



WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management



Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: [RSA 482-A/ Env-Wt 100-900](#)

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

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to [Guidance Document A](#) for instructions.

- Standard Review (Minimum, Minor or Major Impact) Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:
If mitigation is required, a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the [Determine if Mitigation is Required Frequently Asked Questions](#).

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

- N/A - Mitigation is not required

3. PROJECT LOCATION:
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: **New Castle Avenue (Route 1B)** TOWN/CITY: **Portsmouth**

TAX MAP: **N/A** BLOCK: LOT: UNIT:

USGS TOPO MAP WATERBODY NAME: **Piscataqua River** NA STREAM WATERSHED SIZE: NA

LOCATION COORDINATES (if known): **43°04'17.19"N, 70°44'24.51"W** Latitude/Longitude UTM State Plane

4. PROJECT DESCRIPTION:
Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The proposed work involves replacement of an existing 8" water main serving the Town of New Castle with a new 12" main. New development is not proposed. New Castle has limited fire flow in the village and it has been determined that upsizing the mains to/from Portsmouth will address this issue. This project will replace the main from Pierce Island to Wentworth Rd and involves a tidal crossing from Pierce Island, a bridge crossing, and a causeway crossing. The new pipe mainly follows the existing alignment.

5. SHORELINE FRONTAGE:
 N/A This does not have shoreline frontage. SHORELINE FRONTAGE: **Islands have shoreline but question is N/A to this proj**
Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line ([Env-Wt 101.89](#)).


6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:
Please indicate if any of the following permit applications are required and, if required, the status of the application.
To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Webpage](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input checked="" type="checkbox"/> PENDING <input type="checkbox"/> DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:
See the [Instructions & Required Attachments](#) document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB **18** - **2063**

- b. This project is within a [Designated River](#) corridor. The project is within ¼ mile of: _____; and date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: ___ Day: ___ Year: ____
- N/A - This project is not within a Designated River corridor.

8. APPLICANT INFORMATION (Desired permit holder)LAST NAME, FIRST NAME, M.I.: **Stewart, William - New Castle Select Board Member**TRUST / COMPANY NAME: **Town of New Castle**MAILING ADDRESS: **PO Box 367, 49 Main Street**TOWN/CITY: **New Castle**STATE: **NH**ZIP CODE: **03854**EMAIL or FAX: **bill.stewart@newcastlenh.org**PHONE: **603-431-6710 ext 10**ELECTRONIC COMMUNICATION: By initialing here:  I hereby authorize NHDES to communicate all matters relative to this application electronically.**9. PROPERTY OWNER INFORMATION (If different than applicant)**

LAST NAME, FIRST NAME, M.I.:

TRUST / COMPANY NAME: **Town of New Castle and others (see attached)**

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

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


10. AUTHORIZED AGENT INFORMATIONLAST NAME, FIRST NAME, M.I.: **Horner-Richardson, Ransom, D.**COMPANY NAME: **Underwood Engineers**MAILING ADDRESS: **25 Vaughan Mall**TOWN/CITY: **Portsmouth**STATE: **NH**ZIP CODE: **03801**EMAIL or FAX: **ransom@underwoodengineers.com**PHONE: **603-436-6192**ELECTRONIC COMMUNICATION: By initialing here **RHR**, I hereby authorize NHDES to communicate all matters relative to this application electronically.**11. PROPERTY OWNER SIGNATURE:**See the [Instructions & Required Attachments](#) document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the [Instructions and Required Attachment](#) document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned



Property Owner Signature



Print name legibly

4/1/2019

Date

MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
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DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Kelli L. Barnaby Print name legibly	Portsmouth NEW CASTLE Town/City	4-4-19 4-3-15 Date
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DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

Permanent: impacts that will remain after the project is complete.

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

Intermittent Streams: linear footage distance of disturbance is measured along the thread of the channel.

Perennial Streams/ Rivers: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream channel	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Perennial Stream / River channel	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	6,600 / 1,100 <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	1,160 <input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	28,670 <input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Vernal Pool	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
TOTAL	/	36,430 / 1,100

15. APPLICATION FEE: See the [Instructions & Required Attachments](#) document for further instruction

Minimum Impact Fee: Flat fee of \$ 200

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 36,430 sq. ft. X \$0.20 = \$ 7,286

Temporary (seasonal) docking structure: _____ sq. ft. X \$1.00 = \$ _____

Permanent docking structure: _____ sq. ft. X \$2.00 = \$ _____

Projects proposing shoreline structures (including docks) add \$200 = \$ _____

Total = \$ 7,286

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 7,286

PROPERTY OWNER LIST
WATER TRANSMISSION MAIN IMPROVEMENTS
TOWN OF NEW CASTLE, NEW HAMPSHIRE

Owner	Mailing Address	Phone Number
NHDOT	7 Hazen Drive, Concord, NH 03301	(603) 271-3734
Town of New Castle	49 Main Street, New Castle, NH 03854	(603) 431-6710
City of Portsmouth	1 Junkins Avenue, Portsmouth, NH 03801	(603) 431-2000

Narrative Statement
Wetlands Permit Application
New Castle Water Transmission Main Improvements
New Castle & Portsmouth, New Hampshire

Background and Purpose

The Town of New Castle (Town) is an island located in Rockingham County at the mouth of the Piscataqua River and the Atlantic Ocean. The island's water distribution system is fed by the City of Portsmouth (City) and contains two municipal water systems: one owned and operated by the Town, the other owned and operated by the City. Two master meters separate the Town's system of approximately 18,500 LF of water main from the City's water system.

Due to aging and undersized water mains located in both systems, the Town experiences low available fire flows. In November of 2016, Underwood Engineers performed an evaluation of the existing conditions of the island's water systems and recommended increasing the capacity of the primary water main located on Route 1B to increase available fire flows.

The primary intent of the project is to replace the aging and undersized water mains within the Town's water system to increase available fire flows on the island.

Proposed Improvements

The proposed Water Transmission Main Improvements Project involves the replacement of approximately 8,030 LF of 8" water transmission main with 4,440 LF of new 12" DI and 3,590 LF of new 12" HDPE main. The new main will follow the route of the existing main and will run from Pierce Island, across a tidal area to Shapleigh Island, and then follow NH Route 1B across Goat Island and the Great Island to the intersection of Main Street and Wentworth Rd. No new construction is proposed. There are several areas of proposed work that require work within NHDES jurisdictional areas. In summary jurisdictional impacts include:

- Temporary impacts to wetland areas at the tidal crossing from Pierce Island (Portsmouth)
- Temporary impacts to previously developed uplands in the 100' Tidal Buffer Zone (Portsmouth and New Castle)

Portions of this project will occur in Portsmouth and portions will occur in New Castle.

Additional detail of proposed impacts is provided below:

Tidal Crossing

The proposed water main will extend from Pierce Island, south across a tidal area to Shapleigh Island, following the existing water main route. The tidal areas have been classified as gravel/sand bars, tidal/mud flats, and salt marsh. There will be temporary wetland impacts in this area to accommodate the removal of the existing main and installation of the new main, however no permanent impacts are proposed. The project includes approximately 310LF of water main installed in tidal areas below the Highest Observable Tide Lines.

Tidal Buffer Zone

The proposed project area runs adjacent to the Piscataqua River and Back Bay. Several areas where construction work will occur are located within NHDES jurisdictional areas classified as

Narrative Statement
Wetlands Permit Application
New Castle Water Transmission Main Improvements
New Castle & Portsmouth, New Hampshire

previously-developed upland within the Tidal Buffer Zone. The Highest Observable Tide Line on the Piscataqua River was delineated by Doucet Survey and Marc Jacobs PWS.

Best Management Practices

Construction documents will include the following requirements from the Contractor for proper construction methods to restrict excavation in free flowing water:

- Proposed drainage work will be scheduled during low water periods (i.e. summer).
- Work within the tidal crossing will be scheduled during low tide periods.
- Construction mats will be utilized for equipment within tidal crossing.
- Adequate siltation control measures will be installed before any earthwork operations begin and will remain in place until the area is stabilized.
- Efforts will be made to retain existing vegetation. Dredged materials will be placed outside of NH Wetlands Bureau Jurisdiction.

Best Management Practices for Routine Roadway Maintenance Activities in New Hampshire applicable to the proposed work will be observed. Applicable BMP's are described below:

Tidal Crossing

Specific BMPs will be used for erosion and sediment controls for the Tidal Crossing based on the Contractor's work operations. These BMPs may include the following

- Sand Bags
- Straw or hay bales
- Silt fence

Tidal Buffer Zone

Specific BMPs will be used for erosion and sediment controls for work in the Tidal Buffer Zone based on the Contractor's work operations. These BMPs may include the following

- Sand bags
- Straw or hay bales
- Silt fence

Stormwater Pollution Prevention Plan (SWPPP)

The Contractor is required to submit a SWPPP for review and approval prior to construction. The specific BMPs listed above that the Contractor elects to apply will be identified in the SWPPP. A copy of the SWPPP and this notification permit will be maintained at the project site to assure the provisions of each document will be implemented.

ATTACHMENT A

20 QUESTIONS



WETLANDS PERMIT APPLICATION – ATTACHMENT A
MINOR AND MAJOR - 20 QUESTIONS
Land Resources Management
Wetlands Bureau



Check the Status of your application: www.des.nh.gov/onestop

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

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project’s design in assessing the impact of the proposed project to areas and environments under the department’s jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The existing water supply to the Town of New Castle does not provide sufficient flow for fire protection throughout the island. The Town of New Castle receives its water from the City of Portsmouth water system. It has been determined that the most cost-effective solution for the Town is to replace the existing 8” mains serving the town with new 12” water mains. The existing main feeding the island from the north runs from Pierce Island across a small tidal area to Shapleigh Island, and then along NH Route 1B. This project will replace the main from Pierce Island to the intersection of Wentworth Rd and Main St (approximately 8,000 LF).

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

The proposed alternative is the one with the least impact to the wetlands and surface water based on the following:

- 1) The proposed alternative will have no permanent impacts to wetlands.
- 2) The proposed alternative will replace the water main in the existing location across the tidal area between Pierce and Shapleigh islands.
- 3) The proposed alternative will install the new main within the roadway on Goat Island the Route 1B Causeway instead of in delineated wetlands where the existing main is.

3. The type and classification of the wetlands involved.

Estuarine Wetlands

Sand Bars

Tidal/Mud Flats

Salt Marshes

Previously developed upland in 100' Tidal Buffer Zone

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

Impacts will occur in sand bar and salt marsh wetlands located between Pierce Island and Shapleigh island. Previously-developed upland in the tidal buffer zone will be impacted as well. The salt marsh areas were previously impacted when original main was installed. New salt marsh impact areas are not proposed.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

These types of wetlands are frequently found along the coastal area of the state, but when considering the entire state of NH, these types are more rare than inland types.

6. The surface area of the wetlands that will be impacted.

Sand/Gravel Bars: 6,600 SF of Temporary Impact Area

Salt Marshes: 1,160 SF of Temporary Impact Area

Previously developed upland in 100' Tidal Buffer Zone: 28,670 SF of Temporary Impact Area

irm@des.nh.gov or (603) 271-2147

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

www.des.nh.gov

7. The impact on plants, fish and wildlife including, but not limited to:
- a. Rare, special concern species;
 - b. State and federally listed threatened and endangered species;
 - c. Species at the extremities of their ranges;
 - d. Migratory fish and wildlife;
 - e. Exemplary natural communities identified by the DRED-NHB; and
 - f. Vernal pools.

a) Marsh Elder; No negative impacts proposed

b) Marsh Elder (T), Northern Long-Eared Bat (T), Red Knot (T), Roseate Tern (E); No negative impacts proposed. No trees will be cut.

c) None

d) 58 species of migratory birds are listed. However, it is anticipated that by late summer, construction in the tidal areas will be finished.

e) None

f) None

8. The impact of the proposed project on public commerce, navigation and recreation.

The proposed project will have minimal impacts on public commerce, navigation, and recreation.

The sand bar is dry during low tide, and during high tide it is very shallow, so it is not a typical commerce or navigation route. The work will be done during low tide only, when it is not possible to navigate a craft over it.

During construction, one lane will always be open to traffic with extra width, where possible, for pedestrians. Where extra width is not possible, flaggers will control pedestrian movement for safety.

The sidewalk on one side of the bridge will be closed during construction, but signage and flaggers will direct pedestrians to the sidewalk on the other side.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

All impacts will be temporary and the post project conditions will be the same as the existing conditions.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

This project will maintain public right of passage along Route 1B during the project. No navigable waterways will be impacted by the proposed project. Please see #8 above for more detail.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The replacement main will be in the same locations as the existing main or within the NHDOT Right of Way and no permanent impacts are proposed. All impacts will be temporary and conditions on the surface will be restored to existing.

12. The benefit of a project to the health, safety, and well being of the general public.

The proposed project will provide improved fire flows to the Town of New Castle which will increase the health, safety, and well being of all residents in Town.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The proposed project will have no permanent impact to surface or ground water. Construction activities will utilize best practices to protect surface water.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

No change to existing drainage paths are proposed. Erosion and sedimentation will be mitigated during construction with BMP's.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Currents and wave energy will not be impacted since the proposed project will match existing conditions.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

No permanent impacts are proposed so this project will have no impact on the cumulative effect on the wetlands.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

Impacts to the values and functions of the total wetland complex are not proposed. All impacts are temporary and all areas will be restored to existing conditions.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

No Natural Landmarks are located near the project location.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

No impacts proposed.

20. The degree to which a project redirects water from one watershed to another.

No changes proposed.

