



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 Question](#).

- 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 that wetland impacts occur within.

ADDRESS: **13 Newfields Road** TOWN/CITY: **Exeter**

TAX MAP: **49** BLOCK: **N/A** LOT: **15** UNIT: **N/A**

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

LOCATION COORDINATES (If known): **42 59 46.82 070 56 34.00** Latitude/Longitude

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 Town of Exeter will be undertaking a significant upgrade to its wastewater treatment facilities, as well as improvements to its Main Pump Station and force mains connecting the pump station to the new treatment facilities. The improvements are being undertaken as a result of an administrative order from the Environmental Protection Agency.

5. SHORELINE FRONTAGE:

- NA This does not have shoreline frontage. SHORELINE FRONTAGE: **2,630-feet**
- 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.

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 Web Page](#).

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

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

- a. Natural Heritage Bureau File ID: NHB **16** - **0615**
- b. [Designated River](#) the project is in ¼ miles of: **Squamscott River**; and date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: **9** Day: **13** Year: **2016**
- N/A

8. APPLICANT INFORMATION (Desired permit holder)LAST NAME, FIRST NAME, M.I.: **Perry, Jennifer R.**TRUST / COMPANY NAME: **Town of Exeter**MAILING ADDRESS: **13 Newfields Road**TOWN/CITY: **Exeter**STATE: **NH**ZIP CODE: **03833**EMAIL or FAX: **jperry@exeternh.gov**PHONE: **603-773-6165**

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:

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.: **Jeffrey Preble, PE**COMPANY NAME: **Wright-Pierce**MAILING ADDRESS: **99 Main Street**TOWN/CITY: **Topsham**STATE: **ME**ZIP CODE: **04086**EMAIL or FAX: **jeff.preble@wright-pierce.com**PHONE: **207-798-3759**

ELECTRONIC COMMUNICATION: By initialing here _____, 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 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 New Hampshire Department of Environmental Services 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

 
 Property Owner Signature

JENNIFER R. PERRY
 Print name legibly

09/12/16
 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 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.

	Andrea J. Kohler	Exeter	9-12-16
Town/City Clerk Signature	Print name legibly	Town/City	Date

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,1

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 complete.

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	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Perennial Stream / River	740 / 45 <input type="checkbox"/> ATF	2,195 / 50 <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	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	32,570 <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
TOTAL	740 / 45	34,765 / 50

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) 35,505 sq. ft. X \$0.20 = \$ 7,101.00

Temporary (seasonal) docking structure: 0 sq. ft. X \$1.00 = \$

Permanent docking structure: 0 sq. ft. X \$2.00 = \$

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

Total = \$ 7,101.00

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 7,101.00

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

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

www.des.nh.gov

ATTACHMENT A
20 Questions

WETLANDS PERMIT APPLICATION – ATTACHMENT A MINOR AND MAJOR - 20 QUESTIONS

Water Division/ Wetlands Bureau/ Land Resources Management

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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 EPA issued an Administrative Order of Consent (AOC) in June 2013 which provides a framework and schedule for the Town to achieve compliance with the NPDES permit requirements issued by the EPA in December 2012. Upgrades to the Town's Wastewater Treatment Facility (WWTF), Main Pump Station (MPS), and Main Pump Station Force Main (FM) are required to meet the NPDES permit requirements and the AOC.

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

Options include the following:

1. No action - the WWTF, MPS, and FM upgrades are required by EPA Administrative Order, no action is not an option.
2. The site design has been developed to avoid any impacts within the Prime Wetland 100-foot Buffer Zone.

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

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3. The type and classification of the wetlands involved.

Wetland boundaries were delineated by Gove Environmental Services Inc. and summarized in their August 28, 2015 letter report which is attached at the end of this Attachment A document.

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

Wetlands will be disturbed in two areas within the project boundaries. At the entrance to the proposed treatment facility a small area of approximately 740 square feet will be disturbed to allow construction of the new force mains entering the facility and a riprap apron for a new drainage culvert. This wetland is infested with phragmites. The invasive species will be eliminated in the work area.

The second area is at the Norris Brook crossing where a temporary disturbance of approximately 2,195 square feet and is necessary to construct the new force mains. This installation will be undertaken as an open cut type installation where the stream flow will be diverted around the work areas. Norris Brook is classified as a perennial stream and freshwater tributary to the Squamscott River.

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

Refer to the Gove Environmental Services report.

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

Permanent impact of wetlands at the new entrance to the proposed facility totals 740 square feet. Temporary impacts along the force main route and at the Main Pump Station for work in the Tidal Buffer Zone and the crossing of Norris Brook total up to 34,765 square feet. All of the work in the Tidal Buffer was disturbed previously by prior development.

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.

The Natural Heritage Bureau data check revealed the presence of three threatened species adjacent to the site. They are the Northern Black Racer, the Pied-billed Grebe, and the Spotted Turtle. Actions being undertaken to avoid potential entrapment or entanglement of the Northern Black Racer or Spotted Turtle include providing sumpless catch basins for the enclosed drainage system, and using only natural erosion control fabrics (non-synthetic products) for temporary erosion control measures.

No migratory fish/wildlife or exemplary natural communities were identified for the work areas by DRED-NHB.

No vernal pools were identified for the work area by Gove Environmental.

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

There will be no impacts to navigation as a result of this project. Temporary impacts will include disturbances within the Swasey Parkway area, and traffic impacts along route 85 during the installation of the force mains.

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.

Aesthetic interests should not be impacted by the proposed work. The disturbances are temporary in nature and utilities will be buried below grade. The improvements at the Main Pump Station will improve public screening at the facility.

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.

None anticipated.

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.

None anticipated.

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

The strict discharge limits imposed by the EPA will have a direct benefit to the water quality in the Squamscott River and Great Bay, and allow continued growth in the Town of Exeter by increased capacity to handle wastewater flows.

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.

Drainage patterns and impervious areas at the Main Pump Station and force main portions of the project will not be affected by the proposed work. At the WWTF site, runoff from the facility is being directed to a wet weather flow storage lagoon where the influent will be directed back to the WWTF for treatment.

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

The project will require the Contractor to follow Best Management Practices during construction for erosion and sedimentation controls. Silt fencing and catch basin filter inlets will be established along the proposed work areas and remain in place until the work areas are stabilized. The work at the pump station and along the force main route will not increase impervious areas and therefore will not have any effect on flooding.

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.

The project will not have any direct impacts on surface waters. Temporary coffer dams will be established at Norris Brook while the work crossing the brook takes place. A flow diversion plan is included with the project drawings included with this application.

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.

The work is taking place within previously developed areas. Much of the impacts associated with the project are on tidal buffer areas. The only permanent impact is at the proposed entrance to the new treatment facility. No abutting property owners have rights to the affected wetland area.

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

The 740 square feet of permanent disturbance at the entrance road includes extending an existing headwall structure roughly 5-feet into the wetland area and construction of a riprap apron. Invasive species present in the area of this disturbance will be removed from the site. Given the slight disturbance and the removal of invasive species the values and function of the wetlands will not be affected by the proposed work.

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.

A review of the listing of Natural Landmarks in Exeter reveals that none of the places listed would be affected by the proposed project.

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.

The improvements to the wastewater treatment facility will significantly improve the quality of the effluent leaving the treatment facility, reduce wet weather overflows, and improve the overall water quality in the Squamscott River and Great Bay.

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

Not applicable.

Additional comments

Under the Administrative Consent Order imposed by the EPA the wastewater treatment facility is being upgraded to improve the quality of the effluent from the plant and reduce nutrient loads in the Squamscott River and Great Bay. The overall water quality will be improved in the watershed as a result of the project. The temporary and minimal impacts to wetlands and buffer areas are necessary in order for the Town to meet its obligations as a result of the AOC.



GOVE ENVIRONMENTAL SERVICES, INC.

August 28, 2015

Jack Keiser
Doucet Survey
102 Kent Place
Newmarket, NH 03857

Subject: Wetland Delineation Report
Exeter Wastewater Treatment Facility Project
Exeter, NH

Dear Mr. Keiser:

This letter is to document the results of the wetland delineation performed by Gove Environmental Services, Inc., in connection with the planned improvements to the Exeter Wastewater Treatment Facility in Exeter New Hampshire. The limits of the delineation included the treatment facility on Newfields Road and other nearby areas along Newfield's Road and Swasey Park where associated infrastructure is present or proposed. A basic sketch of the identified resource areas and the flag series placed in the field is attached to this letter. The delineation process and a summary of the resources is detailed in the following sections.

Wetland Delineation

The delineation work was performed in May April of 2015. Vegetated wetland boundaries were evaluated utilizing the following standards:

1. *US Army Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (Jan 1987) **AND** Regional Supplement to Corps of Engineers Wetland Delineation Manual; Northcentral and Northeast Region, Version 2.0, January 2012.
2. Field Indicators of Hydric Soils in the United States, Version 7.0, 2010 **AND (for disturbed sites)** *Field Indicators for Identifying Hydric Soils in New England*, Version 3. NEIWPCC Wetlands Work Group (April 2004)
3. *North American Digital Flora: National Wetland Plant List*, Version 2.2.1 (2009).

Additionally, the Highest Observable Tide (HOT) was delineated in accordance with Env-Wt 101.48 by observations of flotsam debris and physical barriers. Boundaries boundary were demarcated with consecutively numbered pink "Wetland Delineation" flagging. The attached sketch plan depicts the location of the wetlands and a key to the following summary descriptions of the resource areas and their associated local and state buffer zones. Many of the areas contain overlapping buffers with varying state and local requirements. A more detailed reading of these requirements and plan based analysis will be required for to determine which standards apply to any particular area where impacts are proposed.

Wetland ID	Cowardin Class	Description/Notes
HOT 1-51 HOT 1-30+	R1EM2 R1RBt	Highest Observable Tide. The majority of this boundary lies at the toe-of-slope of lagoon impoundments and along the granite wall/embankment located adjacent to Swasey Park. Several small areas of more natural boundary are included where the HOT lies at the limit of flotsam line within marsh areas.

8 Continental Dr Unit H, Exeter, NH 03833-7507

Ph (603) 778 0644 / Fax (603) 778 0654

www.gesinc.biz

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<p>There are several buffers associated with this boundary.</p> <ul style="list-style-type: none"> • A 100-foot Tidal Buffer in accordance with Env-Wt 101.99 • A 300-foot buffer in accordance with the Exeter Shoreland Protection District Zoning Ordinance 9.3.3.C1 • 250-foot, 150-foot, and 50-foot buffers in accordance with the NH Shoreland Water Quality Protection Act. RSA 483-B 		
A & I	R3EM2 PSS1	<p>Emergent and scrub shrub wetland immediately above the high tide. These areas are likely subject to storm tides. They include narrow leaved cattail (<i>Typha angustifolia</i>) which also dominates the brackish marsh, and scrub shrub wetlands including alder, glossy buckthorn, multiflora rose, and Phragmites.</p> <ul style="list-style-type: none"> • These wetlands contain very poorly drained soil and are subject to a 50-foot buffer in accordance with Exeter Wetland Conservation Overlay District Zoning Ordinance 9.1.3.E. • These wetlands also appear to be within the limits of the Prime Wetland and therefore have a 100-foot buffer in accordance with Exeter Wetland Conservation Overlay District Zoning Ordinance 9.1.3.E
B	PEM1/3	<p>These areas are essentially disturbed wet meadow adjacent to the highway and the facility. There are include several invasive species, namely Phragmites, Purple Loosestrife, and Reed-Canary-Grass.</p> <ul style="list-style-type: none"> • This wetland contains poorly drained soil and is subject to a 40-foot buffer in accordance with Exeter Wetland Conservation Overlay District, Zoning Ordinance 9.1.3.E
C	PFO1	<p>Small area of forested wetland extending off site.</p> <ul style="list-style-type: none"> • This wetland contains poorly drained soil and is subject to a 40-foot buffer in accordance with Exeter Wetland Conservation Overlay District, Zoning Ordinance 9.1.3.E
D	PSS1 PEM	<p>This area is essentially a small wet area dominated by Phragmites and a ditch which connects it to a drainage structure at the intersection of the access driveway and Newfields Road. The ditch is dominated by glossy buckthorn and multiflora rose.</p> <ul style="list-style-type: none"> • The upper portion of this wetland contains poorly drained soil and is subject to a 40-foot buffer in accordance with Exeter Wetland Conservation Overlay District, Zoning Ordinance 9.1.3.E. • The linear ditch portion MAY be viewed as a manmade drainage structure and would therefore not have a buffer per the ordinance.
E	PSS1	<p>Upper reaches of wetland associated with a small stream entering the site through a culvert under the entrance driveway. The wetland is infested with Phragmites and the stream is poorly defined through this area. There are a number of buffers associated or potentially associated with this wetland and the stream contained within it.</p> <ul style="list-style-type: none"> • The stream below the access driveway is depicted as perennial on the USGS map and is therefore likely subject to a 150-foot buffer in accordance with Exeter Shoreland Protection District, Zoning Ordinance 9.3.3.C2 • This wetland contains poorly drained soil and is subject to a 40-foot buffer in accordance with Exeter Wetland Conservation Overlay District Zoning Ordinance 9.1.3.E. • The tidally influenced portion of this wetland closer to Squamscott





GOVE ENVIRONMENTAL SERVICES, INC.

		River is a Prime Wetland. This part of the wetland has a 100-foot buffer in accordance with accordance with Exeter Wetland Conservation Overlay District Zoning Ordinance 9.1.3.E
F&G	PFO1	Two areas of forested red maple wetland adjacent to the pump station. These wetlands are surrounded by developed areas and are fairly isolated, with a possible connection to the river or to the municipal drainage system via a pipe under Swasey Parkway. <ul style="list-style-type: none">• These wetlands contain very poorly drained soil and are subject to a 50-foot buffer in accordance with Exeter Wetland Conservation Overlay District, Zoning Ordinance 9.1.3.E
H & 2H	R3SB2/3	These series of flags define the top-of-bank along Norris Brook. <ul style="list-style-type: none">• This perennial stream is specifically included in that Exeter Shoreland Protection District Ordinance as a major freshwater tributary to the Squamscott River and therefore also has 300-foot buffer in accordance with 9.3.3.C1

Prime Wetland

A portion of the wetland along Squamscott River adjacent to the facility and Swasey Park has been designated as Prime Wetland per RSA 482-A:15, and the NH Code of Administrative Rules Env-Wt 700. This area is depicted on the attached map available from NH DES. The boundary of the relevant area is dictated by the prime wetland report and map on file at DES and also available from the Town of Exeter. There are additional state and local regulatory requirements for work within and adjacent these wetlands.

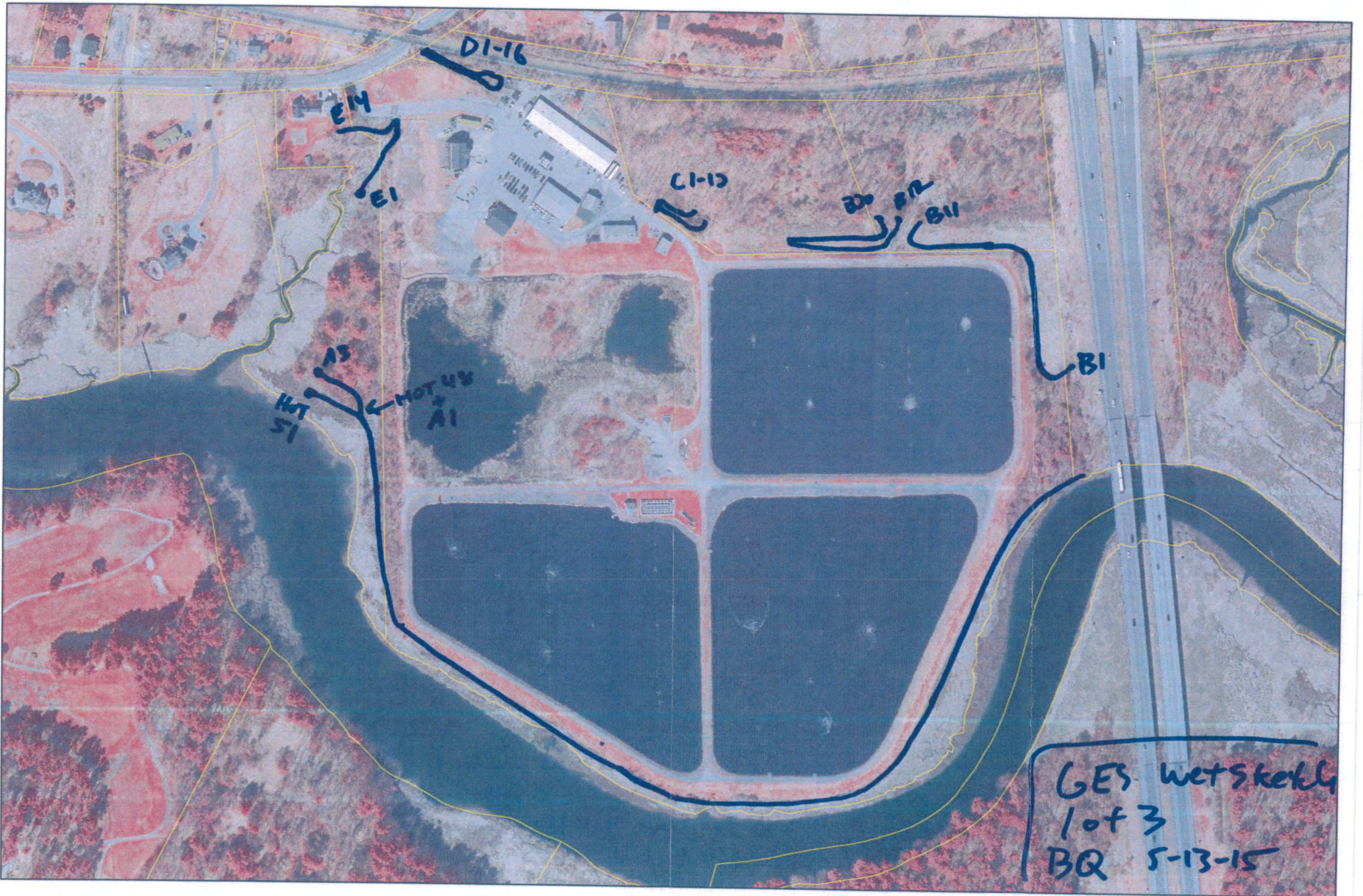
This concludes the wetland delineation report. If I can be of further assistance, please feel free to contact me at (603) 778-0644.

Sincerely,

Brendan Quigley, NHCWS
Gove Environmental Services, Inc.

