



LEBANON CONSERVATION COMMISSION
OCTOBER 8, 2020 - 7:00 PM
REMOTE VIA MICROSOFT TEAMS
LEBANONNH.GOV/LIVE

1. Call to Order

- A. Review of meeting procedures and NH RSA 91-A "Right-to-Know" requirements.

2. Approval of Minutes

- A. September 10, 2020

3. Permit Review

- A. Quail I, LP (Applicant), Melandaco, LLC (Property Owner) - Review and Comment on NHDES Wetland Standard Dredge and Fill Application- (Minimum Impact) for drainage improvements along East Wilder Road. The project requires temporary wetland impacts. The project in review includes 600 sq ft of temporary impact. CC2020-08 Fill in NH DES # 2020-02338
- B. City of Lebanon (Applicant), Lebanon Housing Authority (Property Owner) - Review and Comment on NHDES Wetland Standard Dredge and Fill Application - (Minor Impact) for CSO #13, replacing an existing outfall. The project requires temporary & permanent wetland impacts. The project in review includes 1560 sq ft of temporary impact and 480 sq ft of permanent impact. CC2020-09 (Fill in NH DES # when they have it)

4. Study Items

- A. Alfred & Lorelee West (Property Owners), Saxon Partners (Applicant)- Per Des Condition #17, Included Within The September 28, 2020 Request For More Information Letter, The Applicant Is Seeking Comment On The Revised Design, Specific To The Aquatic Organism Passage Concern Expressed By The Conservation Commission During The July 9, 2020 Permit Review. CC2020-07
- B. UVLSRPC Route 120 Project

5. Committee Reports

- A. Conservation Lands Monitors (Various Members)
- B. Lebanon Biodiversity Group (D. Lacey)
- C. Workshops & Educational Opportunities (Various Members)

6. Other Business

- A. Resident Stewardship Volunteer Program (20 minutes)
- B. Web Page Update
- C. Wild About Lebanon
- D. LOST Fund Update

7. Future Agenda Items

- A. Commissioners are welcome to contribute additional agenda items at least one week before the meeting.

8. Open to the Public

9. Adjournment

Due to the current situation with the COVID-19 Pandemic, the City of Lebanon is offering its meetings via Microsoft Teams. Members of the public are encouraged to attend by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the Microsoft Teams software or by phone. Please visit LebanonNH.gov/Live for full details.

NOTE: City Hall is temporarily closed to the public in order to help prevent of the spread of Novel Coronavirus COVID-19. City operations will continue during this time, but in-person transactions will be limited to those of a critical nature. If you have any questions or would like to view the files for the application identified above, please contact the Planning & Development Department by sending an e-mail to planning@lebanonnh.gov, or by calling 603-448-1457. The application materials will also be posted to the City's website at <https://lebanonnh.gov/agendacenter>.

The order of agenda items is subject to change.

THE AGENDA, IN ITS ENTIRETY IS AVAILABLE ON THE CITY'S WEBSITE AT LEBANONNH.GOV

**Agenda
Conservation Commission
October 8, 2020**

**Agenda Item #2A
Approval of Minutes**

September 10, 2020

DRAFT

**LEBANON CONSERVATION COMMISSION
REGULAR MEETING MINUTES
Remote Via Microsoft Teams
LebanonNH.gov/Live
Thursday, September 10th, 2020
6:30 PM**

MEMBERS PRESENT: Ernst Oidtmann (Chair), Sarah Riley (Vice Chair), Erling Heistad, Bruce James, Donald Lacey, Susan Almy, Chris Johnson, Barbara Hirai (Alt.)

MEMBERS ABSENT: Darla Bruno (Alt.), Suellen Balestra (Alt.)

STAFF PRESENT: Mark Goodwin (GIS Coordinator)

1. CALL TO ORDER – Chair Oidtmann called the meeting to order at 6:31 PM

- Mr. Mark Goodwin reviewed the meeting procedures for remote meetings and NH RSA 91-A “Right to Know” requirements. A Roll Call of Commission Members who participated remotely are listed above.

2. APPROVAL OF MINUTES: August 13th, 2020

Ms. Almy MOVED to approve the August 13th, 2020 Minutes as amended and presented in the September 10th, 2020 agenda packet.

Seconded by Mr. Heistad.

Amendments:

Page 2, Line 44, Change “Twin River Parks area” to “Two Rivers Conservation Area”

Page 3, Line 4, 9, and 14, Change “Tichenor” to Ticknor”

Page 3, Line 4, Add “s” to “Baker”

Page 3, Line 41, Change “residence” to “residents”

Roll Call Vote:

Ernst Oidtmann, Erling Heistad, Sarah Riley, Donald Lacey, Susan Almy, Bruce James, and Chris Johnson all voting Yea.

None voted Nay.

** The Vote on the MOTION was approved (7-0).*

3. PERMIT REVIEW: None

4. STUDY ITEMS:

A. UVLSRPC Route 120 Project: Discussion took place on the Upper Valley Lake Sunapee Regional Planning Commission’s plans for Route 120 and what impact it will have on land and energy

1 use in the community. Mr. James suggested that the Commission take a closer look at the project plan
2 and how it may affect the area and as well as climate change.

3
4 **B. Open Space Plan-Draft version review and comment:** Mr. Goodwin explained the purpose of the
5 Open Space Plan. He said it was really a planning document and that he had been speaking with Mr.
6 David Brooks on how to launch the plan and who will be involved in reviewing the draft. He asked the
7 Conservation Commission to review and comment on the draft and he is hoping the Planning Board will
8 do that as well. He then hopes it will go to the City Council to review and formally adopt the Plan. He
9 would like the Commission to look closely at the percentages of undeveloped versus developed land.

