The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

November 27, 2023

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, NH 03301

REQUESTED ACTION

Approve Colony Cove Road Realty Trust's request to perform the following work on Little Bay in Durham pursuant to NH Department of Environmental Services (NHDES) Wetlands Bureau permit #2023-01128, and in accordance with RSA 482-A:3. No comments were submitted by the Durham Conservation Commission regarding the project as proposed.

Retain 51 square feet of intertidal impact for the construction of 5 foot wide stone access steps embedded within the existing seawall to provide access to the southerly dock, temporarily impact 194 square feet (SF) of tidal wetland to remove two existing crib-supported tidal docking structures and impact 1,219 SF of tidal wetland to construct two new tidal docking structures, each compliant with the current design standards on approximately 260 feet of frontage on Little Bay in Durham..
The southerly dock shall consist of a 5 foot by 8 foot landing to provide access from the stone steps connected to a 6 foot by 35 foot fixed pier connected to a 3 foot by 50 foot ramp connected to a 10 foot by 40 foot float with associated piles and float stops. The overall length of this docking structure, seaward of the highest observable tide line, is 95 feet.
The northerly dock shall consist of a 4 foot by 54 foot fixed pier connected to a 3 foot by 25 foot ramp connected to an 8 foot by 16 foot float with associated piles and float stops. The overall length of this docking structure, seaward of the highest observable tide line, is 83 feet.

Grant waiver of Rule Env-Wt 606.06(k)(1), to allow two separate docking structures on a single frontage.

Grant waiver of Rule Env-Wt 606.07(e)(3), to allow permanent residential tidal piers with a height-to-width ratio above the substrate of less than 1:1.

NHDES imposed the following conditions as part of this approval:
1. All work shall be done in accordance with the approved plans dated March 19, 2023, and revised through September 19, 2023, by Matthew R. Cardin, and last received by the NH Department of Environmental Services (NHDES) on September 20, 2023, in accordance with Env-Wt 307.16.
2. This permit shall not be effective until the permittee records this permit at the Strafford County Registry of Deeds. Any limitations or conditions in the permit so recorded shall run with the land beyond the expiration of the permit. The permittee shall provide the NHDES with a copy of the permit stamped by the registry with the book and page and date of receipt, in accordance with New Hampshire Administrative Rule Env-Wt 314.02(b) and (c).

3. No work shall occur between April 15 and July 1, to protect anadromous fish as required by Env-Wt 307.06.
4. The ramp and float portions of residential tidal docks shall be seasonal and removed from the water during the non-boating season, in accordance with Env-Wt 606.06(b).
5. Tidal docking installation shall be done by barge or upland to prevent the driving of construction equipment in or through tidal waters/wetlands or on the bottom of the inter-tidal zone, in accordance with Env-Wt 606.05(b).
6. Tidal docking construction shall be done in accordance with the applicable standard conditions in Env-Wt 307.
7. Heavy equipment shall not be operated in any jurisdictional area unless specifically authorized by this permit, in accordance with Env-Wt 307.15(a).
8. In accordance with Env-Wt 307.03(h), equipment shall be staged and refueled outside of jurisdictional areas and in accordance with Env-Wt 307.15.
9. In accordance with Env-Wt 307.03(g)(1), the person in charge of construction equipment shall inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
10. In accordance with Env-Wt 307.03(g)(2), the person in charge of construction equipment shall repair any leaks prior to using the equipment in an area where such fluids could reach groundwater, surface waters, or wetlands.
11. In accordance with Env-Wt 307.03(g)(3) and (4), the person in charge of construction equipment shall maintain oil spill kits and diesel fuel spill kits, as applicable to the type(s) and amount(s) of oil and diesel fuel used, on site so as to be readily accessible at all times during construction; and train each equipment operator in the use of the spill kits.

EXPLANATION

NHDES approved this project on October 25, 2023. NHDES supported its decision with the following findings:

1. This project is classified as a major project per Rule Env-Wt 606.17(a)(1), for new overwater structure construction in tidal waters/wetlands.
2. On August 3, 2023, the Department received correspondence from the NH Fish and Game Department (NHF&G) February 8, 2023, stating that "[d]ue to the large number of anadromous fish that migrate through the Great Bay Estuary each spring it is our recommendation that work not occur between April 15th and July 1st."
3. On August 3, 2023, the department received correspondence from the Natural Heritage Bureau (NHB) dated August 24, 2022, stating that "[b]ased on the survey results indicating none of the listed rare plants are in the proposed project area, NHB has no further concerns about the proposed project as long as the exemplary natural community is not impacted."
4. NHDES finds that the project as approved and conditioned will not have an unreasonable adverse impact on the value of such areas as sources of nutrients for finfish, crustacea, shellfish and wildlife of significant value, nor will it damage or destroy habitats and reproduction areas for plants, fish and wildlife of importance.
5. No comments were received by NHDES from the Durham Conservation Commission about this application.

6. On July 6, 2023, the applicant obtained a statement from the Pease Development Authority, Division of Ports and Harbors regarding the projects impact on navigation and passage stating, "[w]e examined the proposed site and found that the structure will have no negative effect on navigation in the channel," per Rule Env-Wt 603.09.
7. On August 3, 2023, the Department received notarized written consent, signed by the property owner and the affected abutting property owner authorizing the boat docking facility to be located closer than 20 feet from an abutter's property line tidal waters as required in accordance with RSA 482-A:3, XIII,(c).
8. On August 3, 2023, NHDES received a request to waive Rule Env-Wt 606.06(k)(1), to relieve the applicant from the requirement to limit the density of residential tidal docks on the frontage to one structure that meets the property line setback established in RSA 482-A:3, XIII(a) on each frontage.
9. On August 3, 2023, NHDES received a request to waive Rule Env-Wt 606.07(e)(3), to relieve the applicant from the requirement that the permanent pier shall have a height-to-width ratio above the substrate of 1:1 or greater.
10. The department finds that the documentation provided by the applicant provides clear and convincing evidence that granting the waivers will not result in either an avoidable adverse impact on the environment or natural resources of the state; an avoidable adverse impact on public health or public safety; nor any impact on abutting properties that is more significant than that which would result from complying with the rule; or a statutory requirement being waived; and any benefit to the public or the environment from complying with the rule is outweighed by the operational or economic costs to the applicant, and thus, that the requirements of Env-Wt 204.05 have been met.
11. Per Rule Env-Wt 204.05(a), the department has granted the requested waivers of Env-Wt 606.06(k)(1) and Env-Wt 606.07(e)(3).
12. NHDES finds that the requirements for a public hearing, as established in RSA 482-A, do not apply as the project will not have a significant environmental impact, as defined in New Hampshire Administrative Rule Env-Wt 104.19, on the resources protected by RSA 482-A, and, is not of substantial public interest, as defined in New Hampshire Administrative Rule Env-Wt 104.32.
13. The Department finds that the project as proposed and conditioned meets the requirements of RSA 482-A and the Wetlands Program Code of Administrative Rules Chapters Env-Wt 100-1000.