Enc. Wetland delineation sketch
Prime Wetland Map

8 Continental Dr Unit H, Exeter, NH 03833-7507
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DI-16

E1

E2

C1-13

B2

B1

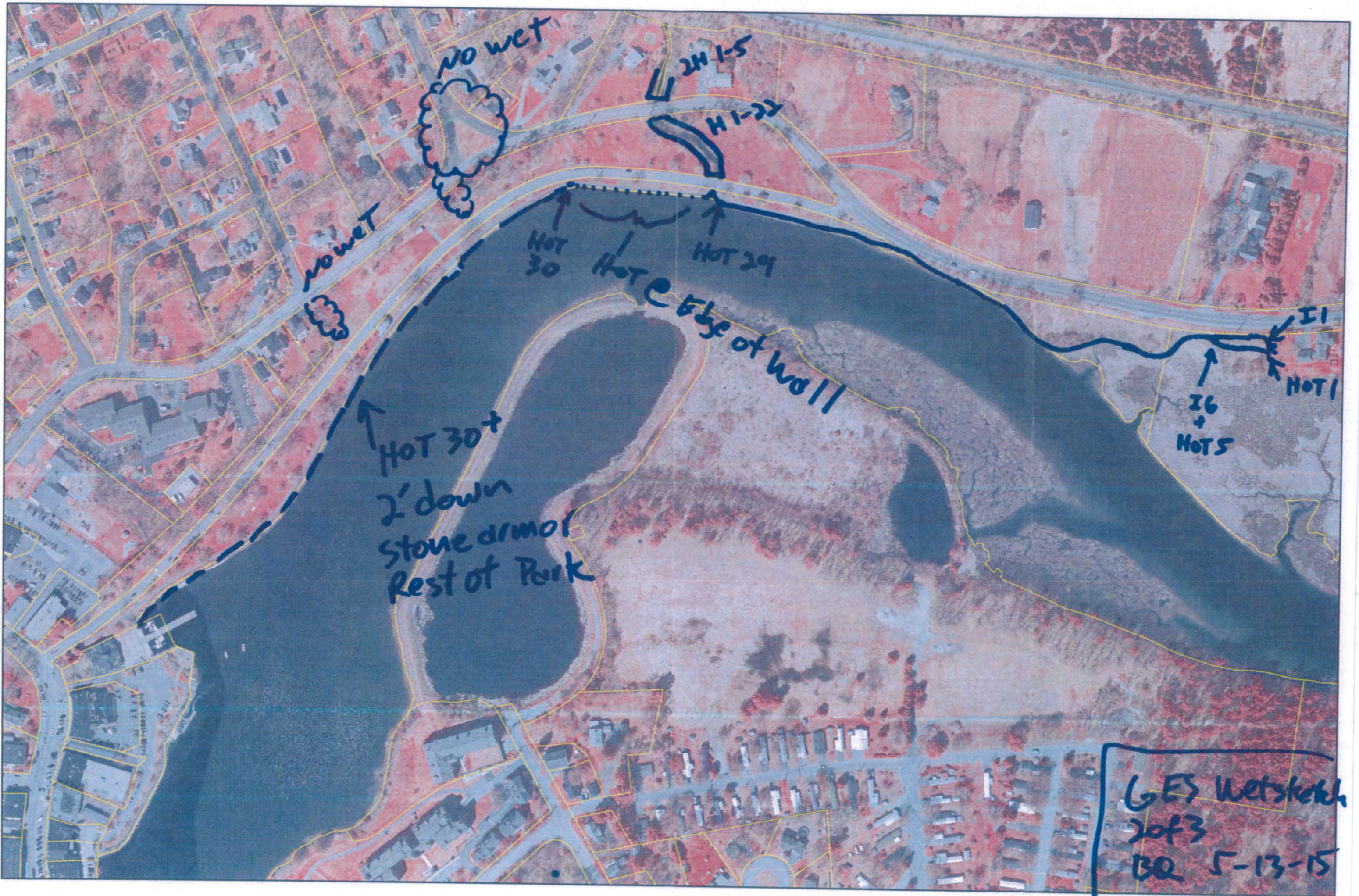
B1

A1

A2

MOTUS
A1

GES WetSketch
1 of 3
BQ 5-13-15



NO wet

2H 1-5

H 1-29

nowet

HOT 30

HOT 29

HOT @ Edge of wall

HOT 30+
2' down
Stone armor
Rest of Park

I1
HOT 1

36
+
HOT 5

GES Wetstetel
2 of 3
BR 5-13-15

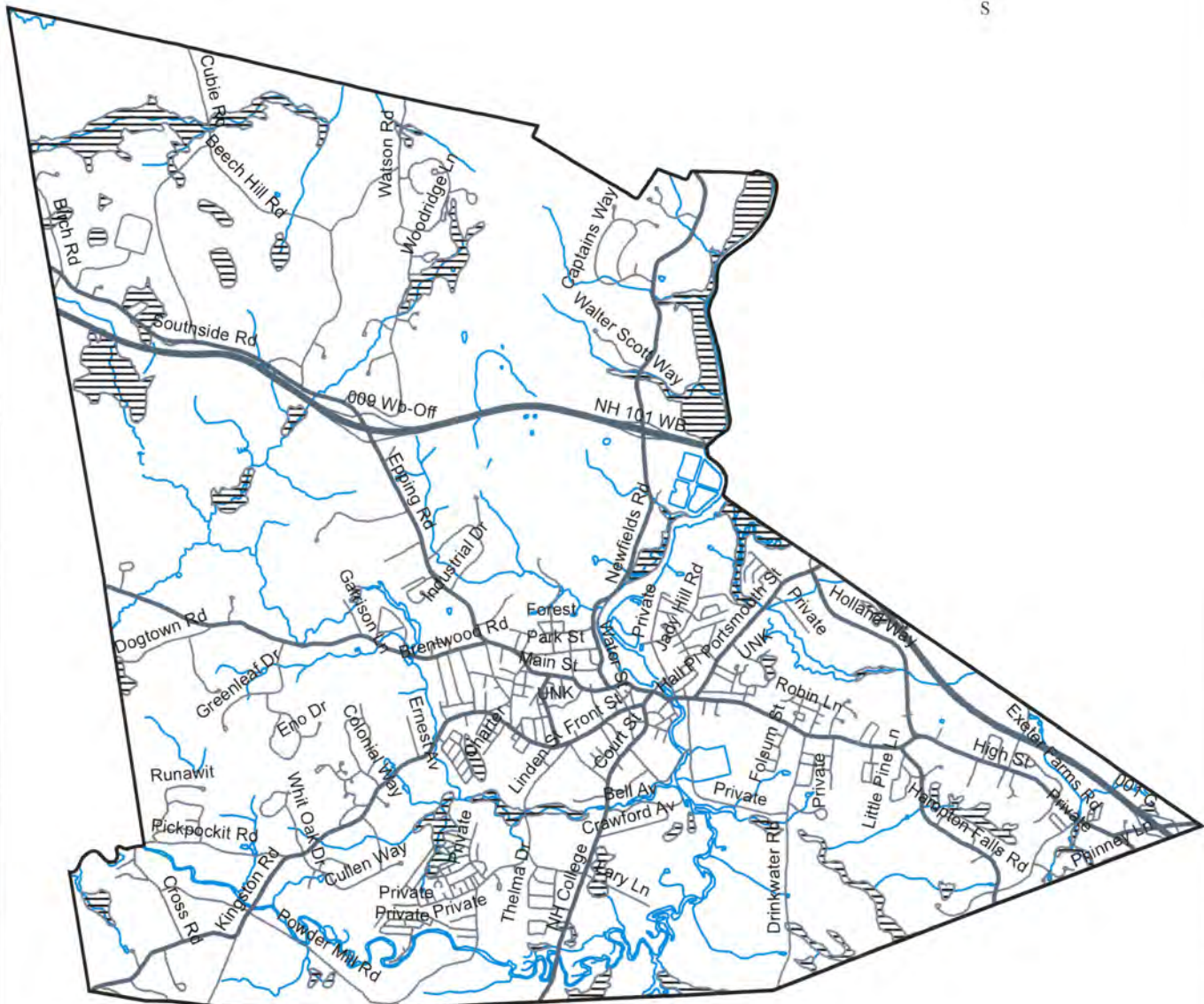
F1
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G1-4
(A1-4 by others)

F6

GES Wet Skells
3 of 3
BQ 5-13-15



Legend

Roads
 — Town
 — State

Hydrography
 Surface Water

Prime Wetland 100 Foot Buffer
 NO
 YES
 100 Foot Buffer

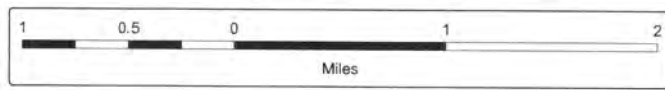
Prime Wetlands in Exeter, NH

New Hampshire State Plane Coordinate System
 North American Datum 1983 (feet)

The coverages presented are under constant revision as new sites or facilities are added, and may not contain all potential or existing sites or facilities. These maps were prepared using data supplied by the municipality and the information was digitized to the best of our ability. For prime wetland and prime wetland buffer locations for a specific site, please contact the municipal office where the project is proposed. NHDES is not responsible for the use or interpretation of this information by third parties.

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

DATE PRODUCED
 October, 2012



ATTACHMENT B
Project Narrative

Exeter, NH
Wastewater Treatment Facility Upgrade

Wetlands Permit Application
Project Narrative

I. INTRODUCTION

The Town of Exeter, New Hampshire, has applied for Clean Water State Revolving Loan Funds (CWSRF) through the state of New Hampshire Department of Environmental Services (NHDES aka “the Department”) in accordance with provisions of Chapter Env-Wq 500 rules of the Department. These rules prescribe procedures for the application process concerning the CWSRF of the Department. This narrative provides an overview of the project in support of the permitting applications being submitted under the Wetlands Bureau, Alternation of Terrain Bureau, and the Shorelands Bureau.

II. BACKGROUND

The Town of Exeter owns and operates a wastewater treatment facility (WWTF) located along the Squamscott River, a tributary of the Great Bay estuary system. The treatment facility serves the Town of Exeter as well as small portions of the Towns of Stratham and Hampton.

The wastewater treatment facility is an aerated lagoon facility with disinfection that was constructed in 1964 and comprehensively upgraded in 1988. The Environmental Protection Agency (EPA) issued a new NPDES permit to the Town in December 2012 which included requirements that the existing WWTF was not able to achieve. An Administrative Order of Consent (AOC) was issued to the Town in June 2013 which set a time frame for implementing the needed improvements. The AOC calls for publically bidding the improvements before December 25, 2016.

Improvements are planned for the wastewater treatment facility as well as the main pump station serving the facility. The force mains connecting the pump station to the WWTF are also being replaced as part of the project. While the work is taking place in separate construction contracts, all of the proposed improvements are included in this permitting package.

III. DETAILS OF PROJECT

The proposed project covers major upgrades to nearly all components of the WWTF. New construction at the WWTF includes renovations of the Control Building, new Headworks Building, a new Solids Handling Building, a new Pumping Building, a new Maintenance Garage, new Secondary Clarifiers, new Aeration Tanks, and modified site piping. These new structures are slated to be constructed within the footprint of the existing sludge lagoon. Improvements are also slated for the Main Pump Station and the force mains from the pump station connecting to the wastewater treatment facility. New impervious surfaces associated with the new treatment

facility will require the installation of an enclosed stormwater drainage system to handle runoff from the site.

A Prime Wetland is located adjacent to portions of the proposed work including an area along Newfields Road (Route 85). The force main work falls just outside of the Prime Wetland Buffer zone. A Tidal Wetland exists adjacent to the proposed work and construction will disturb some areas within the Tidal Wetland Buffer zone. Actual disturbances of flagged wetlands will be minimal. The force main replacement work will be routed through the Norris Brook area along Swasey Parkway. This crossing will be constructed as an open cut and then the area restored to its original conditions. At the proposed entrance to the new WWTF, a small area of flagged wetlands will be disturbed to construct a riprap apron for a culvert discharge.

The layout of the WWTF perimeter roadway network has been revised during the design development to avoid any encroachments into the 100-foot Prime Wetland Buffer.

Improvements scheduled for the Main Pump Station site will not be significantly different than the current layout of the site. Impervious areas are essentially the same as pre-development conditions and site grades are not changing. A new access is proposed from Swasey Parkway for access by emergency vehicles. This access will feature a reinforced turf drive to support fire trucks and other emergency vehicles. No new drainage structures are proposed for this facility as part of the proposed improvements.

Wetlands are present adjacent to the Main Pump Station, along the force main route, and adjacent to the proposed treatment facility, although the impacts to wetlands will be minimal as a result of the project. No impacts to wetlands will be necessary at the Main Pump Station site. The force main work will require a crossing of Norris Brook. This crossing will be constructed as an open cut during the low flow months of the year. A drainage culvert will be installed in this area to direct runoff from the Public Works access drive under the new access drive to the treatment facility. The wetland impact associated with this culvert installation and riprap apron will be approximately 740 square feet.

ATTACHMENT C
Pre-Application Meeting Notes

TO: File **DATE:** 9/2/2016
FROM: Jeff Preble **PROJECT NO.:** 12883B
SUBJECT: NHDES Wetlands Bureau Pre Application Meeting

On September 1, 2016, I met with Eben Lewis of the New Hampshire Department of Environmental Resources Wetlands Bureau to review the Exeter wastewater treatment facility improvements project. Areas of impact for the treatment site, force main and pump station were reviewed. The proposed improvements fall outside of the 100-foot prime wetland buffer and as a result a major wetlands permit application will not be required. In several areas along Route 85 the edge of the prime wetland buffer follows the centerline of the roadway. We will need to make sure our documents indicate no disturbance in those areas beyond the centerline. At the WWTF, we revised the southeast corner arrangement of the site near the stormwater/fire pond to avoid the wetland buffer boundary.

Due to the small impacts at Norris Brook, the WWTF entrance road riprap apron, and the work occurring within the 100-tidal buffer, a minor impact application will be needed. Due to the work within the tidal buffer, the utility notification wetland application cannot be filed.

For the Norris Brook crossing, we will need to prepare a dewatering plan and water diversion plan for the crossing. The brook is considered a perennial stream. Additional details will need to be added to the plans to indicate any coffer dam locations, dewatering areas, protection of the discharges from the dewatering area. The discharge must be at least 50-feet from the resource. We will also need to indicate what we propose for a temporary sediment basin – ie use of a dirt bag or other type device.

Eben indicated a review period of approximately 30 days for processing of the wetlands application. Copies of the application will need to be provided to the town and to the Exeter Squamscott River Local Advisory Committee. If all work falls within existing right-of-ways then no abutter notification would be required.

ATTACHMENT D
Minimization and Avoidance

Exeter, NH
Wastewater Treatment Facility Upgrade

Wetlands Permit Application
Minimization and Avoidance

In addition to the responses provided in Attachment A – 20 Questions, a great deal of effort was spent on the routing of the force main portion of the project. Close coordination was needed with the Swasey Parkway Trustees to alleviate their concerns on impacts to the parkway corridor, as well as routing in Route 85 to avoid other utilities, keep the existing force main in operation while the work is taking place, and avoiding the Prime Wetland buffer areas. The final force main layout achieves these project goals.

At the wastewater treatment facility, the lower south east corner of the site was redesigned to eliminate work taking place within the Prime Wetland buffer at this part of the site. Special care was also taken at the proposed entrance to the facility and the associated new utilities to avoid impact to the Prime Wetland buffer in this area.

The overall purpose of the project is to improve water quality in the Squamscott River and Great bay watershed by improving the effluent quality from the facility. Together with the careful site planning, wetland and buffer zone impacts have been minimized and water quality will be improved.

ATTACHMENT E
NH Natural Heritage Bureau
Correspondence



New Hampshire Natural Heritage Bureau

To: Thomas Hamill
75 Washington Ave
Suite 202
Portland, ME 04101

Date: 3/2/2016

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 3/2/2016

VALID ONLY FOR NOTIFICATION OR MINIMUM EXPEDITED APPLICATIONS SUBMITTED TO
THE NHDES WETLANDS BUREAU

NHB File ID: NHB16-0623

Applicant: Thomas Hamill

Location: Tax Map(s)/Lot(s): 064-044-0000
Exeter

Project Description: The project includes main pump station improvements to a site at 279 Water Street in Exeter. The pump station is associated with the WWTF project which will upgrade the sewer treatment plant built in 1964 and comprehensively upgraded in 1988. The WWTF discharges effluent into a tidally-influenced segment of the Squamscott River, upstream of the Great Bay. Upgrades will include a new aeration tank, three clarifiers, a headworks building, a maintenance garage, a solids handling building, a snow dump area, and other site improvements.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

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.

This report is valid through 3/1/2017.



MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB16-0623



Memo



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Thomas Hamill, Wright-Pierce
75 Washington Ave
Suite 202
Portland, ME 04101

From: Amy Lamb, NH Natural Heritage Bureau

Date: 3/10/2016 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB16-0615

Town: Exeter, NH

Location: Tax Maps: 049-015-0000

Description: The project includes wastewater facility improvements to sewer treatment site at 13 Newfields Rd in Exeter. The project will upgrade sewer treatment plan built in 1964 and comprehensively upgraded in 1988. The WWTF discharges effluent into a tidally-influenced segment of the Squamscott River, upstream of the Great Bay. Upgrades will include a new aeration tank, three clarifiers, a headworks building, a maintenance garage, a solids handling building, a snow dump area, and other site improvements.

cc: Kim Tuttle

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

Comments: Please explain how the new system will minimize nutrient inputs to the exemplary natural system downstream, and describe any new riverbank impacts and outfall areas. Responses may be sent to me at Amy.Lamb@dred.nh.gov. Please coordinate with NH Fish & Game to address wildlife concerns.

Natural Community

Subtidal system

State¹ Federal Notes

-- --

Threats to these communities are primarily alterations to the hydrology of the wetland (such as alterations that might affect the sheet flow of tidal waters across the intertidal flat) and increased input of nutrients and pollutants in storm runoff.

Plant species

little-headed spikesedge (*Eleocharis parvula*)

State¹ Federal Notes

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.

Vertebrate species

American Eel (*Anguilla rostrata*)

State¹ Federal Notes

SC --

Contact the NH Fish & Game Dept (see below).

Common Moorhen (*Gallinula chloropus*)

SC --

Contact the NH Fish & Game Dept (see below).

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

DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

Memo



NH NATURAL HERITAGE BUREAU NHB DATACHECK RESULTS LETTER

Marsh Wren (<i>Cistothorus palustris</i>)	--	--	Contact the NH Fish & Game Dept (see below).
Northern Black Racer (<i>Coluber constrictor constrictor</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Osprey (<i>Pandion haliaetus</i>)	SC	--	Contact the NH Fish & Game Dept (see below).
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Sora (<i>Porzana carolina</i>)	SC	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle (<i>Clemmys guttata</i>)	T	--	Contact the NH Fish & Game Dept (see below).

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.

Contact for all animal reviews: *Kim Tuttle, NH F&G, (603) 271-6544.*

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

Department of Resources and Economic Development

Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

New Hampshire Natural Heritage Bureau - Plant Record

little-headed spikesedge (*Eleocharis parvula*)**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: Fair quality, condition and/or landscape context ('C' on a scale of A-D).
 Comments on Rank: Small population

Detailed Description: 1996: Small population.

General Area: 1996: In low brackish tidal marsh. Associated with *Spartina alterniflora* (smooth cord-grass), *Typha angustifolia* (narrow-leaved cat-tail), *Scirpus robustus* (stout bulrush), *Atriplex hastata* (halberd-leaved orach), and *Amaranthus cannabinus* (water hemp).

General Comments:
 Management
 Comments:

Location

Survey Site Name: The Great Roundabout and the Squamscott River
 Managed By:

County: Rockingham

Town(s): Exeter

Size: 2.8 acres

Elevation: 30 feet

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

Directions: Along the Squamscott River adjacent to pull-off on east side of Rte. 85 south of Rte. 101.

Dates documented

First reported: 1996-09-04

Last reported: 1996-09-04

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)**Legal Status**

Federal: Not listed
 State: Special Concern

Conservation Status

Global: Apparently secure but with cause for concern
 State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2008: Area 13324: 15 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
 Managed By:

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

Elevation:

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

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Common Moorhen (*Gallinula chloropus*)**Legal Status**

Federal: Not listed
 State: Special Concern

Conservation Status

Global: Demonstrably widespread, abundant, and secure
 State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 1999: One bird (10/28). An immature bird present for over a month (11/4, 11/14, 11/20, 12/1 swam across pond with coots, 12/09). 1998: One bird, age not noted (8/27). One juvenile (8/29 and 9/3). One immature bird (9/8 and 9/21). 1993: One immature (10/3 and 10/10). Probably same bird seen 10/31. 1983: One bird. 1978: 2 in southeast pond, one in southwest pond (D. Abbott suspects breeding in area). 1977: One adult. 1976: 2 to 4 birds. 1975: One to 3 birds. 1972: One bird.

General Area: 1998: Wastewater treatment plant pond.

General Comments: 1997: Breeding not definite, but multiple observations during breeding season over many years, including immature(s).

Management
 Comments:

Location

Survey Site Name: Exeter Sewage Lagoons/Wheelwright Creek
 Managed By: Exeter Country Club, Inc.

County: Rockingham

Town(s): Exeter

Size: 113.8 acres

Elevation: 15 feet

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

Directions: [From Rte. 101 in Exeter, take Newfields Road (Rte. 85) south to Wastewater Treatment plant.]
 1993-1999: Exeter Wastewater Treatment lagoons. 1983: Sewer beds, Wheelwright Creek. NNE of Exeter along Squamscott River, from Powderhouse Point to Wheelwright Creek.

Dates documented

First reported: 1972

Last reported: 1999-12-09

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Marsh Wren (*Cistothorus palustris*)**Legal Status**

Federal: Not listed
 State: Not listed

Conservation Status

Global: Demonstrably widespread, abundant, and secure
 State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2013: 5 observed between 5/5 and 8/24. 2012: 2 observed between 4/22 and 8/6. 2011: 1 observed between 4/25 and 6/2. 2010: 1 observed between 4/25 and 5/25. 2009: 50 observed on 6/17 and nest on 5/3. 2008: Adults and juveniles observed between 5/19 and 8/2. 2007: 2 observed with nest between 5/1 and 7/24. 2006: 4 observed between 5/19 and 7/30. 2005: 2 observed on 7/15. 2004: 34 observed on 5/30. 2003: 2 observed on 5/20. 2002: 10 observed on 6/1. 1999: 10 observed on 8/1. 1995: 6 observed between 5/19 and 6/14. 1993: 21 observed between 7/5 and 7/23.

General Area:
 General Comments:
 Management
 Comments:

Location

Survey Site Name: Squamscott River Estuary
 Managed By: Oxbow

County: Rockingham
 Town(s): Exeter
 Size: 54.8 acres Elevation:

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

Directions:

Dates documented

First reported: 1993-07-05 Last reported: 2013-08-24

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Osprey (*Pandion haliaetus*)**Legal Status**

Federal: Not listed
 State: Special Concern

Conservation Status

Global: Demonstrably widespread, abundant, and secure
 State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2005: Area 8283: 2 fledged.2004: Area 8283: 1 fledged.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Brookside Sanctuary
 Managed By:

County: Rockingham

Town(s): Exeter

Size: .4 acres

Elevation:

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

Directions:

Dates documented

First reported: 2004

Last reported: 2005

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Pied-billed Grebe (*Podilymbus podiceps*)

Legal Status

Federal: Not listed
 State: Listed Threatened

Conservation Status

Global: Demonstrably widespread, abundant, and secure
 State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2010: 1 immature observed between 8/12 and 9/12. 2006: 1 observed on 8/25. 2004: 1 observed between 7/19 and 8/8. 2003: 2 observed between 7/27 and 8/15. 2001: One individual (9/3). 2000: One individual (3/19). 1997: 5 adults with 3 young in the southwest lagoon (no date). One adult and two very young chicks swimming (6/1). One adult and three young, still with stripes (6/11). Two juveniles (7/19). 1996: 2 individuals (9/22). 1995: One individual (8/25).

General Area: 1997: Sewage treatment plant lagoon, with vegetation.

General Comments:

Management

Comments:

Location

Survey Site Name: Exeter Sewage Lagoons

Managed By:

County: Rockingham

Town(s): Exeter

Size: 2.8 acres

Elevation: 50 feet

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

Directions: [From the intersection of Rtes 101 and 108 just east of Exeter, take Rte 101 west. The lagoons are south of the road immediately after crossing the Squamscott River.] 2000: Upper marsh pond (older pond).

Dates documented

First reported: 1997

Last reported: 2010-09-12

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Sora (Porzana carolina)

Legal Status

Federal: Not listed
State: Special Concern

Conservation Status

Global: Demonstrably widespread, abundant, and secure
State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2001: 3 individuals observed (5/13). 1999: No details (5/22). 1997: One individual calling several times, responding to whistles (4/20). Two adults (6/1). 1996: Called once, whinny call (4/28). Identified by whinny call (5/7). 1995: One bird, no details (5/14). 1994: 1 bird, no details (5/26). 1993: One individual calling (4/27). Two calling and chasing each other (5/23). One individual seen (10/2).

General Area: 2001: Also 2 Virginia rails. 1997: With Virginias. 1993: With moorhen in same field (10/2).

General Comments:
Management
Comments:

Location

Survey Site Name: Exeter Sewage Lagoons
Managed By:

County: Rockingham

Town(s): Exeter

Size: 2.8 acres

Elevation: 50 feet

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

Directions: [From Rte 101 in Exeter, take Newfields Road heading south to the Sewage Ponds.]