10
11 Ms. Almy thought that when considering the land amounts to be built on, the Plan should only consider
12 the land that is developable, in the numbers. Ms. Hirai suggested that the Lebanon Open Space Trust
13 Fund should be referenced as the Lost Fund from the beginning of the documents so that there is no
14 confusion. She also believed that the Conservation Commission would need more support to accomplish
15 all that was set on in the Plan that would be the Commission's responsibility. Vice Chair Riley asked if
16 this was a guiding document like the Master Plan? Mr. Goodwin said it would be a guiding document for
17 the Planning Board. Chair Oidtmann asked what the legal implications were surrounding the document?
18 Mr. Goodwin answered that it was a regulatory document with no legal implications. All comments from
19 the Commission on the Open Space Plan will be sent to Mr. Goodwin who will put them all together for
20 review at the next Conservation Commission Meeting.

21
22 **C. Camping Policy at Boston Lot:** Currently the Conservation Commission allows 30 camping permits
23 throughout the year for the Boston Lot. Due to Covid-19, requests for the permits have been reached
24 already. Mr. Goodwin asked the Commission if they would like to make a special exception this year and
25 add permits or just leave it at 30 permits only and no more will be issued? Discussion was had among the
26 Commission members on the pros and cons of adding more permits for the year.

27
28 *Mr. Lacey MOVED that in view of exceptional circumstances caused by Covid-19, the Lebanon*
29 *Conservation Commission extend 10 additional camping permits for this year only be approved.*
30 *Seconded by Ms. Almy*

31
32 **Roll Call Vote:**

33 **Ernst Oidtmann, Bruce James, Erling Heistad, Sarah Riley, Donald Lacey, Susan Almy all voting**
34 **Yea.**

35 **Christopher Johnson voted Nay.**

36 ** The Vote on the MOTION passed (6-1).*

37
38 **5. COMMITTEE REPORTS:**

39
40 **A. Conservation Lands Monitors**

41 Mr. Goodwin told the Commission that DPW (Department of Public Works) went down to Two Rivers
42 and mowed. That should make planting trees down there a little easier. Chair Oidtmann asked if there
43 were any Elm trees that were going to be planted down there and if so when? Ms. Hirai said that she and
44 Vice Chair Riley were going down to the property the next day and look around to see where the trees
45 could be planted. The plantings may be put off for a while because of drought conditions. Chair
46 Oidtmann mentioned that Farnum Hill trail had some trees taken down that were hanging over the trail.
47 He was not sure who took care of that issue.

B. Lebanon Biodiversity Group

Mr. Lacey reported that he re-treated Japanese Knotweed at the Ticknor Property which looked to be successful and he also re-treated the Baker's Crossing area which also looked successful. He said that this is an on-going, yearly process.

Mr. Goodwin mentioned that he had been told that there is a rare plant species at the West entrance of the Goodwin Conservation Area that is being pushed out by Japanese Knotweed. He wondered if this would be a good place to have volunteers do a special project clearing the Knotweed out in support of the rare plant.

6. OTHER BUSINESS:**A. Resident Stewardship Volunteer Program**

Vice Chair Riley went over the Google forms that she, Ms. Hirai, and Mr. Goodwin have been working on. There are 3 forms, one is for volunteers to sign up to do work, one is to report work that has been done, and the last one is for the public to report any issues that they may come across. Mr. Goodwin is working with the City of Lebanon's technical people to get these forms online.

B. Web Page Update

Vice Chair Riley is very frustrated with how slow it is to get anything added or updated to the City of Lebanon's website. Mr. Goodwin said he will try to get the Google forms they have been working on to the Web person sometime next week and see how long it will take to get the forms up and running on the website.

C. Wild About Lebanon

The tours have been suspended until further notice. The Upper Valley Land Trust is working on a flyer to be mailed out to Lebanon residents telling them trails they could go out and hike on in the City.

D. LOST Fund Update

None

E. Intent to Cut Notice

Chair Oidtmann asked how the City of Lebanon received notice of intent to cut down trees? Mr. Goodwin said the Assessor's Office handles that. The Conservation Commission can request to get noticed when an Intent to Cut is given to the City. A notice is also put up near the road where the trees are to be cut down. Mr. Goodwin spoke to the Assessor about the Conservation Commission being alerted to the cutting of trees and is waiting for a response from him.

7. ADJOURNMENT:

Mr. Heistad MOVED to adjourn the meeting at 8:30 PM.

Seconded by Ms. Almy.

Roll Call Vote:

Ernst Oidtmann, Susan Almy, Erling Heistad, Sarah Riley, Chris Johnson, Bruce James, and Donald Lacey all voting Yea.

None voted Nay.

** The Vote on the MOTION was unanimously approved (7-0).*

- 1 **The meeting was adjourned at 8:30 PM.**
- 2
- 3 Respectfully submitted,
- 4 Barbara R. Higgins
- 5 Recording Secretary

**Agenda
Conservation Commission
October 8, 2020**

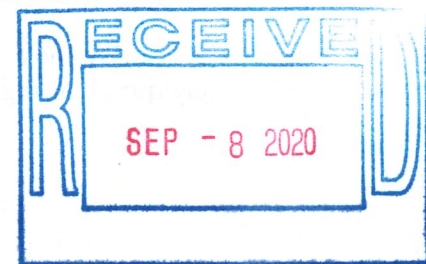
**Agenda Item #3A
Permit Review**

**Quail I, LP
(Applicant),
Melandaco, LLC
(Property Owner)
CC202008**

PATHWAYS CONSULTING, LLC

Planning • Civil & Environmental Engineering • Surveying • Construction Assistance
240 Mechanic Street • Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 • Fax: (603) 448-1221

August 31, 2020



Seta Detzel, Wetlands Specialist
New Hampshire Department of Environmental Services
Wetlands Bureau
29 Hazen Drive, Post Office Box 95
Concord, New Hampshire 03302-0095

RE: NHDES WETLAND PERMIT APPLICATION, EAST WILDER ROAD DRAINAGE IMPROVEMENTS, QUAIL HOLLOW SENIOR LIVING COMMUNITY PHASE V, WEST LEBANON, NEW HAMPSHIRE (Project No. 10112)

Dear Seta:

On behalf of the applicant, Quail I, LP (Quail), and the property owner, Melandaco, LLC, please find enclosed application materials for proposed temporary wetland impacts related to drainage improvements along East Wilder Road and discharge apron improvements on abutting property identified on the City's Tax Map 13 as Lot 1 in West Lebanon, New Hampshire (NH). The application package includes this cover letter, a completed "Wetlands Permit Application" form, United States Army Corps of Engineers (USACE) "Appendix B - Required Information and Corps Secondary Impacts Checklist," full-size (24" x 36") site plans, a list of abutters, an abutter notification letter, certified mail receipts, USGS and Tax Maps, site photographs, the NH Natural Heritage Bureau (NHB) Report, and a check in the amount of \$400.00 payable to "Treasurer, State of New Hampshire" for the required application fee.

