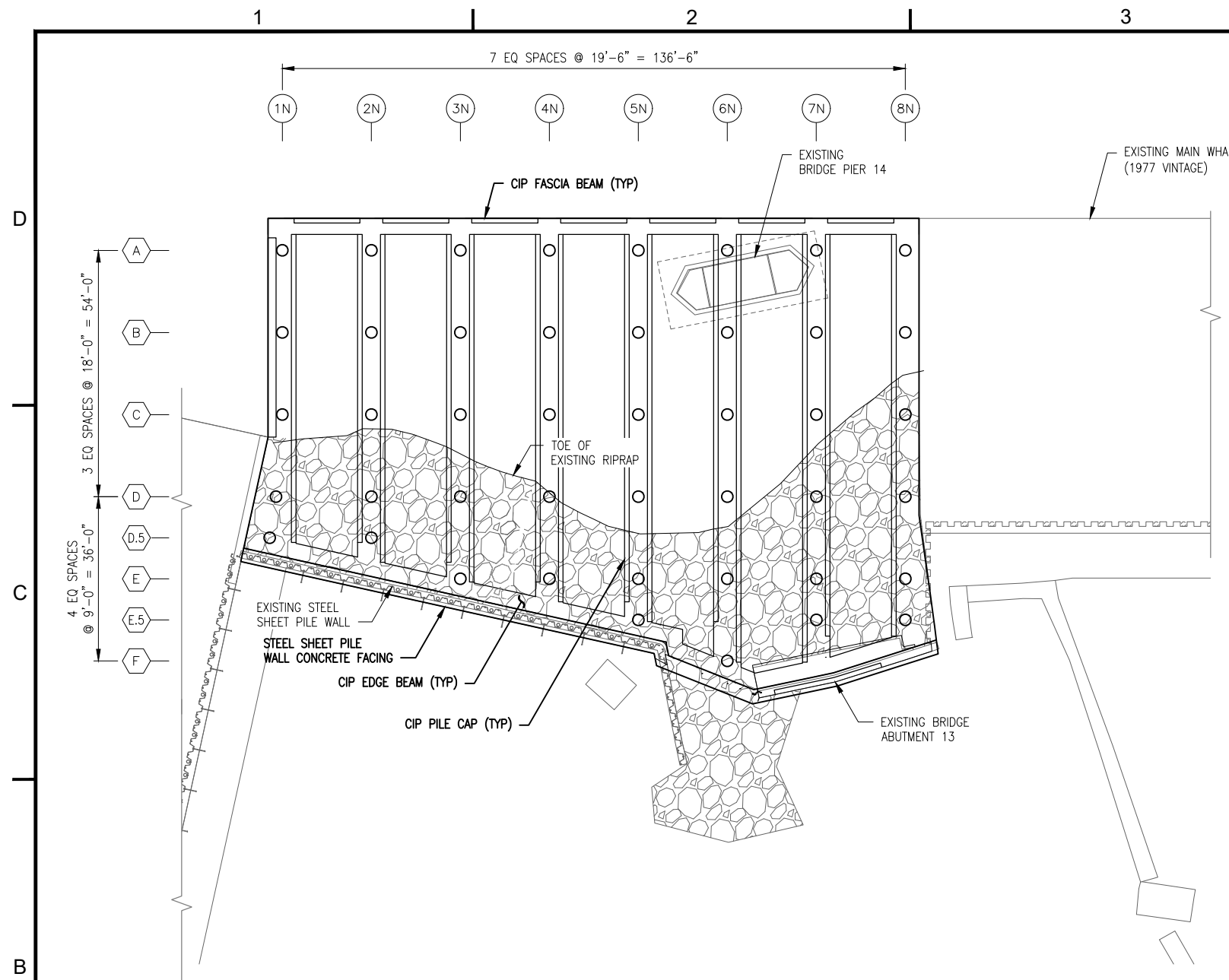
**PILE SECTION**  
SCALE: 3/8"=1'-0" C1



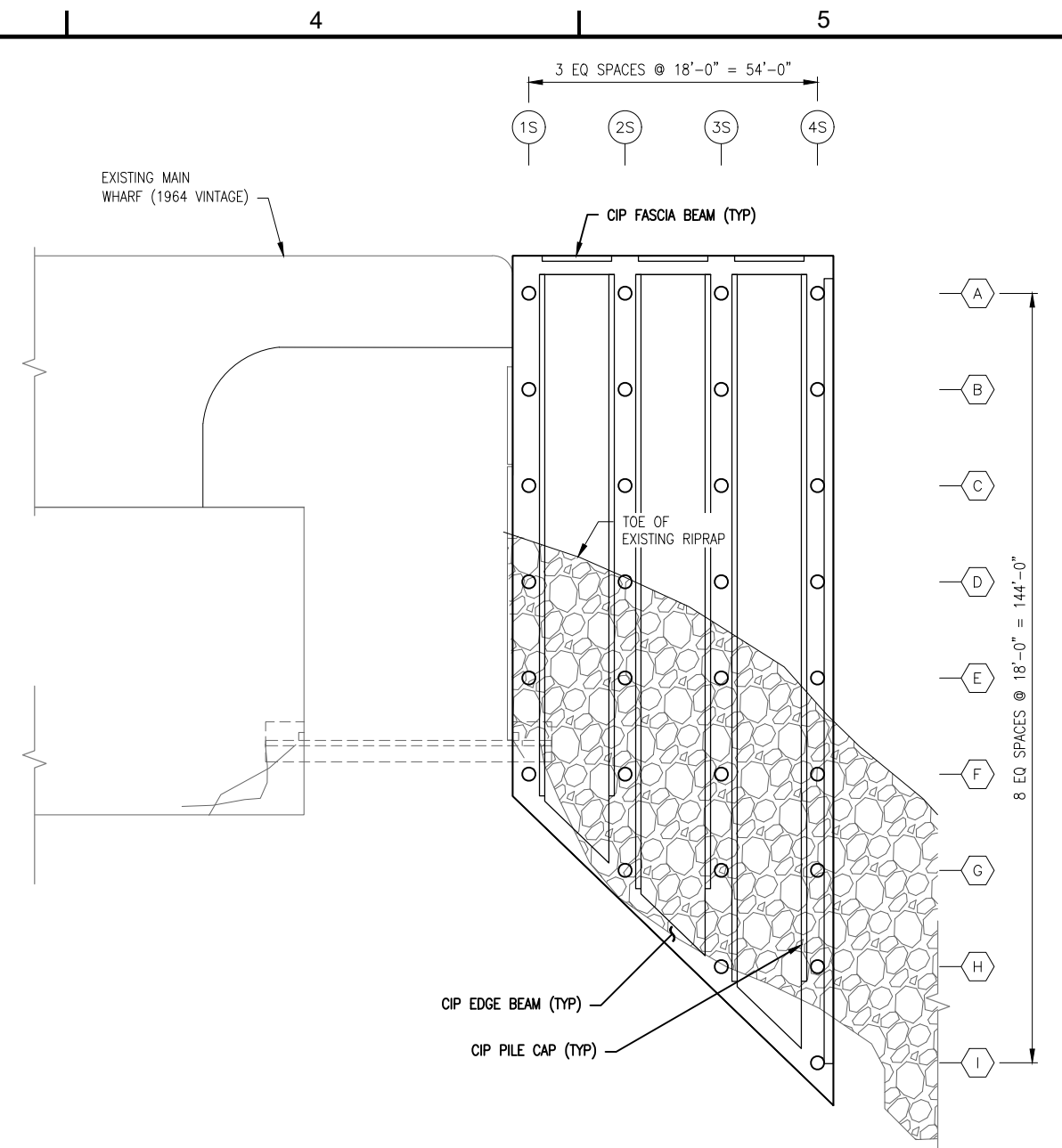
**ROCK SOCKET CONNECTION DETAIL**  
SCALE: 3/8"=1'-0" A4

LEGEND:  
A PILE ROW DESIGNATION

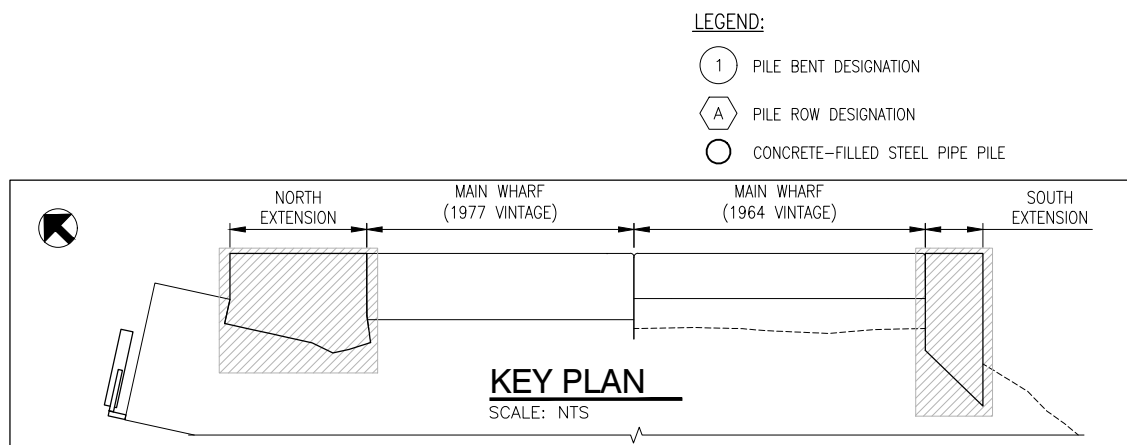
603.766.1870 inquiry@appledoremarine.com	DATE	BY
<b>Appledore Marine Engineering, LLC</b>	TITLE	DESCRIPTION
600 State St., Suite E Portsmouth New Hampshire 03801	DATE	DESCRIPTION
SUBMITTED BY:	DATE	DESCRIPTION
SEAL	DATE	DESCRIPTION
PEASE DEVELOPMENT AUTHORITY DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH	DATE	DESCRIPTION
MARKET STREET MARINE TERMINAL <b>FUNCTIONAL REPLACEMENT BARGE DOCK</b>	DATE	DESCRIPTION
PROJECT No.: 5213	DATE	DESCRIPTION
CAD DWG FILE: S113_permit_06_S-101.dwg	DATE	DESCRIPTION
DESIGNED BY: SND	DATE	DESCRIPTION
DRAWN BY: MDM	DATE	DESCRIPTION
CHECKED BY: NJE	DATE	DESCRIPTION
SCALE: AS SHOWN	DATE	DESCRIPTION
PILE SECTION AND DETAILS		
S-102		
SHEET 16 OF 18		