Dates documented

First reported: 1993-04-27

Last reported: 2001-05-13

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Spotted Turtle (*Clemmys guttata*)**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: Not ranked
 Comments on Rank:

Detailed Description: 2011: Area 13131: 1 adult observed.
 General Area: 2011: Area 13131: "A small stream in a very young forest."
 General Comments:
 Management
 Comments:

Location

Survey Site Name: Stratham, southwest of
 Managed By: Scamman Trust I (Woodland)

County: Rockingham
 Town(s): Stratham
 Size: 7.7 acres Elevation:

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

Directions: 2011: Area 13131: Scamman Farm easement, Stratham.

Dates documented

First reported: 2011-06-04 Last reported: 2011-06-04

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

ATTACHMENT F
Programmatic General Permit Checklist

Exeter, NH
Wastewater Treatment Facility Upgrade

Wetlands Permit Application
PGP Checklist Narrative

As noted in the Wetland Permit Application project narrative, the overall purpose of the project is to improve water quality in the Squamscott River and Great bay watershed by improving the effluent quality from the facility. The work consists of a new wastewater treatment facility located within the existing aerated lagoon facility, improvements to its Main Pump Station located along Swasey Drive, and replacement of an existing force main connecting the Main Pump Station to the treatment facility. The project does include filling of approximately 740 square feet of wetlands and work within the Tidal Buffer Zone of the Squamscott River. There will also be some temporary disturbances within Norris Brook to construct the new force mains across the brook.

New impervious areas noted in checklist items 2.5 through 2.8 are provided for the wastewater treatment facility site only. The remaining project components involve disturbances at the Main Pump Station site and along the force main route that will be restored to original conditions. The overall parcel at the wastewater treatment facility site is approximately 55.6 acres in size and includes the existing wastewater treatment lagoons as well as the Public Works Facility. New impervious associated with the wastewater treatment facility is 4.74 acres. Impervious area associated with the Public Works Facility is approximately 2.94 acres. The resulting percent impervious are is approximately 13.8%.

It should be noted that the wetlands disturbed as part of the project are infested with phragmites. This invasive species will be removed from the work area.



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

**New Hampshire Programmatic General Permit (PGP)
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 PGP, 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, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org , specifically the book Natural Community Systems of New Hampshire .		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.) <i>TEMPORARY DISTURBANCE - HERE'S BACK</i>	X	
2.5 The overall project site is more than 40 acres.	X	
2.6 What is the size of the existing impervious surface area?	2.94	
2.7 What is the size of the proposed impervious surface area?	4.74 Ac	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	13.8 %	
3. Wildlife	Yes	No
3.1 Has the NHB 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 a NHB determination.)	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. <i>Adjacent to habitats in Squamscott River</i>		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 PGP, GC 21?	X	
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 minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) shall be sent to the NH Division of Historical Resources as required on Page 5 of the PGP**	X	

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

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

NEW HAMPSHIRE WILDLIFE HABITAT LAND COVER 2015

-  Coastal Island/Rocky coast
-  Dune
-  Salt marsh
-  Peatland
-  Marsh and Shrub wetland
-  Northern or Temperate Swamp
-  Floodplain Forest
-  Grassland
-  Pine barren
-  Cliff or Talus slope
-  Rocky ridge
-  Alpine
-  High-elevation Spruce-fir
-  Low-elevation Spruce-fir
-  Northern hardwood-conifer
-  Appalachian oak-pine
-  Hemlock-hardwood-pine
-  Open Water

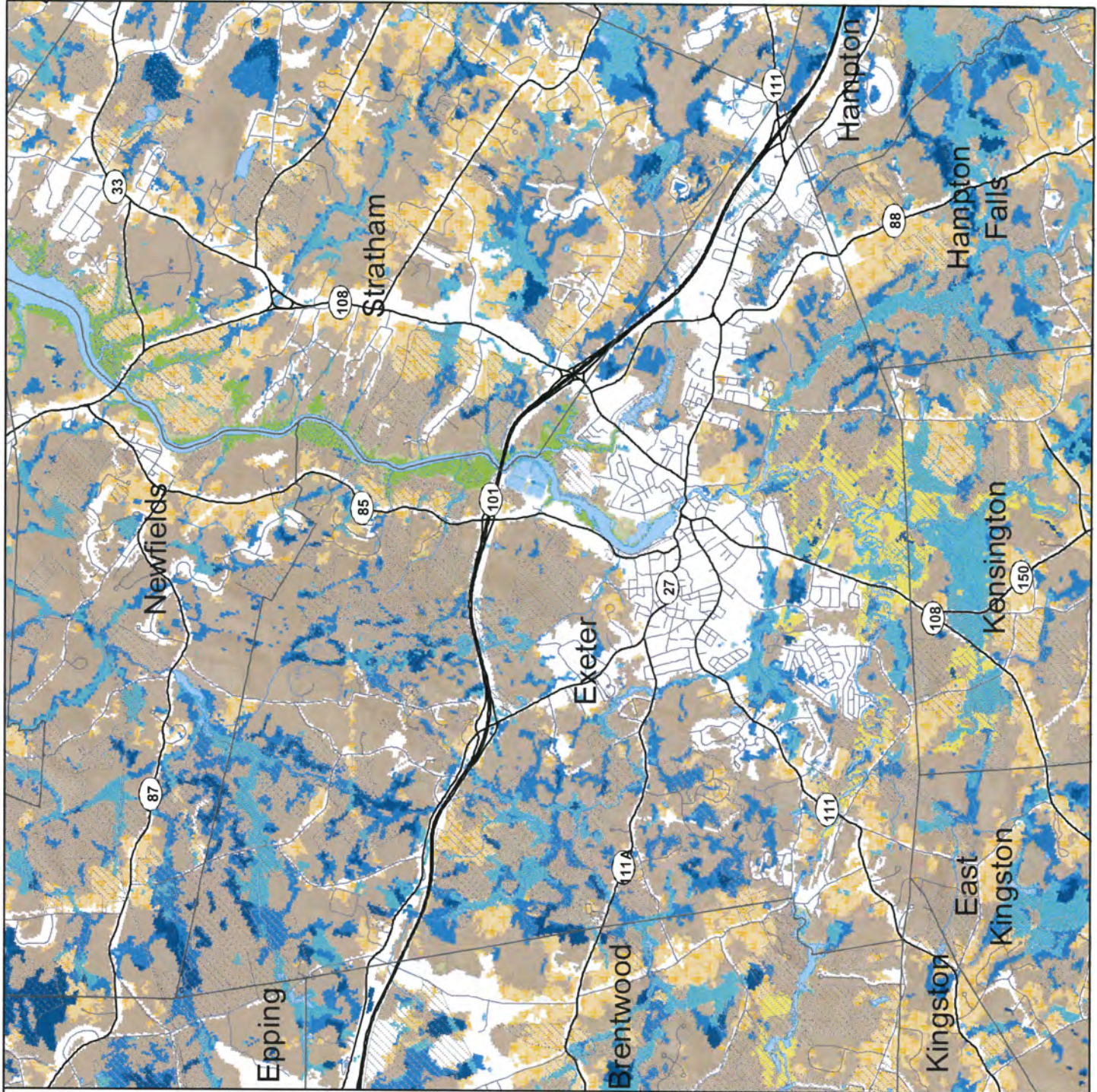
Developed or Barren (NLCD)

Conservation or public land

Base map data provided by NH GRANIT (2015)
intended for planning use only.



September 2015



Exeter Wastewater Treatment Facility Improvements

IPaC Trust Resources Report

Generated August 29, 2016 11:29 AM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



Table of Contents

IPaC Trust Resources Report	<u>1</u>
Project Description	<u>1</u>
Endangered Species	<u>2</u>
Migratory Birds	<u>3</u>
Refuges & Hatcheries	<u>5</u>
Wetlands	<u>6</u>

U.S. Fish & Wildlife Service

IPaC Trust Resources Report



NAME

Exeter Wastewater Treatment Facility Improvements

LOCATION

Rockingham County, New Hampshire

DESCRIPTION

The Town of Exeter will be undertaking several improvements to its wastewater treatment facilities including renovations to the Main Pump Station off Swasey Parkway, replacement of the existing sewer force main with 2-16" force mains, and construction of new treatment facilities within the footprint of the existing lagoon treatment systems. Construction is scheduled for 2017, and the EPA's administrative order requires the WWTF portion of the project be designed and ready for bidding by December 25, 2016.



IPAC LINK

<https://ecos.fws.gov/ipac/project/P5LSQ-WIPC5-E4NIH-IAYAU-HSAPDA>

U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Mammals

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.^[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data
<http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The following species of migratory birds could potentially be affected by activities in this location:

American Oystercatcher <i>Haematopus palliatus</i>	Bird of conservation concern
On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0G8	
American Bittern <i>Botaurus lentiginosus</i>	Bird of conservation concern
On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F3	
Bald Eagle <i>Haliaeetus leucocephalus</i>	Bird of conservation concern
On Land Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008	
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i>	Bird of conservation concern
On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0H1	

Blue-winged Warbler <i>Vermivora pinus</i> On Land Season: Breeding	Bird of conservation concern
Canada Warbler <i>Wilsonia canadensis</i> On Land Season: Breeding	Bird of conservation concern
Great Cormorant <i>Phalacrocorax carbo</i> On Land Season: Wintering	Bird of conservation concern
Hudsonian Godwit <i>Limosa haemastica</i> At Sea Season: Migrating	Bird of conservation concern
Least Bittern <i>Ixobrychus exilis</i> On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B092	
Olive-sided Flycatcher <i>Contopus cooperi</i> On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0AN	Bird of conservation concern
Peregrine Falcon <i>Falco peregrinus</i> On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0FU	Bird of conservation concern
Pied-billed Grebe <i>Podilymbus podiceps</i> On Land Season: Breeding	Bird of conservation concern
Prairie Warbler <i>Dendroica discolor</i> On Land Season: Breeding	Bird of conservation concern
Purple Sandpiper <i>Calidris maritima</i> On Land Season: Wintering	Bird of conservation concern
Saltmarsh Sparrow <i>Ammodramus caudacutus</i> On Land Season: Breeding	Bird of conservation concern
Short-eared Owl <i>Asio flammeus</i> On Land Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HD	Bird of conservation concern
Snowy Egret <i>Egretta thula</i> On Land Season: Breeding	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> On Land Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F6	Bird of conservation concern
Wood Thrush <i>Hylocichla mustelina</i> On Land Season: Breeding	Bird of conservation concern

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Estuarine And Marine Deepwater

[E1ABL6](#)

[E1UBL6](#)

Estuarine And Marine Wetland

[E2EM1N6](#)

[E2EM1P6](#)

Freshwater Emergent Wetland

[PEM5Ex](#)

Freshwater Forested/shrub Wetland

[PSS1/FO1Ex](#)

Freshwater Pond

[PABHh](#)

[PABHx](#)

[PUBHx](#)

Riverine

[R4SBC](#)

[R5UBH](#)

A full description for each wetland code can be found at the National Wetlands Inventory website: <http://107.20.228.18/decoders/wetlands.aspx>

ATTACHMENT G
Project Location Map

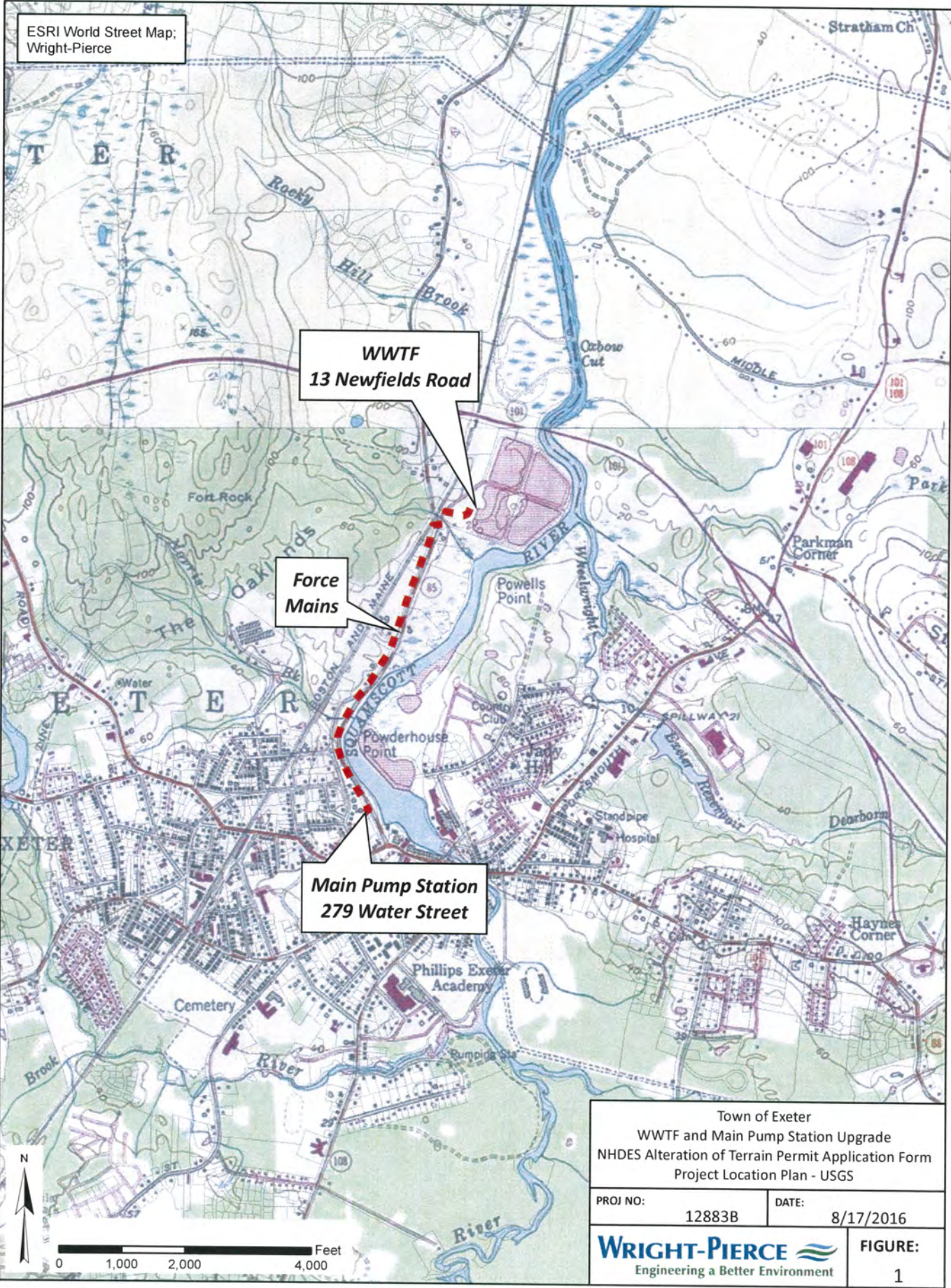
ESRI World Street Map;
Wright-Pierce

WWTF
13 Newfields Road

**Force
Mains**

Main Pump Station
279 Water Street

TAH_W\GIS_Development\Projects\NH\Exeter\12883B\MXDs\AOT-Permit\PropertyMap-v2-NoParcels-8x11-P.mxd



0 1,000 2,000 4,000 Feet

Town of Exeter WWTF and Main Pump Station Upgrade NHDES Alteration of Terrain Permit Application Form Project Location Plan - USGS	
PROJ NO: 12883B	DATE: 8/17/2016
WRIGHT-PIERCE Engineering a Better Environment	FIGURE: 1

ATTACHMENT H
Project Photos

Exeter Wastewater Treatment Facility Improvements – Force Main - Norris Brook Crossing

Site Photographs



Norris Brook from Swasey Parkway & Area of Existing Force Main Crossing



Stream Crossing Area to West



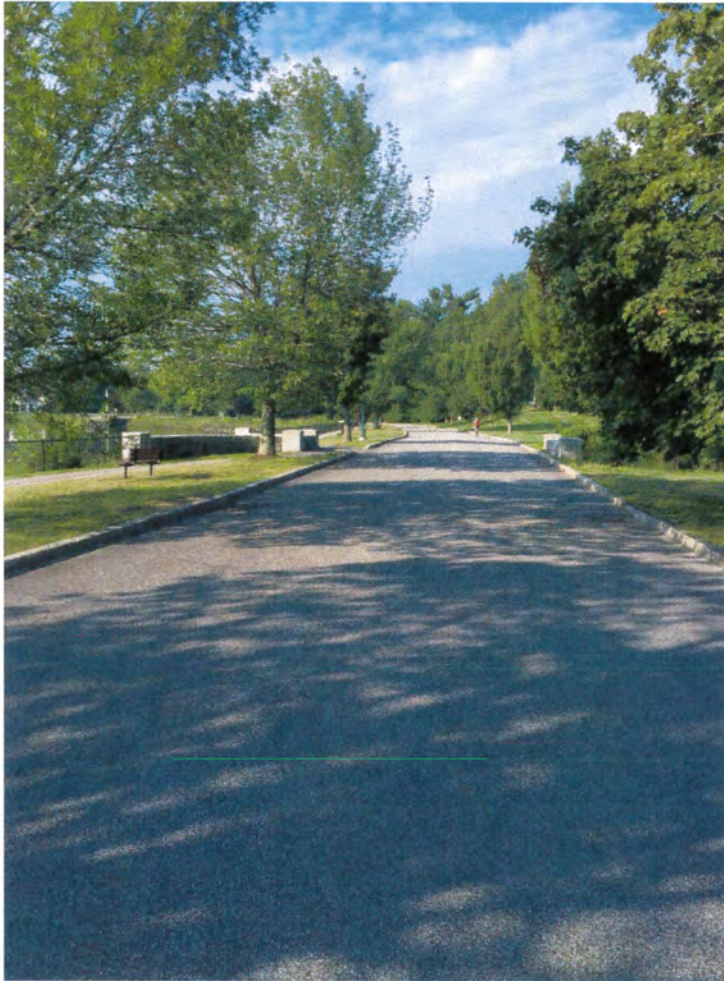
Proposed Force Main Crossing area



Proposed Crossing looking south to north

Exeter Wastewater Treatment Facility Improvements – Force Main Route 85 – Newfields Road

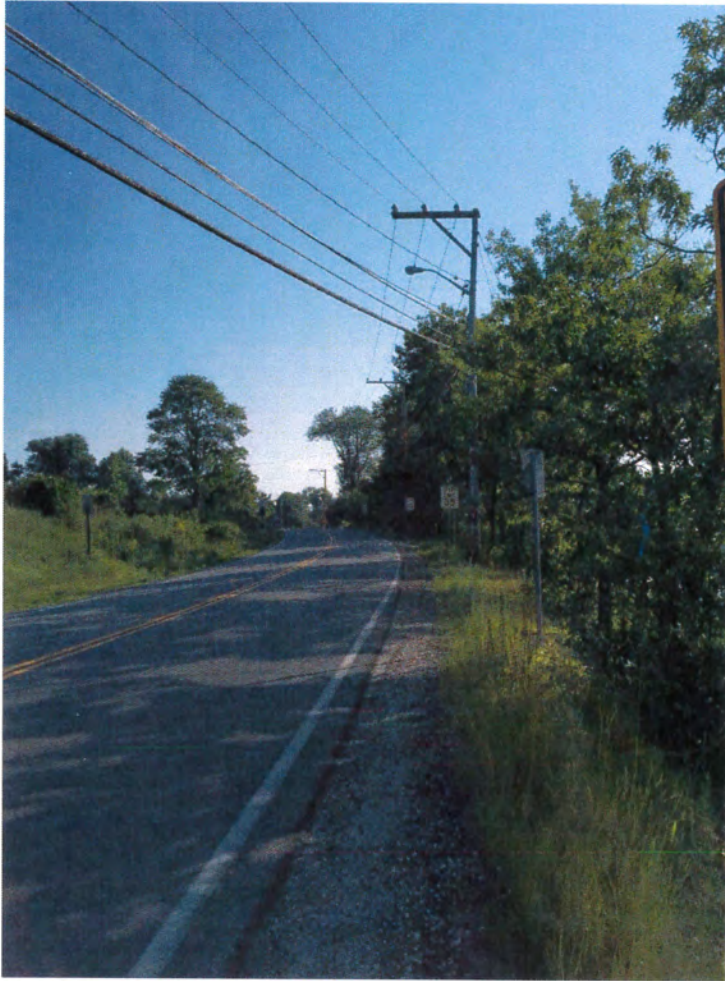
Site Photographs



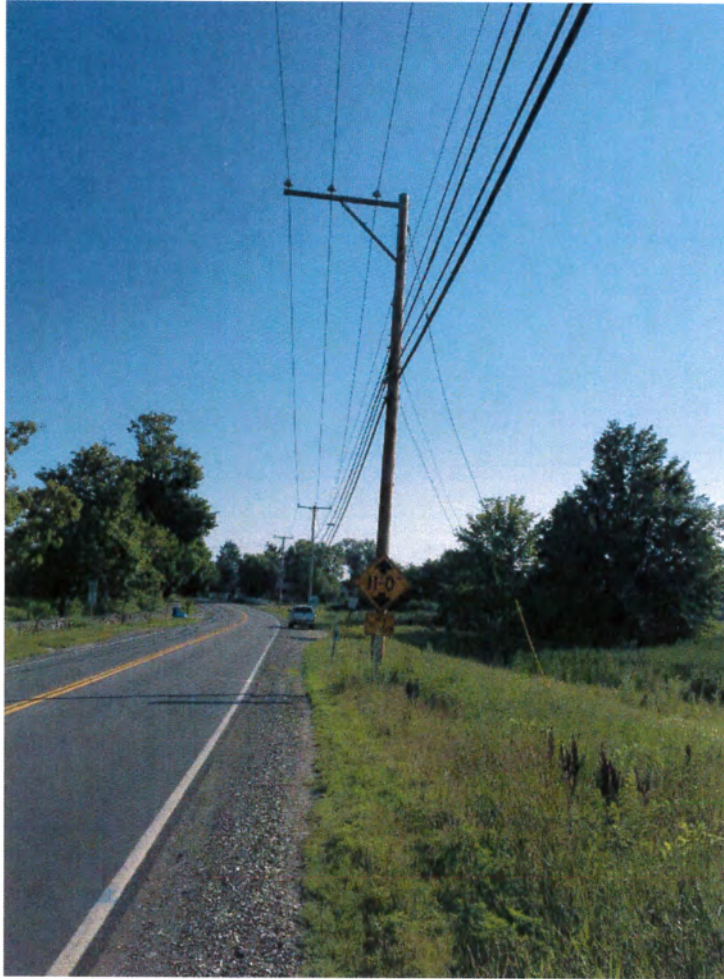
Swasey Parkway looking to south to Main Pump Station Site