Project Summary

Quail was requested to address drainage issues by the City of Lebanon (City) during site plan review of the Quail Hollow Senior Living Community Phase V expansion project, since the drainage from Quail Hollow discharges toward East Wilder Road. The improvements would involve adding a catch basin on the north side of East Wilder Road, with a new culvert across the road discharging above the ravine on the south side of the road; replacing the existing 12" culvert under the woods road that provides access to Map 13, Lot 1; and installing a new headwall in the ravine for both these culverts. We are also proposing some additional regrading and stone fill to stabilize the slopes in a portion of the ravine near this work. Some of the proposed work on the south side of East Wilder Road is in the jurisdictional wetlands in the bottom of the ravine that are also outside the public right-of-way, and on Map 13, Lot 1. The proposed work will require approximately 600 square feet (SF) of temporary wetland impacts.

The project depicted on the enclosed plans includes 600 SF of temporary disturbance within the New Hampshire Department of Environmental Services (NHDES) wetland jurisdiction. The wetland is classified as Palustrine Emergent Persistent (Pem1). The temporary wetland impacts will take place in previously disturbed area.

The existing wetlands were delineated in September 2019 by Timothy F. McCormick, our staff Certified Wetland and Soil Scientist (CWS/CSS), in support of this application. The applicant will review the project with the City Conservation Commission at the next regularly scheduled meeting.



STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau



[Check the Status of your Application](#)

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

APPLICANT'S NAME: **Quail Hollow**

TOWN NAME: **West Lebanon**

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

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

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

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

Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☐ Yes ☒ No
Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04).	☐ Yes ☒ No
- Protected species or habitat? - If yes, species or habitat name(s): pine-drops, Virginia stickseed - NHB Project ID #: NHB 19-3559	☒ Yes ☐ No
Bog?	☐ Yes ☒ No
Floodplain wetland contiguous to a tier 3 or higher watercourse?	☐ Yes ☒ No
Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☐ Yes ☒ No
Is the property within a Designated River corridor? If yes, provide the following information:	☒ Yes ☐ No
Name of Local River Management Advisory Committee (LAC): Upper Valley Subcommittee Connecticut River Joint Commissions	

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

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

www.des.nh.gov

-72.297295° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: Quail I, LP

MAILING ADDRESS: 7 Aspen Drive, Suite 1

TOWN/CITY: South Burlington

STATE: VT

ZIP CODE: 05403

EMAIL ADDRESS: jgiebink@summitpmg.com

FAX: N/A

PHONE: (802) 999-7254

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

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))☐ N/A

LAST NAME, FIRST NAME, M.I.: Finley, Rodrick J.

COMPANY NAME: Pathways Consulting, LLC

MAILING ADDRESS: 240 Mechanic Street, Suite 100

TOWN/CITY: Lebanon

STATE: NH

ZIP CODE: 03766

EMAIL ADDRESS: rod.finely@pathwaysconsult.com

FAX: (603) 448-1221

PHONE: (603) 448-2200

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

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME: Melandaco, LLC

MAILING ADDRESS: 436 Lockehaven Drive

TOWN/CITY: Enfield

STATE: NH

ZIP CODE: 03748

EMAIL ADDRESS: jodyactnow@aol.com

FAX: N/A

PHONE: (603) 398-8801

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

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

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

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

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

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

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

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

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

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐	600		☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL					600		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☒ **MINIMUM IMPACT FEE:** Flat fee of \$400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).

☐ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

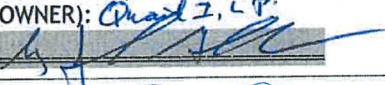
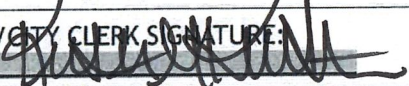
Permanent and temporary (non-docking):		SF	×	\$0.40 =	\$	
Seasonal docking structure:		SF	×	\$2.00 =	\$	
Permanent docking structure:		SF	×	\$4.00 =	\$	
Projects proposing shoreline structures (including docks) add \$400 =						\$
Total =						\$

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

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

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

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Initials: 	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.	
SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)		
SIGNATURE (OWNER): <u>Joseph A Roberts</u>	PRINT NAME LEGIBLY: <u>Joe Roberts, Melandaco, LLC</u>	DATE: <u>8/25/20</u>
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): <u>Quail I, LP</u> 	<u>John Gubish, Quail I, LP</u>	DATE: <u>8/25/20</u>
	PRINT NAME LEGIBLY: <u>Rodrick J. Finley, Pathways Consulting, LLC</u>	DATE: <u>8/31/2020</u>
SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))		
As required by RSA 482-A:3, I(a),(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.		
TOWN/CITY CLERK SIGNATURE: 	PRINT NAME LEGIBLY: <u>Kristin M. Kenniston</u>	DATE: <u>9/6/20</u>
TOWN/CITY: <u>Lebanon</u>		

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer - State of NH".

Keep this checklist for your reference; do not submit with your application.

APPLICATION CHECKLIST

Unless specified, all items below are required. Failure to provide the required items will delay a decision on your project and may result in denial of your application. Please reference statute RSA 482-A, Fill and Dredge in Wetlands, and the Wetland Rules Env-Wt 100-900, available [online](#).

