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

Date: June 18, 2025
Property Address: 185-187 Wentworth Road
Application #: LU-25-2
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

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

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

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	**Finding** **(Meets Criteria for Approval)**	**Supporting Information**
1	*1. The land is reasonably suited to the use activity or alteration.*	**Meets** **Does Not Meet**	A majority of this work is proposed for previously disturbed areas that need remediation done to remove contaminants from the wetland system. The existing salt marsh is not a suitable site for excavation work but the necessity of removing the PCBs and the associated replanting of the marsh should create a better outcome for the health of the wetland resource in this location if it can be properly maintained.
2	2. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*	**Meets** **Does Not Meet**	This is EPA-mandated remediation work that must occur to reduce existing PCB levels on site. It cannot occur anywhere else outside of the buffer.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	Finding (Meets Criteria for Approval)	Supporting Information
3	*3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.*	**Meets** **Does Not Meet**	This proposal aims to remove existing toxins from the wetland and buffer system that currently exist and bring in clean topsoil and seed for the growth of the marsh. While the temporary impacts may be harmful, the outcome will create a healthier environment for all. To minimize impacts from construction, significant erosion controls are needed as part of this project.
4	*4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.*	**Meets** **Does Not Meet**	This remediation project only proposes the removal of vegetation to the extent necessary to remove the impacted soil and cap.
5	*5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.*	**Meets** **Does Not Meet**	This proposal appears to be the most efficient way to clean up the PCB contaminants currently in the soils of this wetland and buffer resource. Without remediation, this site will continue to be adversely impacted from the contaminants. The applicant should ensure that any contaminated soils are properly covered if left on site at any time during the project period or afterwards.
6	*6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.*	**Meets** **Does Not Meet**	While riprap is proposed for the bank immediately above the HOTL, the area between the bank and the proposed concrete cap will be loamed and hydroseeded as well as planted with a variety of trees and shrubs. The applicant should ensure that a wetland buffer seed mix is used through the 100' wetland buffer for seeding, not just wildlife-compatible mix.
7	**<u>Other Board Findings:</u>**		

May 20, 2025
File No. 2021-075

Peter Stith
Planning Manager
Planning & Sustainability Department
Rick Chellman, Chair
Portsmouth Planning Board
1 Junkins Ave, 3rd Floor
Portsmouth, NH 03801

Subject: 185-187 Wentworth Road, Portsmouth, NH
Wetlands Conditional Use Permit Application (WCUPA) LU-25-2
Marina Restoration Project

Dear Sirs:

On behalf of the Project Applicant/our client Sea Level LLC, Aries Engineering LLC is submitting this letter in hard copy and electronic copy for the subject project. The electronic copy will be uploaded to the portsmouthnh.portal.opengov.com. This letter is intended to supplement the CUPA, and consists of the following:

- Cover Letter to the Planning & Sustainability Department and Planning Board;
- Completed Wetlands CUPA Checklist, required since March 2025 for CUPA applications brought before the Planning Board;
- An Addendum, which identifies specific items in the CUPA originally submitted January 8, and supplemented through January 30, 2025, that have necessarily been modified to respond to a) a March 14, 2025 decision letter by the Conservation Commission, containing four (4) Stipulations; and b) a verbal request made by the Portsmouth Planning Board Technical Advisory Committee (TAC) at its May 6, 2025 meeting, to confirm that the location of the existing 15 inch diameter drainage pipe which traverses the property and discharges into the wetlands area, will not be covered by the proposed concrete cap. Each of these four Stipulations are specifically addressed below in narrative text and/or the attached Addendum with revised Engineering Sheets provided as needed. The location of the pipeline has been identified on revised Engineering Sheet 5 also attached, based on field geophysical investigation conducted by Aries/GPRS on May 15, 2025.

1. **Stipulation No. 1**. Applicant shall receive all necessary permissions from NHDOT and the contributing abutting landowners as applicable prior to plugging or abandoning any of the existing 15" drainage pipe. Further, please provide a drainage plan and calculation analysis for the rerouting of flow entering this pipe. This shall occur prior to Planning Board approval and may need review from TAC. Any proposed ground disturbance within a jurisdictional wetland or wetland buffer due to future rerouting or removal of the existing pipe shall require a separate wetland conditional use permit from the City.

   Applicant Response: This Stipulation will no longer apply because our team proposes to modify its design concept so that the existing drainage pipe will not be plugged or otherwise modified. Originally, our team was concerned that discharge flow and velocity from the pipe would negatively affect the proposed wetland grass plantings. However, a field review of the pipe inlet's relatively small surface service area and monitoring of the pipe's discharges after each significant March and April rainfall events have persuaded the Applicant that a negligible effect will result from this pipe on the area of future wetland grass plantings. March and April represent two of the five months sequentially with the highest average annual levels of precipitation, according to weather-and-climate.com.

2. **Stipulation No. 2**. All areas to be loamed and seeded shall receive a wetland buffer conservation seed mix or equivalent.

   Applicant Response: the CUPA has been modified to reflect this, see Addendum.

3. **Stipulation No. 3.** In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the edge of the gravel parking area near the restoration area at 50-foot intervals and must be installed prior to the start of any

construction.

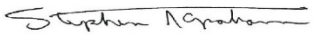
Applicant Response: These markers shall be installed upon completion of the proposed work, and the Addendum reflects this.

4. **Stipulation No. 4**. Applicant shall clearly delineate on the site plan and provide a detailed description of the proposed grassed swale. This should include dimensions, materials, depth, etc.

   Applicant Response: Revised Engineering Sheet 5, attached to Addendum, reflects this stipulation.

Please let us know if you have any questions.

Sincerely,
Aries Engineering, LLC



Stephen J. Graham, P.E.
Director of Engineering

Cc: Jay Johonnett, PE, Aries
Tom Reis, Sea Level LLC
Rick Kowalski, PG, Aries
Drew Olehowski, Haley & Ward
Sam Hayden, Haley & Ward

Attachments: Wetlands CUPA Checklist
CUPA Addendum
Haley and Ward Memorandum, April 29, 2025
Revised Engineering Sheet 5 & New Engineering Sheet 5A
Revised WPA Appendix J, Coastal Resource Worksheet, Part 4, Operations Monitoring and Maintenance Plan (OMMP), Attachment CC
Revised WPA Addendum S, Site Calculations
ConCom Letter, March 14, 2025
TAC Letter, May 8, 2025

City of Portsmouth, New Hampshire

Wetland Conditional Use Permit Application Checklist

This wetland conditional use permit application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Conservation Commission and Planning Board review. The checklist is required to be uploaded as part of your wetland conditional use permit application to ensure a full and complete application is submitted to the Planning and Sustainability Department and to the online portal. A pre-application conference with a member of the Planning and Sustainability Department is encouraged as additional project information may be required depending on the size and scope of the project. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all wetland conditional use permit requirements. Please refer to Article 10 of the City of Portsmouth Zoning Ordinance for full details.

Applicant Responsibilities: Applicable fees are due upon application submittal to the Planning Board (no fees are required for Conservation Commission submission). The application will be reviewed by Planning and Sustainability Department staff to determine completeness. Incomplete applications which do not provide required information for the evaluation of the proposed site development shall not be provided review by the Conservation Commission or Planning Board.