**NORTH WHARF EXTENSION FRAMING PLAN**  
 SCALE: 1/16"=1'-0"  
 PLAN NORTH



**SOUTH WHARF EXTENSION FRAMING PLAN**  
 SCALE: 1/16"=1'-0"  
 PLAN NORTH

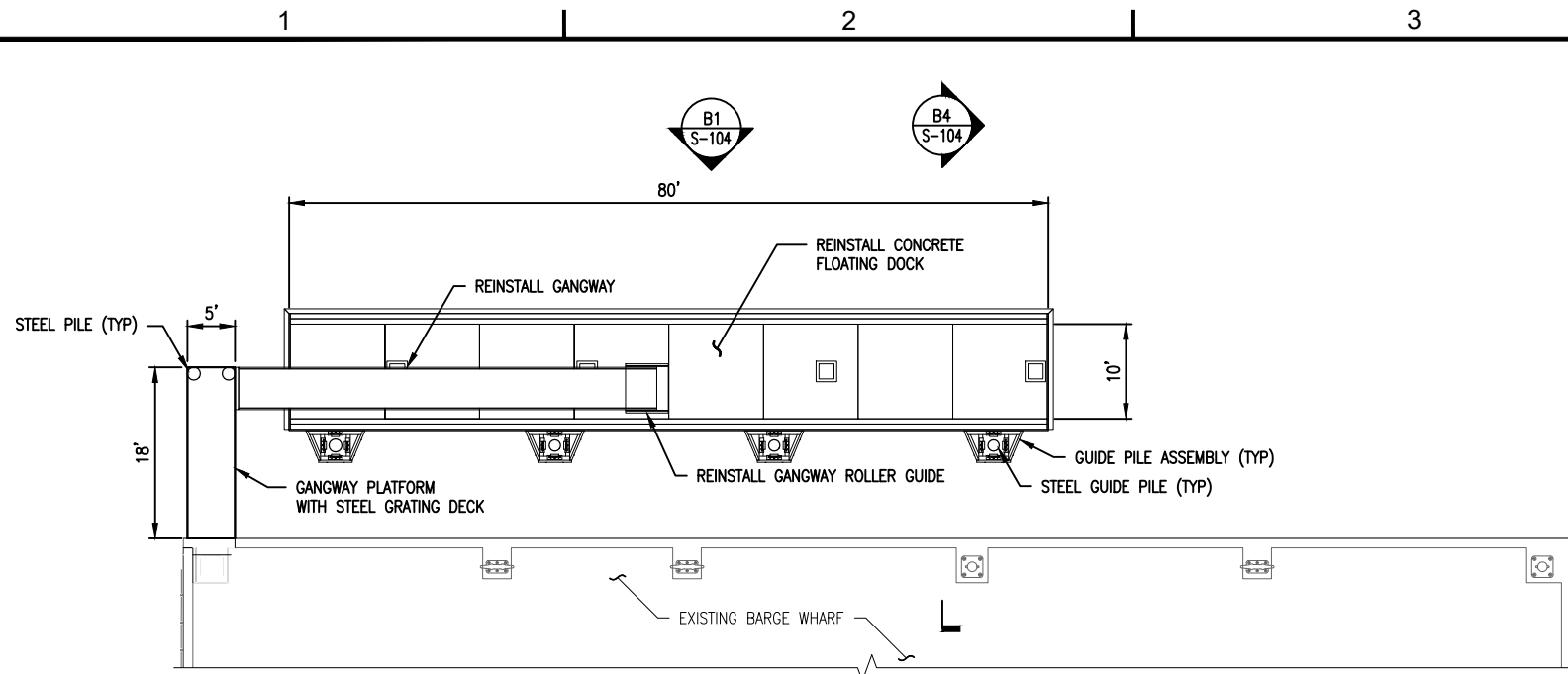


- LEGEND:**
- ① PILE BENT DESIGNATION
  - Ⓐ PILE ROW DESIGNATION
  - CONCRETE-FILLED STEEL PIPE PILE

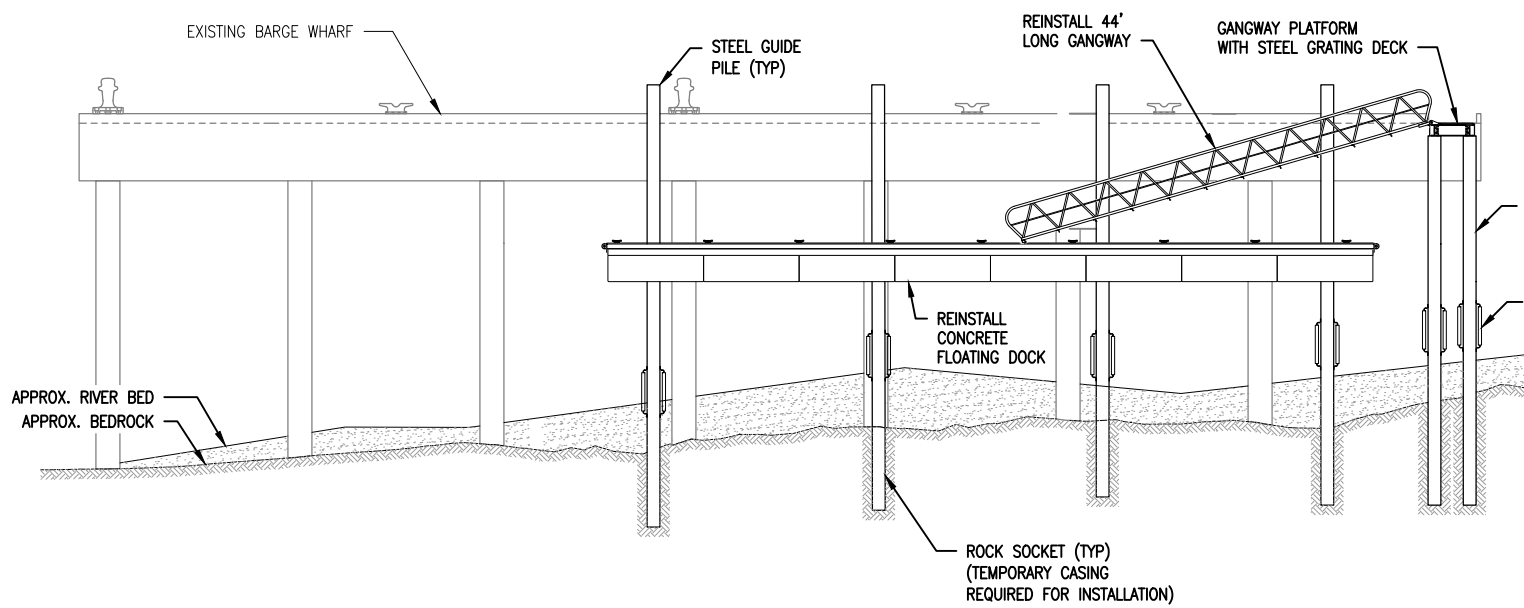
<p>603.766.1870          inquiry@applecoremarine.com  <b>Applecore Marine Engineering, LLC</b>          600 State St, Suite E          Portsmouth New Hampshire 03801</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISION	DATE	DESCRIPTION	BY				
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<p>PROJECT No.: 5213          CAD DWG FILE: S213_permit_06_S-101.dwg          DESIGNED BY: SND          DRAWN BY: MDM          CHECKED BY: NJE          SCALE: AS SHOWN</p>									
<p><b>S-103</b></p>									
<p>SHEET 17 OF 18</p>									