Additional comments

ATTACHMENT B

US ARMY CORPS APPENDIX B



**US Army Corps
of Engineers**®
New England District

Appendix B

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

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

All Projects:

- Corps application form (ENG Form 4345) as appropriate.
- Photographs of wetland/waterway to be impacted.
- Purpose of the project.
- Legible, reproducible black and white (no color) plans no larger than 11”x17” with bar scale. Provide locus map and plan views of the entire property.
- Typical cross-section views of all wetland and waterway fill areas and wetland replication areas.
- In navigable waters, show mean low water (MLW) and mean high water (MHW) elevations. Show the high tide line (HTL) elevations when fill is involved. In other waters, show ordinary high water (OHW) elevation.
- On each plan, show the following for the project:
 - Vertical datum and the NAVD 1988 equivalent with the vertical units as U.S. feet. Don’t use local datum. In coastal waters this may be mean higher high water (MHHW), mean high water (MHW), mean low water (MLW), mean lower low water (MLLW) or other tidal datum with the vertical units as U.S. feet. MLLW and MHHW are preferred. Provide the correction factor detailing how the vertical datum (e.g., MLLW) was derived using the latest National Tidal Datum Epoch for that area, typically 1983-2001.
 - Horizontal state plane coordinates in U.S. survey feet based on the Traverse Mercator Grid system for the State of New Hampshire (Zone 2800) NAD 83.
- Show project limits with existing and proposed conditions.
- Limits of any Federal Navigation Project in the vicinity of the project area and horizontal State Plane Coordinates in U.S. survey feet for the limits of the proposed work closest to the Federal Navigation Project;
- Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below the ordinary high water in inland waters and below the high tide line in coastal waters.
- Delineation of all waterways and wetlands on the project site,:
- Use Federal delineation methods and include Corps wetland delineation data sheets. See GC 2 and www.nero.noaa.gov/hcd for eelgrass survey guidance.
- GP 3, Moorings, contains eelgrass survey requirements for the placement of moorings.
- For activities involving discharges of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized, and either a statement describing how impacts to waters of the U.S. are to be compensated for (or a conceptual or detailed mitigation plan) or a statement explaining why compensatory mitigation should not be required for the proposed impacts. Please contact the Corps for guidance.



**US Army Corps
of Engineers**[®]
New England District

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

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

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

3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html. 		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	N/A	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	N/A	
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.



United States Department of the Interior



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

In Reply Refer To:

March 04, 2019

Consultation Code: 05E1NE00-2019-SLI-1049

Event Code: 05E1NE00-2019-E-02411

Project Name: New Castle Water Transmission Main Improvements Project

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-1049

Event Code: 05E1NE00-2019-E-02411

Project Name: New Castle Water Transmission Main Improvements Project

Project Type: WATER SUPPLY / DELIVERY

Project Description: The proposed work involves replacement of an existing 8" water main serving the Town of New Castle with a new 12" main. New development is not proposed. New Castle has limited fire flow in the village and it has been determined that upsizing the mains to/from Portsmouth will address this issue. This project will replace the main from Pierce Island to Wentworth Rd and involves a tidal crossing from Pierce Island, a bridge crossing, and a causeway crossing. The new pipe follows the existing alignment and no permanent impacts are proposed. The project is scheduled for construction 5/2019 - 10/2020.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/43.0709697038121N70.73799574388748W>



Counties: Rockingham, NH

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

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

Birds

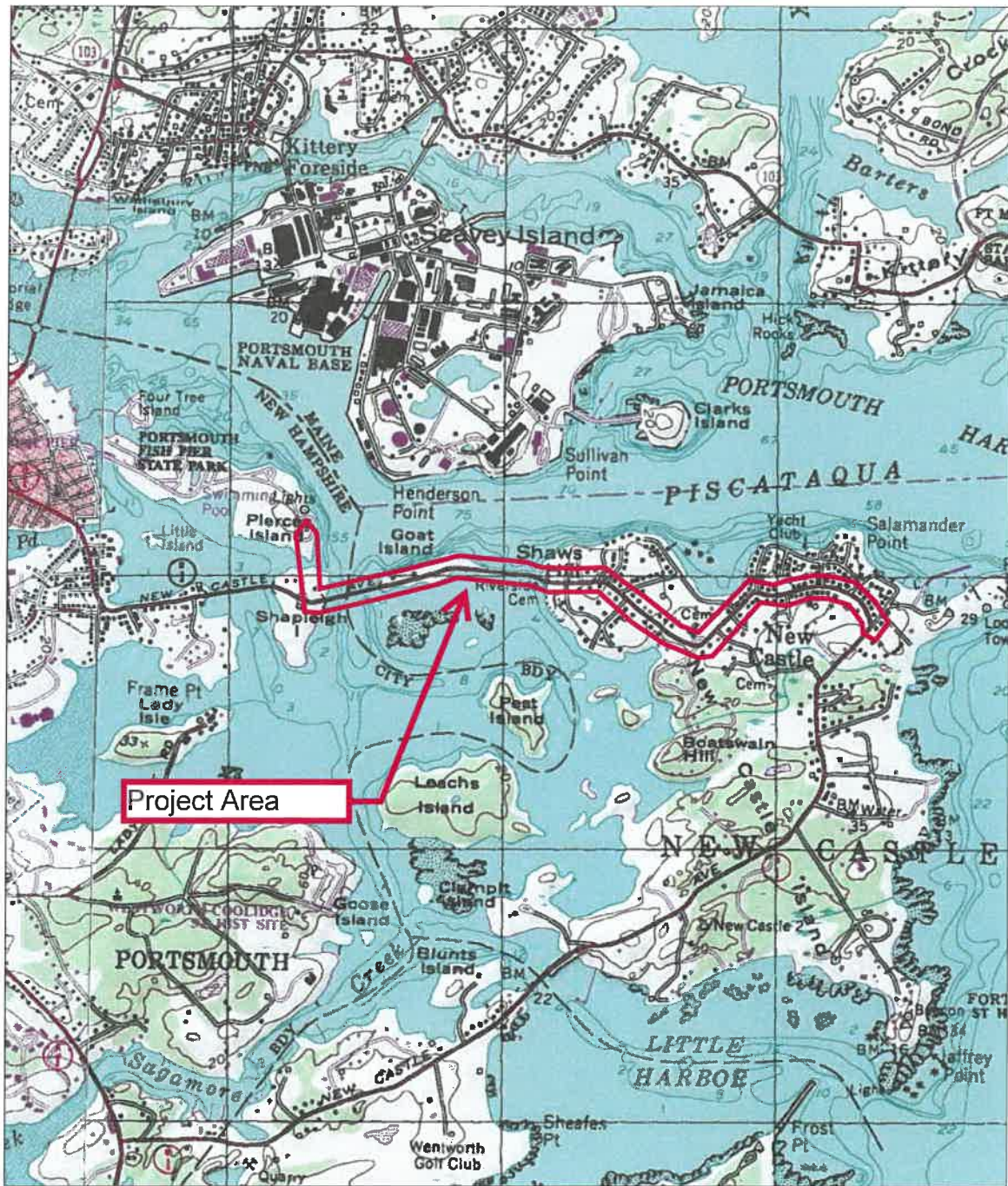
NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern <i>Sterna dougallii dougallii</i> Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

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

ATTACHMENT C

USGS PLAN



Project Area



0 0.5 Mi
0 3000 Ft

Map provided by MyTopo.com

DATE
2/13/19
PROJECT
2331



25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

PROJECT LOCUS MAP
WATER TRANSMISSION MAIN
IMPROVEMENTS PROJECT
TOWN OF NEW CASTLE, NH

FIG.