Name of Applicant: Sea Level, LLC Date Submitted: May 21, 2025

Application # (in City's online permitting): LU-25-2

Site Address: 185-187 Wentworth Rd, Portsmouth, NH Map: 201 Lot: 12

☑	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)
✔	Complete application form submitted via the City's web-based permitting program	OnLine Application (OA), 1-30-25 Cupa, Pg 4-5
✔	All application documents, plans, supporting documentation, this checklist and other materials uploaded to the application form in OpenGov in digital **Portable Document Format (PDF)**. One hard copy of all plans and materials shall be submitted to the Planning and Sustainability Department by the published deadline.	1-30-25 Cupa, Pg 5-6

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)
✔	Basic property and wetland resource information. **(10.1017.21)**	OnLine Application (OA), 1-30-25 Cupa, Pg 4-5
✔	Additional information required for projects proposing greater than 250 square feet of permanent or temporary impacts. **(10.1017.22)**	1-30-25 Cupa, Pg. 5
✔	Demonstrate impacts as they relate to the criteria for approval set forth in Section 10.1017.50 (or Section 10.1017.60 in the case of utility installation in a right-of-way). **(10.1017.23)**	1-30-25 Cupa, Pg 5-6
✔	Balance impervious surface impacts with removal and/or wetland buffer enhancement plan. **(10.1017.24)**	See 1-30-25 Cupa, Pg. 6

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)
✔	Wetland buffer enhancement plan. **(10.1017.25)**	1-30-25 Cupa, Pg. 6
✔	Living shoreline strategy provided for tidal wetland and/or tidal buffer impacts. **(10.1017.26)**	1-30-25 Cupa, Pg 6-7
✔	Stormwater management must be in accordance with Best Management Practices including but not limited to: *1. New Hampshire Stormwater Manual, NHDES, current version.* *2. Best Management Practices to Control Non-point Source Pollution: A Guide for Citizens and City Officials, NHDES, January 2004.* **(10.1018.10)**	1-30-25 Cupa, Pg 7
✔	Vegetated Buffer Strip slope of greater than or equal to 10%. **(10.1018.22)**	1-30-25 Cupa, Pg 7
✔	Removal or cutting of vegetation, use of fertilizers, pesticides and herbicides. **(10.1018.23/10.1018.24/10.1018.25)**	1-30-25 Cupa, Pg 7-8
✔	All new pavement within a wetland buffer shall be porous pavement. **(10.1018.31)**	1-30-25 Cupa, Pg 8
✔	An application that proposes porous pavement in a wetland buffer shall include a pavement maintenance plan. **(10.1018.32)**	1-30-25 Cupa, Pg 8
✔	Permanent wetland boundary markers shall be shown on the plan submitted with an application for a conditional use permit and shall be installed during project construction. **(10.1018.40)**	5-20-25 Ltr, Pg 1
☑	**Requested Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**
✔	A narrative/letter addressed to the Conservation Commission Chair (if recommended to Planning Board then an additional narrative addressed to the Planning Board Chair at that time) describing the project and any proposed wetland and/or wetland buffer impacts. Please visit the WCUP instruction page for further application instructions.	1-30-25 Cupa, Pg 1
✔	If New Hampshire Department of Environmental Services (NHDES) Standard Dredge and Fill Permit is required for this work, please provide this permit application at the same time as your submission for a Wetland Conditional Use Permit.	1-30-25 Cupa, Pg 1

Applicant's Signature: _____ **Date:** _____

ADDENDUM TO CUPA

This Addendum to the CUPA submitted January 8, 2025 and revised and resubmitted January 30, 2025 identifies information which supersedes in the specified sections below, the existing text or drawings in the existing CUPA. Page numbers refer to the number of the page of the pdf document.

Pg 2 Cover Letter, Page 2, Section 1.0, Item 2 F: Deleted, the stormwater discharge pipe will no longer be plugged.

Pg 2 Cover Letter, Page 2, Section 3.0, 2nd bullet, AND Pg 11 Wetland Permit Application (WPA) Pg 1, Section 2.0, Project Description, Item 2c; AND Pg 118 WPA Appendix J, Coastal Resource Worksheet, Section 1, Second Paragraph. After first sentence, add:

"Also, 260 SF of the 770 SF level upland graded areas from 11 to 14.5 ft elevation will after 6-inch soil cap installation, be covered by up to 15 inches of revetment, which is an erosion control stone of 6-inch diameter."

Pg 62 WPA Appendix E, Engineering Project Plans, Drawings & Sheets: Sheet 5 is now replaced, and is attached to this document. It has been changed to address the 4 Stipulations of ConCom's March 14, 2025 Letter and include the location of the existing 15 in diameter drainage pipeline. New Sheet 5A is also attached, which presents a new cross section detail of a portion of Sheet 5's Section B-B'. Note that for any site plan information differing between Sheets 5 and 7, Sheet 5 information will prevail. Both Sheets 5 and 5A have been stamped by the Applicant's NH Professional Engineer.

Pg 139 WPA Appendix J, Coastal Resource Worksheet, Part 3, change the sentence fragment "tall fescue…and birdsfoot trefoil" to "wetlands seed mix".

Pg 140 WPA Appendix J, Coastal Resource Worksheet, Part 3, Item 1. Change "4-8" to "11" CY.

Pg 148 WPA Appendix J, Coastal Resource Worksheet, Part 4, Operations Monitoring and Maintenance Plan, Pg 2, 2nd paragraph, Lines 4-5, substitute "south to north" for "east to west". In Line 5, after "via sheet flow to", delete rest of paragraph, and add "a revetment erosion control area consisting of 15 inches of 6-inch diameter stone which interfaces with the riprap rock/stone layer". The rationale for this change is that the underground stormwater retainage system proposed in the CUPA is no longer feasible nor required, due to a) unsuitable soils having been found in its proposed location from an April 2025 soil boring exploration by a NH-licensed Septic System Evaluator from Haley and Ward, civil engineers; b) the impact which would occur from installation of the proposed underground stormwater retainage system to the existing storm drain pipe, whose location was field determined in the soil boring program; and c) upon further evaluation by Haley and Ward to address stormwater requirements, the proposed alternative stormwater management approach (revetment) to handle runoff from the proposed 5,000 square foot concrete pad is practical and compliant with regulations.

Pg 155 WPA Appendix J, Coastal Resource Worksheet, Part 4, Operations Monitoring and Maintenance Plan (OMMP), 2nd bullet, Stormwater Collection System, is deleted.

Pg 164 WPA Appendix J, Coastal Resource Worksheet, Part 4, Operations Monitoring and Maintenance Plan (OMMP), in the OMMP Inspection Form, Attachment CC, second item, delete " Level Spreader (N & W End of Concrete Cap) And,"

Pg 165 WPA Appendix J, Coastal Resource Worksheet, Part 4, Operations Monitoring and Maintenance Plan (OMMP), 1st bullet, delete “Stormwater Packaged System. A revised OMMP Inspection Form, Attachment CC, is attached which supersedes the existing form.

Pg 243 WPA Appendix O, Attachment A, Major and Minor Projects, Section I.VI Floodplain Wetlands, Line 5. Delete “ Sheet flow runoff from the concrete cap will be controlled by two feet of 2 inch stone installed around south and west perimeter edge with underdrain routed to packaged underground stormwater treatment system to treat and intercept runoff directed from this 2% sloped pad, see Sheets 4 and 5”; and delete Line 9 “ Note that a 15 inch storm drain pipe discharging into this blind cove from the state/city roadways east of and outside the project area, will be capped with a 5 ft concrete plug, once the origin of that pipe is terminated by others and approved by regulators.”