- ☒ The completed, dated, signed, and certified application (Env-Wt 311.03(b)(1)).
- ☒ Correct fee as determined in RSA 482-A:3, I(b) or (c), subject to any cap established by RSA 482-A:3, X (Env-Wt 311.03(b)(2)). Make check or money order payable to "Treasurer – State of NH".
- ☒ The Required Planning actions required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3).
- ☒ [US Army Corps of Engineers \(ACE\) "Appendix B, New Hampshire General Permits \(GPs\), Required Information and Corps Secondary Impacts Checklist"](#) and its required attachments (Env-Wt 307.02). This includes the [US Fish and Wildlife Service IPAC review](#) and [Section 106 Historic/Archaeological Resource review](#).
- ☒ Project plans described in Env-Wt 311.05 (Env-Wt 311.03(b)(4)).
- ☒ Maps, or electronic shape files and meta data, and other attachments specified in Env-Wt 311.06 (Env-Wt 311.03(b)(5)).
- ☒ Explanation of the methods, timing, and manner as to how the project will meet standard permit conditions required in [Env-Wt 307](#) (Env-Wt 311.03(b)(7)).
- ☒ If applicable, the information regarding proposed compensatory mitigation specified in Env-Wt 311.08 and Chapter Env-Wt 800 - [Permittee Responsible Mitigation Project Worksheet](#), unless not required under Env-Wt 313.04 (Env-Wt 311.03(b)(8); Env-Wt 311.08; Env-Wt 313.04).
- ☒ Any additional information specific to the **type of resource** as specified in Env-Wt 311.09 (Env-Wt 311.03(b)(9); Env-Wt 311.04(j)).
- ☒ Project specific information required by Env-Wt 500, Env-Wt 600, and Env-Wt 900 (Env-Wt 311.03(b)(11)).
- ☒ A list containing the name, mailing address and tax map/lot number of each abutter to the subject property (Env-Wt 311.03(b)(12)).
- ☒ Copies of certified postal receipts or other proof of receipt of the notices that are required by RSA 482-A:3, I(d) (Env-Wt 311.03(b)(13)).
- ☒ Project design considerations required by Env-Wt 313 (Env-Wt 311.04(j)).
- ☒ Town tax map showing the subject property, the location of the project on the property, and the location of properties of abutters with each lot labeled with the name and mailing address of the abutter (Env-Wt 311.06(a)).
- ☒ Dated and labeled color photographs that:
 - (1) Clearly depict:
 - a. All jurisdictional areas, including but not limited to portions of wetland, shoreline, or surface water where impacts have or are proposed to occur.
 - b. All existing shoreline structures.
 - (2) Are mounted or printed no more than 2 per sheet on 8.5 x 11 inch sheets (Env-Wt 311.06(b)).
- ☒ A copy of the appropriate US Geological Survey map or updated data based on LiDAR at a scale of one inch equals 24,000 feet showing the location of the subject property and proposed project (Env-Wt 311.06(c)).
- ☒ A narrative that describes the work sequence, including pre-construction through post-construction, and the relative timing and progression of all work (Env-Wt 311.06(d)).

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

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

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

Appendix B

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

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

All Projects:

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

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: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	N/A	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

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

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



United States Department of the Interior

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



In Reply Refer To:

May 07, 2020

Consultation Code: 05E1NE00-2020-SLI-2472

Event Code: 05E1NE00-2020-E-07369

Project Name: Quail Hollow Phase 5 East Wilder Road Culvert

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

To Whom It May Concern:

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

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

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

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

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

Critical habitats

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

06162020

Please mail the completed form and required material to:

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

RECEIVED

MAY 22 2020

DHR Use Only

R&C #

11787

Log In Date

5/22/20

Response Date

6/7/20

Sent Date

6/11/20

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

☒ This is a new submittal

☐ This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION

Project Title East Wilder Road Drainage Improvements Project For Quail Hollow Senior Living - Phase V Project

Project Location East Wilder Road

City/Town Lebanon

Tax Map 13

Lot # 1

NH State Plane - Feet Geographic Coordinates: Easting 817385 Northing 429555
(See RPR Instructions and R&C FAQs for guidance.)

Lead Federal Agency and Contact (if applicable) US Army Corps of Engineers
(Agency providing funds, licenses, or permits)

Permit Type and Permit or Job Reference # Regional Gen. Permit

State Agency and Contact (if applicable) NHDES Wetlands Bureau

Permit Type and Permit or Job Reference # Stand. Dredge & Fill

APPLICANT INFORMATION

Applicant Name MELANDACO LLC C/O JOE ROBERTS & QUAIL I, LP C/O JOHN GIEBINK

Mailing Address 436 Lockhaven Rd, Enfield, NH 03748 & 7 Aspen Dr, Ste 1, S. Burlington, VT 05403

Phone

City W Lebanon

State NH

Zip 03784

Email

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Rod Finley/Pathways Consulting, LLC