ATTACHMENT D

SITE PLANS

TOWN OF NEW CASTLE, NEW HAMPSHIRE

60% DESIGN FOR

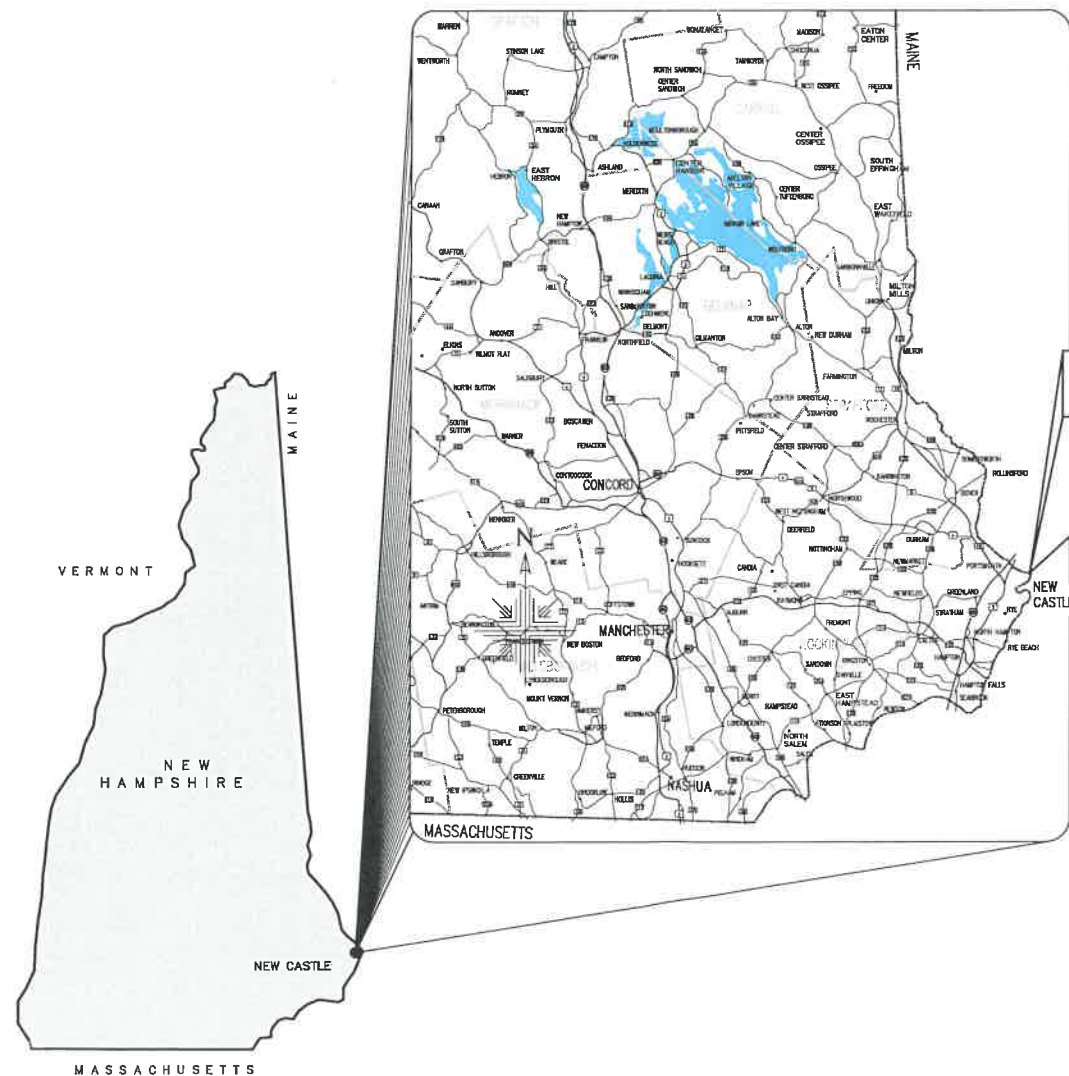
WATER TRANSMISSION MAIN IMPROVEMENTS PROJECT

PREPARED BY

UNDERWOOD ENGINEERS
PORTSMOUTH, NEW HAMPSHIRE

FEBRUARY, 2019

LOCATION PLAN

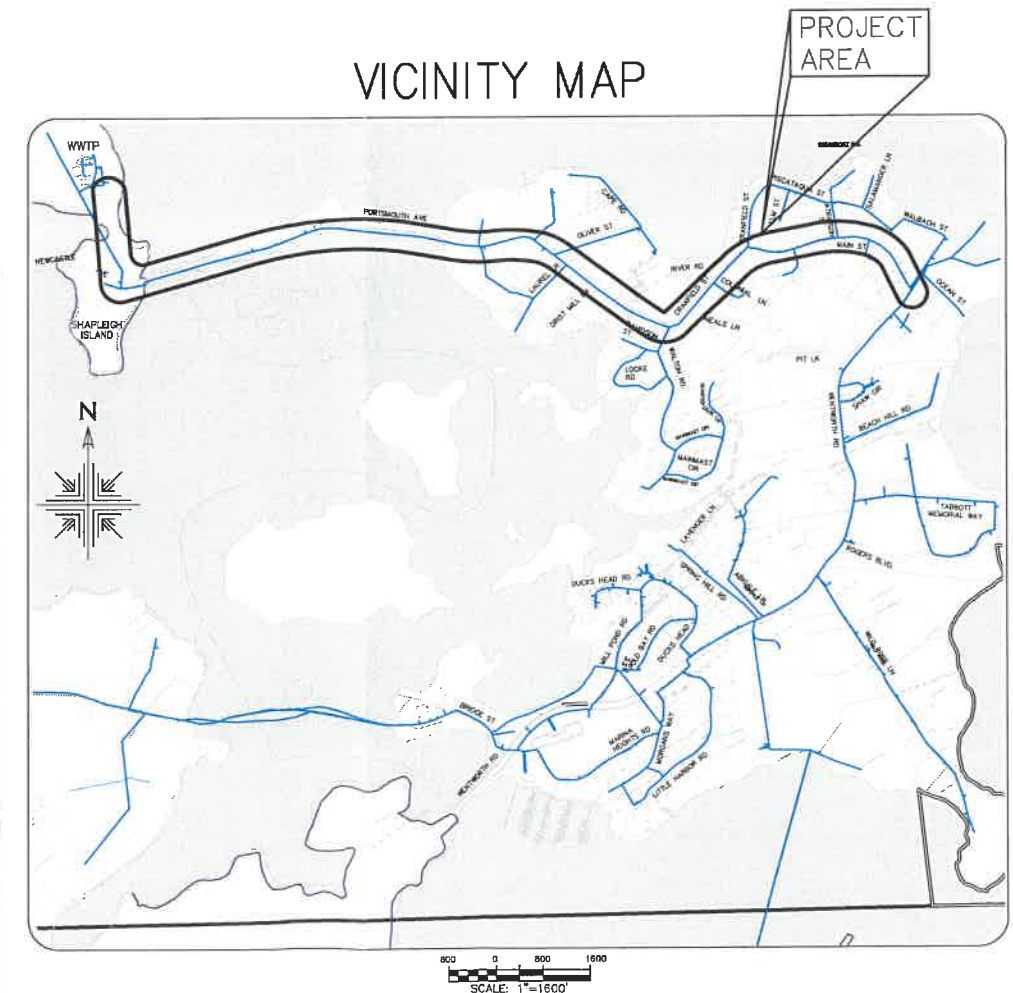


PRELIMINARY
NOT FOR
CONSTRUCTION

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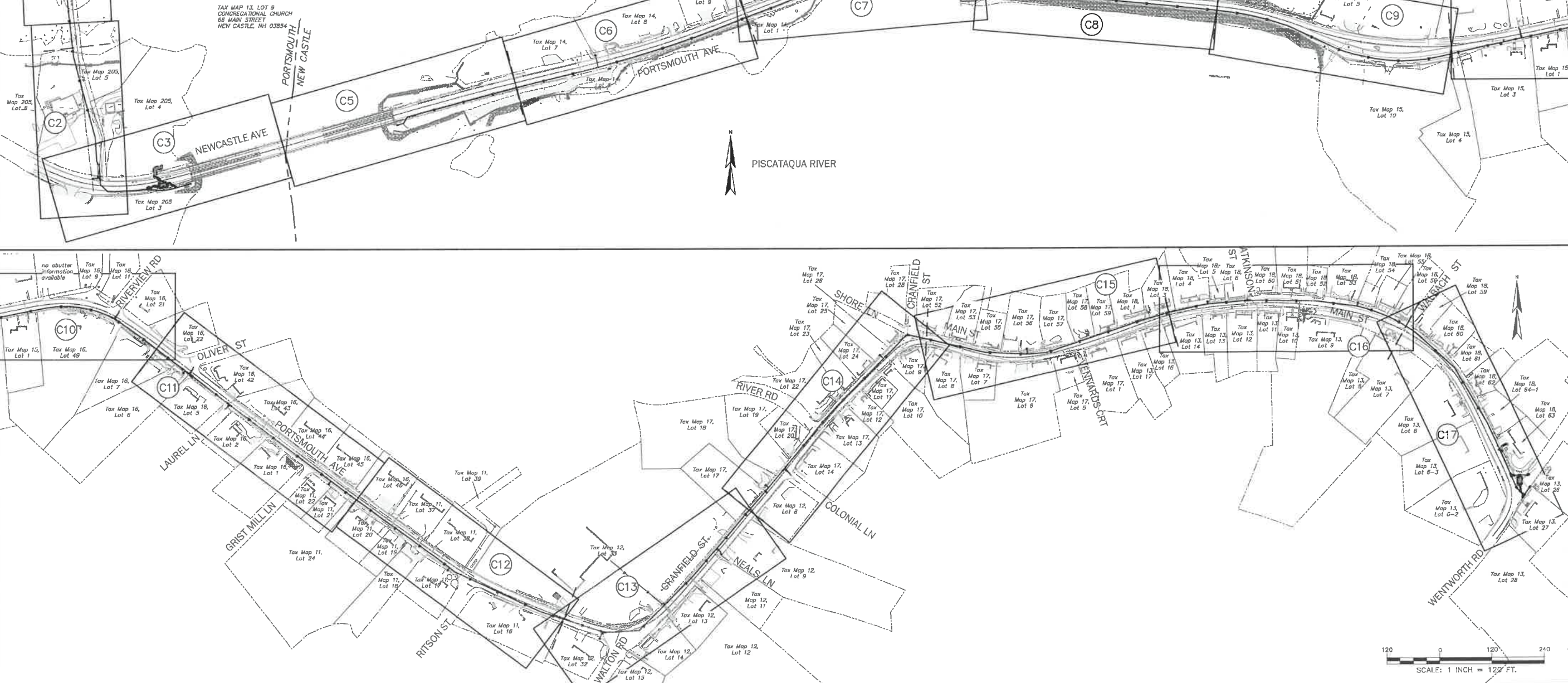
VICINITY MAP



UE #2331

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- TAX MAP 18, LOT 59 STEPHEN J. ROBERSON SAMANTHA ROBERSON 42 MAIN STREET NEW CASTLE, NH 03854 R.C.R.D. BOOK 5654, PAGE 1893
- TAX MAP 18, LOT 60 WILBERT J. MARCONI REV. TRUST 501 NEW CASTLE AVE PORTSMOUTH, NH 03801 R.C.R.D. BOOK 5655, PAGE 157
- TAX MAP 18, LOT 1 OTTY OF PORTSMOUTH PO BOX 828 PORTSMOUTH, NH 03802 R.C.R.D. BOOK 5655, PAGE 157
- TAX MAP 18, LOT 61 32 MAIN STREET NEW CASTLE, NH 03854 R.C.R.D. BOOK 5467 PAGE 1755
- TAX MAP 18, LOT 62 DAVID M. KOWOK AMY E. KOWOK 26 MAIN STREET NEW CASTLE, NH 03854 R.C.R.D. BOOK 5820 PAGE 0930



ISSUE FOR	APPROVAL	By	Date
CONSTRUCTION	By		
RECORD DWG	By		
APPD	By		

Drawn/Chk. RHW
 Designed RHW
 Checked [Signature]
 Approved [Signature]
 Date 2/14/2019
 Book No. [Blank]
 Project No. 2331
 Dwg. ID - 2331 Index
 Scale - AS SHOWN
 NO. REVISIONS

PRELIMINARY
 NOT FOR
 CONSTRUCTION

UNDERWOOD
 engineers

25 Vaughan Mall, Portsmouth, N.H. 03801
 Tel. 603-658-6192 Fax 603-431-4733

OVERVIEW PLAN & ABUTTERS LIST
 WATER TRANSMISSION MAIN
 IMPROVEMENTS PROJECT
 TOWN OF NEW CASTLE
 NEW CASTLE, NEW HAMPSHIRE

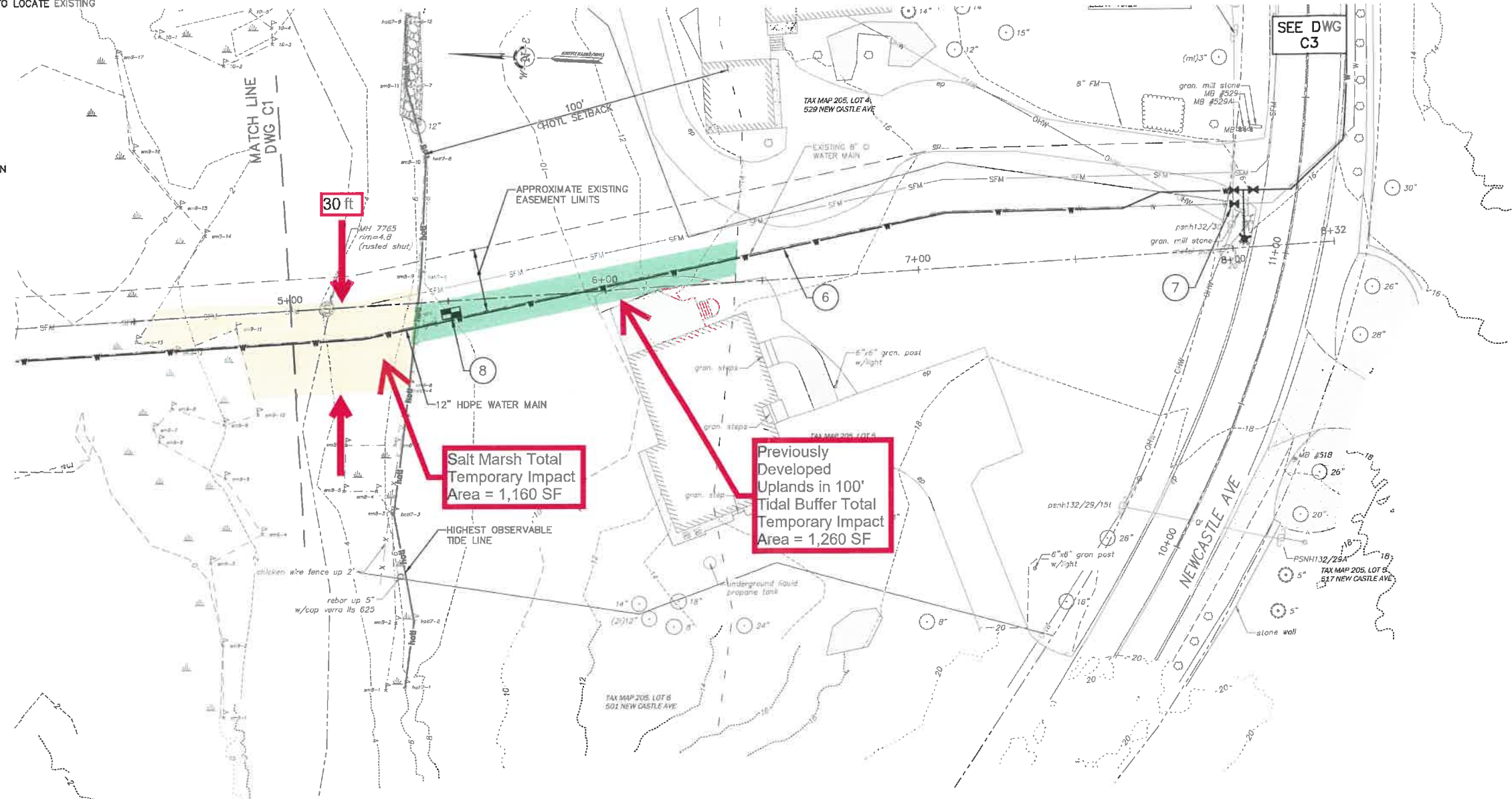
DWG NO G1 SHEET x OF X

KEY NOTES:

- 1 NEW HYDRANT ASSEMBLY INCLUDING ANCHOR TEE AND 6" GATE VALVE AND BOX.
- 2 REMOVE & DISPOSE OF EXISTING HYDRANT ASSEMBLY
- 3 FINAL PAVEMENT OVERLAY LIMITS
- 4 NO EXCAVATION SHALL OCCUR WITHIN 25' OF A BURIAL GROUND WITHOUT THE ON-SITE OVERSIGHT OF A QUALIFIED ARCHAEOLOGIST (NH STATE BURIAL LAW RSA 289:3) PAYMENT SHALL BE UNDER ITEM _____
- 5 CONNECT TO EXISTING 8" WATER MAIN AT WALTON RD.
- 6 NEW PIPE SHALL BE INSTALLED IN THE SAME ALIGNMENT & TRENCH AS THE EXISTING WATER MAIN PIPE. EXISTING WATER MAIN TO BE REMOVED & DISPOSED OF. CONTRACTOR SHALL ANTICIPATE THE NEED FOR TEMPORARY WATER TO FACILITATE CONSTRUCTION OF NEW WATER MAIN.
- 7 PROPOSED LOCATION FOR CUT-IN VALVE TO FACILITATE TEMPORARY WATER CONNECTION.
- 8 CONTRACTOR TO PERFORM TEST PIT TO LOCATE EXISTING MAIN.

REFERENCE NOTE:

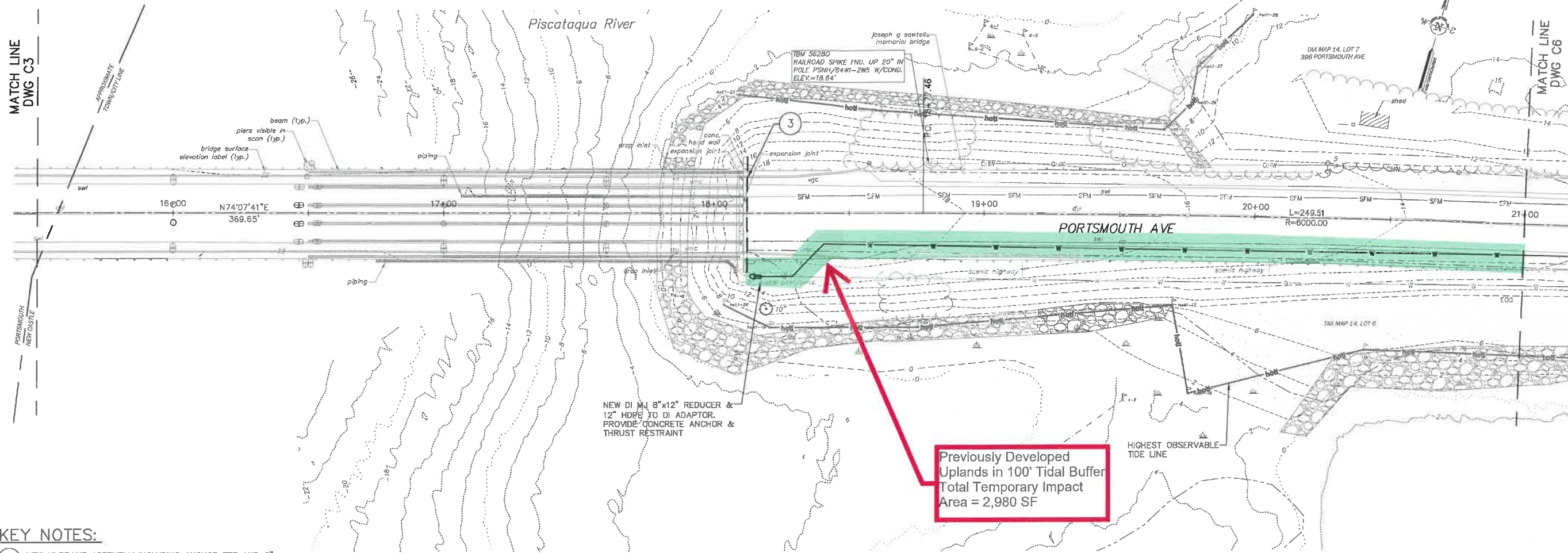
LOCATIONS OF SEWER AND WATER MAINS ON SHAPLEIGH ISLAND ARE SHOWN BASED ON TIES, STATIONING, & BEND LOCATIONS AS NOTED ON RECORD DRAWINGS FOR SEWAGE WORKS IMPROVEMENTS, CAMP DRESSER & MCKEE INC., REVISED 7/77.



CROSS COUNTRY PLAN VIEW
 SCALE: 1 INCH = 20 FT.