Pg 249 Appendix P, Envt WT 311.06, ConCom Comments. Comments have been received on this WPA as noted in the Cover Letter, on March 14, 2025 from ConCom, and on May 8, 2025 from TAC, both attached.

Pg 258 Appendix S, Calculations. A revised sheet is attached here which supersedes the existing page of calculations.

HALEY WARD

MEMO

To: Tom Reis, Sea Level LLC
Stephen Graham, Aries Engineering LLC

From: **Drew Olehowski, PE**

Re: **185-187 Wentworth Road | Wetlands Conditional Use Permit Application, Marina Restoration Project, Stormwater Management Supplement**

Date: **April 9, 2025**

Haley Ward, Inc. (Haley Ward) has been retained by Aries Engineering LLC (Aries Engineering) and Sea Level LLC (Sea Level) to provide engineering design and permitting services related to stormwater management for the proposed 185-187 Wentworth Road Marina Restoration project. This memorandum is to be considered a supplement to the Wetlands Conditional Use Permit Application currently undergoing review by the City of Portsmouth Planning Department.

Per the letter sent from Kate Homet, Environmental Planner, and Petr Stith, Planning Manager, Chair of Technical Advisory Committee, to Sea Level dated February 21, 2025, it was identified that the proposed development triggers Site Plan review per Section 1.2.1 of the City's Site Plan Regulations. This letter explains further that Site Plan review is required due to the proposed rerouting of an existing city-owned storm drain, and the installation of a concrete cap. The Applicant is requesting an exemption from Site Plan review by way of being classified as a "small impact" development. On February 25, 2025, a letter was sent from Aries Engineering to the individuals identified above demonstrating why the "small impact" designation is applicable to the proposed development. This memorandum serves to bolster the justification provided for item 1.2.2(c) (an increase in the lot's impervious surfaces by 500 or more feet,) as well as to comment on the necessity for the development to adhere to the City's Stormwater Management Ordinances, specifically Section 2.5.4.3(i) and Section 7.0 of the Site Plan Regulations, should the "small impact" exemption not be granted.

As described in more detail within the Wetlands Conditional Use Permit Application (WCUP,) the project generally consists of the environmental remediation of the property located at 185-187 Wentworth Road (the "Site"). Other than remediation-specific activities, changes/ improvements to the Site are limited to the conversion of an approximately 5,000 square foot gravel boat storage pad to a concrete "cap." This cap will continue to be used for boat storage.

120 MAIN STREET, SUITE 132, SACO, ME 04072 207.283.9151 | HALEYWARD.COM

As mentioned above, this "alteration" triggers the need for Site Plan review. Applicable stormwater management standards of the Site Plan Ordinance include Section 2.5.4.3(i) and Section 7.0. Should the City uphold the applicability of the Site Plan Ordinance, a waiver for these stormwater-related sections would be requested. In general, the goal of these standards is to prevent adverse stormwater runoff impacts related to new development; these impacts may include flooding on abutting properties, degradation of the water quality of downstream waterways, or impacts to natural resources/groundwater. The nature of the proposed development makes any of these outcomes unlikely, for the following reasons:

1. There will be no significant increase in stormwater runoff volumes leaving the property. Runoff volumes are directly related to the "cover types" found on the Site. Under existing conditions, the subject area is entirely compacted gravel, which mimics an impervious surface. Haley Ward performed a test pit in the gravel area in April 2025 and found the soils to be generally impermeable. A copy of this test pit log is attached. Under proposed conditions, this gravel area will be converted to concrete, which is also an impermeable cover type. There is no discernable difference between compacted gravel and concrete as related to runoff volumes, especially for small sites such as this.
2. There will be no significant alterations in existing stormwater runoff flow paths, or resultant changes in "Summation points." Under existing conditions, the gravel pad generally slopes from south to north, generally with slopes between 0-7 percent. After sheeting over this pad for approximately 60 feet, the terrain steepens to a 1:1 slope along the bank of a wetland/Sagamore Creek. Under proposed conditions, the gravel pad will be replaced with a concrete pad which has been designed to mimic existing conditions. The concrete pad will pitch from south to north, at a flatter grade of 3%. Runoff will be maintained as sheet flow along this pad before discharging to the wetland side slopes, which we are proposing to stabilize via rip rap armoring. Overall, the drainage scheme is improved via this armoring, and a flattening of the Site's slope. The only summation point is the wetland to the north of the Site, which will remain unaltered.
3. The proposed use of this Site will remain unchanged from the existing conditions.
4. No salt is currently used on the Site, which will continue under the proposed conditions.

Haley Ward has carried out an initial investigation into what would be needed to satisfy the City's stormwater ordinances, should they apply, and a waiver not be granted. Due to Site constraints that include wetlands, resource buffers, undisturbed areas, and capped contamination areas, stormwater treatment Best Management Practices (BMP) would be limited to surface features with a small footprint in combination with underground detention systems. This type of BMP would be unfavorable due to the following:

1. Flow performing as "sheet" flow into adjacent wetlands would be captured and channelized via a structural BMP. Channelization of flow is more likely to result in erosion of downstream areas. In this case, the downstream areas are wetlands that we do not want to negatively impact. As mentioned above, the soils in this area are generally low-permeability and discharge from the BMP via infiltration is not an option.

2. There is an existing city-owned storm drain pipe in the most efficient stormwater treatment location. The use of a BMP in this area would require the City to relocate/modify their storm drain.
3. Potential disturbance of underground contaminated areas through the use of the needed underground detention system.

If you have any further comments or questions, please contact our office.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, P.E.
Project Manager

DJO/jok
Attachment

FORM F Rev. 07/11a

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
185 Wentworth Road 5010185.2025		Portsmouth NH

Exploration Symbol # TP 1

☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness   Ground surface elev. ______

______ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)

Depth	Texture	Consistency	Color	Redox Features
0	Sand	granular/friable	2.5Y 5/6	None
	Fill, many angular cobbles throughout.			
	loamy sand	granular/friable	10YR 4/3	None
10	Fill, many angular cobbles throughout.			
	loamy sand	granular/friable	2.5Y 5/6	None
	Fill, many angular cobbles throughout.			
20	gravely coarse sand	granular/friable	10YR 3/6	None
30	Fill, many angular cobbles throughout.			
40				
	Silt loam	massive, firming	2.5Y 3/2	None
50	Possible fill from historic dredging of adjacent Sagamore Creek.			
	groundwater table at 65".			
	top of Stormwater drainage pipe at 46"			
60				

Soil Details by S.E.