NHDES Wetlands Bureau permit #2023-01128 application documents are enclosed for review by the Governor and the Executive Council in consideration of this request and in accordance with RSA 482-A:3, II(a), as it is a major project located in New Hampshire public waters.

We respectfully request your approval of this item.

Robert R. Scott
Commissioner

NHDES-W-06-012

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: Michael Miller **TOWN NAME:** Durham

RECEIVED Administrative Use Only MAY 03 2023 NHDES LAND RESOURCES MANAGEMENT	COMPLETE Administrative Use Only MAY 03 2023	Administrative Use Only	File No.: 2023-01128 Check No.: 457 Amount: 3,476.40 Initials: BH

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

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

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

Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☒ Yes ☐ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	☐ Yes ☒ No
• Protected species or habitat? o If yes, species or habitat name(s): o NHB Project ID #: 22-2247	☐ Yes ☒ No
• Bog?	☐ Yes ☒ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	☐ Yes ☒ No
• Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☒ Yes ☐ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: Day: Year:	☐ Yes ☒ No

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

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

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

The application is for replacement w/alterations of two lawfully existing piers at 32 Colony Cove Road, Durham, NH. The southern dock consists of replacing the existing tidal dock with a more compliant dock and extended wharf consisting of a permanent 4' x 34' pier, a 3' x 50' gangway and a 10' x 40' float with supported by (2) float guide piles on the property with tidal frontage to Little Bay. The pier will be supported by (3) bents containing two piles each. The float will be connected to the pier via the 3' x 50' aluminum gangway. The 10' x 40' seasonal float will be supported by two float guide piles. All piles will consist of 12" diameter Class A, CCA treated timber piles. The permanent pier will have a net decrease of XXX sq. ft. accounting for the permanent removal of unnecessary decking.

The northern dock consists of replacing the existing tidal dock with a more compliant dock consisting of a permanent 4' x XX' pier, a 3' x 25' gangway and a 8' x 16' float supported by (2) float guide piles. The pier is to be replaced in a more compliant configuration, which are: rotating the pier south to be within the extended property lines, removal of the crib work foundations at the end of pier, reduction in pier deck associated with the crib work foundation, and increased hieght of structure to allow 1:1 height/width ratio over existing saltmarsh and to be above 100-yr flood and relative sea level rise projected water elevations.

For both structuctures, the pier, seasonal gangway and float are to be installed via a barge during low tide cycles and via matted access along proposed dock alignment from the upland to install portions that can't be reached by barge staged outside of the salt marsh area.

This application also accounts for after-the-fact impacts associated with stairs going down the existing seawall to the existing/proposed pier, which are hung over the highest observable tide line, and therefore are considered a wetland impact.

SECTION 3 - PROJECT LOCATION

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

ADDRESS: 32 Colony Cove Road

TOWN/CITY: Durham

TAX MAP/BLOCK/LOT/UNIT: Map 217, Lot 8

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Little Bay
☒ N/A

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

° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a)) If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: Colony Cove Road Realty Trust		
MAILING ADDRESS: 32 Colony Cove Road		
TOWN/CITY: Durham	STATE: NH	ZIP CODE: 03824
EMAIL ADDRESS: [redacted]		
FAX: [redacted]	PHONE: [redacted]	
ELECTRONIC COMMUNICATION: By initialing here: AF, 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.: Cardin, Matthew R		
COMPANY NAME: Cardin Enviroinmental Consulting and Permitting		
MAILING ADDRESS: 30 Old Post Road		
TOWN/CITY: Newington	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: matt@cardinenvironmental.com		
FAX: [redacted]	PHONE: 603-988-6635	
ELECTRONIC COMMUNICATION: By initialing here MRC, 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:	STATE:	ZIP CODE:
EMAIL ADDRESS: [redacted]		
FAX: [redacted]	PHONE: [redacted]	
ELECTRONIC COMMUNICATION: By initialing here , I hereby authorize NHDES to communicate all matters relative to this application electronically.		

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

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):
Please see attached narrative that includes Avoidance and Minimization Checklist, Coastal Functional Assessment, a Vulnerability Assessment, methods to protect and minimize impacts to natural resources during and as a result of constructing the project and design criteria, water depths, statement regarding impact to navigation and passage and appropriate data screening figures.

SECTION 8 - AVOIDANCE AND MINIMIZATION

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

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

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

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

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

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

(☒ N/A - Mitigation is not required)

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

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

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

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

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

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

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

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

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

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters	51		☒			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water	1,139		☐			☐
TOTAL		1,190					

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):	51 SF	× $0.40 =	$ 20.40
Seasonal docking structure:	753 SF	× $2.00 =	$ 1,506
Permanent docking structure:	386 SF	× $4.00 =	$ 1,544
Projects proposing shoreline structures (including docks) add $400 =			$ 400
		Total =	$ 3,470.4

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.		
☐ Minimum Impact Project	☐ Minor Project	☒ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: MRC	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: MRC	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: MRC	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials: MRC	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: Michael Miller	DATE: 4/24/23
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY: Matt Cardin, CWS	DATE: 4/26/23

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: Rachel M. Deane	PRINT NAME LEGIBLY: Rachel M. Deane