ISSUE FOR		APPROVAL	By	CONSTRUCTION	By	RECORD	DWC	By
Date		Date	Date	Date	Date	Date	Date	Date
Drawn/Chk.	BMG	Checked	HRH	Approved	2/4/2019	Book No.	2331	Project No.
Project ID	2331-phase	Scale	AS SHOWN	NO	REVISIONS	APP'D		
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 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733								
SHAPLEIGH ISLAND PLAN WATER TRANSMISSION MAIN IMPROVEMENTS PROJECT TOWN OF NEW CASTLE NEW CASTLE, NEW HAMPSHIRE								
DWG NO	C2		SHEET	X OF X				

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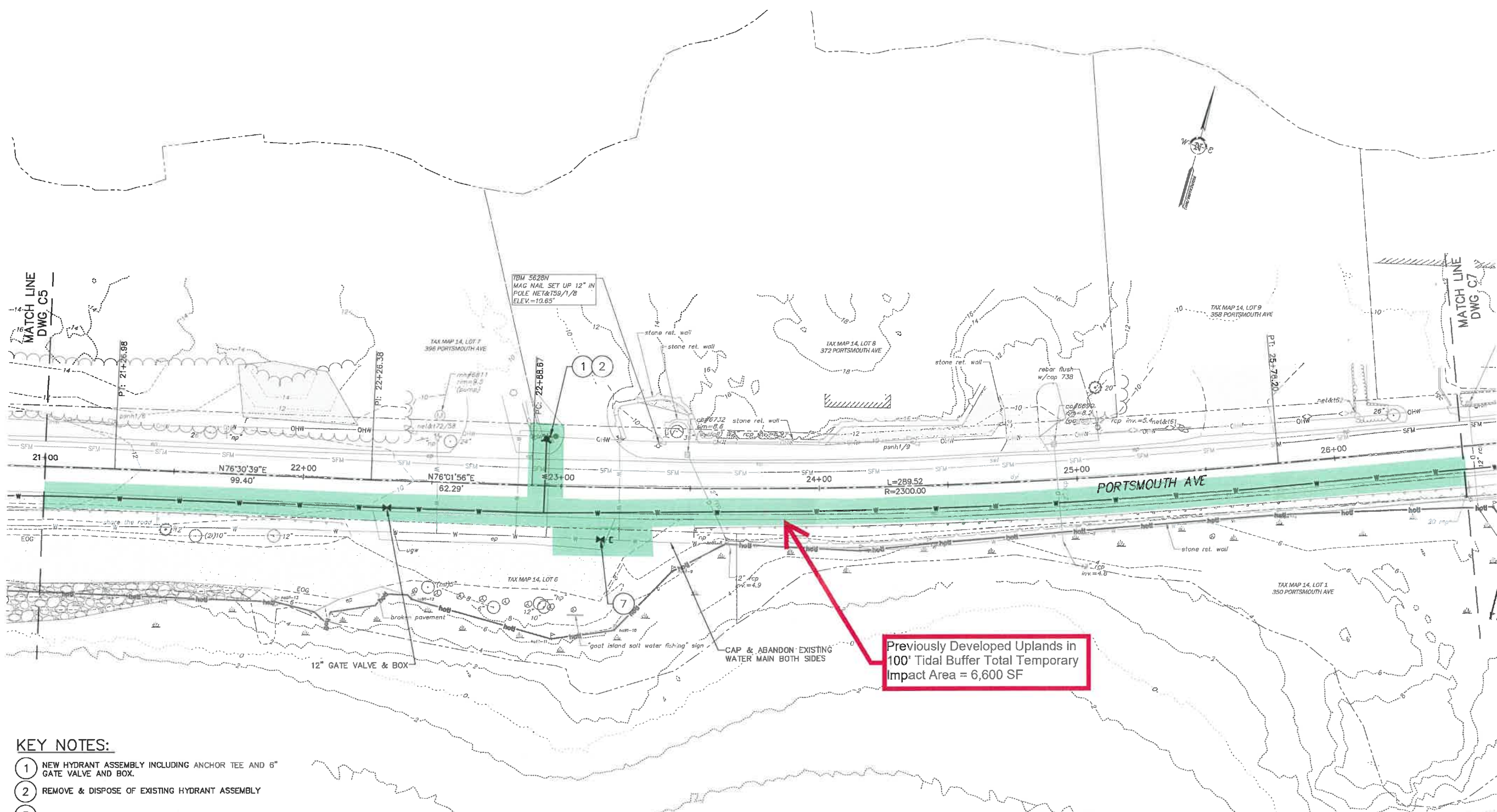
PORTSMOUTH AVE PLAN VIEW
SCALE: 1 INCH = 20 FT.

- KEY NOTES:**
- 1 NEW HYDRANT ASSEMBLY INCLUDING ANCHOR TEE AND 6" GATE VALVE AND BOX.
 - 2 REMOVE & DISPOSE OF EXISTING HYDRANT ASSEMBLY
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 - 8 CONTRACTOR TO PERFORM TEST PIT TO LOCATE EXISTING MAIN.

Previously Developed Uplands in 100' Tidal Buffer Area = 2,980 SF

ISSUE FOR	APPROVAL	By
DESIGNED	Date	
CHECKED	Date	
APPROVED	Date	
CONSTRUCTION	Date	
RECORD DWG	Date	
APP'D		
Drawn/Chk.	RMG	
Designed	RHR	
Checked		
Approved	2/4/2019	
Date		
Book No.	2331	
Project No.	2331-0000	
Dwg. ID	AS-SHOWN	
Scale		
NO.	REVISIONS	
PRELIMINARY NOT FOR CONSTRUCTION		
25 Vaughan Mill, Portsmouth, N.H. 03801 Tel. 603-438-6192 Fax. 603-431-4733		
PORTSMOUTH AVE PLAN STA. 15+50 to STA. 21+00 WATER TRANSMISSION MAIN IMPROVEMENTS PROJECT TOWN OF NEW CASTLE NEW CASTLE, NEW HAMPSHIRE		
DWG NO	C5	SHEET
		X OF X

2018 3.13.33
 State Water
 10/10/2018 10:00 AM



- KEY NOTES:**
- 1 NEW HYDRANT ASSEMBLY INCLUDING ANCHOR TEE AND 6" GATE VALVE AND BOX.
 - 2 REMOVE & DISPOSE OF EXISTING HYDRANT ASSEMBLY
 - 3 FINAL PAVEMENT OVERLAY LIMITS
 - 4 NO EXCAVATION SHALL OCCUR WITHIN 25' OF A BURIAL GROUND WITHOUT THE ON-SITE OVERSIGHT OF A QUALIFIED ARCHEOLOGIST (NH STATE BURIAL LAW RSA 289:3) PAYMENT SHALL BE UNDER ITEM _____
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PORTSMOUTH AVE PLAN VIEW
 SCALE: 1 INCH = 20 FT.

Previously Developed Uplands in 100' Tidal Buffer Total Temporary Impact Area = 6,600 SF

ISSUE FOR	APPROVAL	By	Date
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DATE	2/14/2019		
BOOK NO.	2331		
PROJECT NO.	2331		
DWG. ID	2331-phases		
SCALE	AS SHOWN		
NO.	REVISIONS		
APPROVED			

Drawn/Chk.	RMG
Designed	RHR
Checked	
Approved	
Date	2/14/2019
Book No.	2331
Project No.	2331
Dwg. ID	2331-phases
Scale	AS SHOWN
NO.	REVISIONS
APPROVED	

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25 Vaughan Mill, Portsmouth, N.H. 03801 Tel. 603-438-6182 Fax. 603-431-4733	
PORTSMOUTH AVE PLAN STA. 21+00 to STA. 26+50	
WATER TRANSMISSION MAIN IMPROVEMENTS PROJECT	
TOWN OF NEW CASTLE NEW CASTLE, NEW HAMPSHIRE	
DWG NO C6	SHEET X OF X