Soil Classification: Profile	Soil Classification: Condition	Slope (Percent)	Limiting Factor (Depth)
N/A	N/A	0-2	____ " ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

S.S. Soil Series/Phase Name: N/A   ☐ Hydric ☒ Non-hydric   Hydrologic Soil Group: C

Exploration Symbol # ______

☐ Test Pit ☐ Boring ☐ Probe

______ " Organic horizon thickness   Ground surface elev. ______

______ " Depth of exploration or to refusal

Depth	Texture	Consistency	Color	Redox Features
0				
10				
20				
30				
40				
50				
60				

Soil Details by S.E.: Soil Classification: ____ Profile ____ Condition; Slope ____ Percent; Limiting Factor ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

S.S.: Soil Series/Phase Name: ______ ☐ Hydric ☐ Non-hydric; Hydrologic ____ Soil Group

Exploration Symbol # ______

☐ Test Pit ☐ Boring ☐ Probe

______ " Organic horizon thickness   Ground surface elev. ______

______ " Depth of exploration or to refusal

Depth	Texture	Consistency	Color	Redox Features
0				
10				
20				
30				
40				
50				
60				

Soil Details by S.E.: Soil Classification: ____ Profile ____ Condition; Slope ____ Percent; Limiting Factor ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

S.S.: Soil Series/Phase Name: ______ ☐ Hydric ☐ Non-hydric; Hydrologic ____ Soil Group

Exploration Symbol # ______

☐ Test Pit ☐ Boring ☐ Probe

______ " Organic horizon thickness   Ground surface elev. ______

______ " Depth of exploration or to refusal

Depth	Texture	Consistency	Color	Redox Features
0				
10				
20				
30				
40				
50				
60				

Soil Details by S.E.: Soil Classification: ____ Profile ____ Condition; Slope ____ Percent; Limiting Factor ____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

S.S.: Soil Series/Phase Name: ______ ☐ Hydric ☐ Non-hydric; Hydrologic ____ Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

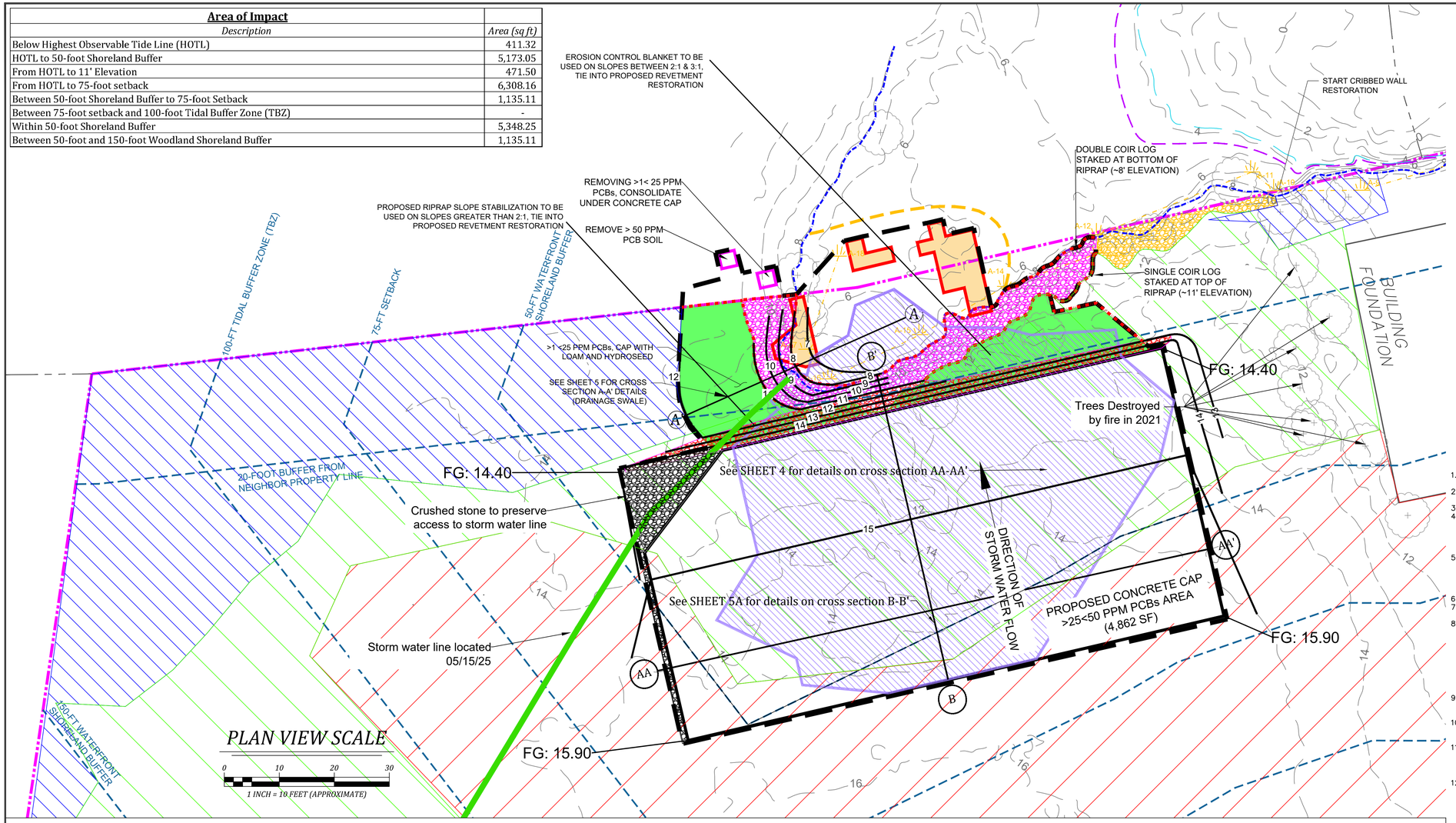
Signature: [signature]	Date: 4/4/2025
Name Printed: Sam Hayden PWS 321	Cert/Lic/Reg. #:

Title: ☐ Licensed Site Evaluator ☐ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

STATE OF NEW HAMPSHIRE SAMUEL HAYDEN No. 321 CERTIFIED WETLAND SCIENTIST 4/4/25

affix professional seal

Area of Impact	
Description	*Area (sq ft)*
Below Highest Observable Tide Line (HOTL)	411.32
HOTL to 50-foot Shoreland Buffer	5,173.05
From HOTL to 11' Elevation	471.50
From HOTL to 75-foot setback	6,308.16
Between 50-foot Shoreland Buffer to 75-foot Setback	1,135.11
Between 75-foot setback and 100-foot Tidal Buffer Zone (TBZ)	-
Within 50-foot Shoreland Buffer	5,348.25
Between 50-foot and 150-foot Woodland Shoreland Buffer	1,135.11



LEGEND

EXISTING
- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN HIGH HIGH WATER (4.22 FT NAVD88)
- MEAN HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE BOUNDARY)
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- INTACT GRAVEL BOAT STORAGE AREA
- DEGRADED GRAVEL BOAT STORAGE AREA
- NATURAL WOODLAND AREA
- EXISTING RIPRAP
- TREE