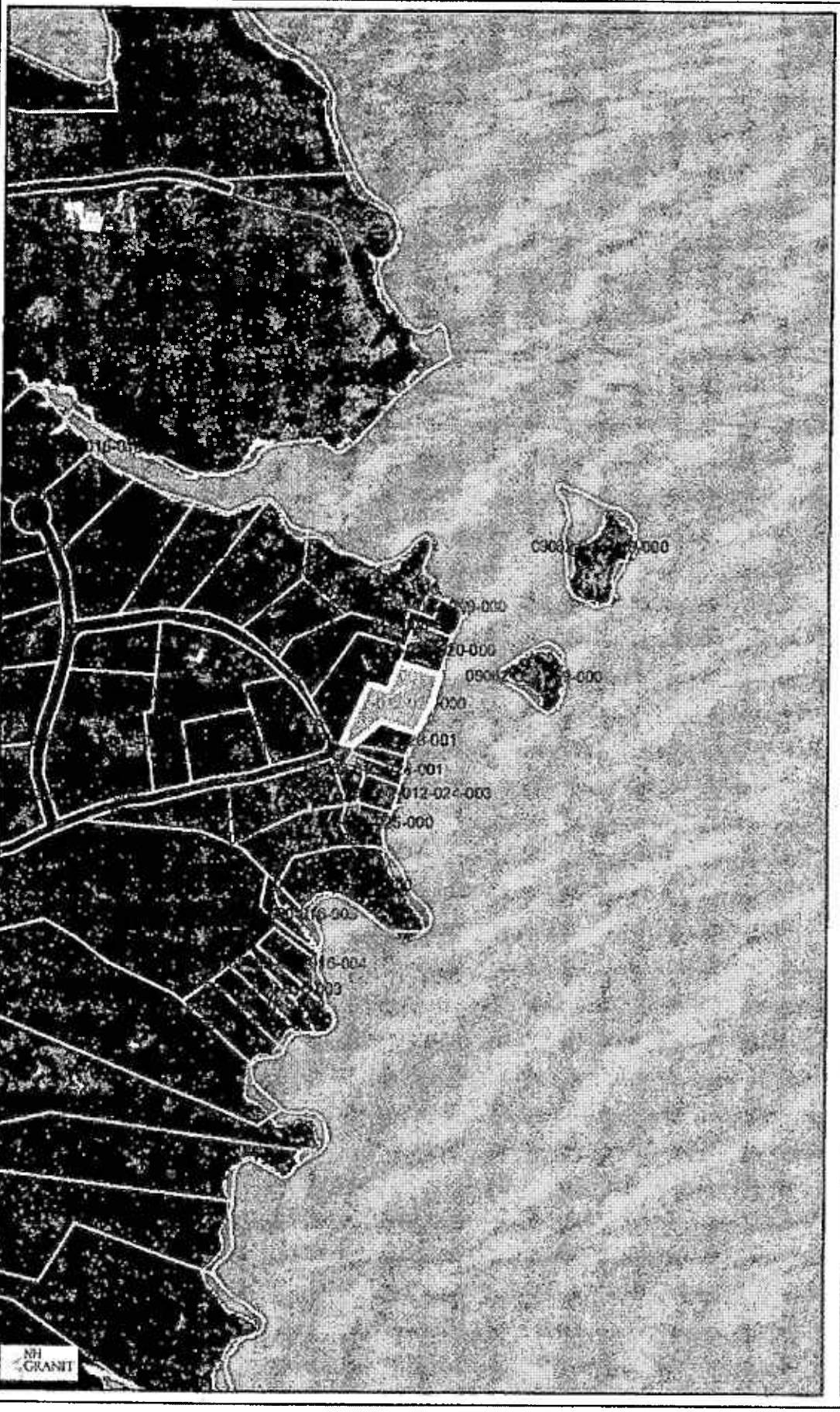
TOWN/CITY: Durham	DATE: 5/1/2023

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".

Map by NH GRANIT - 32 Colony Cove Road, Durham, NH



Legend

- Parcels - polygons
- MHHW + 1-ft SLR
  - 0 - 2
  - 2 - 4
  - 4 - 6
  - 6 - 8
  - 8 - 10

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MAY 03 2023
NHDES
LAND RESOURCES MANAGEMENT

Map Scale
1: 6,494

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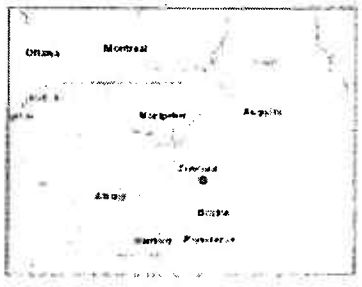
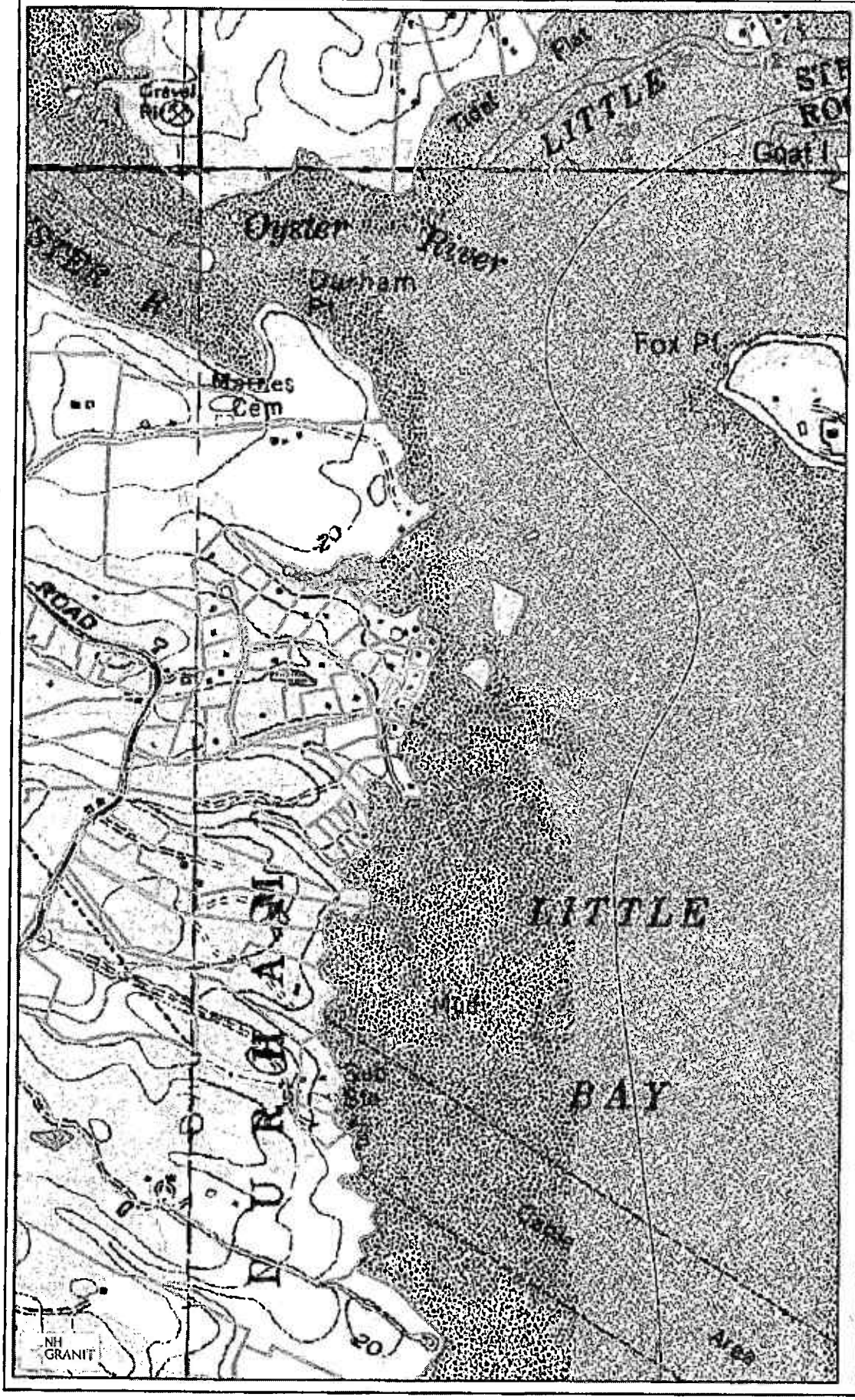
Map Generated: 4/6/2023