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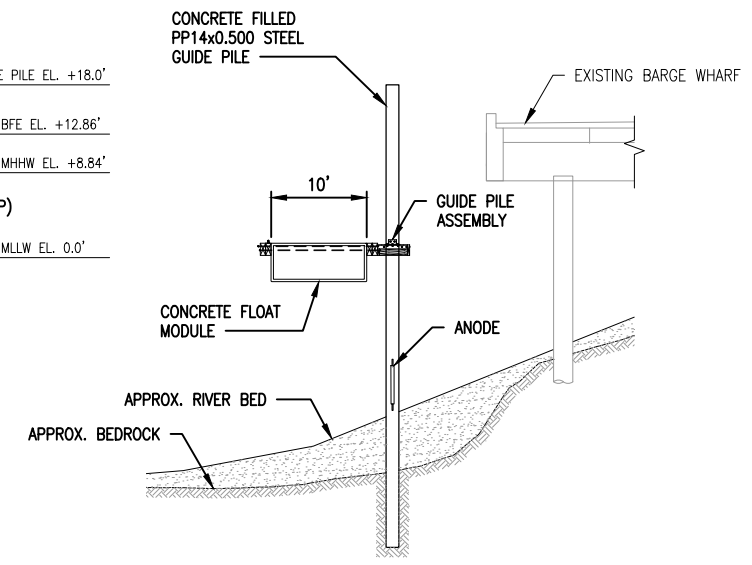




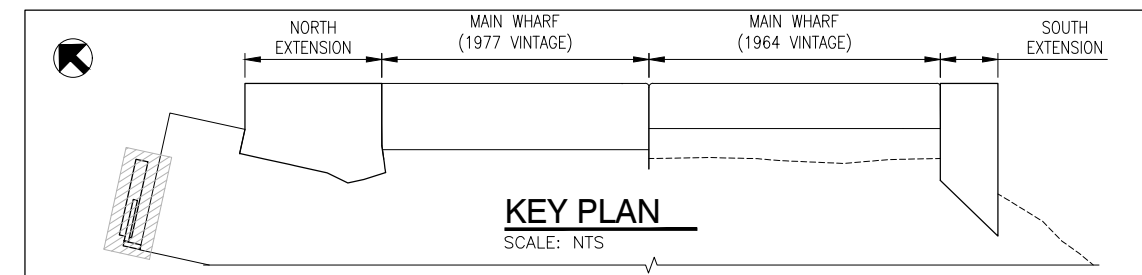
**FLOATING DOCK PLAN**  
 SCALE: 1"=10'-0"  
 PLAN NORTH



**FLOATING DOCK ELEVATION** (B1)  
 SCALE: 1"=10'-0"



**FLOATING DOCK SECTION** (B4)  
 SCALE: 1"=10'-0"



**KEY PLAN**  
 SCALE: NTS

REVISION	DATE	DESCRIPTION	BY

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 inquiry@appledoremarine.com  
**Appledore Marine Engineering, LLC**  
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 Portsmouth New Hampshire 03801  
 SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

(SEAL)

PEASE DEVELOPMENT AUTHORITY  
 DIVISION OF PORTS AND HARBORS, 555 MARKET STREET, PORTSMOUTH, NH  
 MARKET STREET MARINE TERMINAL  
**FUNCTIONAL REPLACEMENT BARGE DOCK**  
 FLOATING DOCK PLAN AND DETAILS

PROJECT No.:	5213
CAD DWG FILE:	S213_permit_06_S-101.dwg
DESIGNED BY:	SND
DRAWN BY:	MDM
CHECKED BY:	NJE
SCALE:	AS SHOWN

CHECK GRAPHIC SCALE BEFORE USING.