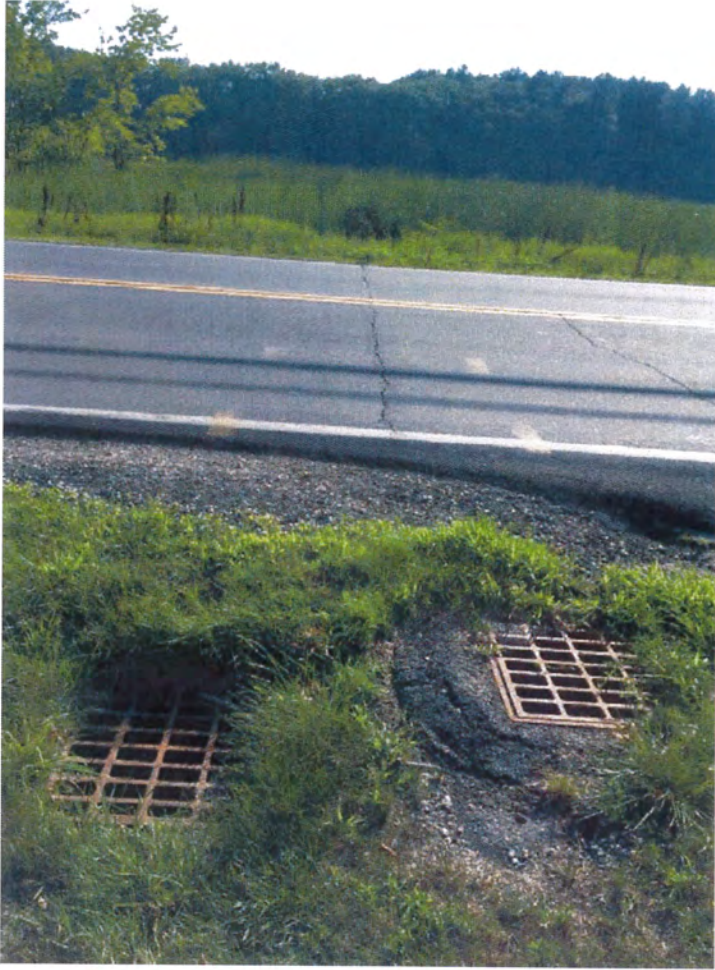
Swasey Parkway/Water Street/Newfields Road intersection



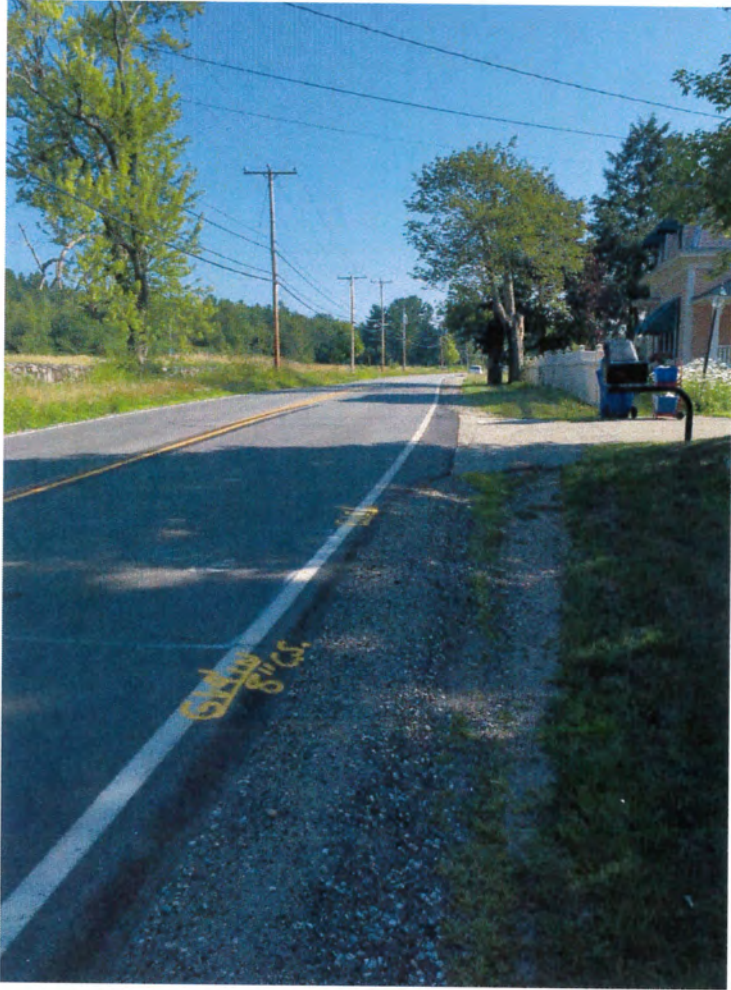
Newfields Road Station 26+00 +/-



Newfields Road Station 30+00 +/-



Newfields Road Station 32+25 looking to Squamscott River



Newfields Road Station 35+00 +/-



Unitil Lot Station 47+00 +/- - Looking towards Public Works lot

Exeter Wastewater Treatment Facility Improvements – Main Pump Station

Site Photographs



Main Pump Station Building



Main PS & Generator



Parking area

Exeter Wastewater Treatment Facility Improvements

Site Photographs



New access drive location from Public Works Lot entrance



New access drive location looking north along public works lot entrance.



From NE corner of public works lot looking towards new WWTF site



From SE side of site looking towards new treatment area location



From NE side of site looking towards proposed snow dump area



Disinfection area and location of new lagoon access ramps



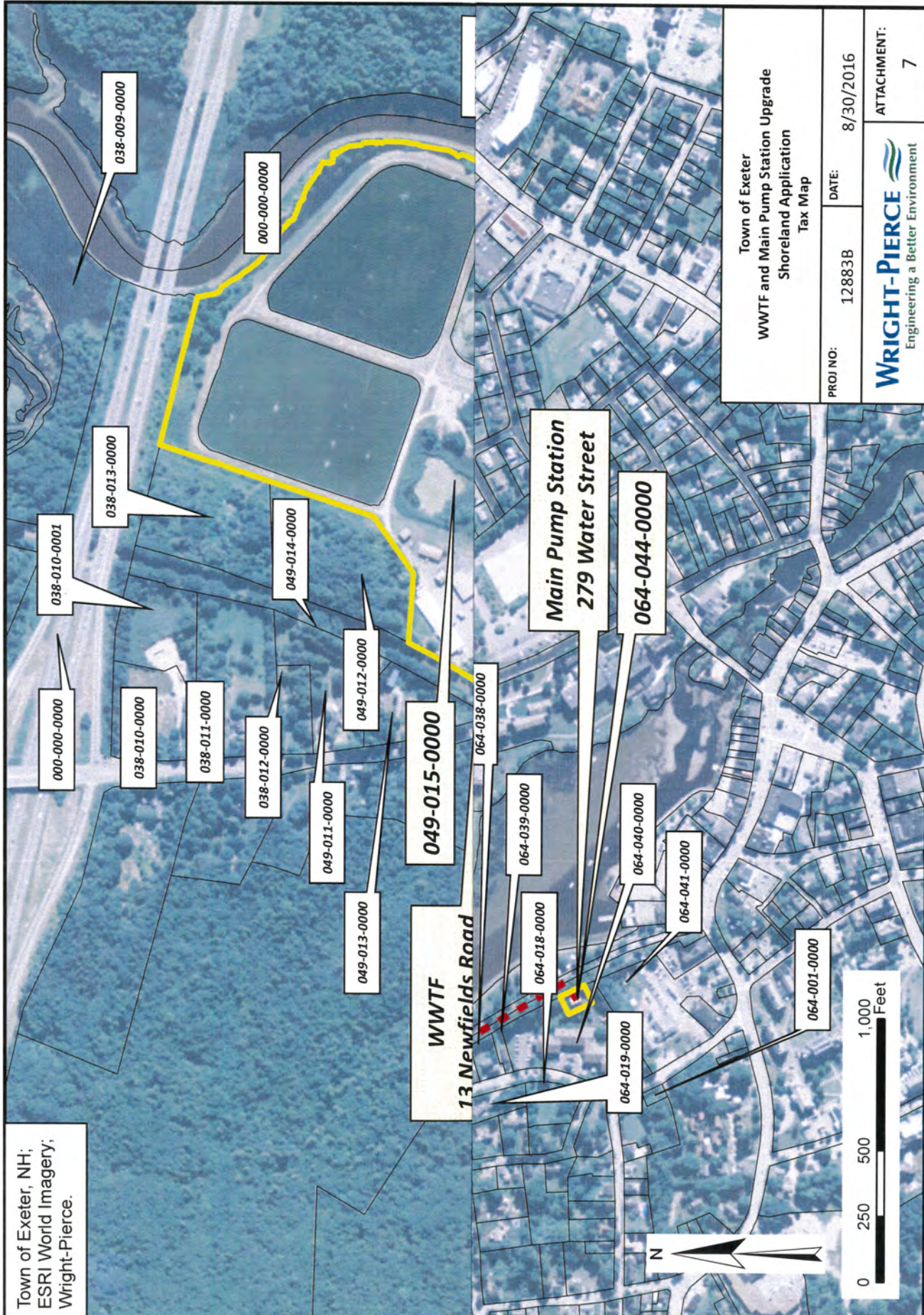
Easterly perimeter road location. SW corner of lagoon 3 to be utilized for stormwater and fire protection.



Southerly perimeter road location looking west

ATTACHMENT I
Tax Map

Town of Exeter, NH;
ESRI World Imagery;
Wright-Pierce.



Town of Exeter
WWTF and Main Pump Station Upgrade
Shoreland Application
Tax Map

PROJ NO:	12883B	DATE:	8/30/2016
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WRIGHT-PIERCE
Engineering a Better Environment

ATTACHMENT:
7

ATTACHMENT J
Abutter Notification

**Town of Exeter, NH
Wetlands Permit Application
Notice to Abutters
9/13/16**

Jaye L Carr
17 Newfields Road
Exeter, NH 03833
Map & Lots 49 / 12

Town of Exeter
10 Front Street
Exeter, NH 03833
Map & Lot 38 / 13

Russell F Fredericksen
Diane L Fredericksen
11 Newfields Road
Exeter, NH 03833
Map & Lot 49 / 16

Boston & Maine Railroad Corp
1700 Iron Horse Park
N. Billerica, MA 01862
Map & Lot 49 / 14

Town of Exeter
Conservation Commission
10 Front Street
Exeter, NH 03833
Map & Lot 50 / 1

Town of Exeter
10 Front Street
Exeter, NH 03833
Map & Lot 50 / 2

Town of Exeter
10 Front Street
Exeter, NH 03833
Map & Lot 49 / 8

Robert J Azzi
Bonny A Boston
15 Newfields Road
Exeter, NH 03833
Map & Lot 49 / 13

Town of Exeter
10 Front Street
Exeter, NH 03833
Map & Lot 49 / 8

**ABUTTER NOTIFICATION
OF
WETLANDS PERMIT APPLICATION**

Via Certified Mail

September 13, 2016

Re: Wetlands Permit Application

Exeter Wastewater Treatment Facility
13 Newfields Road
Exeter, NH 03833
Project's Tax Map 49/ Lot No. 15

Dear Sir or Madam:

This letter is to inform you that a Wetlands Permit Application will be filed with the NH Department of Environmental Services (DES) Wetland Bureau for a Wetlands and Non-Site Specific Permit associated with the above referenced project for work to upgrade the Town's wastewater treatment facility, its main Pump Station, and to replace the force mains connecting the Main Pump Station to the treatment facility. Under state law RSA 482-A:3 I (d)(1), I am required to notify you about the application, which proposes work abutting your property.

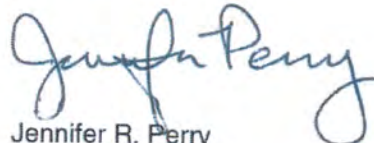
Once it is filed, the permit application, including plans that show the proposed project will be available for viewing at the City or Town Clerk's Office in Exeter where the proposed project is located or at the NHDES offices by scheduling a file review by calling (603) 271- 8876 or online at <http://www4.egov.nh.gov/DES/FileReview/>.

If you have questions, you may contact me / my agent at the contact information provided below.

Sincerely,
WRIGHT-PIERCE

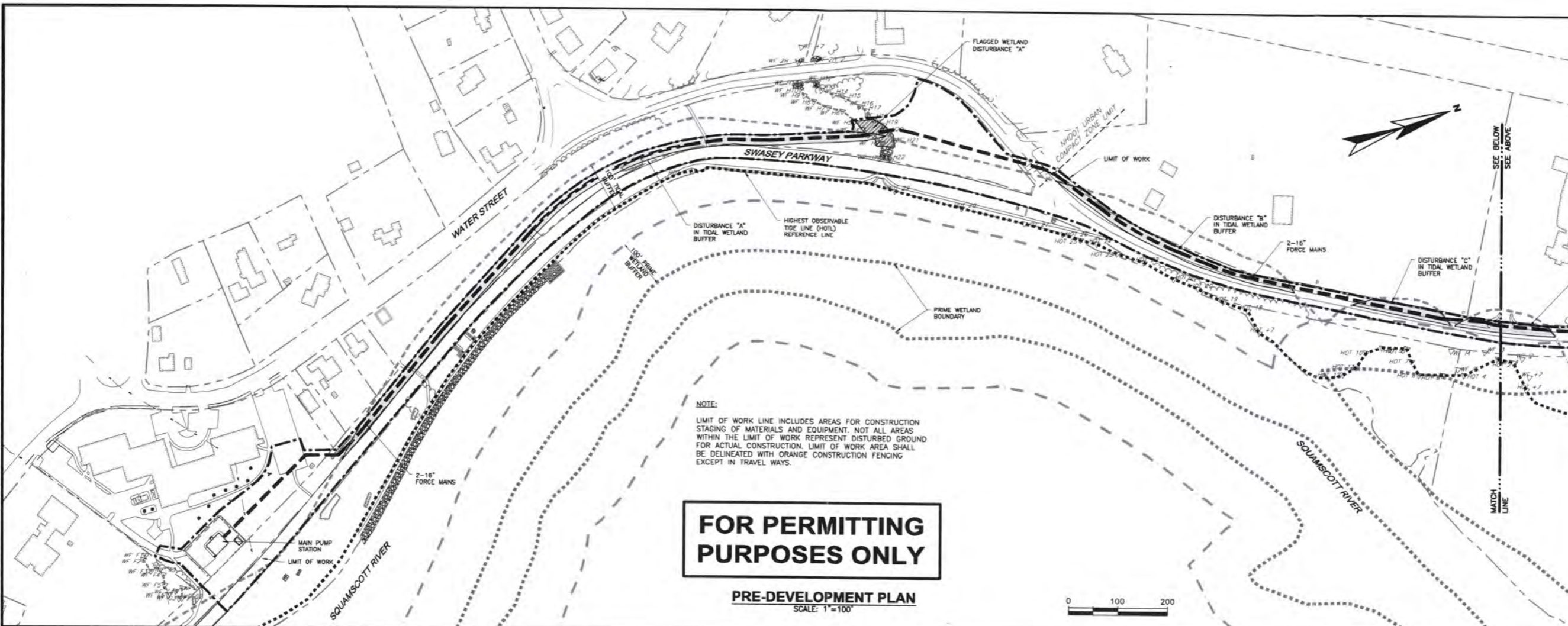
Jeffrey Preble, PE
99 Main Street
Topsham, Maine 04086
207-725-8721
Jeff.preble@wright-pierce.com

Town of Exeter



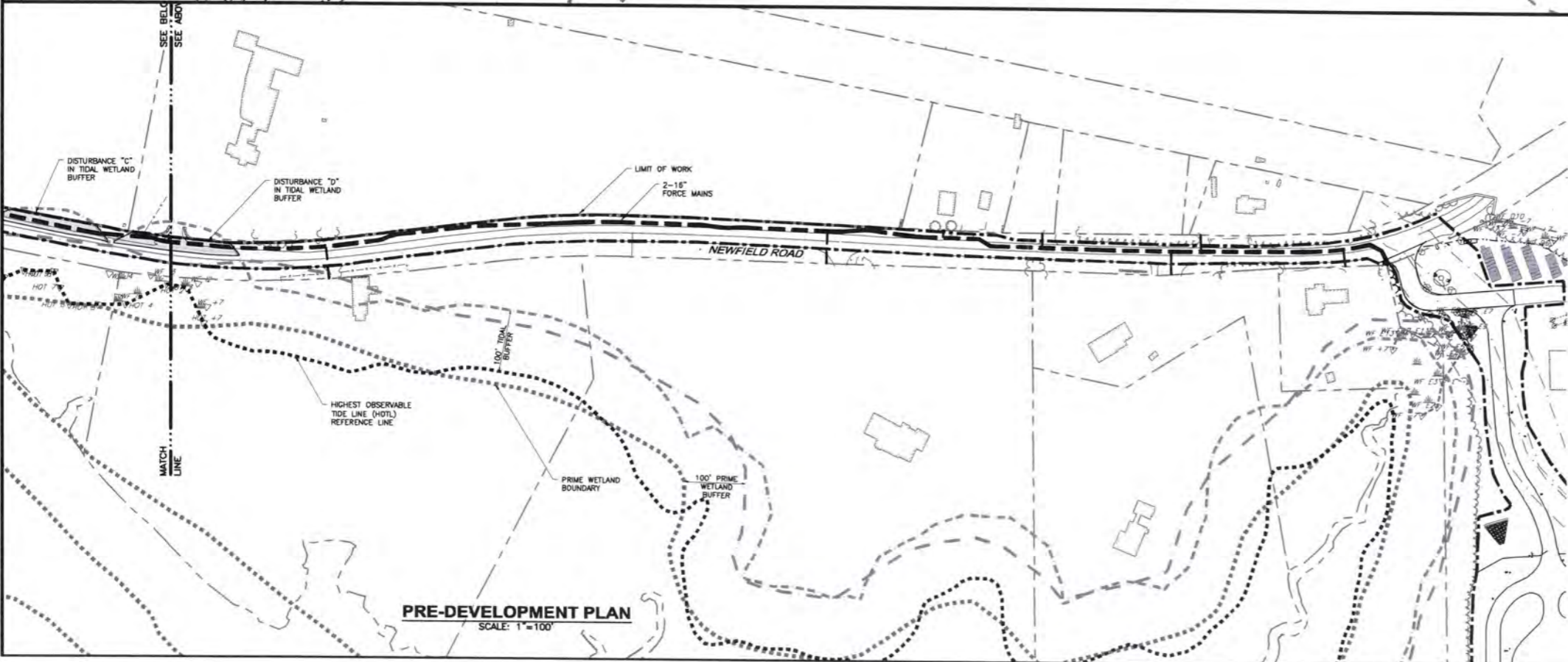
Jennifer R. Perry
13 Newfields Road
Exeter, NH 03833
603-773-6165
mjeffers@exeternh.gov

ATTACHMENT K
Drawings



FOR PERMITTING PURPOSES ONLY

PRE-DEVELOPMENT PLAN
SCALE: 1"=100'



PRE-DEVELOPMENT PLAN
SCALE: 1"=100'

FLAGGED WETLAND DISTURBANCES

DISTURBANCE "A"	2,195 SQ. FT.
DISTURBANCE "B"	740 SQ. FT.
TOTAL	2,935 SQ. FT.