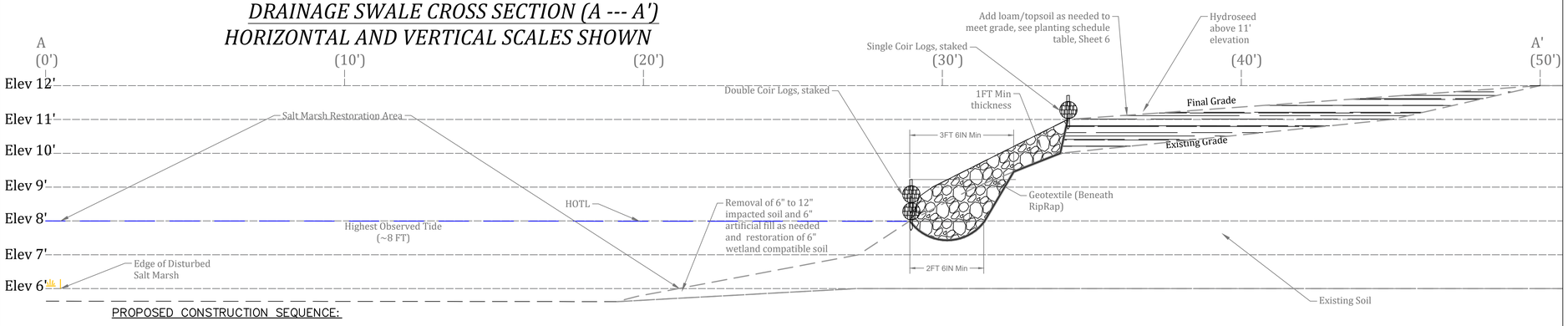
PROPOSED
- PROPOSED WORK LIMITS
- WETLAND REMEDIATION AREA >1<25 PPM PCBs, CONSOLIDATE UNDER CONCRETE CAP
- WETLAND RESTORATION AREA (175 SF)
- REMEDIATION AREA, SOIL REMOVAL >50 PPM PCBs
- SALT MARSH TO BE RESTORED IN 2016-2017 EXCAVATION (235 SF)
- FINAL ELEVATION CONTOUR (FT)
- CROSS SECTION
- UPLAND AREA REGRADE, ADD LOAM AND HYDROSEED RESTORATION (770 SF), PCBs >1<25 PPM
- MIXED STONE RIPRAP TO BE RESTORED
- REVETMENT, >15IN THICK STONE
- PROPOSED TURBIDITY SILT CURTAIN
- CONCRETE PAD DRAINAGE
- COIR LOGS STAKED

GENERAL PLAN NOTES:

1. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM (NH ZONE 2800).
3. SURVEY UNITS: U.S. SURVEY FEET
4. BENCH MARK (BM) DATA: THE PRIMARY BM B–DOCK PAD SW LOCATED ON IN THE SW CORNER OF THE CONCRETE SLAB LEADING TO B–DOCK AT THE PORTSMOUTH MARINA. REFERENCE POSITION AND ELEVATION FOR THIS MONUMENT WERE OBTAINED VIA NGS OPUS BASED ON MULTIPLE LONG DURATION GNSS STATIC OBSERVATION SESSIONS.
5. SOUNDING DATA WERE OBTAINED ON JAN 28, 2017 BY SV ORION USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER AND AN APPLANIX POSMV. DURING THIS SURVEY, AN RTK DGNSS BASE STATION WAS ESTABLISHED ON THE PRIMARY BM. FINAL POSITION AND ELEVATION DATA FOR THIS SURVEY WERE OBTAINED VIA POST–PROCESSING WITH POSPAC MMS. SOUNDING DATA ARE SHOWN AS NEGATIVE ELEVATION CONTOURS RELATIVE TO THE NAVD88 REFERENCE PLANE.
6. PHOTOGRAMTERIC TOPOGRAPHIC LIDAR BY NEAR VIEW, LLC 6/4/17 & 2/16/18
7. GENERAL SITE PLAN INFO IS BASED ON "CONDOMINIUM SITE PLAN FOR WITCH COVE MARINA CONDOMINIUMS" BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC. DATED MAR 28, 2011.
8. WETLAND DELINEATION WAS DONE ON 8/7/2020 AND CHECKED IN 2022 BY SEEKAMP ENVIRONMENTAL CONSULTING, INC., PATRICK D. SEEKAMP NH CWS #128, TO THE STANDARDS OF "WETLANDS DELINEATION MANUAL" TECHNICAL REPORT Y–87–1 CORPS OF ENGINEERS, JANUARY, 1987 AND "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION," VERSION 2.0, U.S. ARMY CORPS OF ENGINEERS, JANUARY, 2012 AND SUBSEQUENT VERSIONS AND NH DES EN–WT 600 TIDAL RESOURCE DELINEATION METHODOLOGY. HOTL LIMITS ADJUSTED ACCORDING TO PRE–EXISTING LIMITS PRIOR TO INITIAL REMEDIATION WORK TO ALLOW FOR PRE–EXISTING TOE OF SLOPE LIMITS TO BE REESTABLISHED ON THE BANK.
9. WETLANDS DELINEATION SURVEY BY SUBSTRUCTURE, INC 08/10/2020 TRIMBLE R10 LOCATION POST PROCESSED KINEMATICS (PPK) UTILIZING TRIMBLE BUSINESS CENTER WITH BASE STATION CONTROL ON PRIMARY BM: B–DOCK–PAD–SW
10. THE INFORMATION DEPICTED ON THESE MAPS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
11. ADDITIONAL SHORELINE AND FEDERAL CHANNEL LOCATIONS ARE BASED ON USACE DRAWING 'PORTSMOUTH HARBOR, BACK CHANNEL / SAGAMORE CREEK, DESIGN FILE: SAGHSP3.DGN, DRAWING CODE: SAG–2729" DATED AUG 7, 2013.
12. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ZONE AE AND X AS DEPICTED ON MAP NUMBER 33015C0286F (SCALE 1"=500'), DATED JANUARY 29, 2021 FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE.

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft

DRAINAGE SWALE CROSS SECTION (A --- A')
HORIZONTAL AND VERTICAL SCALES SHOWN



PROPOSED CONSTRUCTION SEQUENCE:

1. INSTALL TREE PROTECTION AND EROSION CONTROL MEASURES (COIR LOGS) AT START OF HOTL WITHIN THE LIMIT OF WORK/DISTURBANCE (LOD).
2. CLEAR AND GRUB VEGETATION, EXCEPT TREES, IN THE LIMITS OF WORK, AS NEEDED; WOODY MATERIAL MAY BE CHIPPED / REUSED ON-SITE.
3. ONCE COMPLIANCE WITH TSCA REQUIREMENTS FOR REMOVAL OF CONTAMINANTS IS COMPLETE, BY REMOVING SIX (6) INCHES OF IMPACTED SEDIMENT, RESTORATION OF REMEDIATED SALT MARSH AREA OCCURS BY BACKFILLING WITH CLEAN MIXED SAND IN STAKED BURLAP BAGS TO A FINAL ELEVATION OF 6-FT TO MIMIC ADJACENT SALT MARSH ELEVATION AND THEN PLANTED ON 1-SQ. FT INTERVAL GRID WITH SALTMARSH BULRUSS (SCIRPUS ROBUSTUS). PLUG EXISTING 15-IN STORMWATER DISCHARGE PIPE WITH 5-FT CONCRETE, UPON REGULATORY APPROVAL.
4. PLACE GEOTEXTILE FROM ABOVE HOTL TO EXISTING ELEVATION 11-FT UNDER RIP RAP STONE AND ALSO UNDER REVETMENT STONE FROM 11 FEET TO NORTH EDGE OF CONCRETE CAP.
5. FROM THE HOTL, EMPLACE 4 TO 5-INCH DIAMETER ROUNDED STONE, AND RE-INSTALLED BOULDERS UP TO 4 FT DIAMETER, TO 11 FT ELEVATION TO PROVIDE EROSION CONTROL.
6. FILL ABOVE 11-FT MSL RIPRAP LINE AS NEEDED TO ACHIEVE 11 FT MSL, WITH 6 IN. OF CLEAN FILL TOPSOIL CAP WHERE INDICATED ON PLAN VIEW ABOVE.
7. INSTALL NEW CONCRETE PAD (5,000 SF) RUNOFF RELATIVELY FLAT SLOPE OF <2% DIRECTED TO NORTH.
8. INSTALL VEGETATION ACCORDING TO SHEET 6 (PLANTING PLAN).
9. ONCE AREA IS FULLY STABILIZED, REMOVE EROSION CONTROLS AND TREE PROTECTION.
10. DECONTAMINATE ALL EQUIPMENT AND HAND TOOLING AND VERIFY COMPLIANCE WITH TSCA 40 CFR 761.79(B)(3)(I), UNRESTRICTED USE USING WIPE SAMPLES AND SHOWING PCB LEVELS ARE LESS THAN 10 UG/100 CM2.
11. MINIMAL EROSION POTENTIAL EXISTS ABOVE ELEVATION 11 FT DUE TO RELATIVELY FLAT SLOPE (<4%) OR RUNOFF IS CONTROLLED WITH REVETMENT STONE AREA.