**Wetland Restoration Program**

**Of**

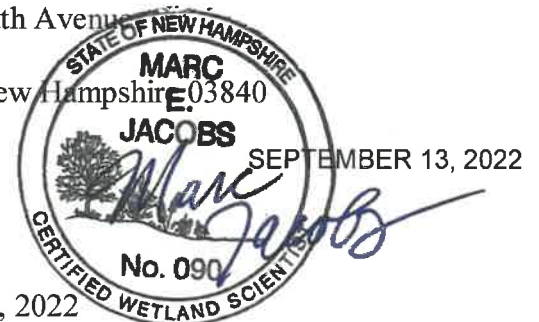
**Doleac Property  
365 Little Harbor Road  
Portsmouth, NH**

Prepared for:

Mr. Charles Doleac  
365 Little Harbor Road  
Portsmouth, NH 03801

Prepared by:

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Greenland, New Hampshire 03840



September 13, 2022

**Shoreland Restoration Program  
Doleac Property  
365 Little Harbor Road  
Portsmouth, NH**

**Introduction**

The following specifications provide for the restoration of impacts to jurisdictional shoreland associated with vegetation removal activities at the above-referenced location (Assessor's Map 203, Lot 5). The goal of this program is to provide specifications to guide the restoration of shoreland to pre-disturbance conditions and functional status to the degree feasible. The area-of-interest (AOI) that is the subject of this program is depicted below on Figure 1. The Shoreland Restoration Plan dated revised August 9, 2022, prepared by Ross Engineering, LLC, is included herein by reference and as attached.

**Project History**

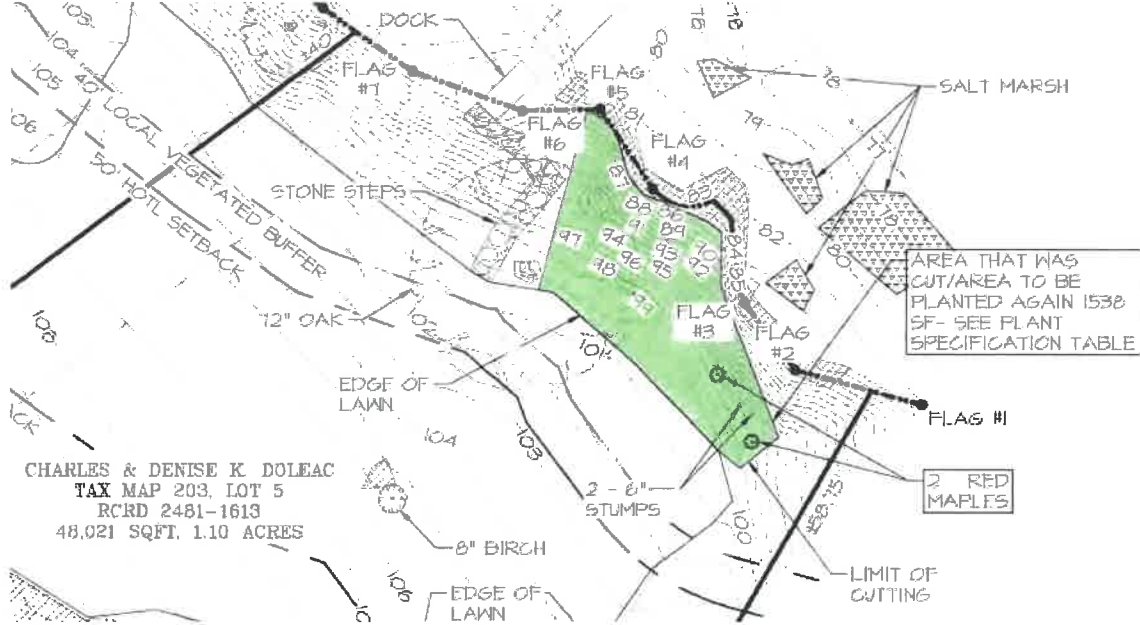
The subject property is 48,021 square feet (SF) in size and is partially developed with a single-family dwelling and dock. Abutting land use to the east and south involves the Wentworth-Coolidge Mansion owned by the State of New Hampshire. Abutting land use to the north and west involves other vacant land of the owner, and beyond that low-density single-family residential.

The specific AOI involves a slope overlooking the Piscataqua River and is depicted in green shade on Figure 1 below. The green shade represents a surface area of 1,538 SF. This area was scheduled for some pruning prior to a wedding which took place at the property in the summer of 2021. Due to a misunderstanding between the owner and landscaper, the AOI was largely denuded of vegetation. The soils within the AOI were generally not disturbed and the area does not pose an erosion or sedimentation hazard so perimeter siltation controls such as silt fence or silt sock have not been installed and are not being proposed by this program.

Historically, the waterfront area at this location was densely vegetated with lilac shrubs. The lilac shrubs were afflicted with disease / fungus and perished many years ago. The lilacs were subsequently replaced with forsythia (*Forsythia* spp.) shrubs. More recently, the mature forsythia shrubs were co-existing as part of a dense thicket which included Asian bittersweet (*Celastrus orbiculatus*) vines. Bittersweet is a commonly accepted invasive species. The stumps of two small diameter trees were also observed towards the east end of the AOI. We were not able to definitively identify the trees from the stumps, but the trees that were removed appear to be black locust (*Robinia pseudoacacia*). During subsequent visits to the site we have noted that many of the forsythia shrubs have started to regenerate. A 72" diameter oak tree remains within the altered AOI. The area between the AOI and the existing dwelling generally involves typical lawn with occasional outcroppings of exposed bedrock. The lawn is not intensively maintained with fertilizers or herbicides based upon our observations.