TIDAL WETLAND BUFFER DISTURBANCES

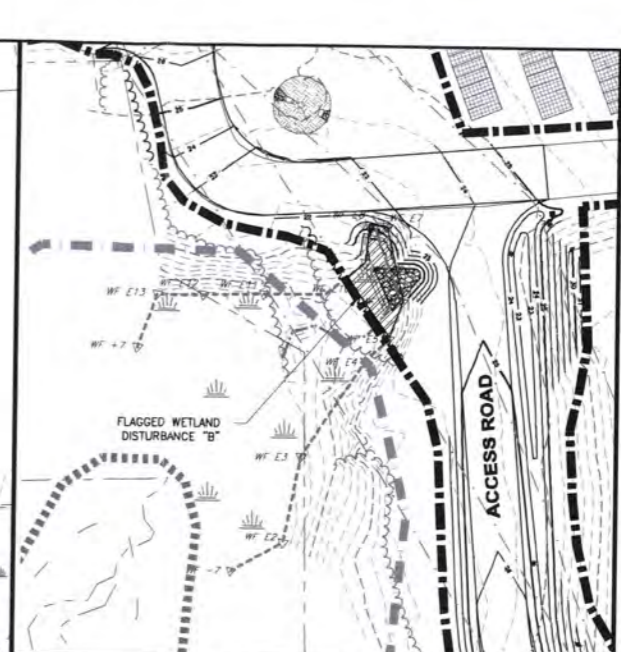
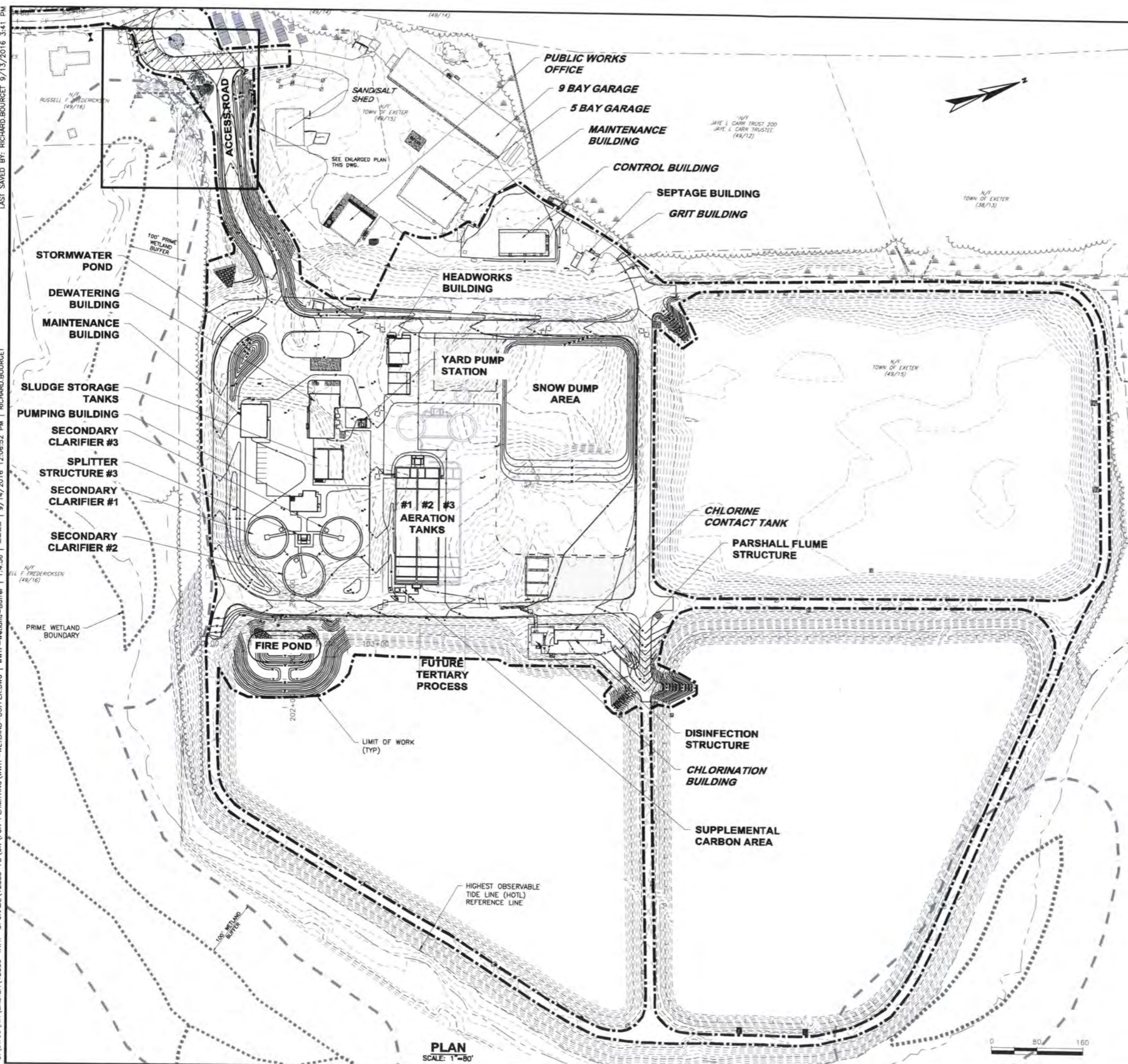
DISTURBANCE "A"	19,620 SQ. FT.
DISTURBANCE "B"	7,150 SQ. FT.
DISTURBANCE "C"	2,850 SQ. FT.
DISTURBANCE "D"	2,950 SQ. FT.
TOTAL	32,570 SQ. FT.

LEGEND

- - - - -722- - - - - EDGE OF GRAVEL CONTOUR
- - - - - PROPERTY/ROW LINE
- - - - - TREELINE
- - - - - EDGE OF WATER
- - - - - STREAM
- - - - - EDGE OF WETLANDS
- - - - - HIGHEST OBSERVABLE TIDE LINE (HOTL) REFERENCE LINE
- - - - - 100 FT HOTL OFFSET (TIDAL BUFFER)
- - - - - 250 FT PROTECTED SHORELAND ZONE
- - - - - 50' SHORELAND BUFFER LINE
- - - - - LIMIT OF WORK
- 35.75 SPOT GRADE
- WF#AB WETLAND FLAG
- WETLANDS
- PROPOSED RIPRAP
- IMPERVIOUS AREA
- EXISTING PAVEMENT TO BE ALTERED

<p>DESIGNED BY: JDP CHECKED BY: CAS, RJB DATE: 9/14/2016 APPROVED BY: EAL DATE: 9/14/2016 PROJECT NO: 12883</p>	<p>DATE: 9/16 APP'D: JDP SUBMISSION/REVIEWS</p> <p>SHORELAND PERMIT BY NOTIFICATION</p>
<p>WRIGHT-PIERCE Engineering a Better Environment Offices Throughout New England 888.621.8156 www.wright-pierce.com</p>	
<p>TOWN OF EXETER, NEW HAMPSHIRE WASTEWATER TREATMENT FACILITY UPGRADE FINAL DESIGN WETLAND APPLICATION DISTURBANCE AREAS</p>	
<p>DRAWING 4</p>	

LAST SAVED BY: RICHARD BOURGET 9/13/2016 3:41 PM
 C:\DWGSS\W\EXETER\12883-WWTF-WWTF-UPGRADE\FD\CVA\FOR PERMITTING\W\WTF-WWTF-BUFFER.DWG | 1:4.56 | 9/14/2016 12:06:52 PM | RICHARD BOURGET



ENLARGED PLAN
SCALE: 1"=40'

NOTE:
 LIMIT OF WORK LINE INCLUDES AREAS FOR CONSTRUCTION STAGING OF MATERIALS AND EQUIPMENT. NOT ALL AREAS WITHIN THE LIMIT OF WORK REPRESENT DISTURBED GROUND FOR ACTUAL CONSTRUCTION. LIMIT OF WORK AREA SHALL BE DELINEATED WITH ORANGE CONSTRUCTION FENCING EXCEPT IN TRAVEL WAYS.

LEGEND

- EDGE OF GRAVEL
- - - - - CONTOUR
- - - - - PROPERTY/ROW LINE
- ~ ~ ~ TREELINE
- — — EDGE OF WATER
- — — STREAM
- EDGE OF WETLANDS
- HIGHEST OBSERVABLE TIDE LINE (HOTL) REFERENCE LINE
- 100 FT HOTL OFFSET (TIDAL BUFFER)
- 250 FT PROTECTED SHORELAND ZONE
- 50' SHORELAND BUFFER LINE
- LIMIT OF WORK
- 35.75 SPOT GRADE
- WF #99 WETLAND FLAG
- WETLANDS
- PROPOSED RIPRAP
- IMPERVIOUS AREA
- EXISTING PAVEMENT TO BE ALTERED

FOR PERMITTING PURPOSES ONLY

PLAN
SCALE: 1"=80'



DESIGNED BY: JDP	DATE: 9/16
CAD: RDB	
CHECKED BY: JAL	
APPROVED BY: EAL	
PROJECT NO: 12883	

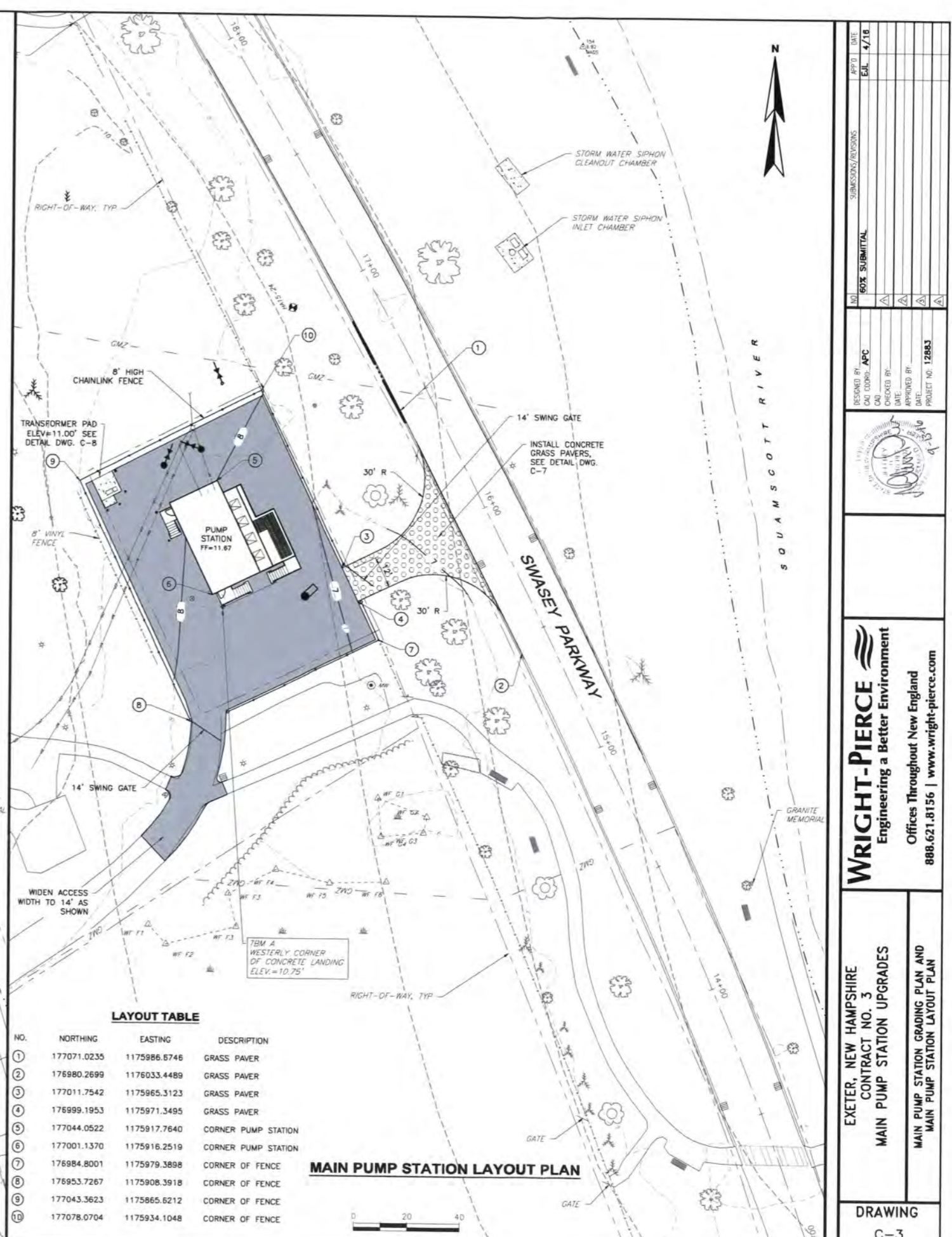
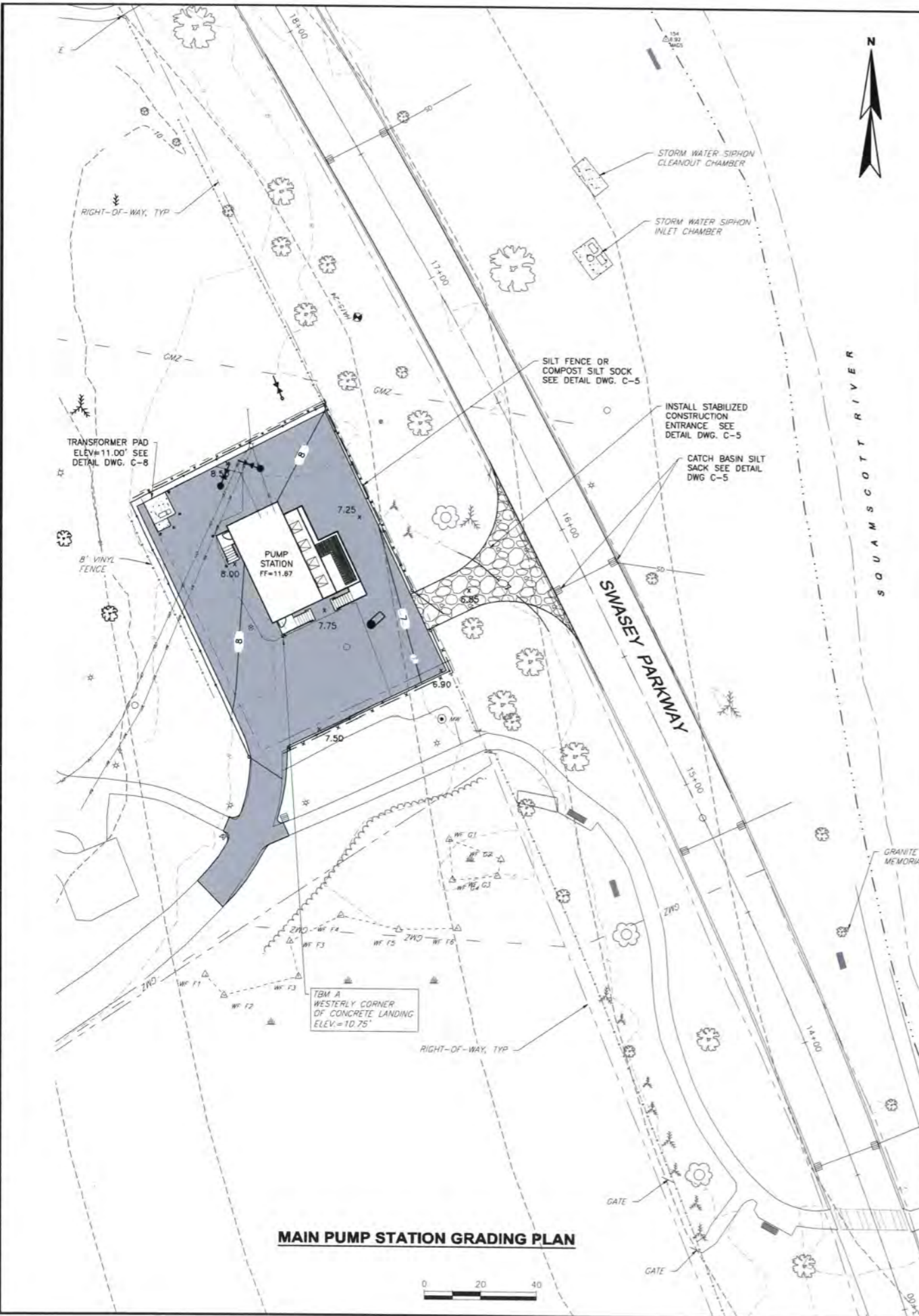
SHORELAND PERMIT BY NOTIFICATION

WRIGHT-PIERCE
 Engineering a Better Environment
 Offices Throughout New England
 888.621.8156 | www.wright-pierce.com

TOWN OF EXETER, NEW HAMPSHIRE
 WASTEWATER TREATMENT FACILITY UPGRADE
 FINAL DESIGN
 WETLAND APPLICATION
 DISTURBANCE AREAS

DRAWING

5



LAYOUT TABLE

NO.	NORTHING	EASTING	DESCRIPTION
①	177071.0235	1175986.6746	GRASS PAVER
②	176980.2699	1176033.4489	GRASS PAVER
③	177011.7542	1175965.3123	GRASS PAVER
④	176999.1953	1175971.3495	GRASS PAVER
⑤	177044.0522	1175917.7640	CORNER PUMP STATION
⑥	177001.1370	1175916.2519	CORNER PUMP STATION
⑦	176984.8001	1175979.3698	CORNER OF FENCE
⑧	176953.7267	1175908.3918	CORNER OF FENCE
⑨	177043.3623	1175865.6212	CORNER OF FENCE
⑩	177078.0704	1175934.1048	CORNER OF FENCE

NO.	60% SUBMITTAL
REVISIONS	
DATE	4/18
APP'D	
EAL	

DESIGNED BY	APC
CAD	
CHECKED BY	
DATE	
APPROVED BY	
DATE	
PROJECT NO.	12883



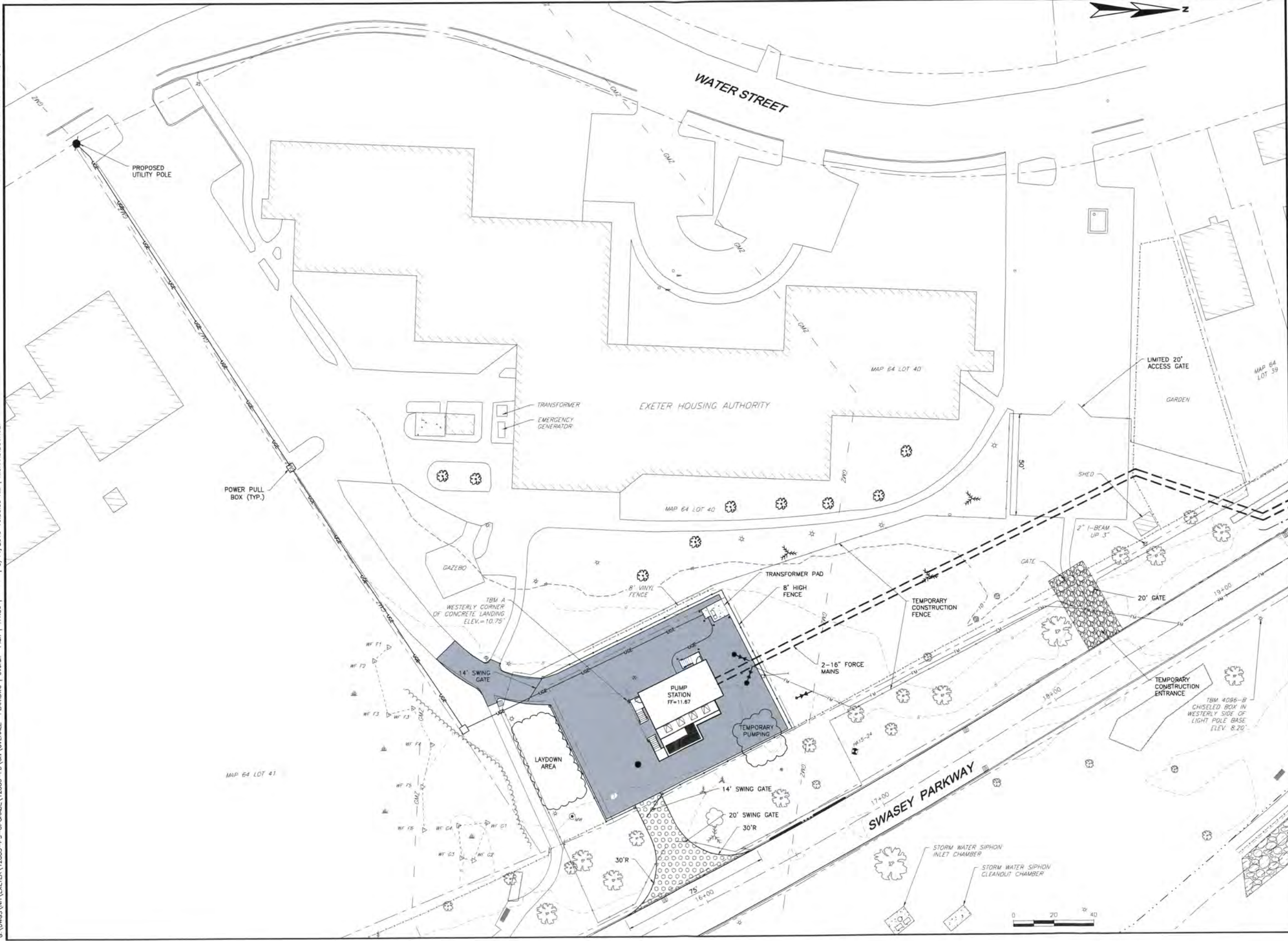
WRIGHT-PIERCE
 Engineering a Better Environment
 Offices Throughout New England
 888.621.8156 | www.wright-pierce.com

EXETER, NEW HAMPSHIRE
 CONTRACT NO. 3
 MAIN PUMP STATION UPGRADES
 MAIN PUMP STATION GRADING PLAN AND
 MAIN PUMP STATION LAYOUT PLAN

DRAWING
 C-3

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G:\DWG\NH\EXETER\12883-PS-UPGRADE\12883-FD\CAD\OVERALL PLANNING | overall | Plan | 1:4.56 | 9/14/2016 10:30:35 AM | RICHARD BOURGET