ATTACHMENT E

PHOTOS

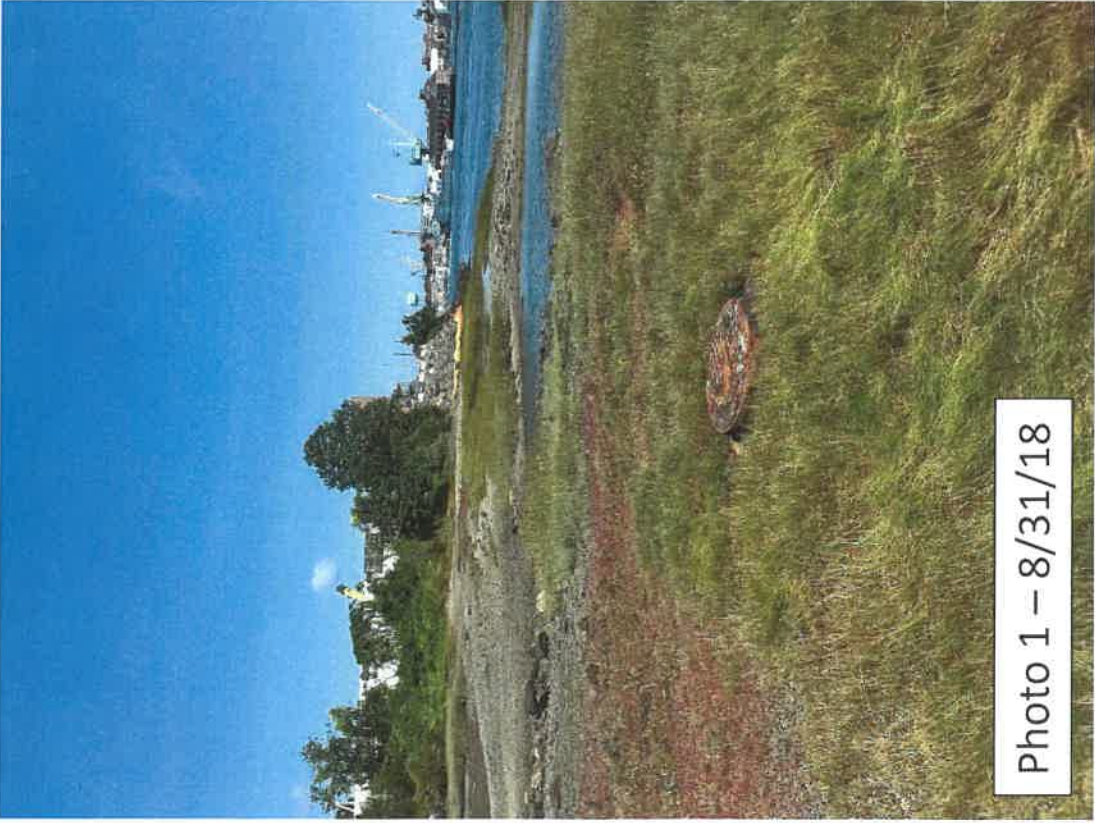


Photo 1 – 8/31/18



Photo 2 – 11/9/18



Photo 4 – 11/9/18



Photo 3 – 11/9/18

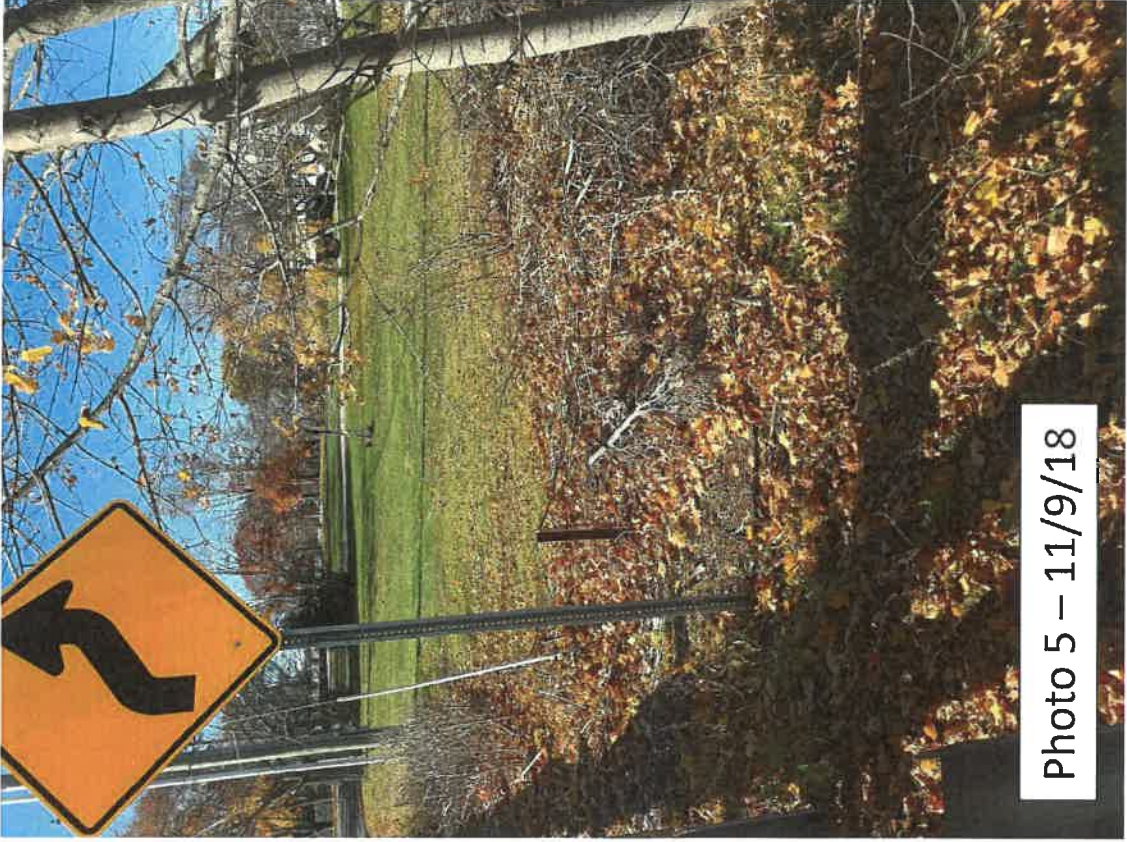


Photo 5 – 11/9/18

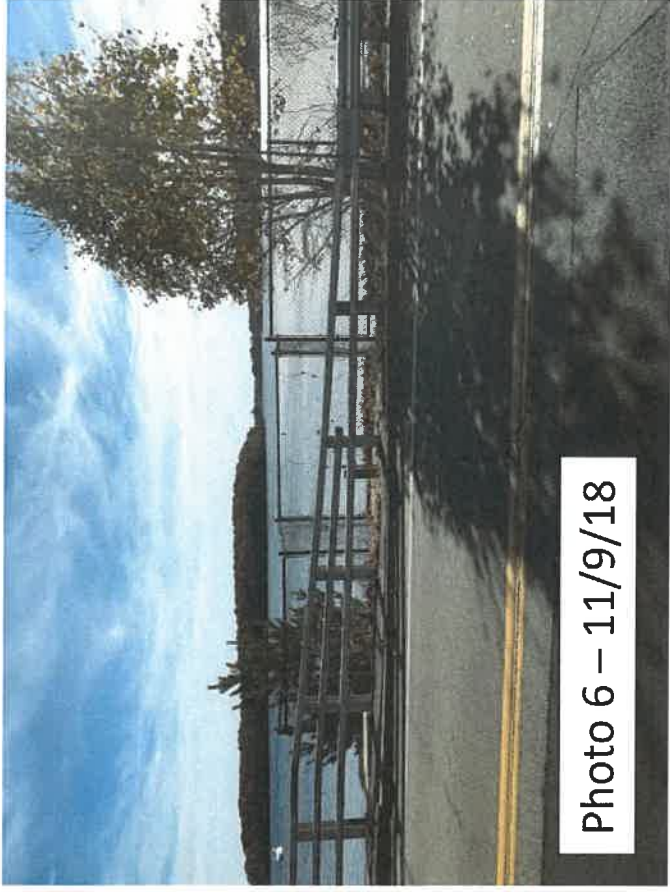


Photo 6 – 11/9/18



Photo 8 – 11/9/18



Photo 7 – 11/9/18



Photo 10 – 11/9/18



Photo 9 – 11/9/18



Photo 11 - 8/1/18



Photo 12 - 8/1/18



Photo 13 - 8/1/18



Photo 14 - 8/1/18

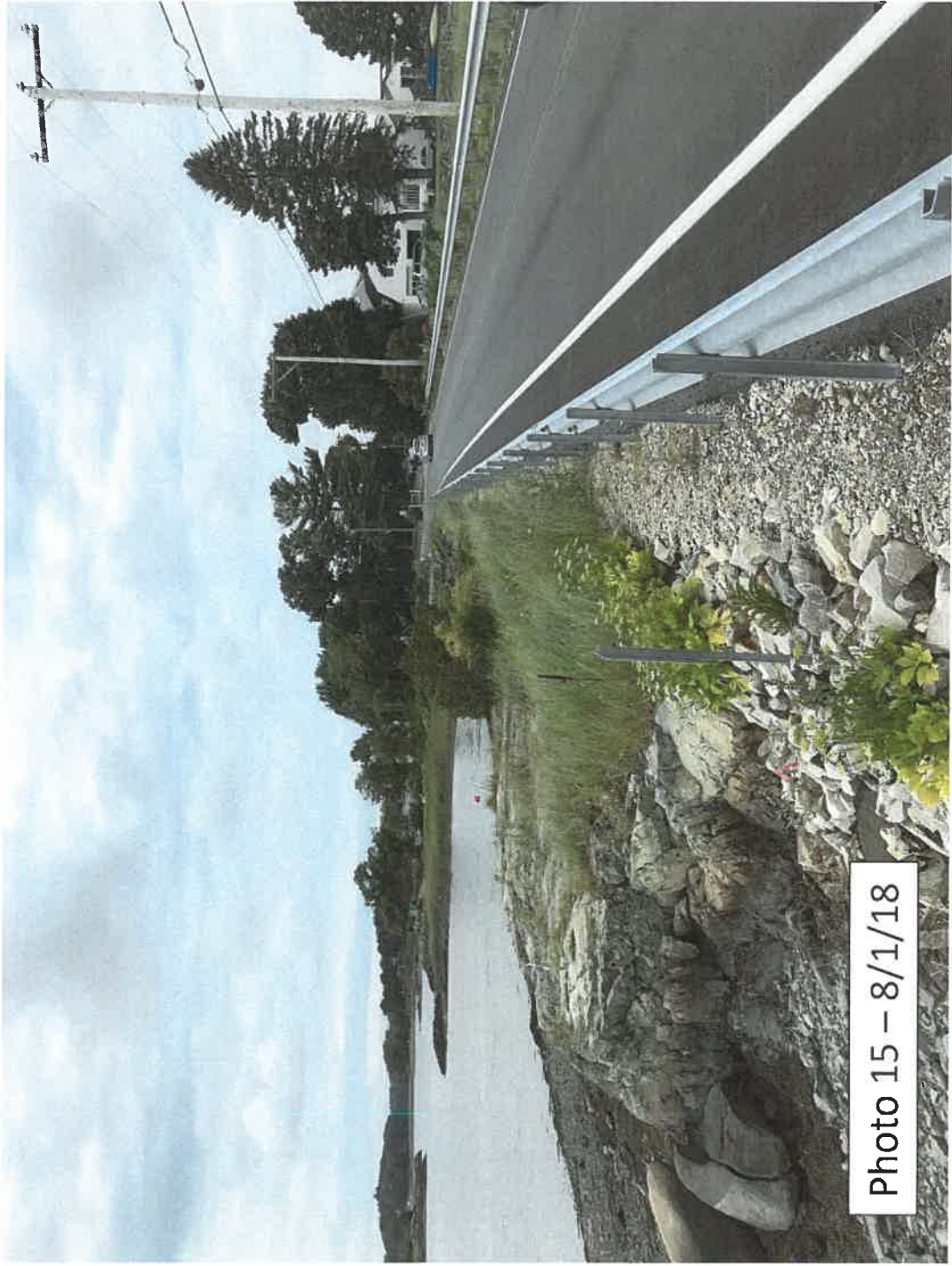


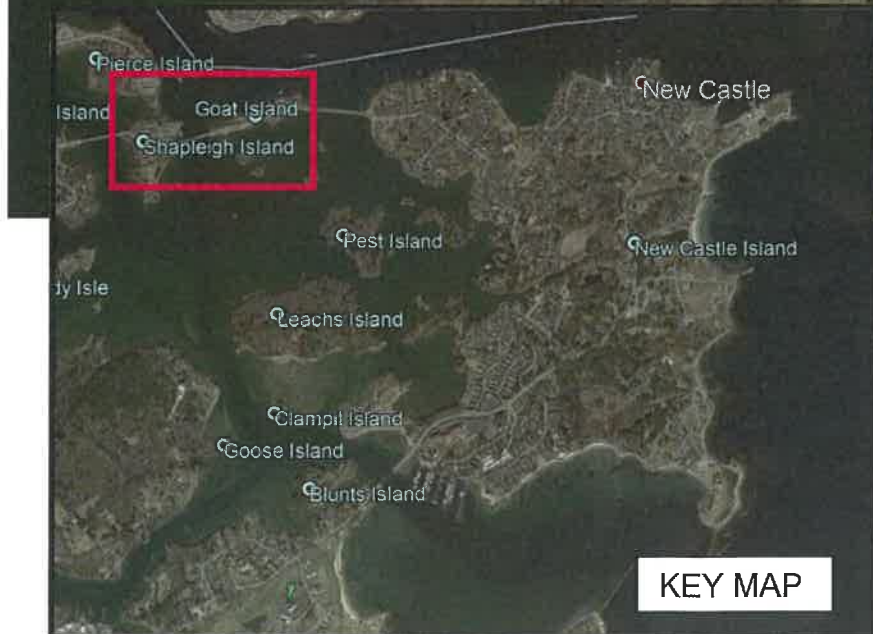
Photo 15 - 8/1/18






Photo 16




Photo 17 - 11/28/18

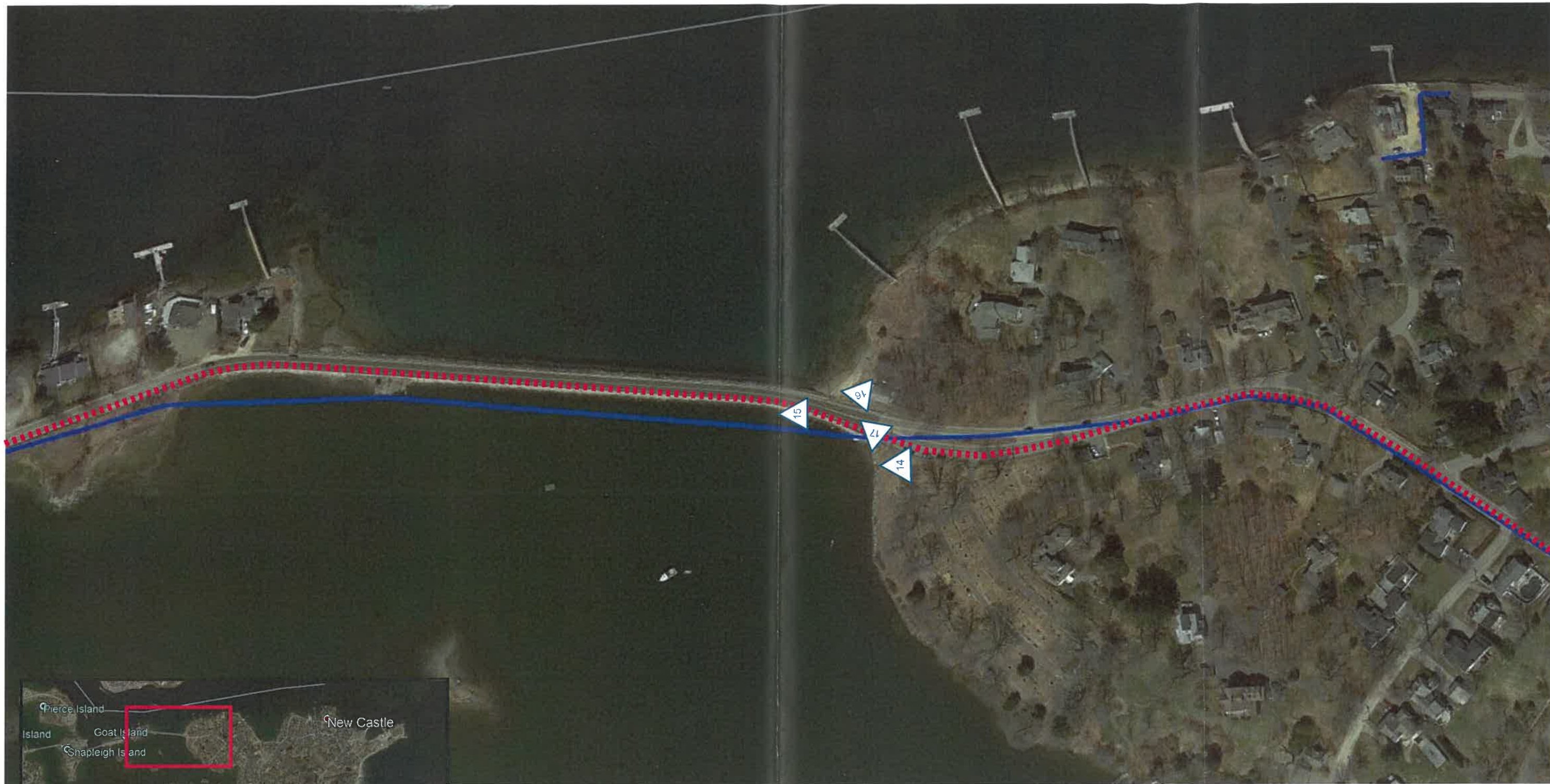


LEGEND

-  Photo ID and Location
 -  Existing Water Main Location (Approximate)
 -  Proposed Water Main Location (Approximate)
- Image Source: Google Earth, 4/2103 Imagery, Retrieved 7/3/2018

DATE 1/9/2019	 UNDERWOOD engineers	PROPOSED WATER MAIN LOCATIONS NEW CASTLE NEW HAMPSHIRE	FIG. 1
PROJECT 2331			

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LEGEND

-  Photo ID and Location
-  Existing Water Main Location (Approximate)
-  Proposed Water Main Location (Approximate)

Image Source: Google Earth, 4/2103 Imagery, Retrieved 7/3/2018

DATE
1/9/2019
PROJECT
2331

UNDERWOOD
engineers
99 North State Street, Concord, N.H. 03301
Tel. 603-230-9898 Fax. 603-230-9899

PROPOSED WATER MAIN LOCATIONS
NEW CASTLE
NEW HAMPSHIRE

FIG.
2

irive oc AD Site 3D/Civil blocks blk g Mod 2014 3 M am




KEY MAP

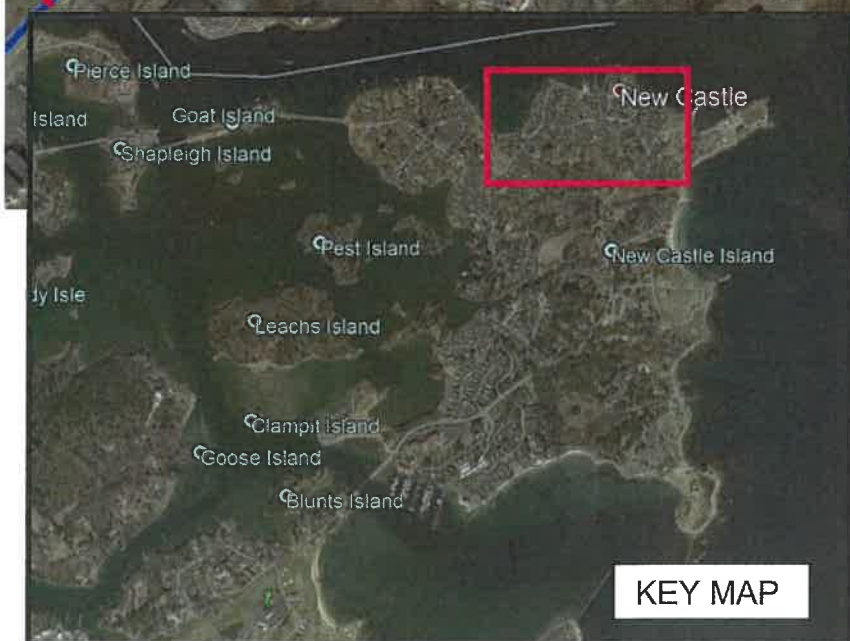
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-  Photo ID and Location
-  Existing Water Main Location (Approximate)
-  Proposed Water Main Location (Approximate)

Image Source: Google Earth, 4/2103 Imagery, Retrieved 7/3/2018

DATE 1/9/2019	 UNDERWOOD engineers	PROPOSED WATER MAIN LOCATIONS NEW CASTLE NEW HAMPSHIRE	FIG. 3
PROJECT 2331	99 North State Street, Concord, N.H. 03301 Tel. 603-230-9898 Fax. 603-230-9899		

3D/CIVIL/Blocks 2014 g, Mod M, amr



LEGEND

-  Photo ID and Location
-  Existing Water Main Location (Approximate)
-  Proposed Water Main Location (Approximate)

Image Source: Google Earth, 4/2103 Imagery, Retrieved 7/3/2018

DATE
1/9/2019

PROJECT
2331

UNDERWOOD
engineers

99 North State Street, Concord, N.H. 03301
Tel. 603-230-9898 Fax. 603-230-9899

PROPOSED WATER MAIN LOCATIONS
NEW CASTLE
NEW HAMPSHIRE

FIG.
4

I:\Projects\2014\3\Mod\blocks\blk_3.mxd 2014 3/11/2014 11:41 AM

ATTACHMENT F

DHR SECTION 106 HISTORICAL REVIEW FORM

**(Sent in to DHR on 3/21/19, no response received as of the
date of this submittal)**

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street, Concord, NH 03301-3570

DHR Use Only	
R&C #	_____
Log In Date	___/___/___
Response Date	___/___/___
Sent Date	___/___/___

Request for Project Review by the New Hampshire Division of Historical Resources

- This is a new submittal
 This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION

Project Title Water Transmission Main Improvements

Project Location Route 1B, Portsmouth and New Castle, NH

City/Town Portsmouth and New Castle Tax Map N/A Lot # N/A

NH State Plane - Feet Geographic Coordinates: Easting 1234457 Northing 209724.807
(See RPR Instructions and R&C FAQs for guidance.)