ARIES ENGINEERING
104 PLEASANT STREET
CONCORD, NH 03301
(603) 228-008
www.aries-eng.com

FINAL GRADING PLAN/SHORELINE STABILIZATION PLAN (WITH TIDAL SHORELINE STABILITY)

SEA LEVEL, LLC.
MAP 201, LOT 12
PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	No.	Date	Revision Description
J. Drebaum	01	04/23/23	Revision
REVIEWED BY:	02	09/04/24	Revision
S. Graham	03	04/23/25	Proposed slope/elevation edits and Rip Rap Changes. Remove Treatment Proposal

Project #: 2021-075A
File:2021-075A(SS2)06-22

APRIL 24, 2023

SHEET 5

Jay P. Johonnett, P.E.

1 inch = 10 ft.

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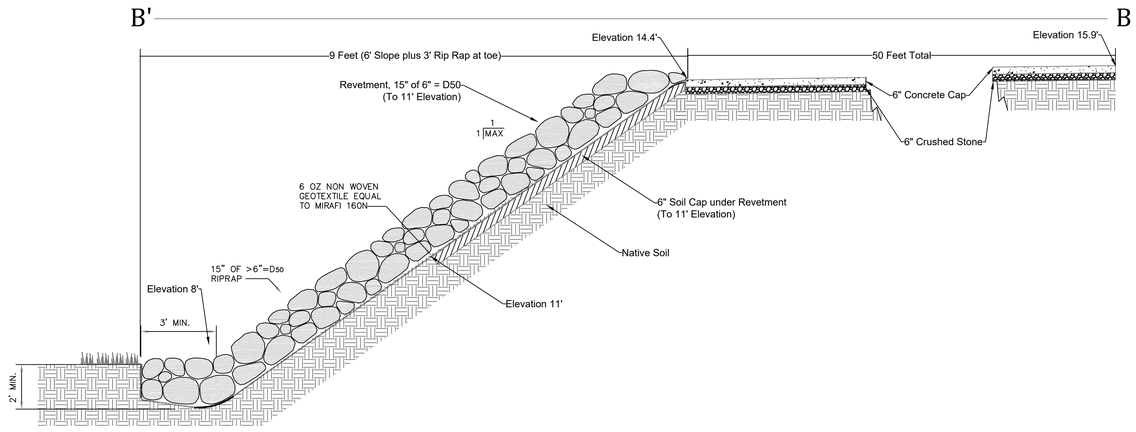
STATE OF NEW HAMPSHIRE - JAY P. JOHONNETT No. 14110 LICENSED PROFESSIONAL ENGINEER -

Jay P. Johonnett, P.E.

Project #: 2021-075A
File:2021-075A(SS2)06-22

APRIL 24, 2023

SHEET 5



RIP RAP AND REVETMENT SLOPE STABILIZATION DETAIL
NTS

ARIES ENGINEERING
104 PLEASANT STREET
CONCORD, NH 03301
(603) 228-008
www.aries-eng.com

FINAL GRADING PLAN/PAD GRADING DETAIL FOR RIPRAP AND REVETMENT

SEA LEVEL, LLC.
MAP 201, LOT 12
PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	No.	Date	Revision Description
J. Drebaum			
REVIEWED BY:			
S. Graham			

Project #: 2021-075A
File:2021-075A(SS2)06-22

APRIL 23, 2025

SHEET 5A

Jay P. Johonnett, P.E.

ARIES ENGINEERING
104 PLEASANT STREET
CONCORD, NH 03301
(603) 228-008
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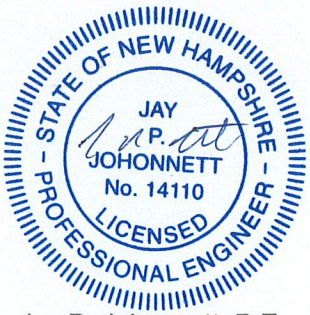
FINAL GRADING PLAN/PAD GRADING DETAIL FOR RIPRAP AND REVETMENT

SEA LEVEL, LLC.
MAP 201, LOT 12
PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	No.	Date	Revision Description
J. Drebaum			
REVIEWED BY:			
S. Graham			



Jay P. Johonnett, P.E.

Project #: 2021-075A
File:2021-075A(SS2)06-22

APRIL 23, 2025

SHEET 5A

APPENDIX J, Part 4

ATTACHMENT CC

OPERATIONS MONITORING AND MAINTENANCE (OMM) PLAN

Inspection Checklist

Sea Level, LLC

185-187 Wentworth Rd, Portsmouth, NH

BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirement	Maintenance Threshold	Inspection Completed? (yes/no)
Stabilized Construction Entrance	Quarterly	Inspect adjacent roadway for sediment tracking Inspect gravel stone for sediment accumulation	Sweep adjacent roadways as soon as sediment is tracked Top dress with additional stone when necessary to prevent tracking	
Concrete Cap (reinforced cement)	Quarterly	Inspect accumulated sediment level, rips, and tears; and concrete surfaces for spalling or cracks	Repair or replace damaged Sections of spreader or cap Remove and dispose of accumulated sediment once level reaches 1/3 of barrier height	
Gravel Base	Annually	Inspect gravel for ruts and depth	Replace gravel as necessary, regrade as necessary to maintain design grades, remove any accumulated gravel washed from roadway	
Litter/Trash Removal	Routinely	Inspect dumpsters, outdoor waste receptacles area, and yard areas.	Site will be free of litter/trash.	
Deicing Agents	**N/A**	**N/A**	Use agents approved by ConCom as the primary agent for roadway safety during winter.	

BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirement	Maintenance Threshold	Inspection Completed? (yes/no)
Revetment	Annually	Check for sediment accumulation & clogging.	More than 12" sediment depth	
Grass Lined Drainage Swale, Final Cover Area (Low Occupancy)	Spring and Fall and after every 3" of rain or greater in a 24- hour period, as needed	Check for sediment buildup Check for damaged vegetation, re-seed as needed Inspect for erosion rills or channels .	Remove excess sediment and any trash/debris. Loss of vegetation > 10 % of Final Cover or Drainage Swale Loss of > 1 in of total 6 in Final Cover	
Annual Report	1 time per year	Submit Annual Report to EPA, Other agencies upon request	EPA Requirement	

Inspection Notes:

Inspector: _____

Date of Inspection: _____

Date of Repairs: _____

Repairs Verified By: _____

APPENDIX S Update 4/23/25

Portsmouth Marina

185-187 Wentworth House Road, Portsmouth, NH

Entity	SQFT		
Buildings	931.5		
	824.1		
	474.69		
	1136.6		
	4100		
	444.85		
	103.2		
	493.22		
	1001.19		
	182.5		
	95.16		
	4799.76		
Total	14586.77		

Entity	SQFT		
Pavement	2464.64	1189.32	
		1275.32	

Entity	SQFT		
Leachfield	6684.72		
Other Permeable Surfaces (Lawn etc)	14401.8899	5036.8111	
		2015.4271	
		2405.6524	
		3441.3926	
		1204.2673	
		298.3394	
Property Boundary Area as shown in CAD File	131660.4931		3.022497
Gravel, Intact Gravel, Degraded Gravel, Riprap, Current Rip Rap, Woodland, Buldings, Pavement, Permeable Areas	130603.4586		
Remaining SQFT = Water+ Saltmarsh areas	1057.0345		

Entity	SQFT		
Salt Marsh Restoration	236.12		
Future RipRap*	432.629		
Current RipRap	130.455		
Future Revetment	304.093		
Upland Area Regrade	773.34	409.77	
		363.57	
Wetland Restoration	175.2		
Proposed Concrete	5000		
Concrete Drainage	63.32		
Intact Gravel (Red Hatch)	35006.8907	29126.6909	
		5880.1998	
Degraded Gravel (Green Hatch)	14557.6824		
Gravel Drive (Black Dots)	31973		
Woodland Blue Hatch	10364.7816	4210.3537	
		213.739	
		5940.6889	
Area Outside of 50' Offset (Part of Concrete and Gravel)	1135.11		

Sheet 5 Calcs

Below HOTL	411.32
Hotl to 50' (Rip, Regrade, Cncrete, Drain, - Area Outside	5134.179
HOTL to 11' Elev (RipRap only)	432.629
HOTL to 75' Setback (Rip, Regrade, Cncrete, Drain)	6269.289
50' to 75' Setback (Part of Concrete and Drain)	1135.11
Within 50' Buffer (All above except 50-75 and Salt Marsh Restore	5309.379
Between 50 and 150	1135.11

Note: Tax map says property = 3.07 acres

*Proposed Rip Rap number lowered by Approximately 30 SF, replaced by part of Proposed Revetment SF

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

CONSERVATION COMMISSION

March 14, 2025

Sea Level LLC
P.O. Box 4094
Portsmouth, New Hampshire 03801

RE: WCUP request for property located at 187 Wentworth House Road, Portsmouth, NH (LU-25-2)

Dear Property Owner:

The Conservation Commission, at its regularly scheduled meeting of **Wednesday, March 12, 2025**, considered your application for a Wetland Conditional Use Permit for the required remediation of PCBs by the EPA and associated impacts within a tidal wetland and previously disturbed wetland buffer. The remediation will remove 175 s.f. of sediment from existing salt marsh down to a depth of 1 ft as well as an adjacent section of 235 s.f. of fill to be removed down to a depth of 6 in. To restore these excavated areas, this project proposes to add 6 in of sand in the first removal area with the addition of saltmarsh bulrush plugs. In the upper portion of the marsh area and above the HOTL, salt tolerant grass mix is proposed as well as boulder armoring and stone riprip for bank stability. Additional proposed impacts to the buffer include the removal of 0.5 cubic yards of soil in two different buffer locations down to 1 ft in depth, with one of these areas proposed to be covered with a geotextile liner and 5,000 s.f. concrete cap. All other areas impacted by PCBs in the wetland buffer will receive 6 in of clean topsoil and vegetation. Other buffer work includes the reuse of existing gravel for boat storage activities and the plugging of an existing storm drain. Said property is shown on Assessor Map 201 Lot 12 and lies within the Waterfront Business (WB) District. As a result of said consideration, the Commission voted to **recommend approval** of this application to the Planning Board with the following stipulations:.

1. Applicant shall receive all necessary permissions from NHDOT and the contributing abutting landowners as applicable prior to plugging or abandoning any of the existing 15" drainage pipe. Further, please provide a drainage plan and calculation analysis for the rerouting of flow entering this pipe. This shall occur prior to Planning Board approval and may need review from TAC.
Any proposed ground disturbance within a jurisdictional wetland or wetland buffer due to future rerouting or removal of the existing pipe shall require a separate wetland conditional use permit from the City.

2. All areas to be loamed and seeded shall receive a wetland buffer conservation seed mix or equivalent.

3. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the edge of the gravel parking area near the restoration area at 50-foot intervals and must be installed

prior to the start of any construction.

4. Applicant shall clearly delineate on the site plan and provide a detailed description of the proposed grassed swale. This should include dimensions, materials, depth, etc.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, April 17, 2025.** One (1) hard copy of any revised plans and/or exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning & Sustainability Department and uploaded to the online permit system no later than Wednesday, March 26, 2025.

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

Very truly yours,

Samantha Collins, Chair
Conservation Commission

cc:

Jay Johonnett, Project Engineer, Aries Engineering
Steve Graham, Project Engineer, Aries Engineering

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

TECHNICAL ADVISORY COMMITTEE

May 8, 2025

Tom Reis
Sea Level LLC
P.O. Box 4094
Portsmouth, New Hampshire 03801

RE: Requesting exemption from Site Review approval for property located at 187 Wentworth House Rd, Portsmouth, NH (LU-25-2)

Dear Property Owner:

The Technical Advisory Committee, at its regularly scheduled meeting of Tuesday, May 6, 2025, considered your application for consideration that the proposed stormwater alterations and the installation of a concrete cap at the existing commercial site be exempted from requiring Site Review approval. Said property is shown on Assessor Map 201 Lot 12 and lies within the Waterfront Business (WB) District. As a result of said consideration, the Committee voted to **postpone** the application to the June meeting.

This matter will be placed on the agenda for the Technical Advisory Committee meeting scheduled for **Tuesday, June 3, 2025.** One (1) hard copy of any revised plans and supporting reports and exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department by **Wednesday, May 21, 2025.**

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

Very truly yours,

Peter Britz,
Planning and Sustainability Director

cc:

Jay Johonnett, Project Engineer, Aries Engineering
Steve Graham, Project Engineer, Aries Engineering

Summary of Underground Utility Locating

Prepared For: ARIES Engineering

Prepared By:
Daniel Pacheco
dan.pacheco@gprsinc.com
Project Manager-Boston
617.455.5121

May 18, 2025

May 18, 2025

ARIES Engineering
Attn: Stephen Graham
Email: sgraham@aries-eng.com
Site: 187 Wentworth Rd. Portsmouth, NH 03801

We appreciate the opportunity to provide this report for our work completed on May 15, 2025.

PURPOSE

The purpose of the project was to search for an underground storm drainage line within the project boundaries provided by the client. The scope of work consisted of a single location measuring approximately 175 linear feet. The client marked the end pipe outlet location prior to our scanning and our markings were then placed onto the surface using spray paint and flags.