Notes
MHHW + 1' SLR



Map by NH GRANIT - 32 Colony Cove Road, Durham, NH



Legend

- Parcels
- State
- County
- City/Town

RECEIVED
MAY 03 2023
NHDES
LAND RESOURCES MANAGEMENT

Map Scale
1: 12,988

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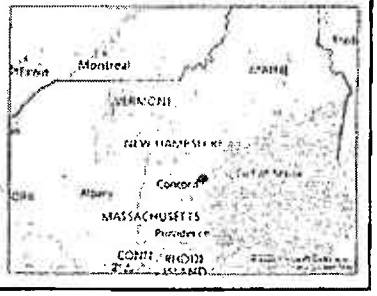
Map Generated: 4/5/2023

Notes
USGS 7.5' Quad



The State of New Hampshire

Department of Environmental Services

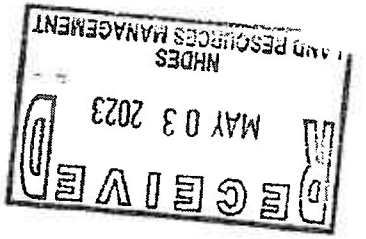
Robert R. Scott, Commissioner

This application contains confidential information from the NH Natural Heritage Bureau (NHB) Datacheck tool provided by the NH Department of Natural and Cultural Resources, NHB. This information is being withheld from disclosure to the public.

Please direct all questions regarding the confidential information to Pamela G. Monroe, Legal Unit Administrator, NH Department of Environmental Services, at: pamela.g.monroe@des.nh.gov, or (603) 271-3137.

Abutter List
Owner: Colony Cove Road Realty Trust
Site Location: 32 Colony Cove Road, Durham, NH
Map 217, Lot 8

Map	Lot	Name	Mailing Address	Street Address
228	10	William W. Cooley	[redacted]	
217	7	Bennington Family Trust Nancy W. Barrett, Trustee		
217	9	Diantha L Barstow Trust		



EXISTING SITE PLAN

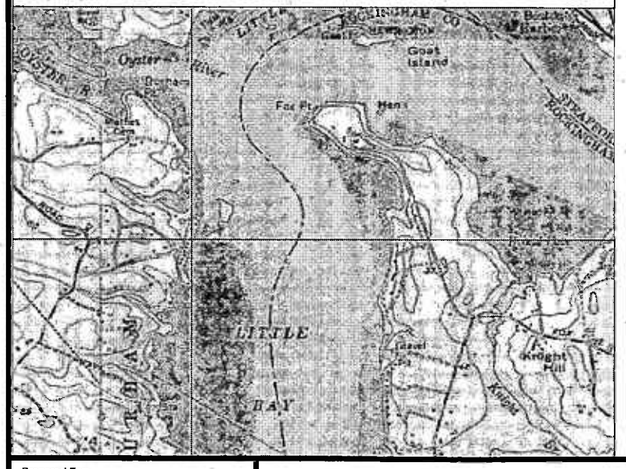
SCALE: 1" = 40'