Lead Federal Agency and Contact (if applicable)
(Agency providing funds, licenses, or permits)
Permit Type and Permit or Job Reference #

State Agency and Contact (if applicable) NHDES

Permit Type and Permit or Job Reference # Wetlands & Shoreland

APPLICANT INFORMATION

Applicant Name Town of New Castle (Pam Cullen, Secretary)

Mailing Address 49 Main Street Phone Number 431-6710

City New Castle State NH Zip 03854 Email ncppcullen@comcast.net

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Allison Rees, Underwood Engineers

Mailing Address 99 North State Street Phone Number -2309898

City Concord State NH Zip 03301 Email arees@underwoodengineers.com

This form is updated periodically. Please download the current form at www.nh.gov/nhdhr/review. Please refer to the Request for Project Review Instructions for direction on completing this form. Submit one copy of this project review form for each project for which review is requested. Include a self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: www.nh.gov/nhdhr/review or contact the R&C Specialist at christina.st.louis@nh.gov or 603.271.3558.

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

Project Boundaries and Description

- Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) *indicating the defined project boundary.* (See RPR Instructions and R&C FAQs for guidance.)
- Attach a detailed narrative description of the proposed project.
- Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) *(Informative photo captions are requested.)*
- A DHR file review must be conducted to identify properties within or adjacent to the project area. Provide file review results in **Table 1.** *(Blank table forms are available on the DHR website.)*
File review conducted on 3/11/2019.

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area? Yes No
If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s): Bridge, 1953

- Photographs of *each* resource or streetscape located within the project area, with captions, along with a mapped photo key. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- If the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures, provide additional photographs showing detailed project work locations. (i.e. Detail photo of windows if window replacement is proposed.)

Archaeology

Does the proposed undertaking involve ground-disturbing activity? Yes No
If yes, submit all of the following information:

- Description of current and previous land use and disturbances.
- Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

DHR Comment/Finding Recommendation *This Space for Division of Historical Resources Use Only*

- Insufficient information to initiate review. Additional information is needed in order to complete review.
- No Potential to cause Effects No Historic Properties Affected No Adverse Effect Adverse Effect

Comments: _____

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized Signature: _____ Date: _____

Narrative Statement
New Castle Water Transmission Main Improvements
Portsmouth, New Hampshire

Background and Purpose

The Town of New Castle (Town) is an island located in Rockingham County at the mouth of the Piscataqua River and the Atlantic Ocean. The island's water distribution system is fed by the City of Portsmouth (City) and contains two municipal water systems: one owned and operated by the Town, the other owned and operated by the City. Two master meters separate the Town's system of approximately 18,500 LF of water main from the City's water system.

Due to aging and undersized water mains located in both systems, the Town experiences low available fire flows. In November of 2016, Underwood Engineers performed an evaluation of the existing conditions of the island's water systems and recommended increasing the capacity of the primary water main located on Route 1B to increase available fire flows.

The primary intent of the project is to replace the aging and undersized water mains within the Town's water system to increase available fire flows on the island.

Proposed Improvements

The proposed Water Transmission Main Improvements Project involves the replacement of approximately 8,030 LF of 8" water transmission main with 4,440 LF of new 12" DI and 3,590 LF of new 12" HDPE main. The new main will follow the route of the existing main in most places, and will run from Pierce Island, across a tidal area to Shapleigh Island, and then follow NH Route 1B across Goat Island and the Great Island to the intersection of Main Street and Wentworth Rd.

With the exception of approximately 2,600 LF, the new main will be placed in the same trench as the existing main under the roadway, and will be installed via linear cut and cover. The existing water services to buildings will not be replaced. They will be tied to the new main within the same trench.

There is a section approximately 2,600-feet long that will not be replaced within same trench as the existing main. This area is environmentally sensitive, with a Threatened plant species (marsh elder) that grows over the location of the existing main. In order to avoid disturbance of the plant, the new water main will deviate from the old route and follow along the disturbed roadway bed and causeway to New Castle Island. Directly beyond the causeway, the existing water main runs within several feet of the sewer force main from the Town's main pump station for approximately 300 feet. The proposed water main will follow a new route under the east-bound shoulder of the previously disturbed roadway bed for an additional 450 feet beyond the causeway to provide 10' of horizontal separation as required by the NHDES.

Portions of this project will occur in Portsmouth and portions will occur in New Castle. With the exception of the tidal crossing, all work will be done within the Route 1B right-of-way.

Architectural Resources

Although work will be done within the right-of-way and buildings will not be impacted, it should be noted there are two buildings along the route that are on the State Register. The New Castle Town Hall and the New Castle Congregational Church are listed on the attached **RPR Table 1**.

**Narrative Statement
New Castle Water Transmission Main Improvements
Portsmouth, New Hampshire**

Archaeological Resources

Previous Land Uses

No previous land use other than the current roadway use is known within the right-of-way. A map of 1779 shows the roadway already constructed.

Other Known Or Suspected Archaeological Resources Within The Project Area

A Phase 1A Archaeological Sensitivity Assessment of the project area was performed in November 2018. Three sensitive areas were identified, including two cemeteries on New Castle Island and a grassy area on Shapleigh Island. No further study was recommended for the Shapleigh Island area since the existing water main will be replaced in kind with no new disturbance.

The two cemeteries are located along the water main route. Riverside Cemetery is located at the eastern tip of New Castle Island, and Frost Cemetery is located on Main Street opposite the New Castle Town Hall and the New Castle Congregational Church. Archaeological monitoring will be performed within 25 feet of the boundary of both cemeteries during construction.

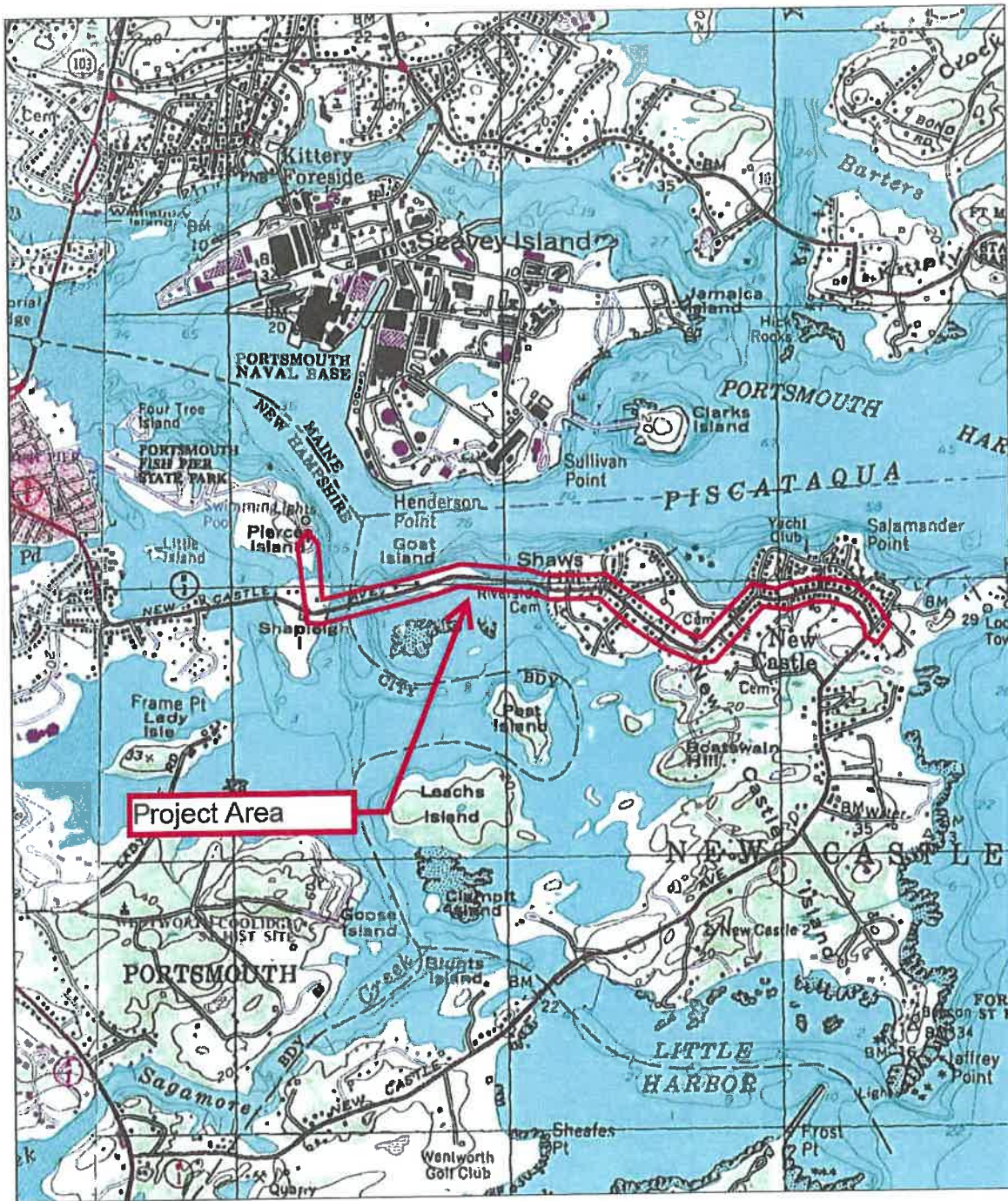
Pierce Island, including the wastewater treatment plant, is located within the Portsmouth Downtown Historic District, which was listed on the National Register on 6/19/2017. Fort Washington was previously located on the site of the Portsmouth Wastewater Treatment Plant. The fort was built circa 1775 and was active during the Revolutionary War and the War of 1812, but was demolished when the treatment plant was built. Few remains are left.

The Project Area is adjacent to, but not within, the New Castle Road and Seawall project area. This area was deemed eligible for the National Register on 6/12/2002. No work will be done within this area.

The Project Area is also near, but not within, the Fort Constitution Historic District, which was deemed eligible for the National Register on 5/22/2002. Portsmouth Harbor Light, also on the National Register, is located within the historic district. No work will be done within this area.

Please note we have reached out to the historical societies for both the Town of New Castle and the City of Portsmouth to see if they have any concerns about the project. We have not yet received a response, but if we do they will be forwarded along to you.

Project Title: New Castle Water Transmission Main Improvements				DHR R&C #:
RPR Table 1: PREVIOUSLY SURVEYED OR LISTED PROPERTIES				
NH DHR Property Name / Historic District Name	NH DHR Inventory #	National Register-listed, Eligible, or Not Eligible	Date of Determination (mm/dd/yy)	National Register Criteria of Significance (if applicable)
New Castle Town Hall		SR Listed	10/28/13	
New Castle Congregational Church		SR Listed	7/30/07	
Fort Constitution Historic District		NR Listed	7/9/1973	
Portsmouth Harbor Light		NR Listed	10/8/09	
Portsmouth Downtown Historic District		NR Listed	6/19/17	
New Castle Road and Seawall	Area form	NR Eligible	6/12/02	
Marconi House and Wharf	POR0130	Not Eligible	2/26/14	Loss of integrity under A, B, and C



Project Area



0 0.5 MI
0 3000 Ft

Map provided by MyTopo.com

DATE

2/13/19

PROJECT

2331



25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

PROJECT LOCUS MAP
WATER TRANSMISSION MAIN
IMPROVEMENTS PROJECT
TOWN OF NEW CASTLE, NH

FIG.

ATTACHMENT G

ARCHAEOLOGICAL STUDY SUMMARY

**PHASE IA ARCHAEOLOGICAL SENSITIVITY ASSESSMENT
NEW CASTLE WATER MAIN TRANSMISSION IMPROVEMENTS
NEW CASTLE (ROCKINGHAM COUNTY), NEW HAMPSHIRE**

Submitted to
Underwood Engineers
25 Vaughn Mall
Portsmouth, NH 03801

Prepared by
Jessica Cofelice, MA, RPA
and
Kathleen Wheeler, PhD, RPA



www.iac-llc.net

IAC Report No. 1388

January 7, 2019

**THIS REPORT CONTAINS CONFIDENTIAL INFORMATION:
NOT FOR PUBLIC DISTRIBUTION**

PROJECT SUMMARY

Project Name: New Castle Water Main Transmission Improvements Part A

Type of Survey: Phase IA Archaeological Sensitivity Assessment

Client: Underwood Engineering, Inc.

Sponsor Agency: NHDES

Location: New Castle (Rockingham County), New Hampshire

Project Area Size: 4.5 acres (1.8 hectares)

Expected Impacts: Proposed impacts include the installation of 2,440-m (8,000 linear feet) of water main within an existing utility trench.

Dates of Fieldwork: Site File Search: November 13, 2018
Phase IA Site Inspection: November 19, 2018

Sites Registered: None (Previously registered Pre-Contact site 27-RK-073 potentially within the project area).

Findings: IAC identified three sensitive areas (SAs) within the proposed project area, designated as SAs 1-3. SA-1 is sensitive for Pre-Contact cultural deposits based on soils, topography, proximity to water or other nearby resources, and the distribution of known Pre-Contact Native American sites in both New Hampshire and the wider region. SA-2 and SA-3 encompass an 8-m (25-ft) buffer along two burial grounds adjacent to the project area.

Recommendations: The contractor proposes to install the new pipeline segment within the existing utility trench that bisects SA-1. IAC recommends no further survey in SA-1, however, if the contractor shifts the pipeline alignment and excavations occur within previously undisturbed soils, a Phase IB intensive archaeological investigation is recommended to confirm the presence or absence of archaeological resources within SA-1. New Hampshire state law RSA 289:3:III specifies that "...no (new) construction shall be conducted within 25 ft [7.6 m] of a burial ground or cemetery." The law provides for the protection for unmarked burials that may fall outside the boundaries of burial ground. To confirm the absence of graves in a project area, IAC recommends construction-phase monitoring of all impacts involving ground disturbance within 7.6 m (25 ft) of the known boundaries of two cemeteries in the project area, in Sensitive Areas 2 and 3.

No. of Pages: 33
No. of Maps: 3
No. of Figures: 2

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INTRODUCTION

Independent Archaeological Consulting, LLC (IAC) conducted a Phase IA Archaeological Sensitivity Assessment of the proposed New Castle Water Main Transmission Improvements Part A project area in New Castle (Rockingham County), New Hampshire (Figure 1). Proposed impacts include the replacement of approximately 2,440 m (8,000 linear feet) of existing force water main (Figure 2). All proposed impacts fall within the existing 1974 force water main and sewer line trench, and the project is therefore considered a replacement in kind with no new impacts.