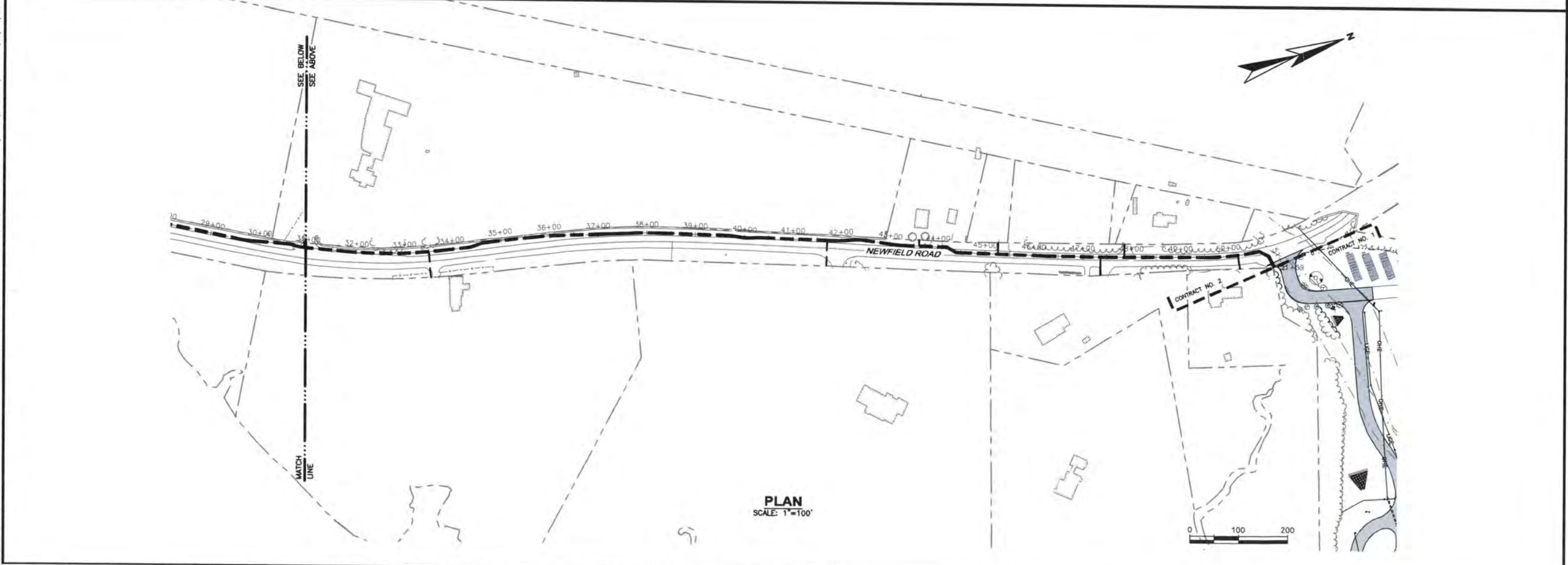
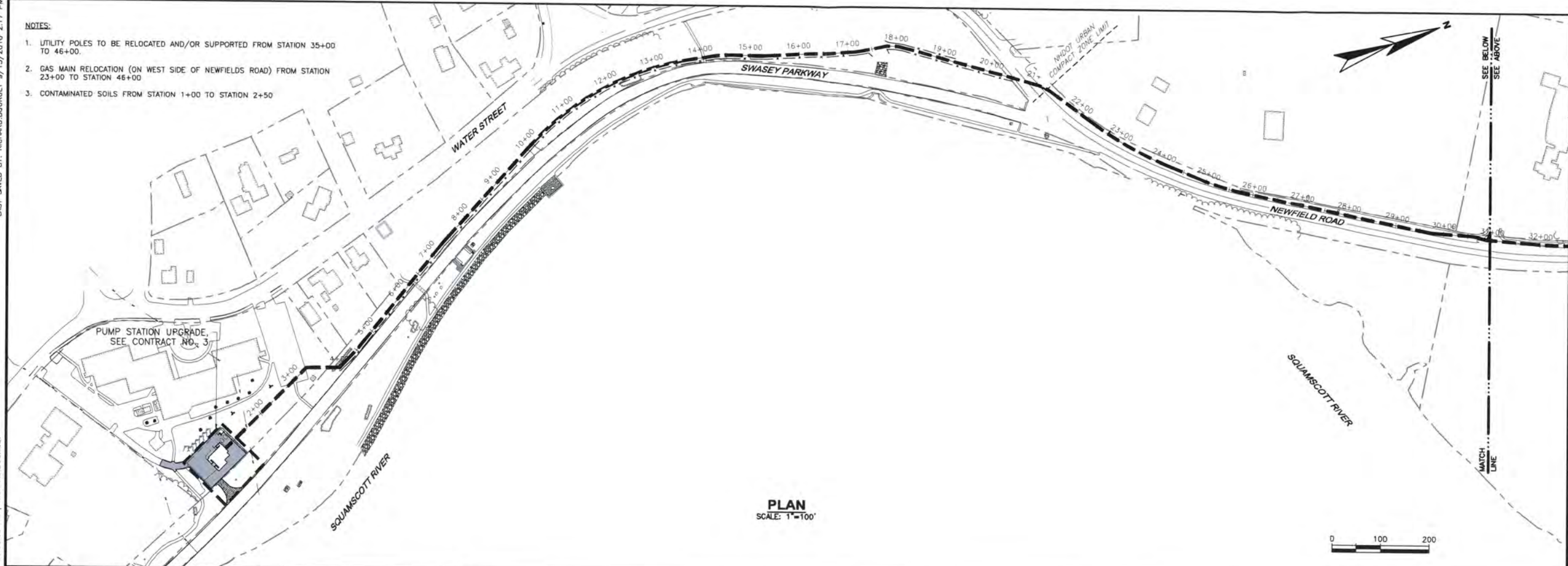


<p>60% SUBMITTAL</p> <p>DATE: 4/18</p>	
<p>DESIGNED BY: APC</p> <p>CAD: [blank]</p> <p>CHECKED BY: [blank]</p> <p>DATE: [blank]</p> <p>APPROVED BY: [blank]</p> <p>DATE: [blank]</p> <p>PROJECT NO: 12883</p>	
<p>WRIGHT-PIERCE Engineering a Better Environment Offices Throughout New England 888.621.8156 www.wright-pierce.com</p>	
<p>EXETER, NEW HAMPSHIRE CONTRACT NO. 3 MAIN PUMP STATION UPGRADES</p>	
<p>OVERALL LOT PLAN</p>	
<p>DRAWING C-4</p>	

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- NOTES:**
1. UTILITY POLES TO BE RELOCATED AND/OR SUPPORTED FROM STATION 35+00 TO 46+00.
 2. GAS MAIN RELOCATION (ON WEST SIDE OF NEWFIELD ROAD) FROM STATION 23+00 TO STATION 46+00
 3. CONTAMINATED SOILS FROM STATION 1+00 TO STATION 2+50



NO.	DATE	DESCRIPTION
1	09/16	90% SUBMITTAL

DESIGNED BY: [Signature]
 CAD COORD: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 DATE: [Signature]
 PROJECT NO. 12883B



WRIGHT-PIERCE
 Engineering a Better Environment
 Offices Throughout New England
 888.621.8156 | www.wright-pierce.com

TOWN OF EXETER, NH
 CONTRACT NO. 2
 FORCE MAIN UPGRADE

SITE KEY PLAN

DRAWING
 C-2

LAST SAVED BY: RICHARD BOURGET 9/14/2016 9:56 AM
 9/14/2016 10:11:14 AM | RICHARD BOURGET
 G:\DWG\VA\EXETER\12883-FM-UPGRADE\12883-10-DEWATERING_EROSIONCONTROLPLAN.DWG | 1:4.35
 G:\DWG\VA\EXETER\12883-FM-UPGRADE\12883-10-DEWATERING_EROSIONCONTROLPLAN.DWG | 12883-10-DEWATERING_EROSIONCONTROLPLAN

CONSTRUCTION SEQUENCING

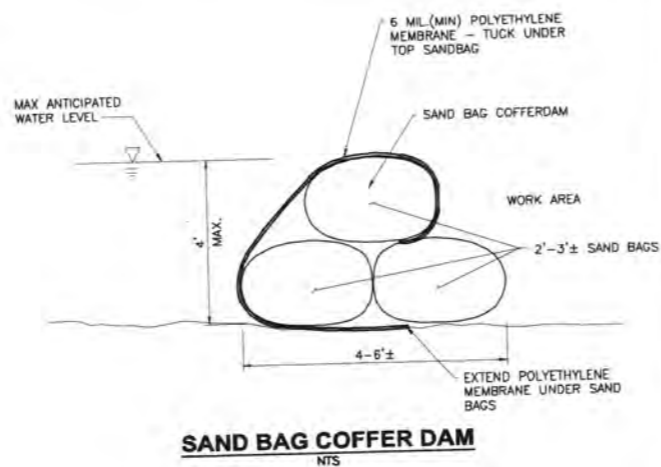
1. FURNISH AND INSTALL APPLICABLE UPLAND EROSION AND SEDIMENTATION CONTROLS AT THE SITE.
2. MOBILIZE APPLICABLE EQUIPMENT AND MATERIALS AND PREPARE FIELD STORAGE AND STAGING AREAS.
3. COORDINATE TRAFFIC CONTROL PLAN WITH THE OWNER, ENGINEER AND SWASEY PARKWAY TRUSTEES.

PHASE - I

1. INSTALL UPSTREAM AND DOWNSTREAM COFFERDAMS AT MID POINT OF BROOK.
2. MAINTAIN FLOWS THROUGH THE EXISTING BROOK. AT NO TIME DURING CONSTRUCTION SHALL FLOW BE BLOCKED COMPLETELY. A MINIMUM AQUATIC BASEFLOW SHALL BE BYPASSED AT ALL TIMES.
3. INSTALL WORK ZONE DEWATERING SYSTEM. ENSURE THAT DEWATERING DISCHARGES ARE DIRECTED TO A STABILIZED DISCHARGE AREA IN AN APPROVED UPLAND LOCATION AT LEAST 50' FROM RESOURCE. COORDINATE THE EXACT LOCATION AND BMPs TO BE UTILIZED WITH THE ENGINEER.
4. COMMENCE EXCAVATION TO SUBGRADE FOR INSTALLATION OF NEW FORCE MAINS.
5. MAINTAIN THE DEWATERING SYSTEM AS NEEDED TO ENSURE THAT WORK OCCURS IN THE DRY. MAINTAIN ALL ASSOCIATED DEWATERING BMPs AS NEEDED TO MEET THE REQUIREMENTS OF THE PERMIT AS DIRECTED BY THE ENGINEER.
6. STOCKPILE NATIVE STREAM MATERIALS FOR REUSE AS FORCE MAIN FILL. COORDINATE STOCKPILE LOCATION WITH THE ENGINEER AND PROVIDE APPROPRIATE EROSION AND SEDIMENTATION CONTROL BMPs AROUND THE STOCKPILE AREA.
7. BACKFILL AND COMPACT OVER FORCE MAIN.

PHASE - II

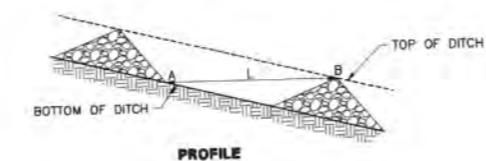
1. INSTALL UPSTREAM AND DOWNSTREAM COFFERDAMS AT OPPOSITE SIDE OF BROOK.
2. MAINTAIN FLOWS THROUGH THE EXISTING BROOK.
3. COMMENCE EXCAVATION TO SUBGRADE FOR INSTALLATION OF NEW FORCE MAINS.
4. MAINTAIN THE DEWATERING SYSTEM AS NEEDED TO ENSURE THAT WORK OCCURS IN THE DRY. MAINTAIN ALL ASSOCIATED DEWATERING BMPs AS NEEDED TO MEET THE REQUIREMENTS OF THE PERMIT AS DIRECTED BY THE ENGINEER.
5. STOCKPILE NATIVE STREAM MATERIALS FOR REUSE AS FORCE MAIN FILL. COORDINATE STOCKPILE LOCATION WITH THE ENGINEER AND PROVIDE APPROPRIATE EROSION AND SEDIMENTATION CONTROL BMPs AROUND THE STOCKPILE AREA.
6. BACKFILL AND COMPACT OVER FORCE MAIN.
7. MAINTAIN APPROPRIATE EROSION AND SEDIMENTATION CONTROLS, SUCH AS SILT FENCING AROUND THE PERIMETER OF ALL DISTURBED AREAS.
8. PERMANENTLY STABILIZE EMBANKMENT SLOPES.
9. COMMENCE REMOVAL OF DEWATERING SYSTEM.
10. REMOVE COFFERDAMS AND DIRECT STREAM FLOW THROUGH THE RESTORED STREAM BED.



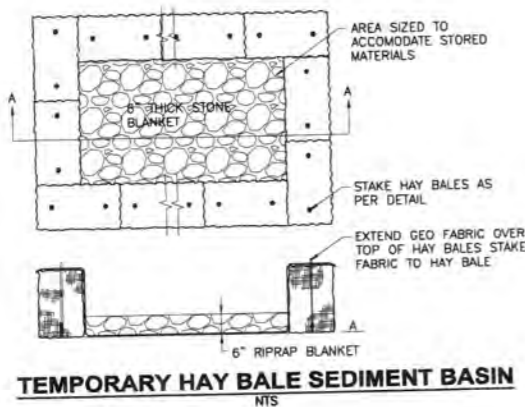
SAND BAG COFFER DAM
NTS

CROSS SECTION

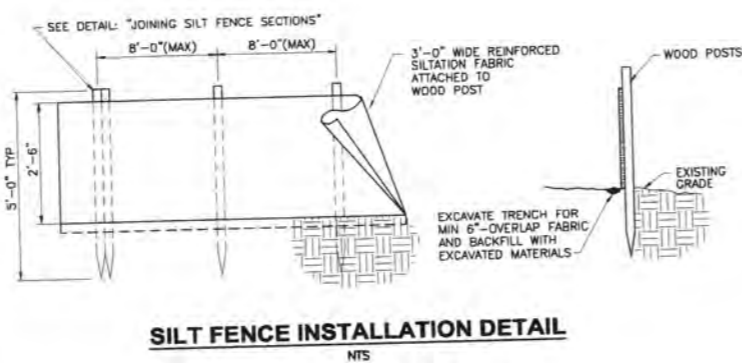
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0.050	40
0.080	25
0.100	20
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0.150	13



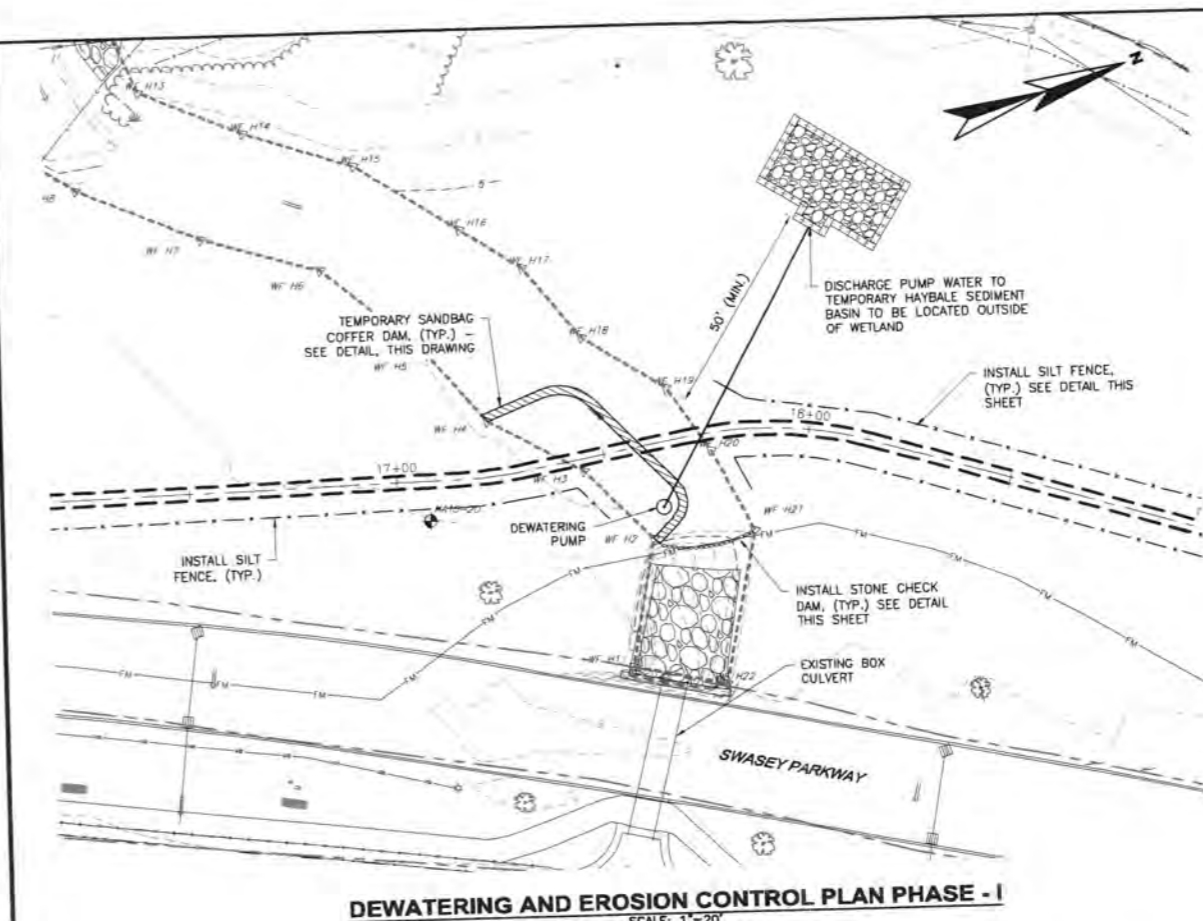
STONE CHECK DAM
NTS



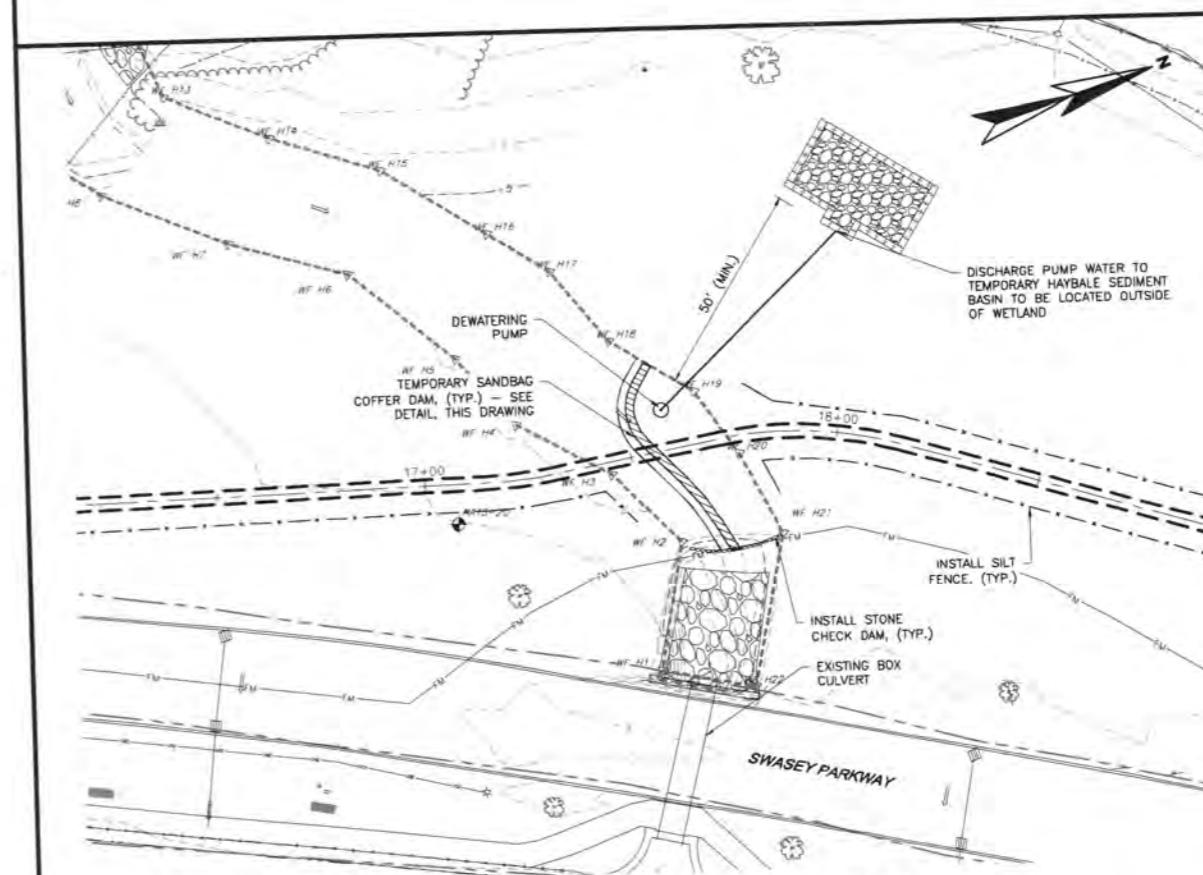
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SILT FENCE INSTALLATION DETAIL
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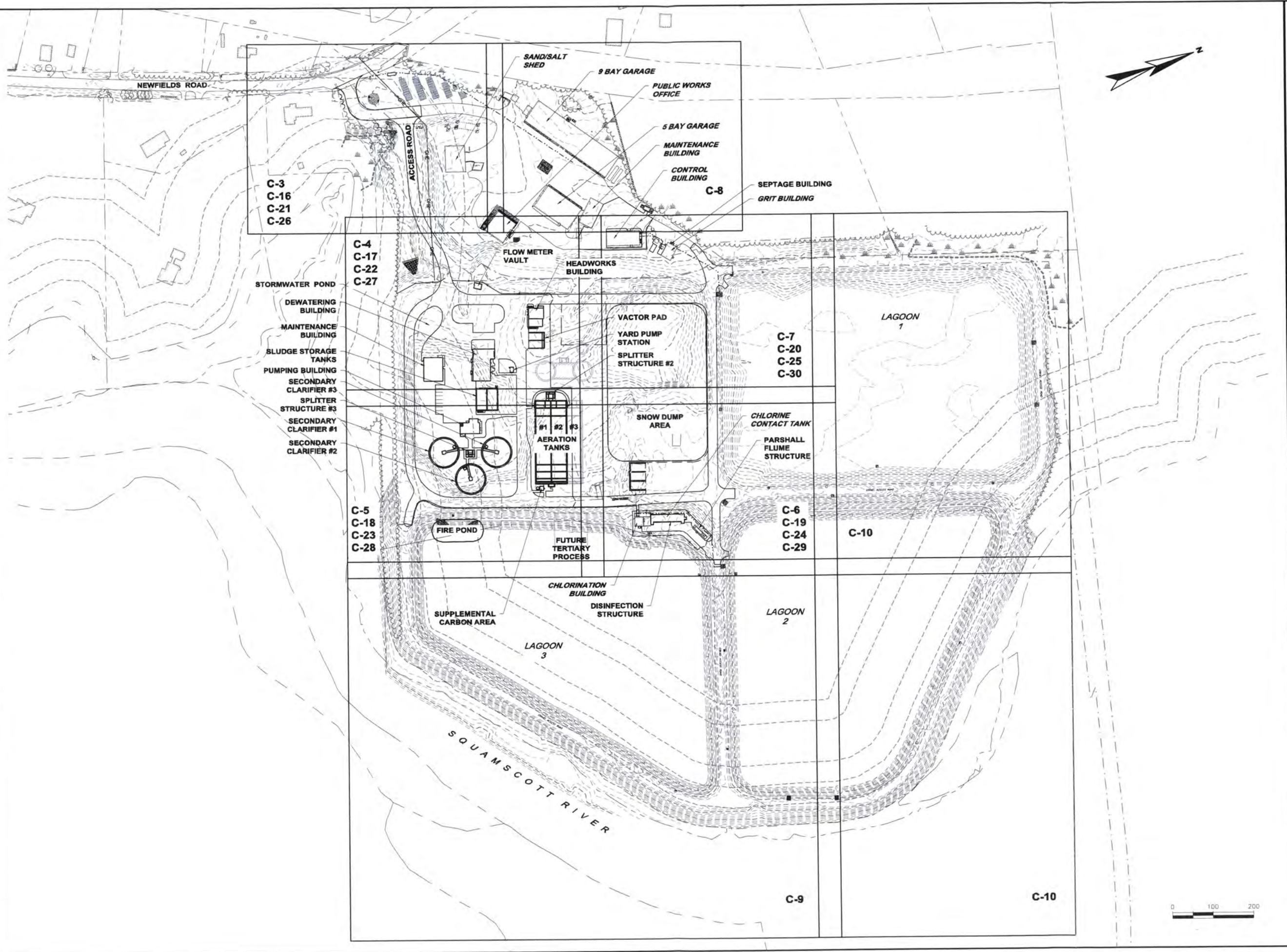