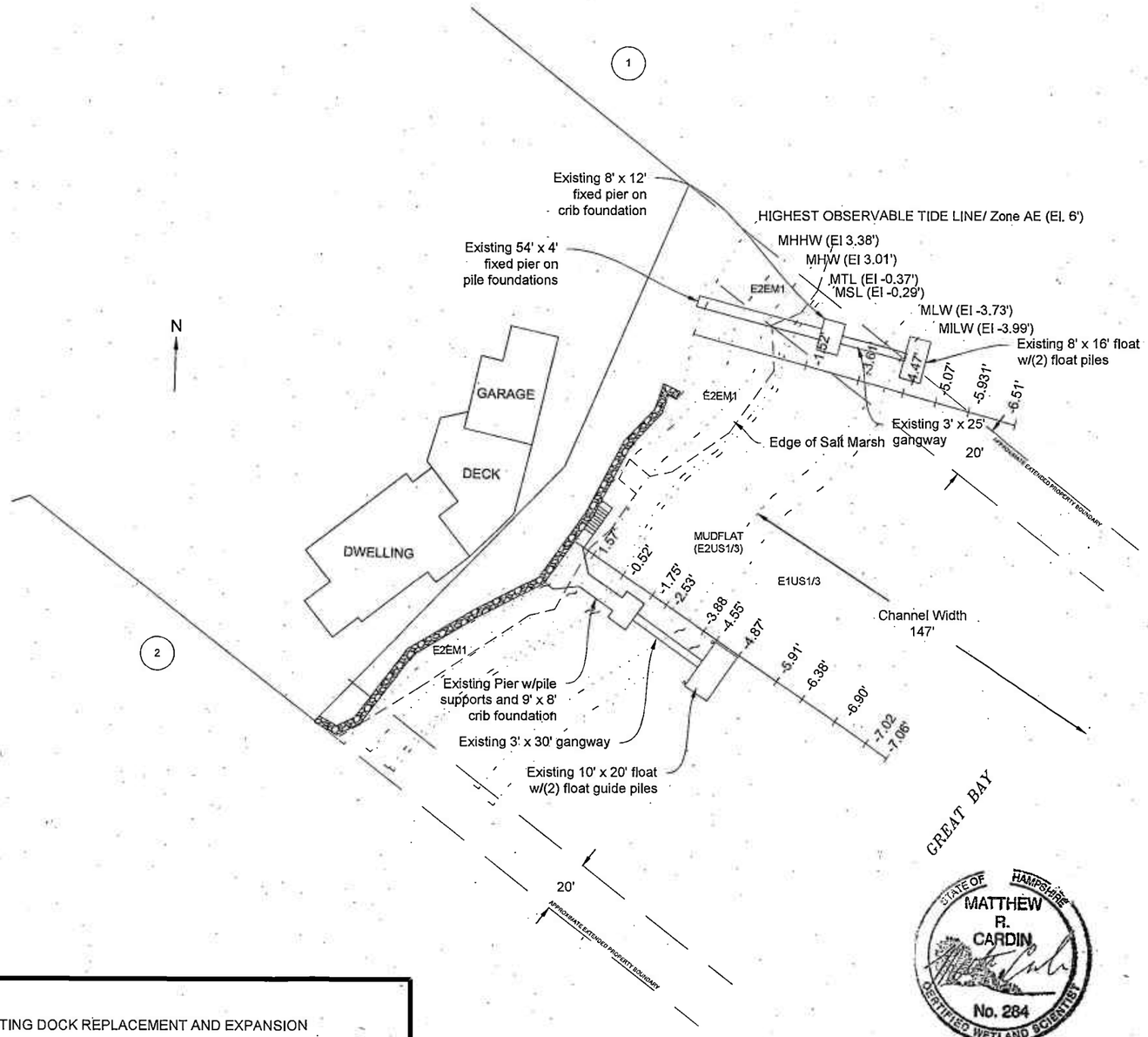
APPLICANT:
MICHAEL MILLER
32 COLONY COVE ROAD, DURHAM, NH
TAX MAP 217, LOT 8
LOT AREA: 1.3 Acres
FRONTAGE: ~ 260' ON GREAT BAY
ADJACENT PROPERTY OWNERS:
1. MAP 217, LOT 7 - Benning Family Trust
2. MAP 217, LOT 9 - Diantha L. Barstow Trust

NOTES:
1. Highest observable tide line verified by Matt Cardin, NH CWS #284 on August 16, 2022 per Env-Wt 602.23.
2. Water depth measurements portrayed in NAVD88 and determined by R. Alex Ross, LLS # 907
3. FEMA Flood Zone AE based on FIRM Area Number 33015C0278F, effective 1/29/2021