The objective of the Phase IA sensitivity assessment is to evaluate the archaeological sensitivity for both Pre-Contact Native American and Post-Contact Euroamerican cultural resources in a project area. IAC completed the assessment through a review of known archaeological resources inventoried at the New Hampshire Division of Historic Resources (NHDHR) site files in Concord; cartographic analysis of landform, topography, soils, and proximity to water; a review of secondary resources and a walkover (inspection) survey. The Euroamerican component of the sensitivity assessment augments these steps with a review of historic maps to identify Euroamerican resources located in or near the project limits. As a final step in the sensitivity assessment process, IAC conducted a field inspection in November 2018 to identify evidence of previous disturbance and refine the initial, map-based sensitivity assessment based on actual ground conditions. The Phase IA work is authorized under Section 106 of the Historic Preservation Act of 1966 (P.L. 89-665), as amended, and as implemented by regulations of the Advisory Council of Historic Preservation (36 CFR Part 800), coordinated at the state level by the State Historic Preservation Officer (SHPO).

The distribution of known Pre-Contact archaeological sites finds a correlation between the presence of level terrain, well drained soils, and access to natural resources (such as water, stone for tools, clay for pottery, and flora and fauna) and Pre-Contact Native American presence. The proposed pipeline traverses three islands in the Piscataqua River; beginning at Peirce Island, water main travels in a southeasterly direction across Shapleigh, Goat, and New Castle Islands. The NHDHR site file search review revealed one registered Pre-Contact Native American site (27-RK-073) near the bridge abutment at the western end of Goat Island. The proximity of the project area to the Piscataqua River and a known registered Pre-Contact site suggests a potential for ancient Native American cultural deposits related to riverside occupation or activity. Based on the presence of settings conducive to Pre-Contact Native American habitation and resource exploitation, IAC finds a portion of the project area sensitive for Pre-Contact Native American archaeological resources.

IAC delineated three archaeologically sensitive areas, designated as Sensitive Areas 1, 2, and 3 (SAs 1-3). SA-1 encompasses the level grassy, level landform between the northern edge of Shapleigh Island and U.S. Route 1A. The location is sensitive for Pre-Contact Native American archaeological resources based on its proximity to the river and a known Pre-Contact site. Proposed project plans call for the installation of the new water main within the existing 1974 force main and sewer line trench that bisects SA-1. IAC recommends no further survey for SA-1 based on current project parameters. However, if the contractor shifts the pipeline out of the existing trench, and excavations are required within previously undisturbed soils, IAC recommends a Phase IB intensive archaeological investigation in SA-1. SA-2 and SA-3 encompass a 7.6-m (25-ft) buffer zone adjacent to two Euroamerican cemeteries. New Hampshire state law RSA 289:3:III specifies that "...no (new) construction shall be conducted within 25 ft [7.6 m] of a burial ground or cemetery." The law provides for the protection for unmarked burials that may fall outside the boundaries of burial ground, which archaeologists designate as a "buffer zone" extending 7.6 m (25 ft) from a known boundary or burial feature. To confirm the absence of unmarked graves in the project area, IAC recommends construction-phase monitoring of all subsurface impacts in Sensitive Areas 2 and 3.

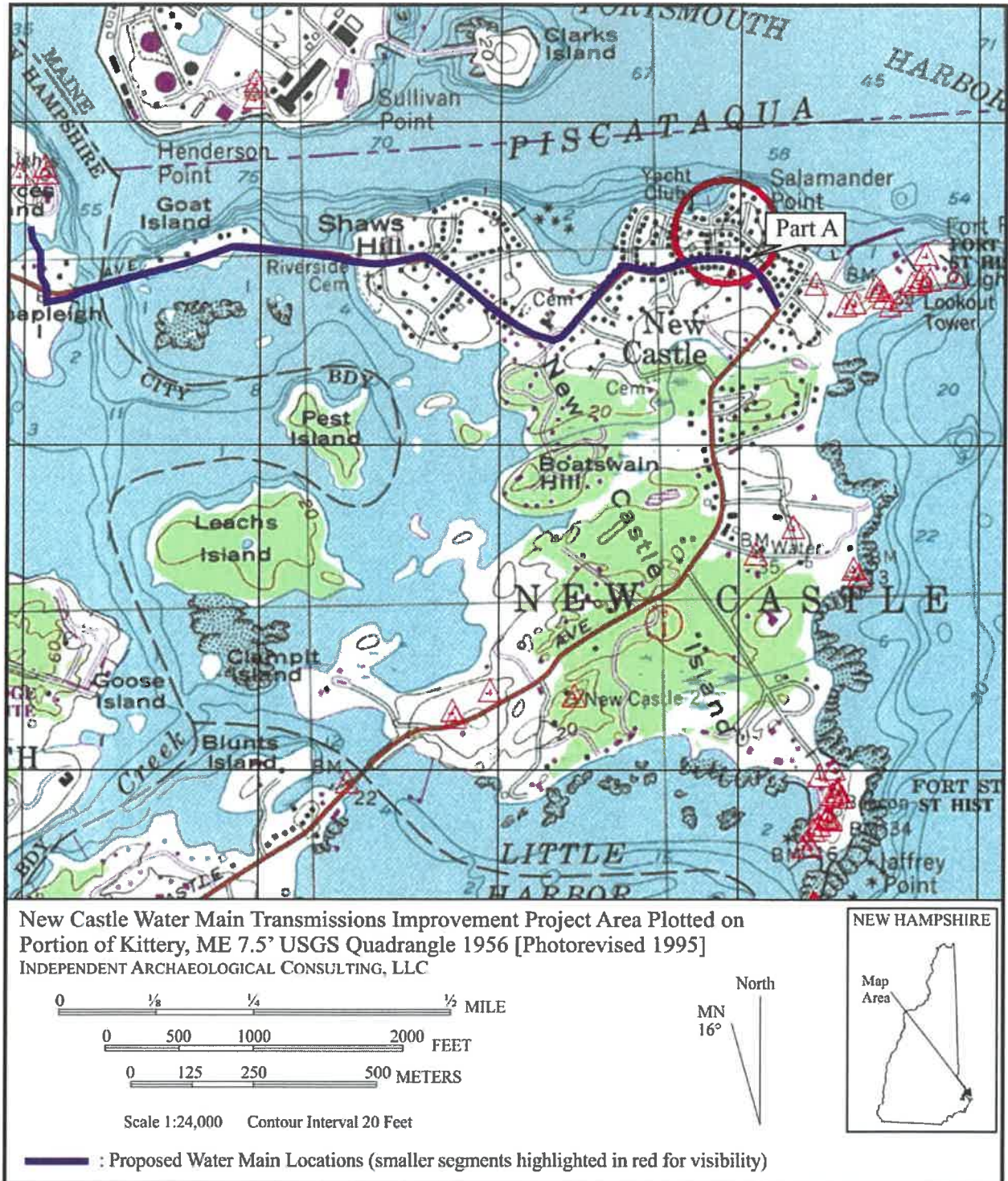


Figure 1. Project location illustrated on USGS Quadrangle map of New Castle (after USGS Kittery Quadrangle 1995).

ATTACHMENT H

NHB AND IPAC RESULTS

**(Please note this include correspondence with Amy Lamb at
NHB up to 3/29/19. Any future correspondence will be
forwarded to NHDES)**

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo



To: Allyson Gourley, DES – Drinking Water and Groundwater Bureau
Hazen Drive
Concord, NH 03301

From: Amy Lamb, NH Natural Heritage Bureau
Date: 7/2/2018 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB18-2063 Town: New Castle Location: Route 1 B and other locations
Description: Replace 8,000 lf of water main on Route 1B between Shepleigh Island and the intersection of Main Street and Wentworth Road.
Existing 8" water mains will be replaced with 12" water mains. 3,500 lf of new water main will also be installed at 7 locations throughout the distribution system to provide looping for improved water quality and increased fire protection flows.

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: There are three rare plant species documented in the vicinity of the project. Please send NHB detailed plans for locations where work is proposed in the vicinity of documented rare plant populations.

Plant species	State ¹	Federal	Notes
great bur-reed (<i>Sparganium eurycarpum</i>)*	T	--	Threats to aquatic species include changes in water quality, e.g., due to pollution and stormwater runoff, and significant changes in water level.
marsh elder (<i>Iva frutescens</i>)	T	--	Threats are primarily alterations to the hydrology of the wetland, such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat, activities that eliminate plants, and increased input of nutrients and pollutants in storm runoff.
red goosefoot (<i>Oxybasis rubra</i> var. <i>rubra</i>)*	E	--	Threats are primarily alterations to the hydrology of the wetland, such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat, activities that eliminate plants, and increased input of nutrients and pollutants in storm runoff.

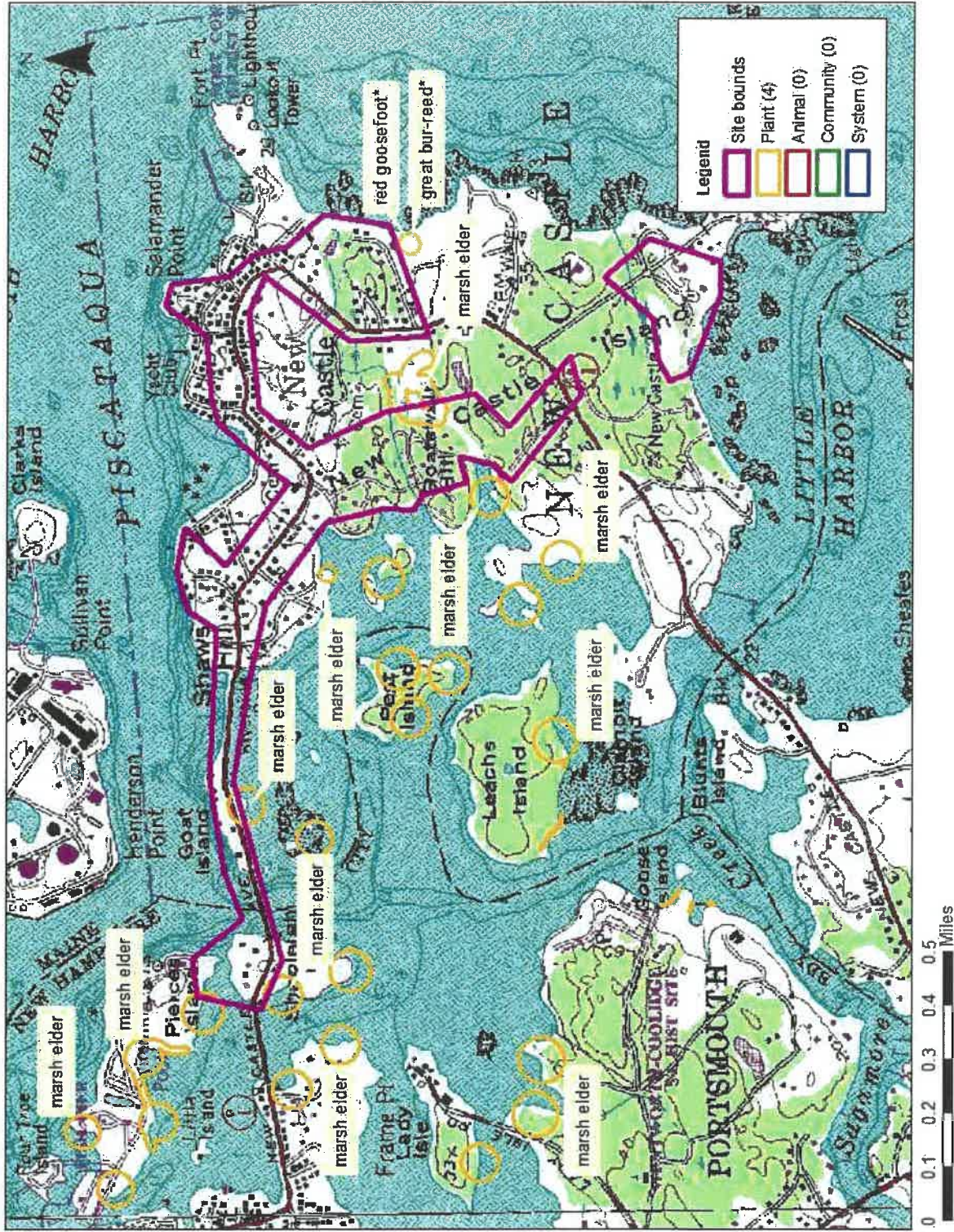
¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

NHB18-2063



New Hampshire Natural Heritage Bureau - Plant Record

great bur-reed (*Sparganium eurycarpum*)

Legal Status

Federal: Not listed
 State: Listed Threatened

Conservation Status

Global: Demonstrably widespread, abundant, and secure
 State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
 Comments on Rank:

Detailed Description: 1982: Patch of ca. 15 plants in 10 by 5 foot area along shore. ca. 50 percent sterile and 50 percent in fruit.

General Area: Sea level, fresh water pond.

General Comments: Relatively undisturbed area.

Management

Comments:

Location

Survey Site Name: New Castle Commons

Managed By: Great Island Common

County: Rockingham

Town(s): New Castle

Size: .7 acres

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: New Castle. New Castle Commons, east side of New Castle Island at New Castle Town Beach area, in fresh water pool back of sand beach on southeast side of pond.

Dates documented

First reported: 1982

Last reported: 1982-07-07

New Hampshire Natural Heritage Bureau - Plant Record

marsh elder (*Iva frutescens*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Excellent quality, condition and landscape context ('A' on a scale of A-D).
 Comments on Rank: This rank may be for the state rather than relative to others in the region.

Detailed Description: 2017: Leachs Island: Several thousand plants spread along 800+ feet of shoreline. 10-20% dieback, 10-15% yellowing, 65-80% normal to vigorous. Aphids observed on 80% of clumps.
2016: Peirce Island: Additional subpopulations located, raising total number of plants to over 600. Plants appear to be in much better health than 2014, with all individuals in fruit and in good vigor. Shaws Hill: Several clumps over an area approximately 30 x 15 feet. Estimated at over 200 individuals. Tidal Pool: Plants in 3 areas along shoreline near tidal pool.
2014 Peirce Island: Over 500 plants were observed, all stunted, with approximately 50-60% dead stems, mostly confined to the upper portions of the plants.
1996: Constant observation since 1953 reported, including all stages of phenology and age structure.
1982: Good clump observed.

General Area: 2017: Leachs Island: Upper edge of brackish marsh/rocky shore. Plants absent from areas with broader expanse of marsh. Rocks present in most areas where the plants are growing. Associated species include black oak (*Quercus velutina*), saltmarsh rush (*Juncus gerardii*), sea-blite (*Suaeda* sp.), hastate-leaved orache (*Atriplex* cf. *prostrata*), smooth cordgrass (*Spartina alterniflora*), Carolina sea-lavender (*Limonium carolinianum*), and seaside plantain (*Plantago maritima* ssp. *juncooides*).