EQUIPMENT

- **Underground Scanning GPR Antenna**. The antenna with frequencies ranging from 250 MHz-450 MHz is mounted in a stroller frame which rolls over the surface. The surface needs to be reasonably smooth and unobstructed to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the feasibility of GPR. The data is displayed on a screen and marked in the field in real time. The total depth achieved can be as much as 8' or more with this antenna but can vary widely depending on the types of materials being scanned through. Some soil types such as clay may limit maximum depths to 3' or less. As depth increases, targets must be larger in order to be detected, and non-metallic targets can be especially difficult to locate. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **Electromagnetic Pipe Locator**. The EM locator can passively detect the electromagnetic fields from live AC power or from radio signals travelling along some conductive utilities. It can also be used in conjunction with a transmitter to connect directly to accessible, metallic pipes or tracer wires. A current is sent through the pipe or tracer wire at a specific frequency and the resulting EM field can then be detected by the receiver. A utility's ability to be located depends on a variety of factors including access to the utility, conductivity, grounding, interference from other fields, and many others. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **Traceable Rodder**. The rodder has a copper wire encased in fiberglass. The line is pushed through accessible pipes before placing a current on the wire which is then traced from the surface. The maximum traceable depth is 10' depending on the soil conditions and the maximum distance is 300'. The line can be pushed through a pipe with direct access such as a sewer line at a cleanout or a storm drain catch basin. It may not be able to be pushed through deeper pipes within manholes and conduits will not be accessed by GPRS. The signal cannot be located through metallic pipes. For more information, please visit: Link
- **GPS**. This handheld GPS unit offers accuracy down to .39 inches; however, the accuracy will depend on the satellite environment and obstructions and should not be considered survey-grade. Features can be collected as points, lines, or areas and then exported into Google Earth or overlaid on a CAD drawing. For more information, please visit: Link

PROCESS

The process typically begins with using the EM pipe locator to locate pipes or utilities throughout the scan area. First, the transmitter is used to connect to and trace any visible risers, tracer wires, or accessible, conductive utilities if there is an exposed, metallic surface. The areas are then swept with the receiver to detect live power or radio frequency signals. Locations and depths are painted or flagged on the surface. Depths cannot always be provided depending on the location method and can be prone to error.

Initial GPR scans were then collected to evaluate the data and calibrate the equipment. Based on these findings, a scanning strategy is formed, typically consisting of scanning the entire area in a grid with 3–4-foot scan spacing to locate any potential utilities that were not found with the pipe locator. The GPR data is viewed in real time and anomalies in the data are located and marked on the surface along with their depths using spray paint, pin flags, etc.

LIMITATIONS

Please keep in mind that there are limitations to any subsurface investigation. The equipment may not achieve maximum effectiveness due to soil conditions, above ground obstructions, reinforced concrete, and a variety of other factors. No subsurface investigation or equipment can provide a complete image of what lies below. Our results should always be used in conjunction with as many methods as possible including consulting existing plans and drawings, exploratory excavation or potholing, visual inspection of above-ground features, and utilization of services such as One Call/811. Depths are dependent on the dielectric of the materials being scanned so depth accuracy can vary throughout a site. Relevant scan examples were saved and will be provided in this report.

FINDINGS

The subsurface conditions at the time of the scanning allowed for maximum GPR depth penetration of 6-7 feet in most areas. The drainage pipe was able to be located using either the GPR or EM pipe locator. The traceable rodder was used from both ends of the drainage pipe. The drainpipe starts on the South side of Wentworth Road and drains into Sagamore Creek. The following pages will provide a further explanation of the findings.

Prepared for: ARIES
Prepared By: DP
Date of Scanning: 5/15/25

Terms and Conditions

GPRS does not provide land survey or civil engineering data collection or documentation. This is provided as a reference map of the field markings and is not survey-grade.

LEGEND

	ELECTRIC		SANITARY
	WATER		STORM
	COMM		UNKNOWN
	GAS		

187 Wentworth Rd. Portsmouth, NH 03801

Prepared by:

GPRS

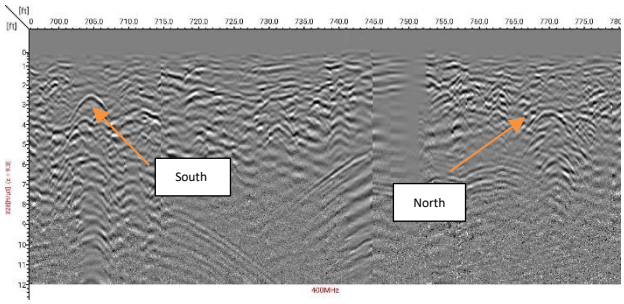
Inlet from Wentworth Rd.

Using Traceable Rodder at Inlet.

Wide-Shot of Inlet.

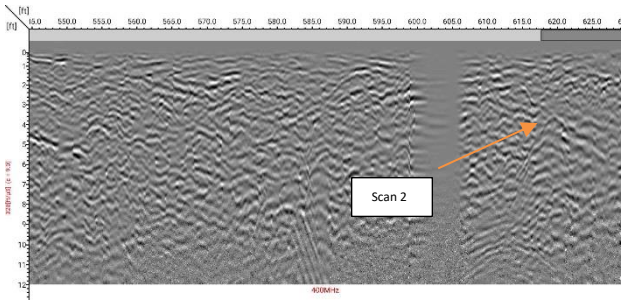
There were many obstructions, but the signal could still be traced and mapped.

GPR Scanning North side of Wentworth Rd.



Data shot South and North of Wentworth Rd.

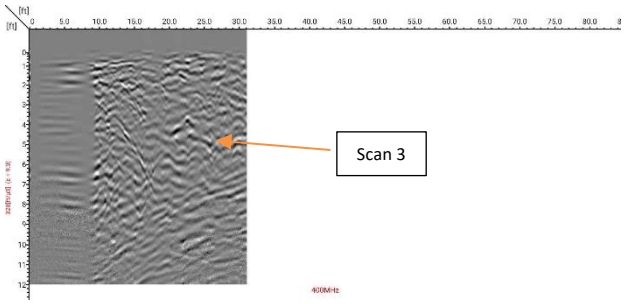
Scan 2.



Data shot from Scan 2.

GPR Data Screenshots and Photos	187 Wentworth Rd. Portsmouth, NH 03801	GPRS

Scan 3 Area.



Data shot from Scan 3 Area.

Same data set using Google Earth map from 2018. Little easier to see surrounding area compared to the 2025 map.

Outlet in Sagamore Creek.

GPR Data Screenshots and Photos	187 Wentworth Rd. Portsmouth, NH 03801	GPRS

CLOSING

GPRS, Inc. has been in business since 2001, specializing in underground storage tank location, concrete scanning, utility locating, and shallow void detection for projects throughout the United States. I encourage you to visit our website (www.gprsinc.com) and contact any of the numerous references listed.

GPRS appreciates the opportunity to offer our services, and we look forward to continuing to work with you on future projects. Please feel free to contact us for additional information or with any questions you may have regarding this report.

Signed,

Daniel Pacheco

Daniel Pacheco
Project Manager—Boston

Direct: 617.455.5121

dan.pacheco@gprsinc.com

www.gprsinc.com

Reviewed,

Sean Parker
Area Manager—Boston

Direct: 617.372.6695

sean.parker@gprsinc.com

www.gprsinc.com