DEWATERING AND EROSION CONTROL PLAN PHASE - I
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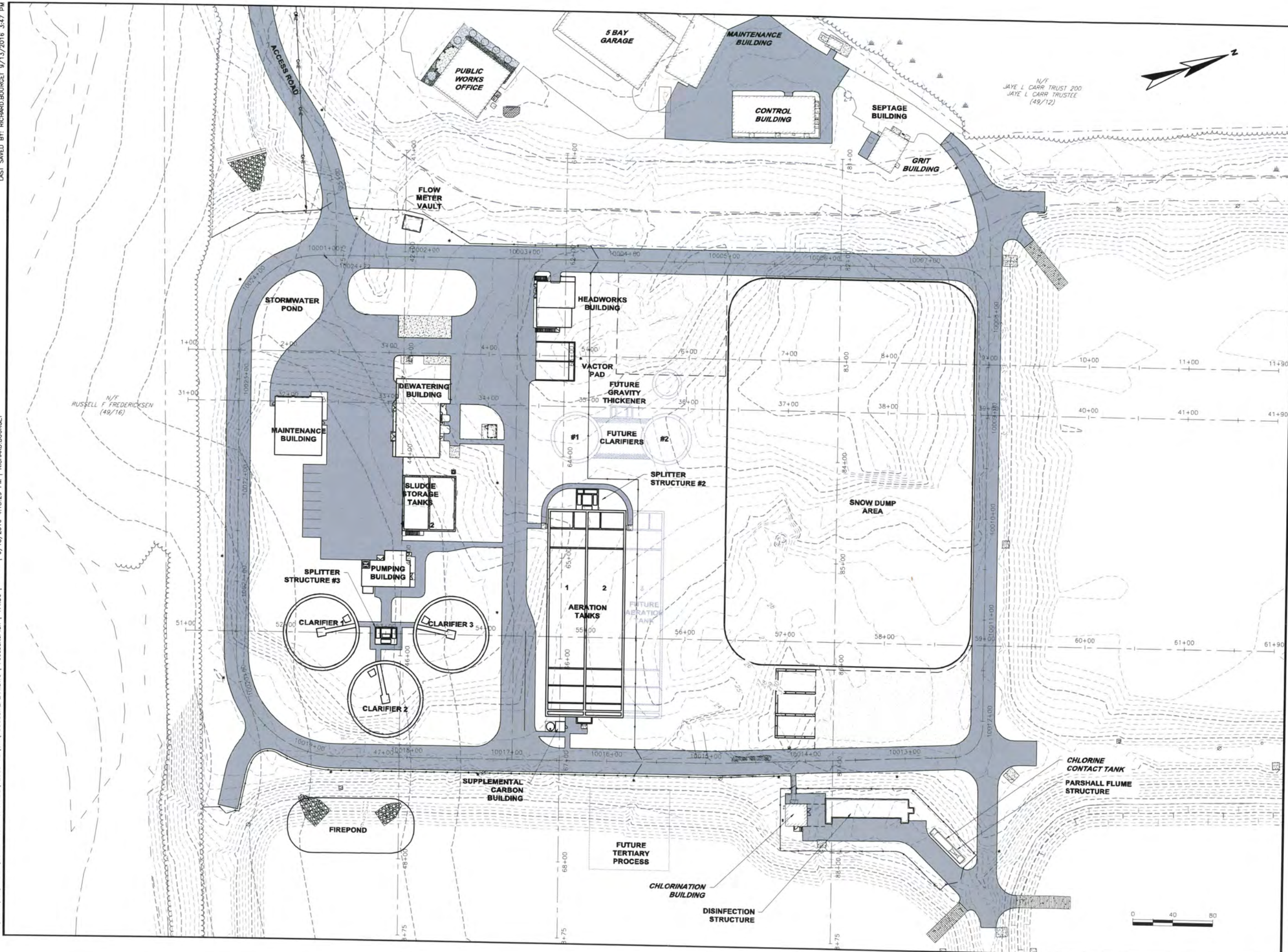


DEWATERING AND EROSION CONTROL PLAN PHASE - II
SCALE: 1"=20'

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WRIGHT-PIERCE Engineering a Better Environment Offices Throughout New England 888.621.8156 www.wright-pierce.com				
TOWN OF EXETER, NH CONTRACT NO. 2 FORCE MAIN UPGRADE DEWATERING, EROSION CONTROL PLAN AND DETAILS				
DRAWING C-10				

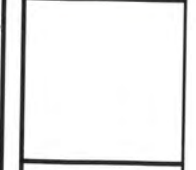


<p>EXETER, NEW HAMPSHIRE CONTRACT NO. 1 WASTEWATER TREATMENT FACILITY UPGRADES</p>	<p>SITE KEY PLANS</p>
<p>WRIGHT-PIERCE Engineering a Better Environment Offices Throughout New England 888.621.8156 www.wright-pierce.com</p>	
<p>DESIGNED BY: JDP CAD COORD: APC CHECKED BY: RUB DATE: _____ APPROVED BY: _____ DATE: _____ PROJECT NO: 12883</p>	
<p>NO. 90% SUBMITTAL</p>	
<p>DATE: 9/16</p>	
<p>DRAWING C-2</p>	



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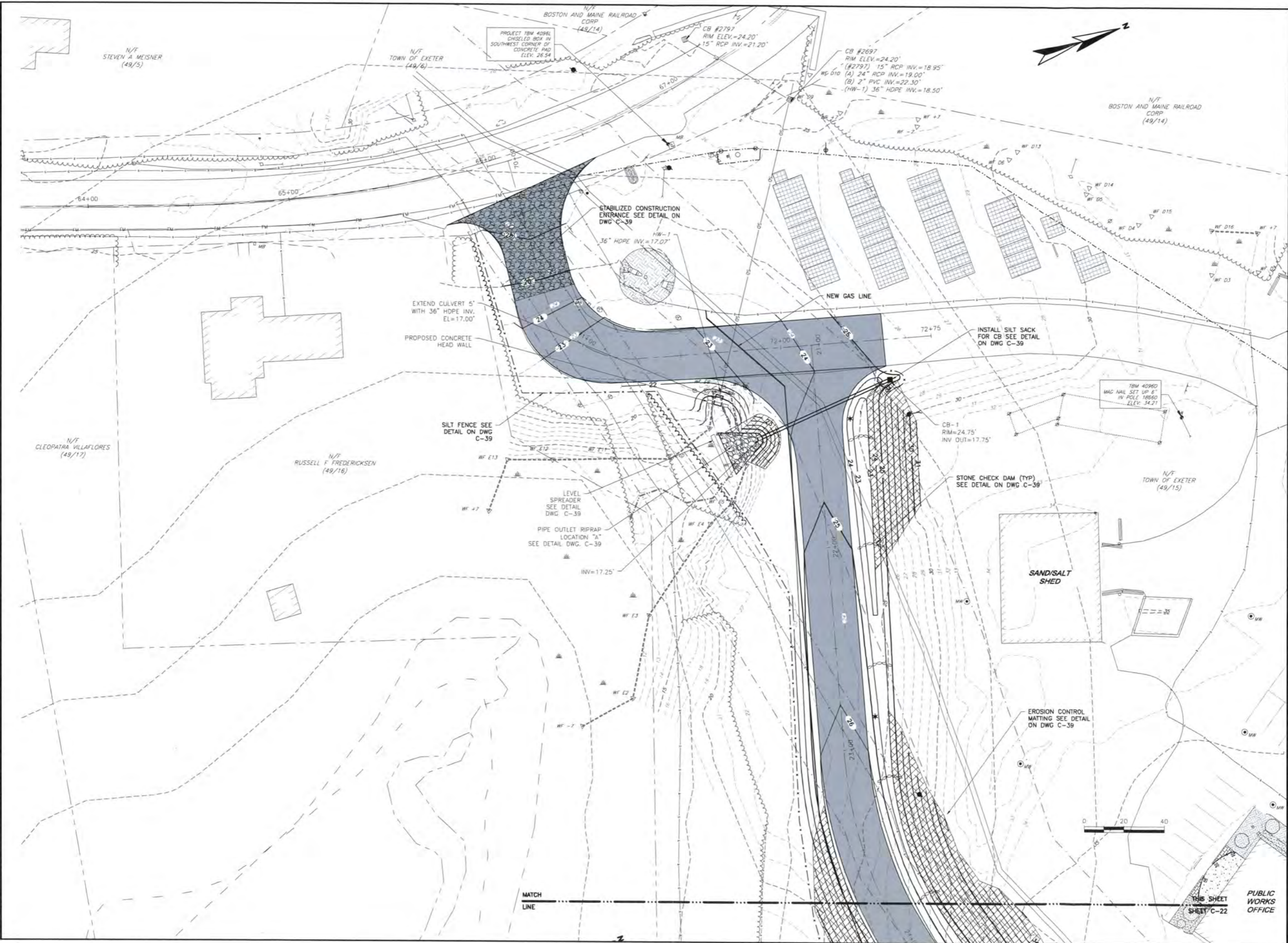
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EXETER, NEW HAMPSHIRE
 CONTRACT NO. 1
 WASTEWATER TREATMENT
 FACILITY UPGRADES
 FOCUS SITE PLAN

DRAWING
 C-12

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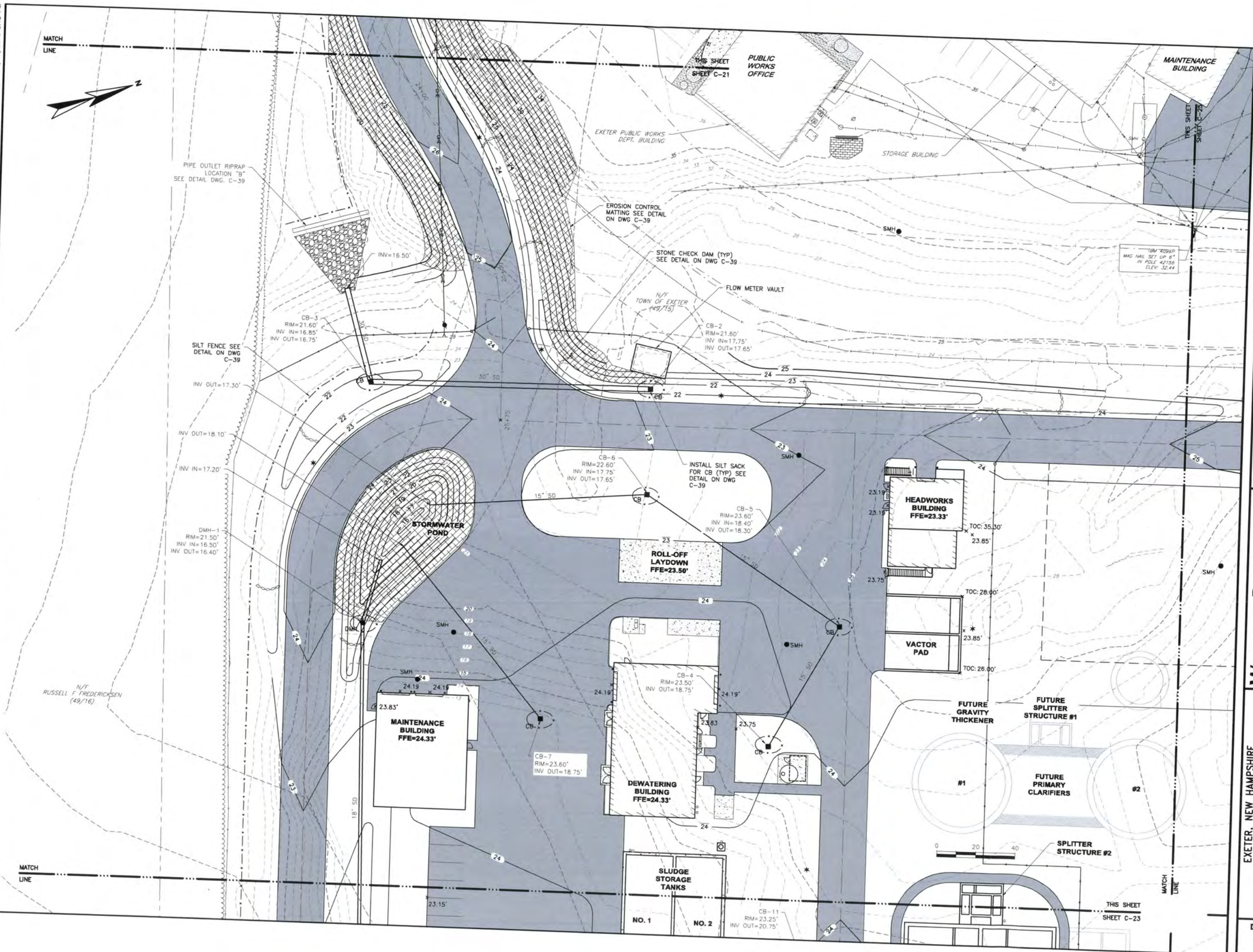
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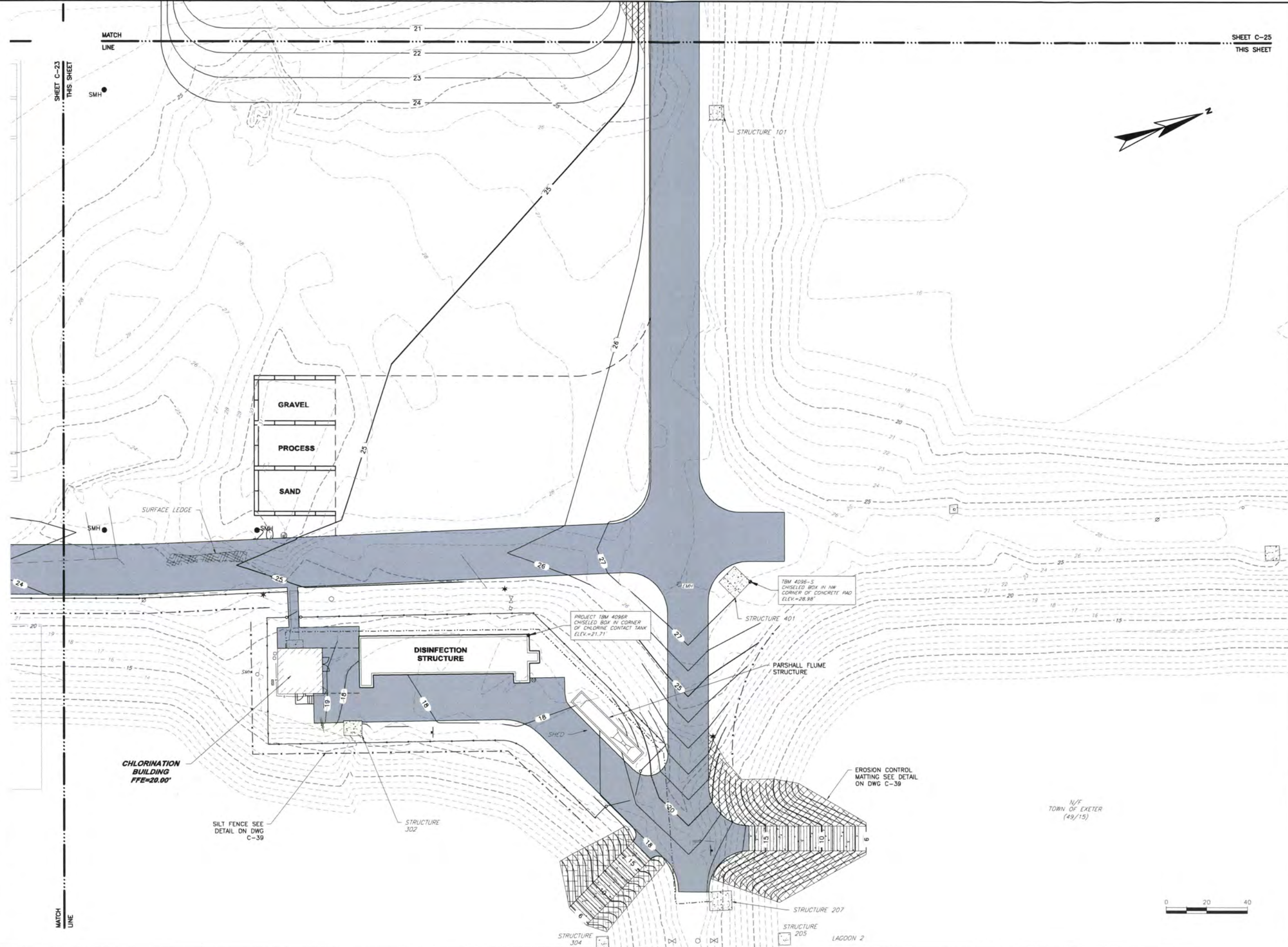
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EXETER, NEW HAMPSHIRE CONTRACT NO. 1 WASTEWATER TREATMENT FACILITY UPGRADES SITE GRADING PLAN II	
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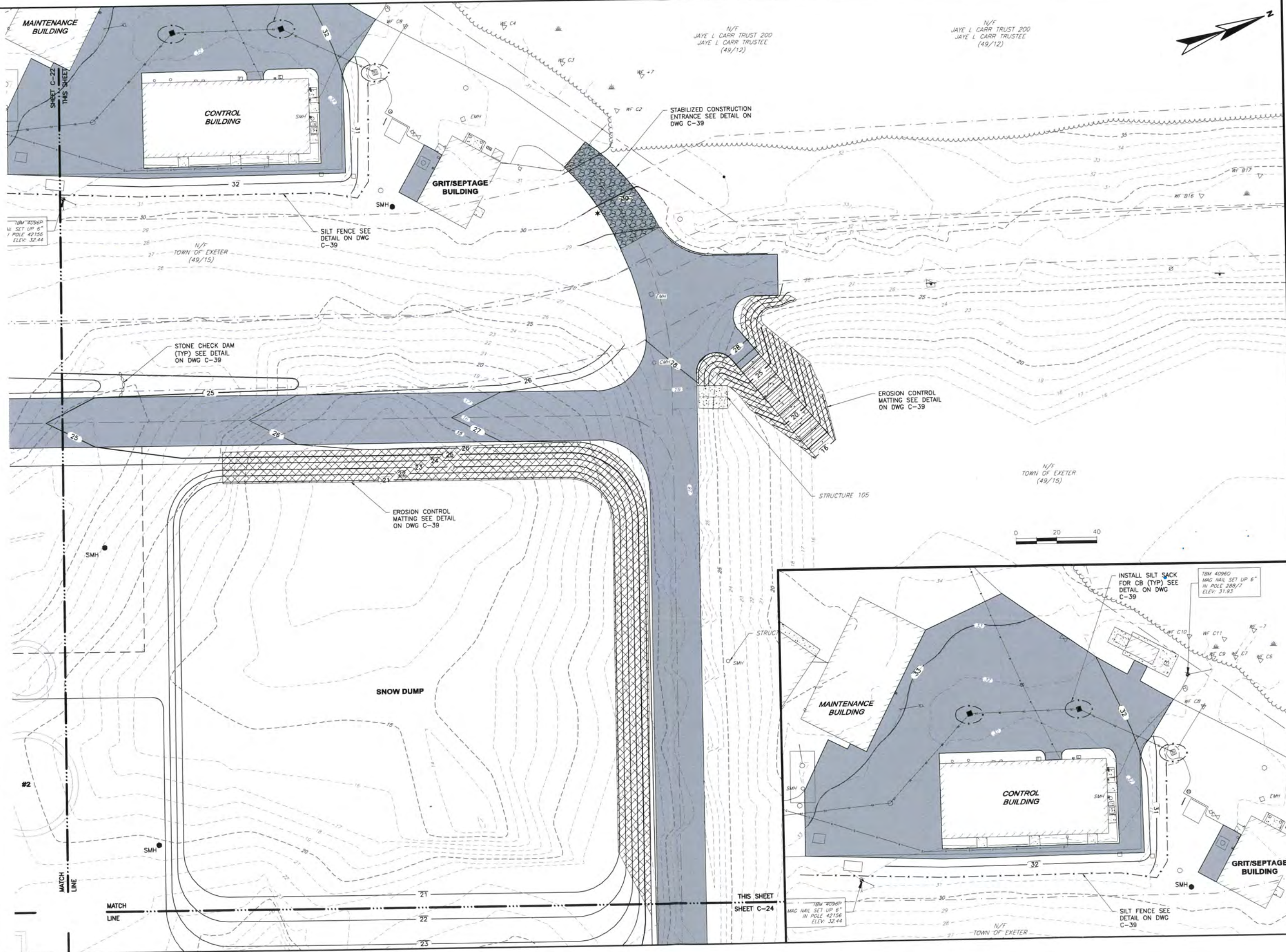
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EXETER, NEW HAMPSHIRE CONTRACT NO. 1 WASTEWATER TREATMENT FACILITY UPGRADES SITE GRADING PLAN IV	
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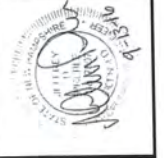
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EXETER, NEW HAMPSHIRE
 CONTRACT NO. 1
 WASTEWATER TREATMENT
 FACILITY UPGRADES
 SITE GRADING PLAN V

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EROSION AND SEDIMENTATION CONTROL NOTES

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION.