0 10 20 40
GRAPHICAL SCALE

VICINITY MAP





STATE OF NEW HAMPSHIRE
MATTHEW R. CARDIN
No. 284
CERTIFIED WETLAND SCIENTIST

Plans Prepared by
Matthew R. Cardin NH CWS #284

Prepared For:
Michael Miller
32 Colony Cove Road
Durham, NH 03824

Prepared By:
Matthew Cardin, NH CWS

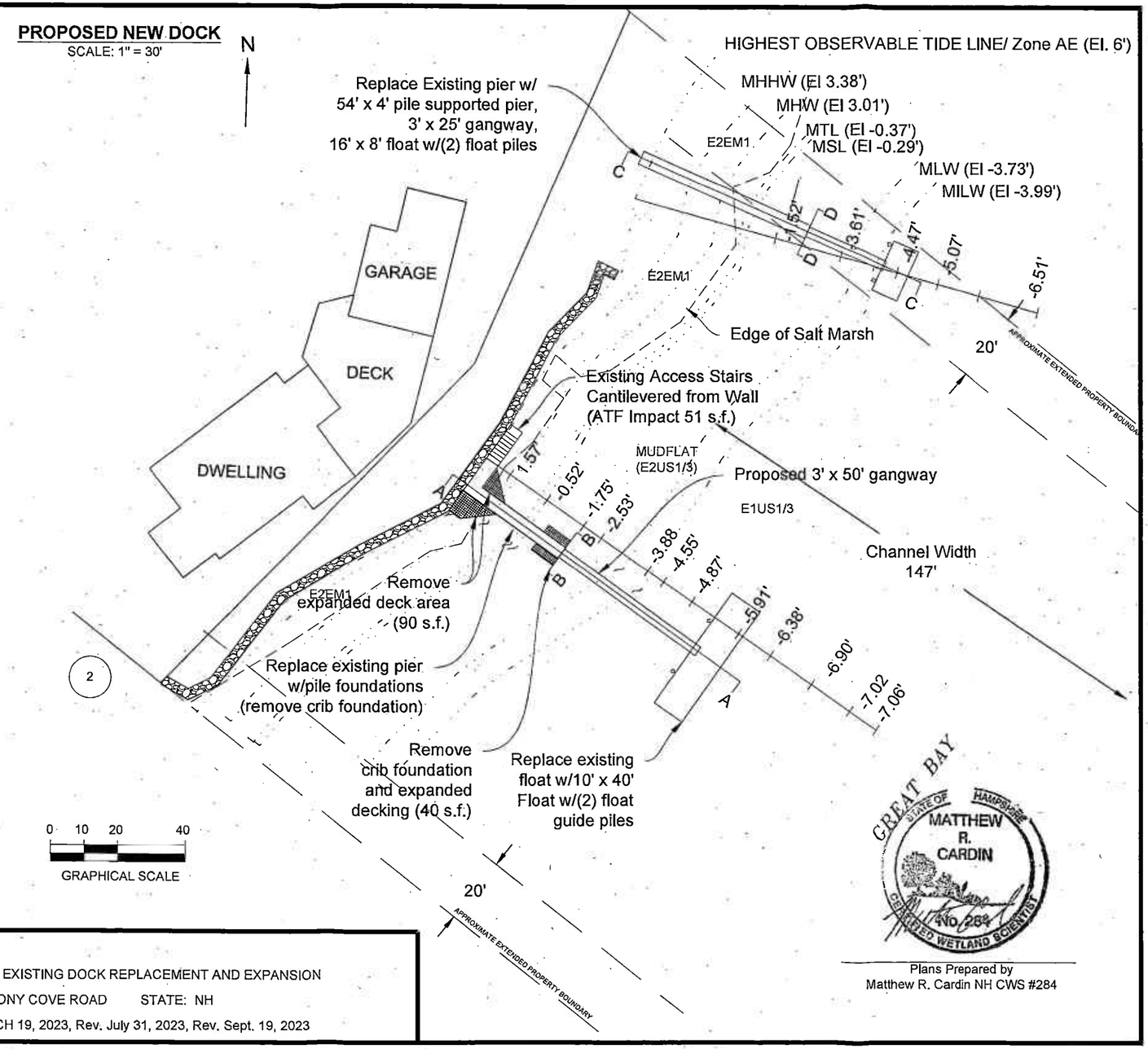
EXISTING CONDITIONS
ON: GREAT BAY
TOWN: DURHAM
SHEET: 1 of 4

PROPOSED: EXISTING DOCK REPLACEMENT AND EXPANSION
AT: 32 COLONY COVE ROAD STATE: NH
DATE: MARCH 19, 2023, Rev. July 31, 2023, Rev. Sept. 19, 2023

Permitting Notes:
1. The work area or proposed dock location does not contain SAS.
2. Water depths surveyed by Alex Ross, LLS #906 and are shown in NAVD88.
3. HOTL identified by Matthew Cardin, NHCWS #284 on August 16, 2022 per Env-Wt 602.23 in accordance with the following standards:
a. U.S. Army Corps of Engineers Wetlands Delineation Manual. Technical REport Y-87-1 (Jan. 1987), and Regional Supplement to the Corps of Engineers Wetland Delineation Manual; Northcentral and Northeast REgion V. 2.0 January 2012.
b. Field Indicators of Hydric Soils in the U.S., Version 8.2, USDA-NRCS, 2018 and Field Indicators for Identifying Hydric Soils in New England, Version 4, NEIWPCC Wetlands Work Group (2019).
c. Classification of Wetlands and Deepwater Habitats of the United States , USFW Manual FWS/OBS-79/31 (1997).
4. Float and gangway to be seasonal structures and removed during winter months when use is not expected.
5. Engineering notes shown on Sheet 3 of 3.
6. Existing southern dock to be replaced with essential pier to access end of wharf, including the removal of 130 s.f. of fixed pier/deck and the 9' x 9' crib foundation at the end of pier.
7. Granite stairs to existing pier were built in 2005 as part of the seawall construction (DES 2015-01104) and will be accounted for as after-the-fact impacts totaling approximately 51 s.f.
8. Southern dock to be elevated above RSLR past the first pile bent to allow access to existing storage room recessed in seawall.
9. The existing northern dock to be replaced to current design standards and in compliance with tidal dock regulations. Changes from existing northern pier include: alignment of dock pivoted to be within extended property boundary, height of pier to be raised approximately 2.5' to allow 1:1 height/width ratio above existing salt marsh and to meet RSLR, replacement of crib foundation with (2) pile and top cap bent. The gangway, float and float support piles to be replaced in-kind.

Construction Notes & Sequence:
1. Existing southern pier to be replaced in place with the permanent removal of the crib foundation and replaced with a traditional (2) pile bent. The gangway to be replaced with a 3' x 50' gangway and the float to be replaced with a 10' x 40' float.
2. All materials with dock structure to be CCA treated lumber and galvanized hardware
3. Float and gangway are to be pre-assembled off-site. CCA treated lumber to be pre-treated prior to arrival at site.
4. Per NH Fish and Game and NOAA Fisheries it is recommended construction not occur between April 15th to July 1.
5. Barge, push boat and skiff to be mobilized during high-tide and positioned alongside proposed float location and close enough to shore to shore to not negatively affect navigability.
6. All work to be done during low-tide intervals where there is no flowing water within the work area.
7. Temporary turbidity curtain to be placed around work area during high tide to once construction has temporarily stopped.
8. The pre-assembled float and gangway to be lifted from the barge via crane and placed into position and installed.

PROPOSED NEW DOCK
SCALE: 1" = 30'