Mailing Address 240 Mechanic Street

Phone Number 603 448 2200

City Lebanon

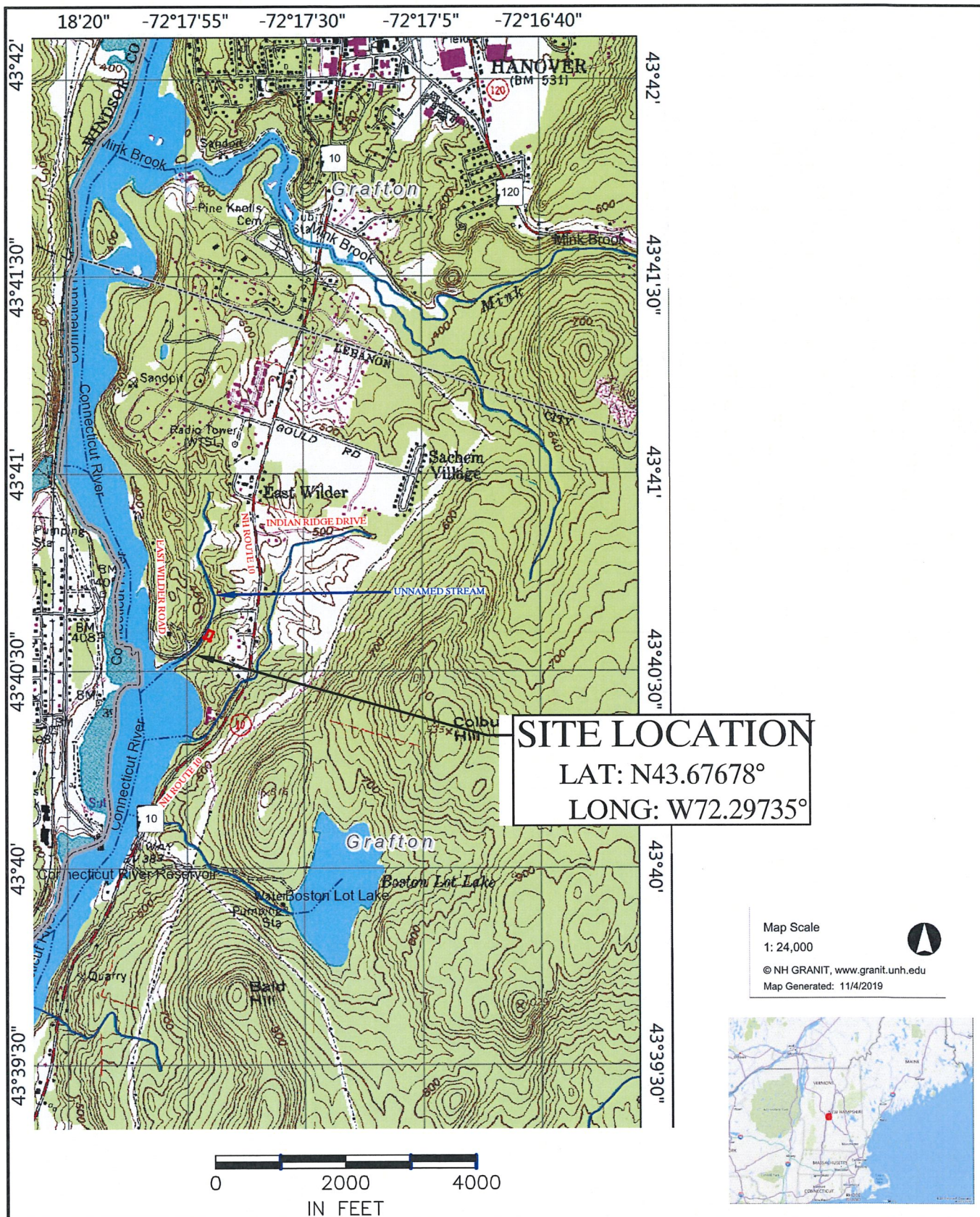
State NH

Zip 03766

Email Rod.Finley@pathwaysconsult.com

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

TABLE 1 LIST OF ABUTTERS QUAIL HOLLOW SENIOR LIVING COMMUNITY PHASE V EAST WILDER ROAD DRAINAGE IMPROVEMENTS EAST WILDER ROAD, LEBANON, NEW HAMPSHIRE Project No. 10112			
MAP-LOT	OWNER NAME	PARCEL ADDRESS	MAILING ADDRESS
8-2-702	ANNE B. HARMS	27 LINDEN DRIVE G2	27 LINDEN DRIVE WEST WEST LEBANON, NH 03784
13-2	RALPH & CLAUDIA GIBSON	33 EAST WILDER ROAD	33 EAST WILDER ROAD WEST LEBANON, NH 03784
13-6	FREDERICK V. SCHOCH TTEE, FREDERICK V. SCHOCH TRUST	18 EAST WILDER ROAD	18 EAST WILDER ROAD WEST LEBANON, NH 03784
14-2	LAURA L. GILLESPIE	9 LAKEVIEW DRIVE	9 LAKEVIEW DRIVE WEST LEBANON, NH 03784
14-3	DOUGLAS V. GRAHAM TTEE, DOGRA TRUST	11 LAKEVIEW DRIVE	5666 LA JOLLA BLVD #334 LA JOLLA, CA 92037
14-5	LEIF JOHNSON & JENNIFER FREISE	10 LAKEVIEW DRIVE	10 LAKEVIEW DRIVE WEST LEBANON, NH 03784
14-6	JOHN & CANDACE CURRAN	14 COBURN TERRACE	36 SOVEREIGN WAY FLORENCE, MA 01062
14-7	GORAN TODOROVIC	10 COBURN TERRACE	10 COBURN TERRACE WEST LEBANON, NH 03784
14-8	DANA T. DUELLMAN	6 COBURN TERRACE	6 COBURN TERRACE WEST LEBANON, NH 03784
14-16	CATHERINE E. NELSON	5 EAST WILDER ROAD	P.O. BOX 125 HANOVER, NH 03755
14-17-100	RAYMOND H. STONE & ROSE MARIE D. RAESS	10 EAST WILDER ROAD	10 EAST WILDER ROAD WEST LEBANON, NH 03784
14-17-200	SAEED GOLNABI	0 EAST WILDER ROAD	8 CHERRY CIRCLE LEBANON, NH 03766
13-1	PROPERTY OWNER & CO-APPLICANT: MELANDACO LLC C/O JOE ROBERTS	0 LAKEVIEW DRIVE	436 LOCKEHAVER ROAD ENFIELD, NH 03748
	CO-APPLICANT: QUAIL I, LP C/O JOHN GIEBINK		7 ASPEN DRIVE, SUITE 1 SOUTH BURLINGTON, VT 05403
	ENGINEER: PATHWAYS CONSULTING, LLC		240 MECHANIC STREET, SUITE 100 LEBANON, NH 03766