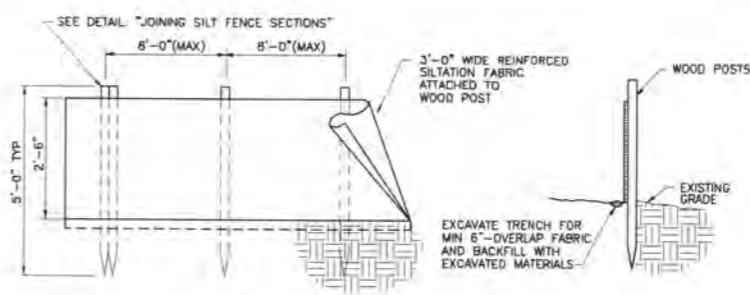
THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES REQUIRED ARE SHOWN ON THE DRAWINGS. PROVIDE SILT FENCE, STONE CHECK DAMS AND OTHER EROSION CONTROL MEASURES AS REQUIRED TO ADEQUATELY PREVENT SEDIMENT TRANSPORT AS NOTED IN THE BMP.

EROSION AND SEDIMENTATION CONTROLS SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

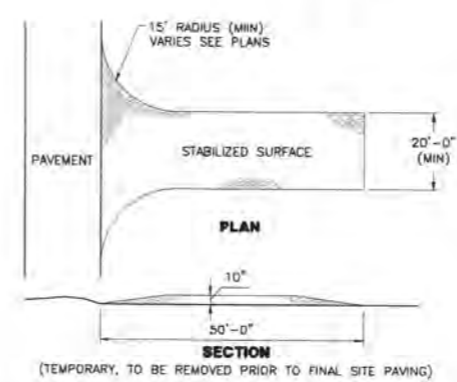
- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL AND THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, ENV-Wq 1500: ALTERATION OF TERRAIN, DECEMBER 2008
- THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
- SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS.
- INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
- ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL (1/2") OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UP-SLOPE ARE PERMANENTLY STABILIZED.
- NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS.
- IF FINAL SEEDING AND SODDING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL RYEGRASS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SODDING UNTIL SPRING.
- WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED INTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
- REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
- STABILIZATION SCHEDULE BEFORE WINTER:
 - SEPTEMBER 15** ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. SLOPES 3:1 OR GREATER TO BE STABILIZED WITH EROSION CONTROL MATTING AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
 - OCTOBER 1** ALL GRASS-LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR EROSION CONTROL BLANKET.
 - NOVEMBER 15** ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.
 - DECEMBER 1** ALL DISTURBED AREAS WHERE THE GROWTH OF VEGETATION FAILS TO BE AT LEAST THREE INCHES TALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION, MUST BE PROTECTED FOR OVER-WINTER.
- PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVEL HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
 - A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
 - OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS, ARE DETAILED IN DIVISION 2 OF THE SPECIFICATIONS.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF DISTURBANCE.

EROSION CONTROL - WINTER CONSTRUCTION

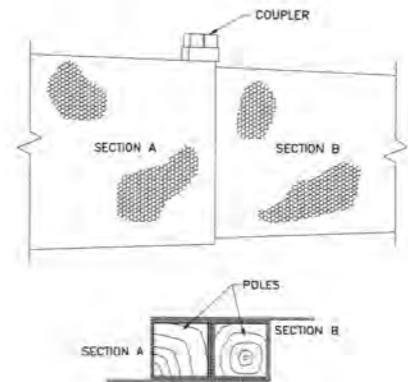
- WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15
- WINTER EXCAVATION AND EARTHWORK SHALL BE DONE TO LIMIT DISTURBANCE OF THE SITE TO AS SMALL AN AREA AS POSSIBLE.
- EXPOSED AREA SHOULD BE LIMITED SUCH THAT THE AREA CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
- CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
- AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ACCURATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
- IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY EITHER THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- THE APPLICATION OF MULCH TO FINE GRADED AREAS WILL BE STABILIZED AS FOLLOWS:
 - A) BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION, CHEMICAL TACK OR WOOD CELLULOSE FIBER.
 - B) MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
 - C) MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST, THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
- DURING WINTER CONSTRUCTION PERIODS ALL SNOW SHALL BE REMOVED FROM AREAS OF MULCHING PRIOR TO PLACEMENT.



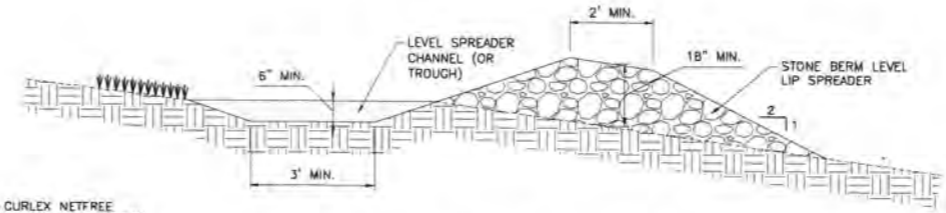
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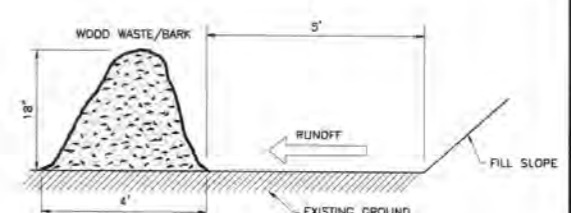
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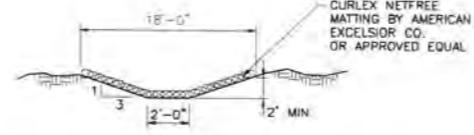
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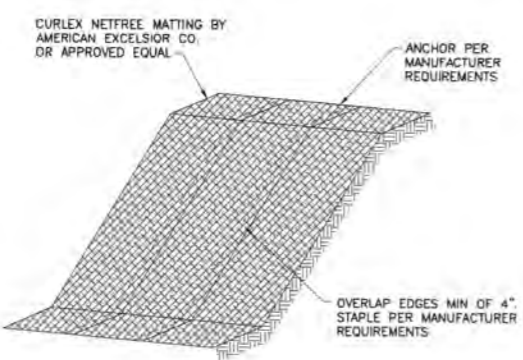
STONE BERM LEVEL SPREADER
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WOOD WASTE/BARK FILTER BERM
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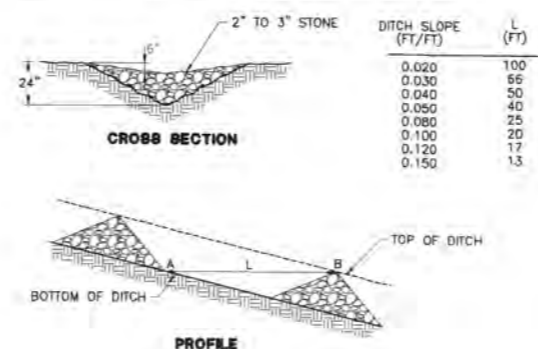
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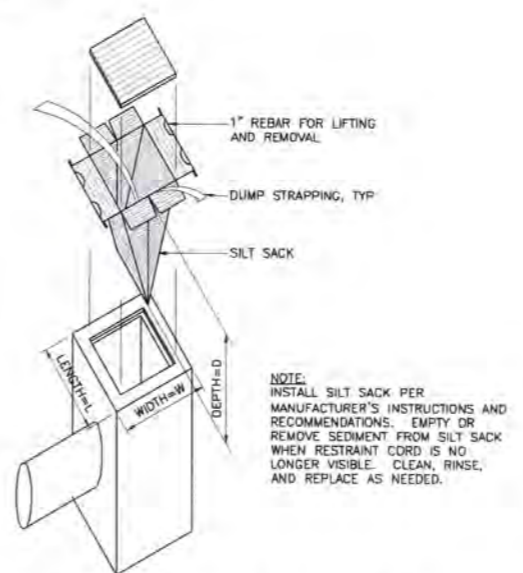
EROSION CONTROL MATTING - SLOPES
NTS

INSTALL ON SLOPES 3:1 OR GREATER

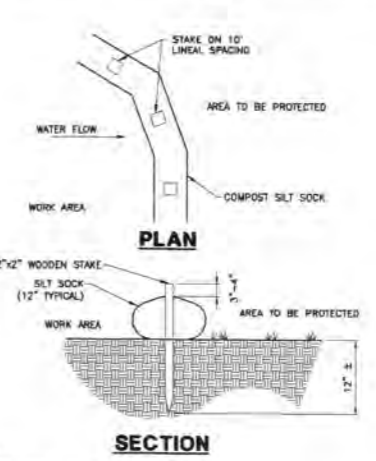
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0.020	100
0.030	66
0.040	50
0.050	40
0.060	25
0.100	20
0.120	17
0.150	13



STONE CHECK DAM
NTS



SILT SACK CATCH BASIN INLET
NTS



COMPOST SILT SOCK
NTS

- NOTES:
- ALL MATERIAL TO MEET SPECIFICATIONS
 - SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
 - SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER
 - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

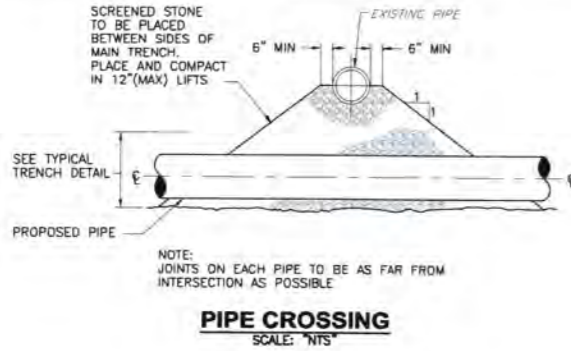
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EXETER, NEW HAMPSHIRE
CONTRACT NO. 1
WASTEWATER TREATMENT
FACILITY UPGRADES

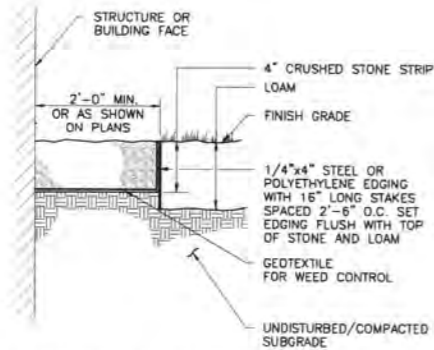
EROSION CONTROL NOTES AND DETAILS

DRAWING

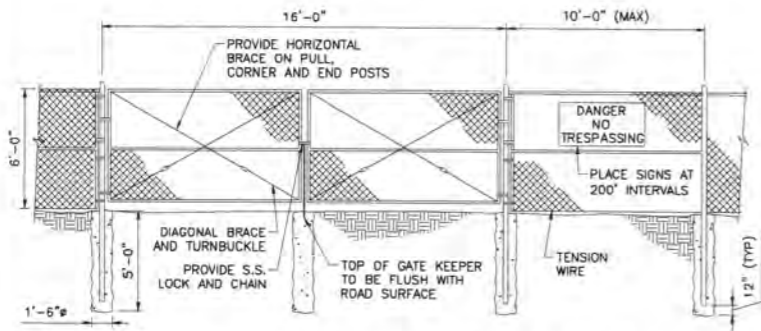
C-36



PIPE CROSSING
SCALE: NTS

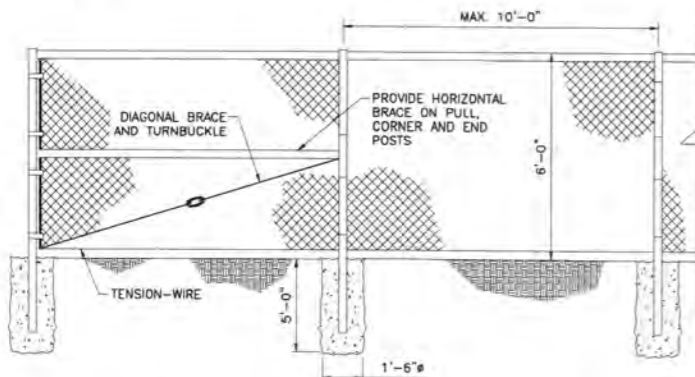


CRUSHED STONE MOWING STRIP
SCALE: NTS



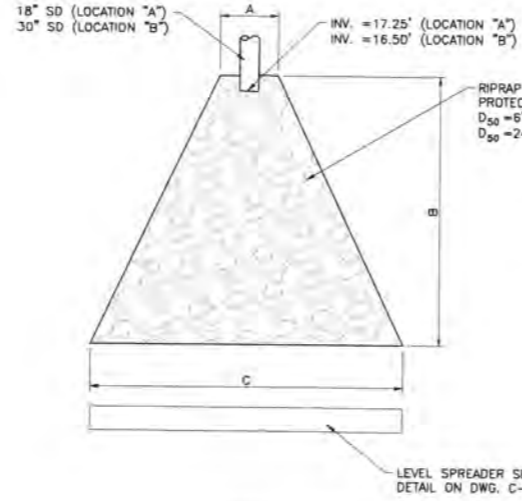
- NOTES:**
1. SECURE POSTS IN CONCRETE AS SHOWN AT PULL, CORNER AND END POSTS (INCLUDING GATE POSTS)
 2. IF CHAINLINK FENCE IS INSTALLED IN UNFRACTURED LEDGE, POST SHALL PENETRATE 2'-0" INTO THE LEDGE AND SHALL BE GROUTED INTO 6" HOLE.

CHAINLINK FENCE AND LOCKING DOUBLE GATE
SCALE: NTS



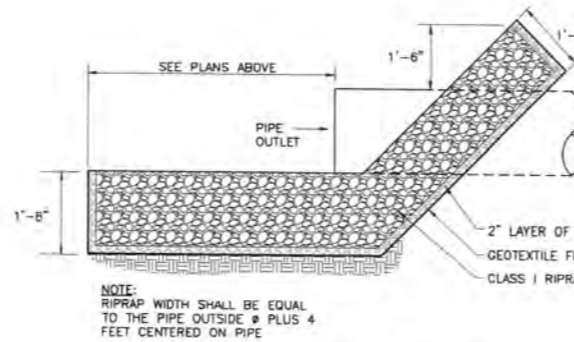
- NOTES:**
1. SECURE POSTS IN CONCRETE AS SHOWN AT PULL, CORNER AND END POSTS (INCLUDING GATE POSTS)
 2. IF CHAINLINK FENCE IS INSTALLED IN UNFRACTURED LEDGE, POST SHALL PENETRATE 2'-0" INTO THE LEDGE AND SHALL BE GROUTED INTO 6" HOLE.

CHAINLINK FENCE
SCALE: NTS

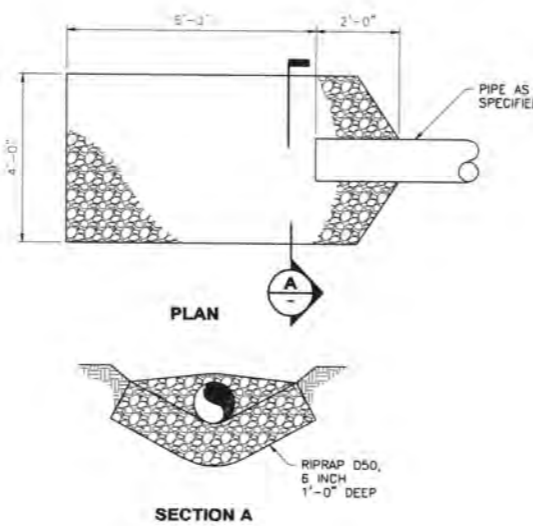


OUTLET LOCATION	DIMENSIONS		
	A	B	C
A	4.5'	22'	26.5'
B	7.5'	36'	43.5'

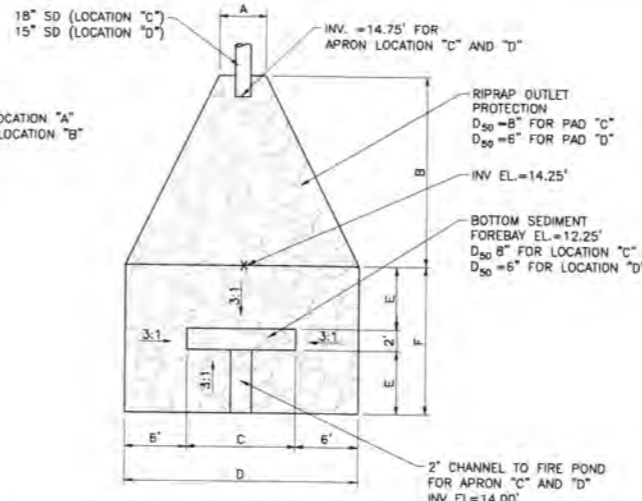
OUTLET RIPRAP PADS
SCALE: NTS



PIPE OUTLET RIPRAP
SCALE: NTS



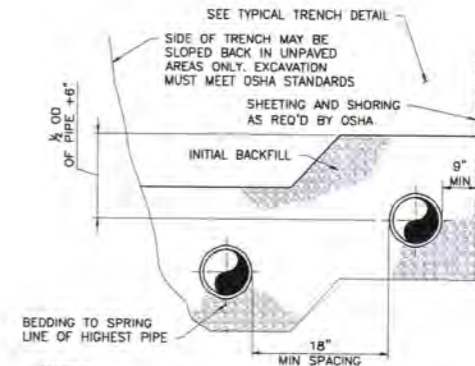
STONE INLET APRON
SCALE: NTS



PAVEMENT SECTION
SCALE: NTS

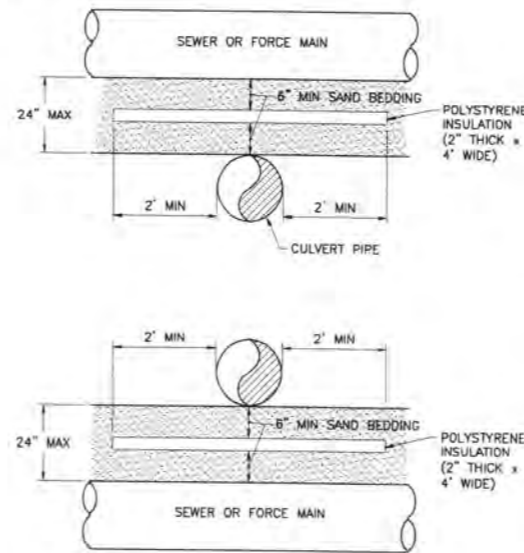
OUTLET LOCATION	DIMENSIONS					
	A	B	C	D	E	F
C	4.5'	20'	15.5'	27.5'	9'	20'
D	3.75'	11'	3'	15'	6'	14'

OUTLET RIPRAP PADS
SCALE: NTS

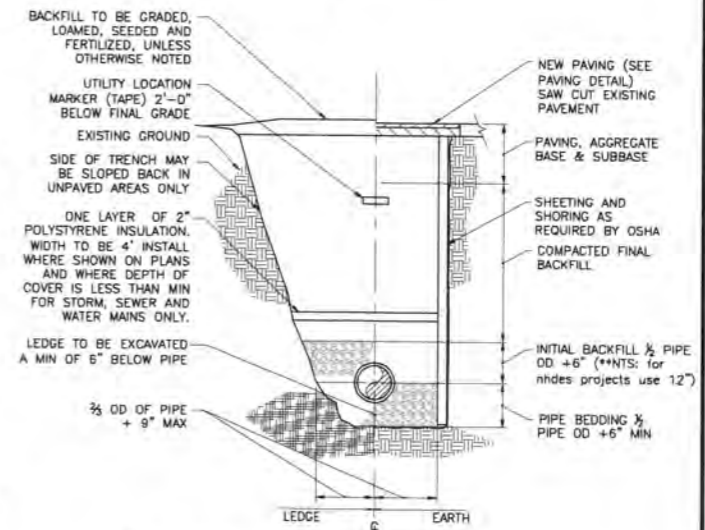


- NOTES:**
1. THIS SECTION IS SHOWN FOR TWO PIPES. IT IS TO BE USED FOR ANY NUMBER OF PIPES.
 2. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL MATERIALS AND COMPACTED BACKFILL REQUIREMENTS.
 3. PIPE SPACING SHOWN IS TYPICAL UNLESS OTHERWISE NOTED.
 4. SEE SPECIFICATIONS SECTION 01150 - MEASUREMENT AND PAYMENT FOR PAY WIDTH REQUIREMENTS.

MULTIPLE PIPE TRENCH
SCALE: NTS



CULVERT CROSSING
SCALE: NTS



- NOTES:**
1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
 2. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNELLED ALONG BEDDING/INITIAL BACKFILL.
 3. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.

PIPE TRENCH
SCALE: NTS

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EXETER, NEW HAMPSHIRE
CONTRACT NO. 1
WASTEWATER TREATMENT
FACILITY UPGRADES

COWI D/E/AL/SS/MI

ATTACHMENT L
Project Criteria for Approval

Exeter, NH
Wastewater Treatment Facility Upgrade

Wetlands Permit Application
Criteria for Approval Narrative

I. INTRODUCTION

As required under Env-Wt 703.01, the NHDES shall review an application indicating that a project will be constructed adjacent to a Prime Wetland in accordance the criteria provided in 703.01.

II. Approval Criteria Review

703.01.b.1 The impacts to the Prime Wetland Buffer will be temporary in nature as the work involves construction of a force main replacement within an existing right-of-way for Newfields Road and Swasey Parkway in Exeter, NH. Temporary erosion and sedimentation controls will be implemented along the project route to prevent materials from entering the prime wetland areas. No direct impacts to the prime wetlands will result from this project. As a result, there will be no significant loss of values in the wetland or buffer areas.

703.01.b.2 The project is aimed at improving water quality in the Squamscott River Basin by reducing the pollutant load from the effluent of the wastewater treatment facility. The temporary impacts to the buffer zones are required to meet the discharge requirements of the new treatment facility, and to upgrade aging infrastructure.

703.01.b.3 The project cannot be located in another corridor outside of the wetland buffer areas. The routing of the force main replacement is within existing right-of-ways of existing streets. Securing easements to locate the force main outside of the existing right-of-ways would delay the project and cause the Town to be in default of its Order of Consent from the EPA.

703.01.b.4 Impacts to the buffer areas have been kept to the minimum area possible. Contractor laydown areas for the work will be established outside of the 100-foot buffer zones for either tidal or prime wetland areas.

703.01.b.5 Mitigation measures are not required for the impacts associated with this project.