GREAT BAY
STATE OF NEW HAMPSHIRE
MATTHEW R. CARDIN
No. 284
CERTIFIED WETLAND SCIENTIST

Plans Prepared by
Matthew R. Cardin NH CWS #284

Prepared For:
Michael Miller
32 Colony Cove Road
Durham, NH 03824

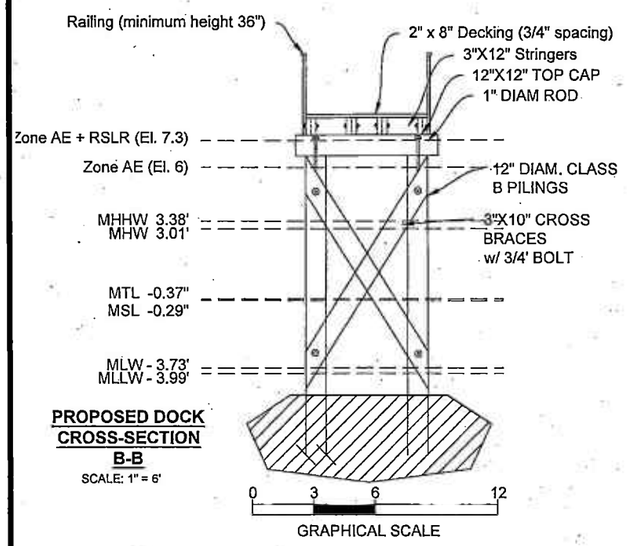
Prepared By:
Matthew Cardin, NH CWS

PROPOSED PLANS

ON: GREAT BAY — PROPOSED: EXISTING DOCK REPLACEMENT AND EXPANSION

TOWN: DURHAM — AT: 32 COLONY COVE ROAD — STATE: NH

SHEET: 2 OF 4 — DATE: MARCH 19, 2023, Rev. July 31, 2023, Rev. Sept. 19, 2023

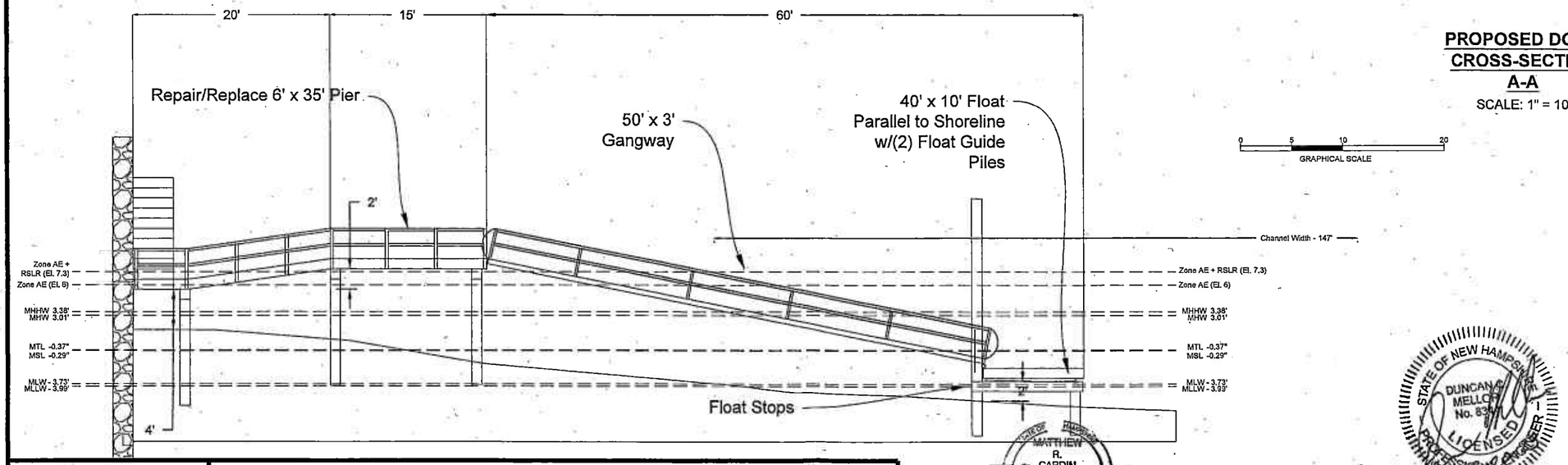


PROPOSED DOCK CROSS-SECTION B-B

SCALE: 1" = 6'

ENGINEERING, RESILIENCY AND BASIS OF ANALYSIS NOTES:

1. The resiliency recommendation and basis of analysis by Civilworks New England (CNE) for this project is limited to the recommendations and analysis in these notes. The Client has provided the survey data and flood elevations upon which CNE is relying for the analysis. CNE has not field verified any survey data and cannot warranty the accuracy of the data provided.
2. Basic wind and wave analysis has been performed to establish pile and mooring lateral testing loads during construction of the new structures to provided a reasonable level of confidence that the proposed dock moorings and pier piles will be adequate to resist environmental loads from wind and waves at this location with water level of the FEMA 100 yr flood plus a sea level rise allowance provided by Matthew Cardin, CWS, using NHDES guidelines.
3. Basic wind speed for the site for the float is 84 mph with load factor removed per ASCE 7-16 for risk category 1, 3 second gust. Surface roughness C and Exposure C, giving a wind pressure of 15.3 psf.
4. Basic wind speed for the site for the pier is 90 mph with load factor removed per ASCE 7-16 for risk category 2, 3 second gust. Surface roughness C and Exposure C, Giving A wind pressure of 17.7 psf.
5. Wind pressure on floats: as several days of advanced notice is anticipated ahead of such severe winds, it is assumed a docked boat would be removed from the dock and only the float with freeboard of 1.2 ft and 40 ft length on two mooring piles, the wind load perpendicular to shore is about 1,400 pounds, and parallel to shore about 530 pounds for the float with freeboard of 1.2 ft and 16 ft length on two mooring piles, the wind load perpendicular to shore is about 560 pounds, and parallel to shore about 280 pounds.
6. The wind pressure on the pier, has a lateral wind load per pile bent (two piles) is about 265 pounds.
7. New timber pier pile strength was checked for impact of a drifting ice floe with dimensions of 20 ft by 12 f by 1 ft draft and a drift speed of 0.5 fps and pile bending stress was acceptable.
8. Average wind wave fetch (9 radials at 3 deg) from the SSE is 8,300 ft with extreme high tide shallow water limiting wave growth. Waves are not anticipated here at low tide. The basic wind speed (ASCE 7-16) is adjusted from a 3 second gust to a longer duration needed to build fully developed wind waves. Gives a significant wave height of 2.2 ft with 2.3 second period for the floats (Cat. 1) and 2.3 ft with 2.4 second period for the piers (Cat 2.). With an average float draft of 0.5 ft the non-breaking wave could develop 740 pounds of load per 10' float end, or 590 pounds per 8' float end, parallel to the shoreline. The lateral wave load on the new pier two pile bents is 206 pounds per bent using a non-breaking wave. The lateral wind load on the new pier pile bents is 265 pounds.
9. The recommended lateral test load per 10/x40' float mooring pile is 1,050 pounds to provide a factor of safety of 1.5 (wind load controlling). The recommended lateral test load per 8'x16' float mooring pile is 440 pounds to provide a factor of safety of 1.5 (wave load controlling). It is recommended that the field load tests be observed by a professional engineer for compliance with analysis intent.
10. The recommended lateral test load for the new pier pile bents is 400 pounds (wind load controlling) applied at deck/cap elevation to provide a factor of safety of 1.5 and prove adequate pile embedment. it is recommended that the field load tests be observed by a professional engineer for compliance with the analysis intent.
11. The prior piers were crib supported due to shallow refusal, however NHDES is requiring piles for the replacement piers. If new pile embedment cannot resist these test loads, it is recommended that the piles be bolted to bedrock or mooring blocks be hung under the pier as ballast to provide a total restraint of 400 pounds per bent lateral pier load capacity.