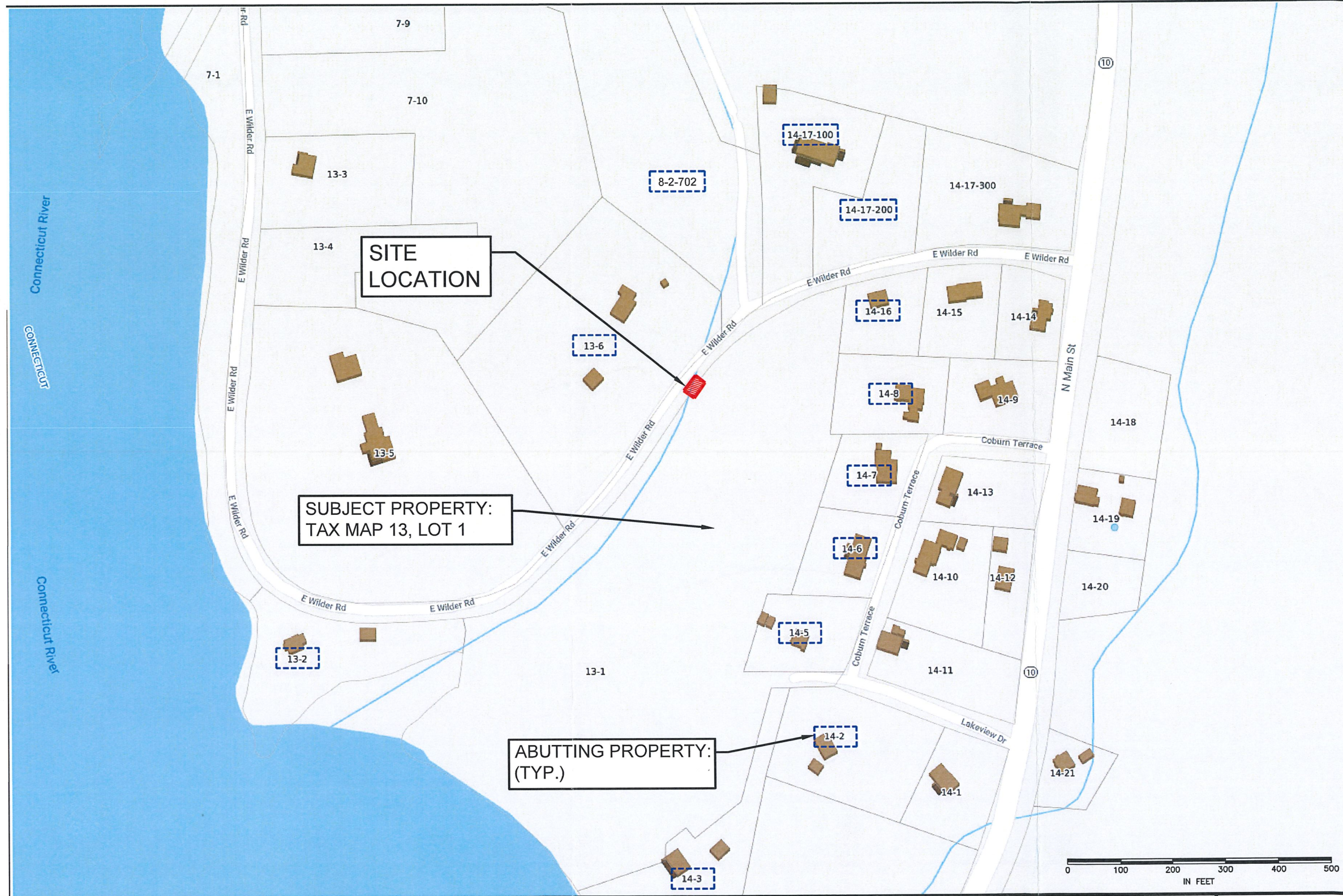


Pathways Consulting, LLC
 240 Mechanic Street, Suite 100
 Lebanon, New Hampshire 03766
 (603) 448-2200 FAX: (603) 448-1221

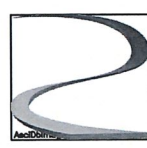
USGS SITE LOCATION MAP FOR
 QUAIL HOLLOW PHASE V - EAST WILDER ROAD IMPROVEMENTS
 EAST WILDER ROAD, LEBANON, NEW HAMPSHIRE

SCALE: AS SHOWN
 DESIGNED BY: SAW
 DRAWN BY: SAW
 CHECKED BY: RJF
 DATE: 01/31/20
 PROJ. NO. 10112

Property Map (Lebanon GIS) - East Wilder Road Improvements, Lebanon, NH



NOTES:
1. PROPERTY MAP EXCERPT TAKEN FROM CITY OF LEBANON GIS SYSTEM ON JANUARY 2020.



Pathways Consulting, LLC
240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

PROPERTY MAP FOR
QUAIL HOLLOW PHASE V - EAST WILDER ROAD DRAINAGE IMPROVEMENTS
EAST WILDER ROAD, LEBANON, NEW HAMPSHIRE

SCALE: AS SHOWN
DESIGNED BY: SAW
DRAWN BY: SAW
CHECKED BY: RJF
DATE: 01/31/20
PROJ. NO. 10112

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Scott Williams, Pathways Consulting, LLC
240 Mechanic Street, Suite 100
Lebanon, NH 03766

From: Amy Lamb, NH Natural Heritage Bureau
Date: 11/19/2019 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB19-3559

Town: Lebanon

Location: Tax Maps: East Wilder Road right-of-way and Lot 13-1

Description: Implement drainage improvements on East Wilder Road related to the Quail Hollow Senior Living Community - Phase 5 Expansion. The drainage improvements will include a new drainage pipe across East Wilder Road, and headwall and stone stabilization on the bed and banks of an unnamed perennial stream that flows into the Connecticut River.

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

Comments: Another NHB review was submitted for construction of a new building related to this project (NHB19-3566); however the new construction was mapped far north of the proposed stream crossing area, as mapped below. Please send a site plan clarifying the location and extent of the new construction and wetlands impacts.