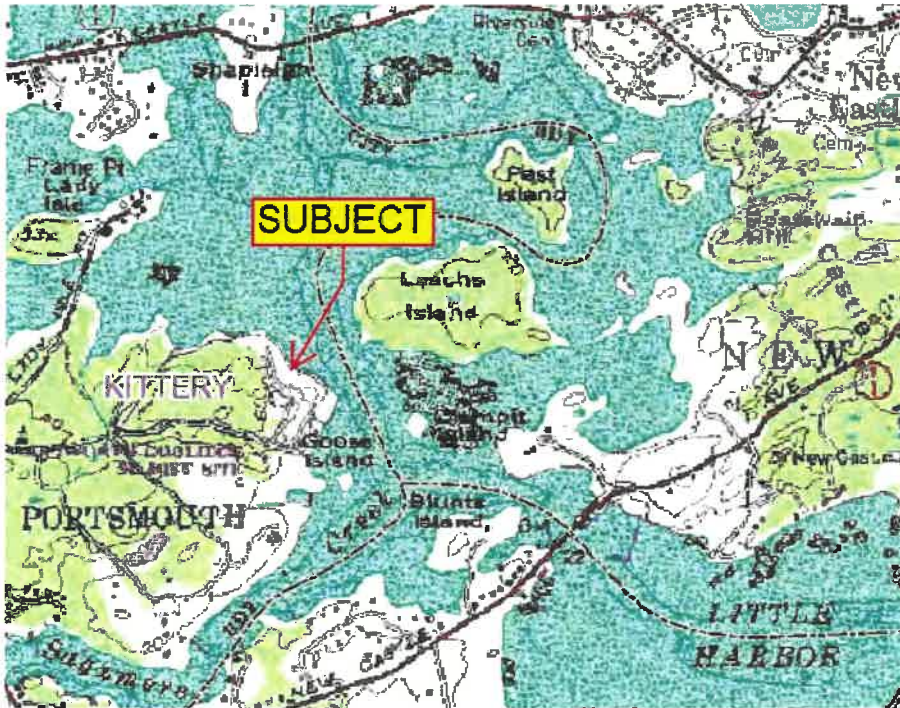
The highest observable tide line (HOTL) was delineated by this office on September 1, 2021. Several patches of salt marsh were also delineated. Flags identifying these features were placed and subsequently surveyed by Ross Engineering, LLC and plotted on the aforementioned site plan. Refer to image 1 below.

FIGURE 1



The property is depicted on the United States Geological Survey (USGS) topographic map – Kittery, ME, 7.5 X 15 minute quadrangle, a portion of which is attached as Figure 2 below.

FIGURE 2



The relationship of the subject to nearby conservation land, depicted in green, can be seen on Figure 3 below.

**FIGURE 3**



Refer to the attached aerial image from the Portsmouth Geographic Information System in Figure 4 below. North is represented by the vertical axis. The property boundaries are represented by the blue polygon.

**FIGURE 4**



**Invasive Species**

Due to the presence of invasive vegetation species, the landowner will work with a licensed and experienced pesticide applicator to develop a program to allow for the judicious application of herbicides to control bittersweet vine as may be needed before or after the installation of proposed plantings. Any herbicides proposed will be chosen with the sensitive nature of the site, adjacent to the river, in mind. Invasive species management will give the chosen plantings an opportunity to become established, minimizing the chance that they will be overcome by the bittersweet vine.

**General Restoration Sequence**

- Arrange pre-construction meeting on-site with the owner, landscape contractor, wetland scientist, Portsmouth Conservation Commission or their agent, and NHDES staff to review the plans, the shoreland restoration program, and the NHDES approval.
- Notify the Portsmouth Conservation Commission and NHDES 48 hours prior to commencing restoration work (if work does not commence within 48 hours after the pre-construction meeting).
- Install the specified tree/shrub plantings (as seasonal conditions and commercial availability permit - contact wetland scientist and NHDES regarding delays or substitutions).
- Prepare and submit the initial status report to NHDES.

**Plant Specifications**

The following plantings will be installed as per the site plan and Table 1 below and as seasonal conditions and commercial availability permit. If planting must be delayed due to seasonal conditions such as drought, frost or snow or if plant substitutions must be made due to lack of commercial availability, contact the wetland scientist who will then contact the NHDES and City of Portsmouth for approval. The installation of shrubs will be supervised by a certified wetland scientist. The plants selected are generally based upon the species that existed prior to the alteration as per Env-Wq 1412.05. The replacement vegetation / species chosen are of sufficient quantity, type and density / location to provide an equivalent level of protection as to what previously existed at this location.

**TABLE 1**

<b>STRATUM</b>	<b>SPECIES / MIX</b> Common ( <i>scientific</i> ) name	<b>SIZE / RATE</b>	<b>QUANTITY / LOCATION</b>
<b>Tree</b>	Red Maple ( <i>Acer rubrum</i> )	7' – 8' minimum height	2 ball & burlap specimens placed toward the east end of the area to be restored - (to either side of the two stumps indicated on the restoration plan) <b>(Total of 2 specimens)</b>
<b>Shrub</b>	Juniper ( <i>Juniperus communis</i> )	18"- 24" minimum height	Planted randomly 8± feet on center. <b>(Total of 8 specimens)</b>
	Forsythia ( <i>Forsythia</i> spp.)	24" - 36" minimum height	Planted randomly 8± feet on center. <b>(Total of 8 specimens)</b>
	Sheep Laurel ( <i>Kalmia angustifolia</i> )	15" – 18" minimum height	Planted randomly 8± feet on center. <b>(Total of 8 specimens)</b>
			<b>Total of 24 shrubs (excluding trees) in the restored shoreland</b>

### **Long-term Monitoring and Status Reports**

Within 30 days of completion of the plant installation work described above, an initial status report, including photographs (taken during all phases of restoration installation), will be prepared and submitted to the NHDES. Status reports will provide information regarding the following parameters (minimally):

- An inventory and the general status (health) of shrubs and herbaceous plantings,
- observations regarding the uniformity of vegetation,
- any plant substitutions (initial report only),
- the stability of site soils,
- observations of erosion or siltation (entering, exiting or within the restored areas and adjacent uplands),
- observations of any commonly accepted invasive vegetation species (with an emphasis on new infestations [area or species] or expansions of existing infestations),
- any herbicide applications or other measures undertaken to control invasive species and
- recommended remedial measures or corrective actions, if any.