PROPOSED DOCK CROSS-SECTION A-A

SCALE: 1" = 10'

Prepared For:
Michael Miller
32 Colony Cove Road
Durham, NH 03824

Prepared By:
Matthew Cardin, NH CWS

PROPOSED PLANS

ON: GREAT BAY — PROPOSED: EXISTING DOCK REPLACEMENT AND EXPANSION

TOWN: DURHAM — AT: 32 COLONY COVE ROAD — STATE: NH

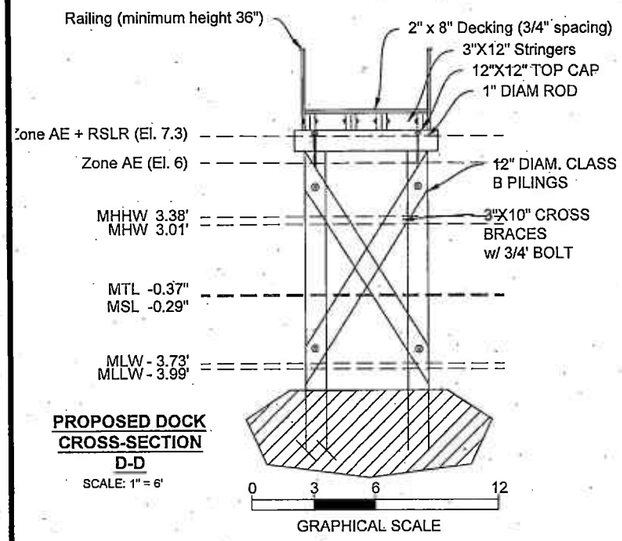
SHEET: 3 OF 4 — DATE: MARCH 19, 2023, Rev. July 31, 2023, Rev. Sept. 19, 2023

MATTHEW R. CARDIN No. 284 NEW HAMPSHIRE WETLAND SCIENTIST

PLANS PREPARED BY
MATTHEW CARDIN NHCWS #284

STATE OF NEW HAMPSHIRE DUNCAN C. MELLO No. 8341 LICENSED PROFESSIONAL ENGINEER

THE ATTACHED PE STAMP IS LIMITED TO ANALYSIS REQUESTED BY NHDES WETLANDS BUREAU FOR VULNERABILITY ASSESSMENT OF THE PROPOSED STRUCTURE TO NOT BREAK FREE AS A RESULT OF TIDAL FORCES UP TO AND INCLUDING THE 100 YEAR RECURRENCE EVENT. THE PE STAMP DOES NOT COVER STRUCTURE DESIGN, WHICH IS BEING PERFORMED BY OTHERS.



PROPOSED DOCK CROSS-SECTION D-D

SCALE: 1" = 6'

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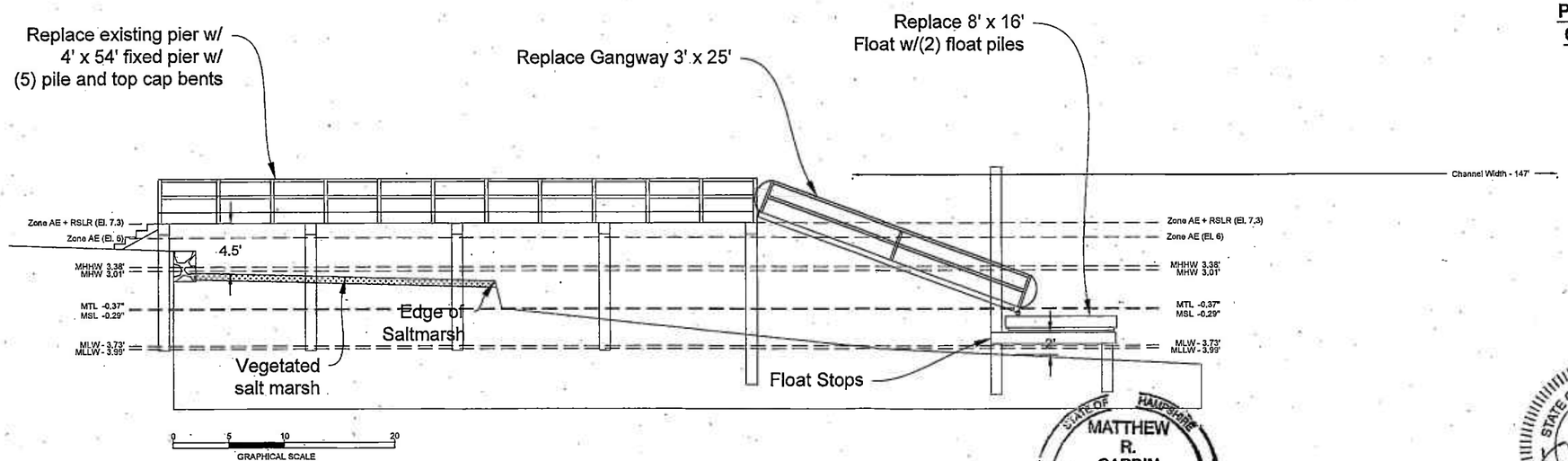

PROPOSED DOCK CROSS-SECTION C-C

SCALE: 1" = 10'

Prepared For:
Michael Miller
32 Colony Cove Road
Durham, NH 03824

Prepared By:
Matthew Cardin, NH CWS

PROPOSED PLANS

ON: GREAT BAY — PROPOSED: EXISTING DOCK REPLACEMENT AND EXPANSION

TOWN: DURHAM — AT: 32 COLONY COVE ROAD — STATE: NH

SHEET: 4 OF 4 — DATE: MARCH 19, 2023, Rev. July 31, 2023, Rev. Sept. 19, 2023

STATE OF NEW HAMPSHIRE MATTHEW R. CARDIN No. 284 CERTIFIED WETLAND SCIENTIST

PLANS PREPARED BY
MATTHEW CARDIN NHCWS #284

STATE OF NEW HAMPSHIRE DUNCAN G. MELLOR No. 8144 LICENSED PROFESSIONAL ENGINEER

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