Plant species	State ¹	Federal	Notes
pine-drops (<i>Pterospora andromedea</i>)*	E	--	Threats to this understory species would be activities that impacted its habitat (dry forests and thin woods), such as logging and development.
Virginia stickseed (<i>Hackelia virginiana</i>)	T	--	This species is found in moist or dry woods, including floodplain forests. Threats would primarily be major alterations to their habitat.

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

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

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

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

New Hampshire Natural Heritage Bureau - Plant Record

Virginia stickseed (*Hackelia virginiana*)**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: 2016: Area 2: Appeared to be at least 3 plants, identified by plant remnant habit and diagnostic seeds. Likely more in area.
 2005: Area 1: 6 plants, all bearing mature fruit.
 2003: Searched for but not found.
 2001: Searched for but not found.
 1979: Specimen collected.

General Area: 2016: Population occurred in fairly rich cove forest with black birch (*Betula lenta*), white ash (*Fraxinus americana*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), American witch-hazel (*Hamamelis virginiana*), Japanese barberry (*Berberis thunbergii*), interrupted fern (*Osmunda claytoniana*), Christmas fern (*Polystichum*

General Comments: 2003: Did not search the ravine just north of the driveway.

Management: 2005: Owner treats plant as an annoying weed and has been regularly removing any he finds. Surveyor recommends continued landowner contact.

Location

Survey Site Name: Dry Brook
 Managed By:

County: Grafton

Town(s): Lebanon

Size: .9 acres

Elevation:

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

Directions: 2016: From center of Boston Lot parking lot across from Wilder Dam on Route 10 in West Lebanon, follow highway 385 meters north and then 95 meters due east uphill into woods. Population is in small northwest-facing cove.
 2005: [From Lebanon take] NH Route 10, 1.2 miles South of the Hanover-Lebanon town line. The Sunset Motel is located on the west side of Route 10. Plant found along driveway and parking lot.
 1979: Rich woodland along Dry Brook ca. 1.5 miles south of Hanover, off Rte. 10. On west side near intermittent stream on steep bank. Near Sunset Motel.

Dates documented

First reported: 1979-08-07

Last reported: 2016-01-27

SITE PHOTOGRAPHS

**EAST WILDER ROAD DRAINAGE IMPROVEMENTS
FOR
QUAIL HOLLOW SENIOR LIVING
COMMUNITY – PHASE V PROJECT
LEBANON, NEW HAMPSHIRE
NHDES WETLAND PERMIT APPLICATION**

PROJECT LOCATION:

EAST WILDER ROAD
MAP 13, LOT 1
LEBANON, NEW HAMPSHIRE

PROPERTY OWNER & CO-APPLICANT:

MELANDACO LLC
436 LOCKEHAVEN DRIVE
ENFIELD, NEW HAMPSHIRE 03748

CO-APPLICANT:

QUAIL I, LP
7 ASPEN DRIVE, SUITE 1
SOUTH BURLINGTON, VERMONT 05403

Dated: January 22, 2020

Pathways Project No. 10112

AGENT FOR OWNER:



PATHWAYS CONSULTING, LLC

Planning • Civil & Environmental Engineering • Surveying • Construction Assistance
240 Mechanic Street • Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 • Fax: (603) 448-1221 • www.pathwaysconsult.com



Photograph No. 1 (dated 10/23/19): View to the southwest showing the accumulated sediment in the road ditch up-gradient of the existing woods road and culvert.



Photograph No. 2 (dated 10/23/19): View to the southwest showing the inlet end of the existing culvert under the woods road that is buried with accumulated sediment.



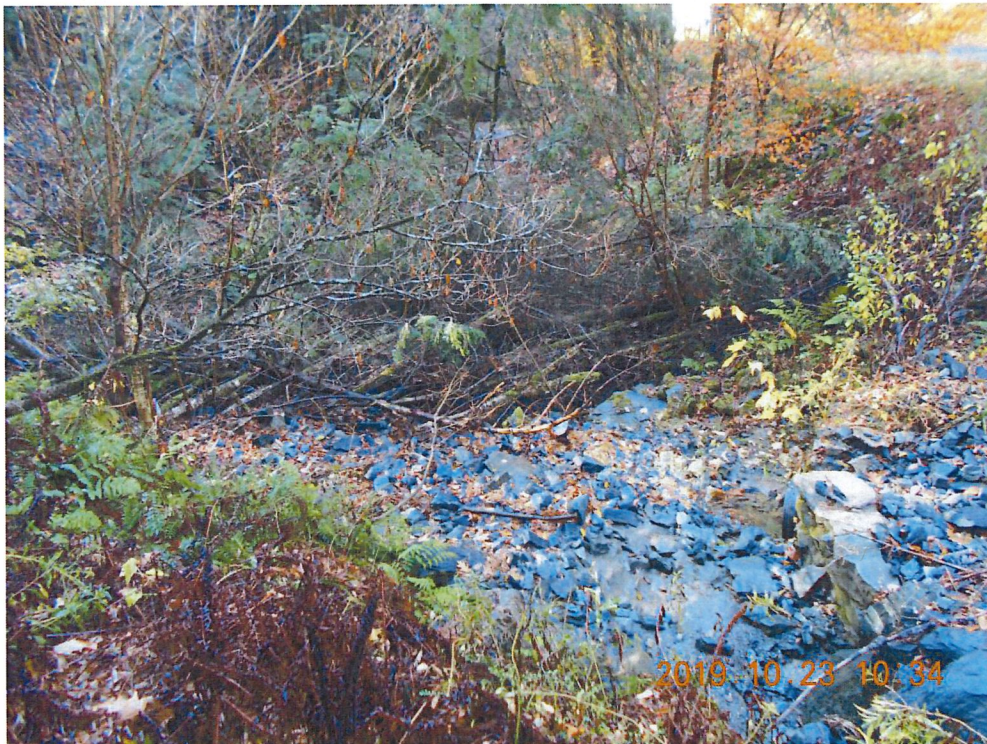
Photograph No. 5 (dated 10/23/19): View to the south from the roadway showing the existing granite blocks and riprap on the embankment above the existing 24" culvert.