As necessary to confirm the successful re-establishment of restored shoreland, additional inspections and status reports will be prepared and submitted to the NHDES by June 30<sup>th</sup> for two (2) additional growing seasons following completion of restoration activities. In addition to those items listed above, subsequent reports will document the following ecological performance standard: a minimum of 75 percent survival/establishment of the woody tree and shrub plantings installed within restored shoreland. Woody stems must be uniformly distributed.

The percentage of trees and shrubs deemed to have survived will be based upon an actual woody stem count and will be compared to the total quantity of woody stems originally planted. Trees and shrubs will be considered living (and therefore counted in the tally) if they exhibit at least 25 percent foliage during the normal growing season. The woody stem count may also include suitable woody specimens that have colonized the restored areas from surrounding uplands and which were not represented in the original plant list specified in Table 1 above. Suitable woody specimens include those which are not considered invasive or exotic.

Where inspections and status reports demonstrate that the ecological performance standard stated above has not been achieved at the end of two (2) full growing seasons, or as soon as it may be apparent that site conditions may not result in a successful restoration of shoreland, the status report will identify any recommended corrective action(s), such as replanting or invasive species management, that may be necessary to bring the restored area into compliance with this program. NHDES will be consulted prior to initiating any remedial actions.

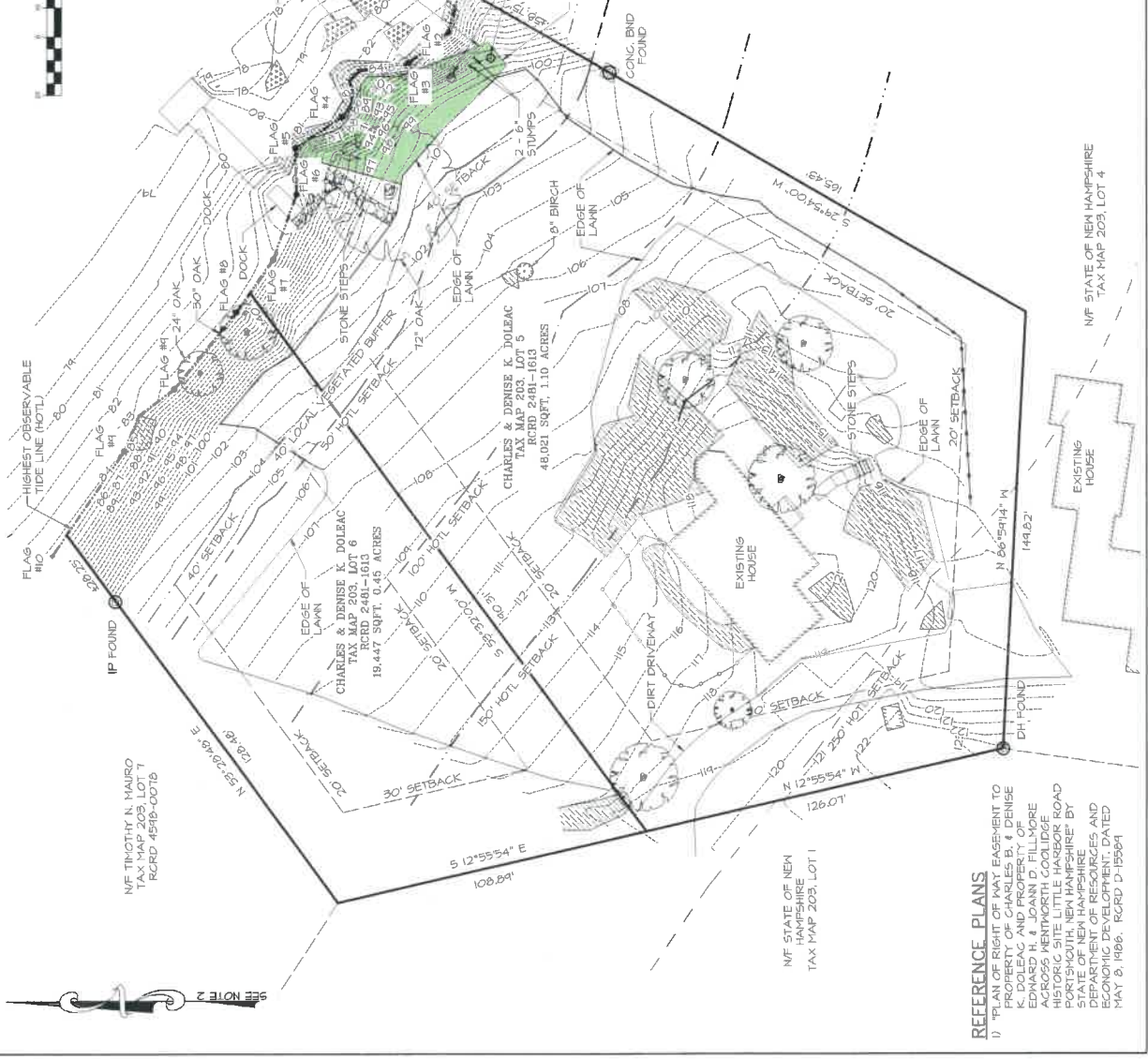
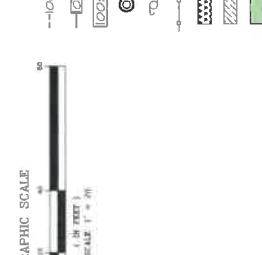
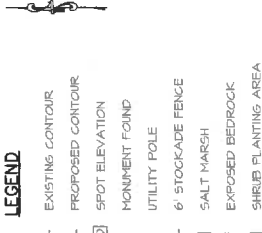
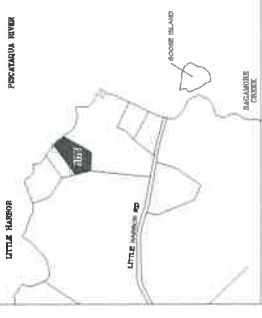
While it is anticipated that the wetland scientist of record or another suitably qualified individual will be conducting future inspections and preparing status reports, the property owner will ultimately be the party responsible for providing status reports as well as implementing any remedial measures or corrective actions which may be needed to bring the restored shoreland area into compliance with this program and the NHDES approval.