2016: Peirce Island: Population forms a narrow band immediately above the highest observed wrack line along the shore. Associated upland species include staghorn sumac (*Rhus hirta*), autumn-olive (*Elaeagnus umbellata* var. *parvifolia*), Asian bittersweet (*Celastrus orbiculatus*), and speckled alder (*Alnus incana* ssp. *rugosa*). The saline areas downslope of the marsh elder contained over 50% unvegetated substrate, as well as a mixture of cordgrass (*Spartina* sp.) and saltgrass (*Distichlis spicata*). Shaws Hill: Surrounding land use is developed. All plants below highest observable tide line in **high salt marsh**, located among saltmeadow cordgrass (*Spartina patens*), smooth cordgrass (*Spartina alterniflora*), and seaside goldenrod (*Solidago sempervirens*). Tidal Pool: Sagamore Creek/Great Bay shoreline, with smooth cordgrass (*Spartina alterniflora*), saltmarsh rush (*Juncus gerardii*), saltmeadow cordgrass (*Spartina patens*), seaside goldenrod (*Solidago sempervirens*), and sea-blite (*Suaeda* spp.).
1996: On shores of several islands and peninsulas in the more or less enclosed bay system. Associated plant species: *Solidago sempervirens* (seaside goldenrod), *Juncus gerardii* (salt marsh rush), *Spartina patens* (salt-meadow cord-grass), *Triglochin maritimum* (arrow-grass), *Elymus virginicus* (Virginia wild rye), *Atriplex patula* (narrow-leaved orach), and *Artemisia vulgaris* (common mugwort). Substrate: gravel and marsh peat and muck. 1982: On shore at Pleasant Point.

General Comments: 2016: Peirce Island: "The population currently appears to be in good health, although the results of the June 2014 surveys indicated that there may be some intermittent pressure on this population. The propensity of this species to grow in a very narrow band along the tide line does not allow for rapid adaptation to changing sea levels, storm events, or polluted runoff that a larger, robust population may resist. If sea levels gradually rise as expected, the marsh elder will be unable to move inland due to a small but steep cut bank that forms the upland break adjacent to the marsh elder population. The remaining subpopulations may also be getting shaded by the adjacent upland vegetation, which appears to be encroaching on the shoreline. This vegetation is comprised of large shrub species and the invasive Oriental bittersweet that is capable of overtaking the native plants in the area."

Management
 Comments:

Location

Survey Site Name: Little Harbor, back channel

Managed By: Little Harbor Trust

County: Rockingham

Town(s): Portsmouth

Size: 59.9 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2017: Leachs Island: Island in New Castle only accessible by boat. Plants observed on south shore of island
2016: Peirce Island: Along the southern shore of Peirce Island, along the edge of a small cove west of the wastewater treatment facility. Shaws Hill: Take Laurel Lane off New Castle Avenue, bear left onto driveway right-of-way servicing 51A & 51B Laurel Lane. At end of right-of-way, 51B will be located on the right.
Tidal Pool: Along Sagamore Creek shoreline on Creek Farm Reservation property in Portsmouth.
In the vicinity of Rte. 1B which encircles the Little Harbor back channel from Portsmouth to New Castle and Rye. Many of the sites are visible only by boat.

Dates documented

First reported: 1953

Last reported: 2017-09-05

New Hampshire Natural Heritage Bureau - Plant Record

marsh elder (*Iva frutescens*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2005: Area 1: about 50 plants. Normal vigor, 75% mature, 60% in flower, 20% in bud. Stress indicated by dieback and resprouting. Area 2: estimated 101-1000 genets, 60% in flower, 20% in bud and leaf. Evidence of vegetative growth.

General Area: 2005: High salt marsh-salt shrub community surrounded by residential area. Substantial wooded buffer on the southern edge, but development on the north has been allowed without a mud buffer. Area 1: Along both sides of creek at center of marsh. Associated species include *Spartina* sp. (cordgrass) and *Distichlis spicata* (spike grass). Area 2: Lined up at apparent high tide line. Associated species include *Limonium carolinianum* (sea-lavender) and grasses. Invasive species *Phragmites australis* (common reed) on site.

General Comments: 2005: Although marsh is completely surrounded by development, it appears that the tidal marsh is functioning normally.

Management Comments: 2005: Established contact with owners and encourage a restoration buffer.

Location

Survey Site Name: Lavengu Creek
 Managed By:

County: Rockingham
 Town(s): New Castle
 Size: 5.8 acres

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: From Portsmouth take NH Rte. 1A to Rte. 1B (Wentworth Rd.). Cross bridge to New Castle Island. Access is at 254 Wentworth Rd.

Dates documented

First reported: 2005-08-23 Last reported: 2005-08-23

New Hampshire Natural Heritage Bureau - Plant Record

red goosefoot (*Oxybasis rubra* var. *rubra*)

Legal Status

Federal: Not listed
State: Listed Endangered

Conservation Status

Global: Demonstrably widespread, abundant, and secure
State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: 1984: Small colony of occurrence, 11-50 plants in fruit, with some scattering. Very abundant seeds.
1978: Specimen collected, flowering.
1901: E. F. Williams specimen (no #) at GH from "Little Harbor.

General Area: 1984: Sea level, fresh water pond.
1978: Sand beach at the inlet of the brackish pond, upper part of the beach (below *Ammophila* dune).

General Comments: 1984: Relatively undisturbed area.

Management
Comments:

Location

Survey Site Name: New Castle Commons
Managed By: Great Island Common

County: Rockingham

Town(s): New Castle

Size: .7 acres

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 1984: New Castle Commons, east side of New Castle island at New Castle town beach area, in fresh water pool, back of sand beach on southeast side of pond.
1978: New Castle Beach, sand beach at the inlet of the brackish pond, upper part of the beach (below *Ammophila* dune).

Dates documented

First reported: 1901

Last reported: 1984

Ransom Horner-Richardson

From: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Sent: Thursday, March 28, 2019 4:23 PM
To: Ransom Horner-Richardson; 'Allison M. Rees'
Subject: RE: NHB18-2063 New Castle Water Transmission Main Replacement

Flag Status: Flagged

Hi Ransom,

Thanks for the response. Looking at the photo I am not really sure where the pipe would be installed – would it be from the vantage point of the photographer directly across the sediments in the center of the photo? How will the marsh vegetation impact be mitigated? Additionally, if you have any other photos of the site that would be helpful; marsh elder grows along the upper tidal limits so it would be helpful to see those areas on both Leach's and Shapleigh island.

I do not have further concerns about the other areas.

Thank you,
Amy

Amy Lamb
Ecological Information Specialist
(603) 271-2834
amy.lamb@dncr.nh.gov

10 Natural Heritage Bureau
100 NCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

From: Ransom Horner-Richardson [mailto:ransom@underwoodengineers.com]
Sent: Wednesday, March 27, 2019 2:41 PM
To: Lamb, Amy; 'Allison M. Rees'
Subject: RE: NHB18-2063 New Castle Water Transmission Main Replacement

Hi Amy,

I'm sorry about the confusion here. Please see my comments below (red) and the attached photo. Please let me or Allison know if you need additional information.

Thanks!

Ransom



Ransom Horner-Richardson
Project Engineer
27 Vaughan Mall
Portsmouth, NH 03801
Office 603-436-6192
www.underwoodengineers.com

From: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Sent: Wednesday, March 27, 2019 11:03 AM
To: Allison M. Rees <arees@underwoodengineers.com>
Cc: 'Ransom Horner-Richardson' <ransom@underwoodengineers.com>
Subject: RE: NHB18-2063 New Castle Water Transmission Main Replacement

Hi Allison & Ransom,

Thank you for sending the plan set and highlighting the location of the existing versus the proposed water main location. I've attached the document with NHB concern locations that I sent to Ransom back in August, which shows the areas I still have questions about. As before, the first area I am concerned about is the tidal crossing from Pierce Island to Shapleigh Island (sheet 1) and again request to review photos of the tidal wetlands at this location. We do not have a record of Marsh Elder at the crossing but I would like to verify that it is not present. Previously open-cut sheeting was proposed for this location, with HDD being investigated. Please confirm the installation method at this location. **Please see the attached photo from 8/31/18. This is looking across the tidal area from approximately the high tide line on Shapleigh Island. We are proposing open cut installation for the crossing. We evaluated HDD and it was determined that it would add significant cost to the project and would require substantial new easements on private land to accommodate a new alignment. The proposed impacts are within a 20-30 foot corridor surrounding the existing/proposed water main. Silt fence and BMPs will be used to control silt and runoff and mats will be used for construction vehicles.**

The second location of potential concern, which is along the southerly side of Goat Island, is where a documented marsh elder population is close to the existing water main alignment. Can you please confirm that the old water main will be abandoned in place at this location, and the new water main will be installed within the existing roadway only? **Yes the existing main will be abandoned in place. We have moved the proposed alignment in this area out of the wetlands (existing alignment) and into the roadway on Goat Island. We are calling for the existing main to be abandoned in place from the boat launch parking lot on Goat Island to just beyond the causeway on the Great island. Silt fence will be installed around the work area to protect the wetlands.**

The third area, which was new overland installation (referred to as the Beach Hill Road Water Loop), is not included in the plan set you recently provided me. Please clarify whether this segment is no longer included in this project. **Due to difficulty obtaining permission to perform survey and archeological investigations on private properties, the loops have been broken out into a separate project that will be bid separately next year (2020). These will be under a separate permit. The current permit and project is for the transmission main only (Pierce/Shapleigh Islands and Route 1B).**

Additionally, Ransom had told me in a previous email that the "It is anticipated that the new water main will be hung from the bridge deck similar to the existing utility. No significant wetlands impact is anticipated. HDD will also be evaluated for this area during design for feasibility and cost," for the crossing from Shapleigh Island to Goat Island. Please clarify the crossing method at this location. **HDD was evaluated and determined to not be cost effective for this crossing. The project will include new pipe and pipe supports to be hung from the NHDOT bridge following the same alignment as the current water main.**

Thank you,
Amy

Amy Lamb
Ecological Information Specialist
(603) 271-2834
amy.lamb@dncr.nh.gov

Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

From: Allison M. Rees [<mailto:arees@underwoodengineers.com>]
Sent: Wednesday, March 27, 2019 8:07 AM
To: Lamb, Amy
Cc: 'Ransom Horner-Richardson'
Subject: RE: NHB18-2063 New Castle Water Transmission Main Replacement

Amy,

We're planning on submitting this wetlands permit by the end of this week or early next week. Thought I'd check in with you to see if you need any more time.

Thanks,
Allison



Allison Rees, P.E.
Senior Project Engineer
Underwood Engineers
9 North State Street
Concord, NH 03301
(603) 230-9898

From: Allison M. Rees [<mailto:arees@underwoodengineers.com>]
Sent: Wednesday, March 20, 2019 12:22 PM
To: 'Lamb, Amy' <Amy.Lamb@dnrcr.nh.gov>
Subject: RE: NHB18-2063 New Castle Water Transmission Main Replacement

Amy,

I'm sorry to bother you – you're probably just as busy as we are!

It was just gold this project is going out to bid in May for a June start date. Will you have a chance to look into this this week?

If not, we might be submitting to wetlands soon, but we could state in the narrative that correspondence with NHB regarding the marsh elder is ongoing, and that we'll forward along any requirements to them once received. Would that be okay?

Thanks,
Allison



Allison Rees, P.E.
Senior Project Engineer
Underwood Engineers
9 North State Street
Concord, NH 03301
(603) 230-9898

From: Allison M. Rees [<mailto:arees@underwoodengineers.com>]
Sent: Friday, March 15, 2019 10:28 AM

o: 'Lamb, Amy' <Amy.Lamb@dncr.nh.gov>

Subject: NHB18-2063 New Castle Water Transmission Main Replacement

I Amy,

I've jumped into the fray of permitting for this project. Ransom Horner-Richardson previously ran a Data Check (attached), and here some threatened and endangered plants in the area.

This project is now between 60% and 90% design. I've attached the 60% plans for your review and comment.

The new main will replace the existing water main in the exact same trench for most of the project. However, it will follow a new path from approximately Sta. 18+00 on sheet C5 to approx.. Sta. 44+50 on sheet C10. This deviation is to avoid excavation of the banks under the grasses, in the tidal flats, and within the tidal water. Instead, the water line will be installed underneath the existing roadway. On those sheets, I highlighted the existing water main in blue and the new one in green.

Please let me know if you have any comments or concerns.

Thanks,
Allison



Allison Rees, P.E.
Senior Project Engineer

Underwood Engineers
100 North State Street
Concord, NH 03301
(603) 230-9898

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This electronic mail transmission is privileged and confidential and is intended only for review of the party to whom it is addressed. If you have received this transmission in error, please notify the sender immediately by reply e-mail and delete this transmission.

ATTACHMENT I

NHDOT PERMISSION



Victoria F. Sheehan
Commissioner

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



William Cass, P.E.
Assistant Commissioner

March 26, 2019

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

RE: Letter of Authorization

To Whom it May Concern:

The Town of New Castle, NH plans to replace approximately 8,000 LF of existing 8" water main feeding the Town from the City of Portsmouth with new 12" water main. The Town currently experiences low available fire flows due to aging and undersized water mains in the system. A 2016 evaluation of the existing water system recommended increasing the capacity of the primary water main located on Route 1B to increase available fire flows.

The new 12" main will be installed in New Castle and Portsmouth and will primarily follow the route of the existing main from Pierce Island, across a tidal area to Shapleigh Island, and then follow NH Route 1B across Goat Island and the Great Island to the intersection of Main Street and Wentworth Rd. There are several areas of proposed work that require work within NHDES jurisdictional areas including:

- Temporary impacts to wetland areas at the tidal crossing from Pierce Island
- Temporary impacts to previously developed uplands in the 100' Tidal Buffer Zone
- Temporary impacts to the shoreland 250' Buffer Zone

On behalf of the NH Department of Transportation, I authorize the Town of New Castle to submit environmental permit applications for the proposed work within the DOT right-of way (ROW). The DOT's approval is contingent upon the Town and/or its agent completing the DOT excavation permit approval process. No work shall occur within the DOT ROW until the appropriate excavation permit approvals and environmental reviews have been completed.

If you have any questions, please do not hesitate to call.

Sincerely,

Brian T. Schutt, P.E.
District 6 Engineer
NH Department of Transportation
PO Box 740
271 Main Street
Durham, NH 03824