Doleac Property  
Portsmouth, NH  
September 13, 2022



Image 1 – Looking south from the river at low tide. Note the massive oak tree on the right in the near background and the existing dwelling on far right in the distant background. Note the patch of saltmarsh vegetation on the left in the foreground.





STRATUM	COMMON (SCIENTIFIC) NAME	SIZE / RATE	QUANTITY / LOCATION
TREE	RED MAPLE (ACER RUBRUM)	7'-8" MIN HEIGHT	2 BALL 4 BURLAP SPECIMENS PLACED UPWARD OF THEAS BID (2' DIA) BE PLANTED 15' APART (2 TOTAL SPECIMENS)
SHRUB	JUNIPER (JUNIPERUS COMMUNIS)	19'-24" MIN HEIGHT	PLANTED RANDOMLY 49 FEET ON CENTER (8 TOTAL SPECIMENS)
	FORSYTHIA (FORSYTHIA SPP.)	24'-36" MIN HEIGHT	PLANTED RANDOMLY 49 FEET ON CENTER (8 TOTAL SPECIMENS)
	SHEEP LAUREL (KALMIA AUGUSTIFOLIA)	15'-18" MIN HEIGHT	PLANTED RANDOMLY 49 FEET ON CENTER (8 TOTAL SPECIMENS)

**PLANT SPECIFICATIONS TABLE**

**NOTES**

- OWNER OF RECORD: CHARLES & DENISE K. DOLEAC TAX MAP 203, LOTS 5 & 6 PORTSMOUTH, NH 03801 RCRD: 2481-1613 LOT 5 AREA: 49,021 SF, 1.10 ACRES LOT 6 AREA: 14,447 SF, 0.45 ACRES
- BASIS OF BEARING HELD FROM PLAN REFERENCE #1.
- PARCEL IS IN SINGLE RESIDENCE A, ZONE (SRA). MINIMUM LOT AREA: 49,560 SF MINIMUM FRONTAGE: 150 FT MINIMUM DEPTH: 200 FT SETBACKS: FRONT: 50 FT REAR: 40 FT SLOPED ROOF: 35 FT FLAT ROOF: 30 FT MAXIMUM BUILDING HEIGHT: 30 FT MAXIMUM COVERAGE: 50% MINIMUM OPEN SPACE: 50%
- THE PARCEL IS NOT WITHIN A FEMA FLOOD ZONE. AS PER 2009 INSURANCE POLICY, 2009 POLICY NUMBER: 1530-200, PANELS 210 4, 206 OF 691, DATED JANUARY 24, 2021. VERTICAL DATUM IS NAVD 1988.
- THE HIGHEST OBSERVABLE TIDE LINE WAS DELINEATED BY NARC JACOBS, CNE.

**REFERENCE PLANS**

- PLAN OF RIGHT OF WAY, EASEMENT TO CHARLES & DENISE K. DOLEAC AND PROPERTY OF EDWARD H. & JOANN D. FILLMORE ACROSS MENTMOUTH COULIDGE HISTORIC SITE LITTLE HARBOR ROAD STATE OF NEW HAMPSHIRE BY DEPARTMENT OF RESOURCES AND ECONOMIC DEVELOPMENT, DATED MAY 6, 1986. RCRD D-15864

2	8/18/2022	PRELIMINARY
1	10/27/2021	PRELIMINARY
1	11/1/20	DESCRIPTION OF SITE
1	11/1/20	SCALE 1" = 20'
1	11/1/20	PROJECT D.D.S.
1	11/1/20	DATE
1	11/1/20	PROJECT
<b>ROSS ENGINEERING LLC</b> Civil Structural Engineering & Surveying 1033 DOWNEY PORTSMOUTH, NH 03801		
CLIENT: <b>CHARLES DOLEAC</b> 365 LITTLE HARBOR RD PORTSMOUTH, NH 03801		
TITLE: <b>SHORELAND RESTORATION PLAN</b> 365 LITTLE HARBOR RD PORTSMOUTH, NH 03801 TAX MAP 203, LOTS 5&6		
21-131	21	1 OF 1