Photograph No. 6 (dated 10/23/19): View to the northwest showing the existing granite blocks and riprap on the embankment above the existing 24" culvert.



Photograph No. 9 (dated 10/23/19): View to the north showing the eroded ditch downgradient of the culvert under the woods road.



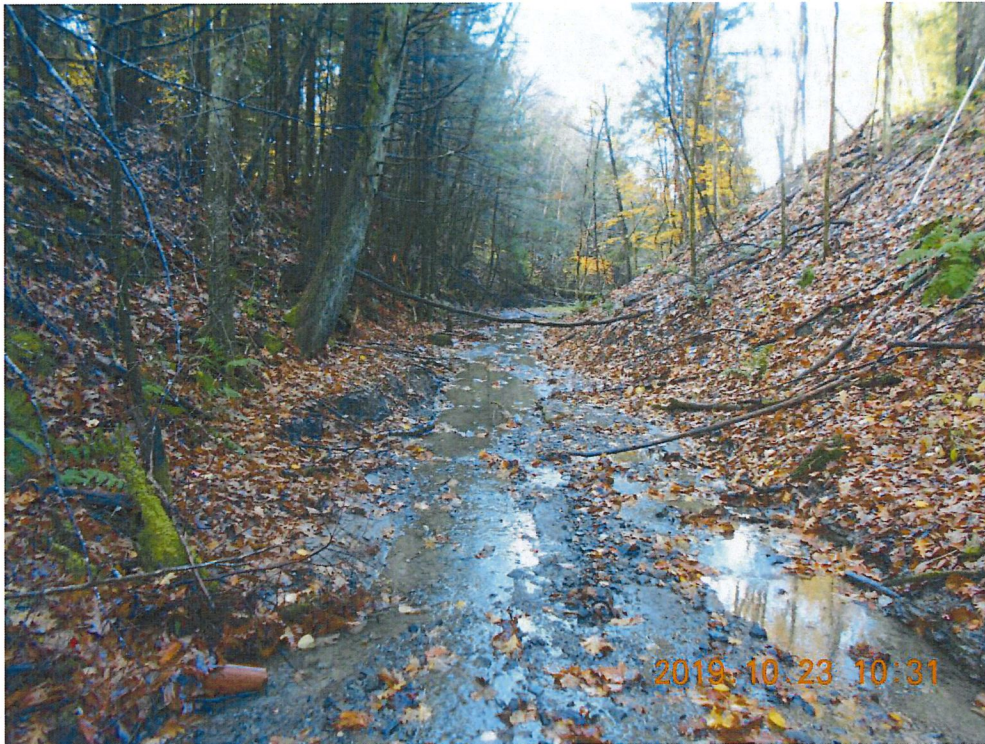
Photograph No. 10 (dated 10/23/19): View to the south showing the ravine slopes and riprap around the outlet of the 24" culvert.



Photograph No. 13 (dated 10/23/19): View to the northwest from the bank opposite of the road showing the riprap on the embankment slopes and tree debris in the ravine.



Photograph No. 14 (dated 10/23/19): View to the northeast from the down-gradient end of the project area showing the tree debris clogging the ravine.



Photograph No. 17 (dated 10/23/19): View to the southwest from a point approximately 150 feet down-gradient of the project area showing the wetlands in the ravine.



Photograph No. 18 (dated 10/23/19): View to the southwest from a point approximately 250 feet down-gradient of the project area showing the wetlands in the ravine.



Photograph No. 21 (dated 11/27/19): View to the north from within the wetlands showing the location (stake) of the rare Virginia stickseed plant in the project area between wetland flags A13 and A14.



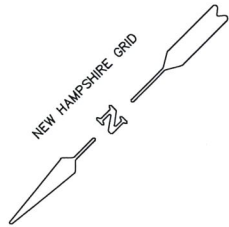
Photograph No. 22 (dated 11/21/19): Close up view of the rare Virginia stickseed plant in the project area growing in the riprap between wetland flags A13 and A14.



Photograph No. 25 (dated 11/21/19): View to the southwest showing another location of the rare Virginia stickseed plant outside the project area near wetland flag A19, approximately 50 feet down-gradient of the project limits.



Photograph No. 26 (dated 11/21/19): Close up view of the rare Virginia stickseed plant outside the project area near wetland flag A19.



LEGEND:

- BOULDER
- SOFTWOOD TREE
- HARDWOOD TREE
- SIGN
- MAILBOX
- UTILITY POLE W/GUY WIRE
- CURB STOP
- POST
- TAX MAP/LOT NUMBER
- CATCH BASIN/YARD DRAIN
- DRAIN FLOW ARROW
- HYDRANT W/GATE VALVE
- UNDERGROUND CONDUIT
- BOUNDARY MARKER

- SPOT GRADE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- EDGE OF WOODS
- EDGE OF WETLAND
- WETLAND FLAG
- DRAIN LINE
- WATERLINE
- APPROX. BOUNDARY
- RIGHT-OF-WAY
- UNDERGROUND WIRE
- GUARD RAIL
- CONTOUR (MINOR)
- CONTOUR (MAJOR)
- PROPOSED CONTOUR
- APPROX. LOCATION OF SITE PHOTOGRAPHS TAKEN 10/23/19, 11/21/19, & 11/27/19

x450.0

- WET
- D
- W
- UGE
- 550
- 550
- 450
- 425



REVISION NO.	DATE	DESCRIPTION	MADE BY	CHECKED BY	APPROVED BY

CONTEXT PLAN – EAST WILDER ROAD DRAINAGE IMPROVEMENTS FOR
QUAIL HOLLOW PHASE 5
EAST WILDER ROAD – LEBANON, NEW HAMPSHIRE

PATHWAYS CONSULTING, LLC

240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766
(603) 448-2200

SCALE: 1"= 30'

DESIGNED BY: PAB

DRAWN BY: SAW

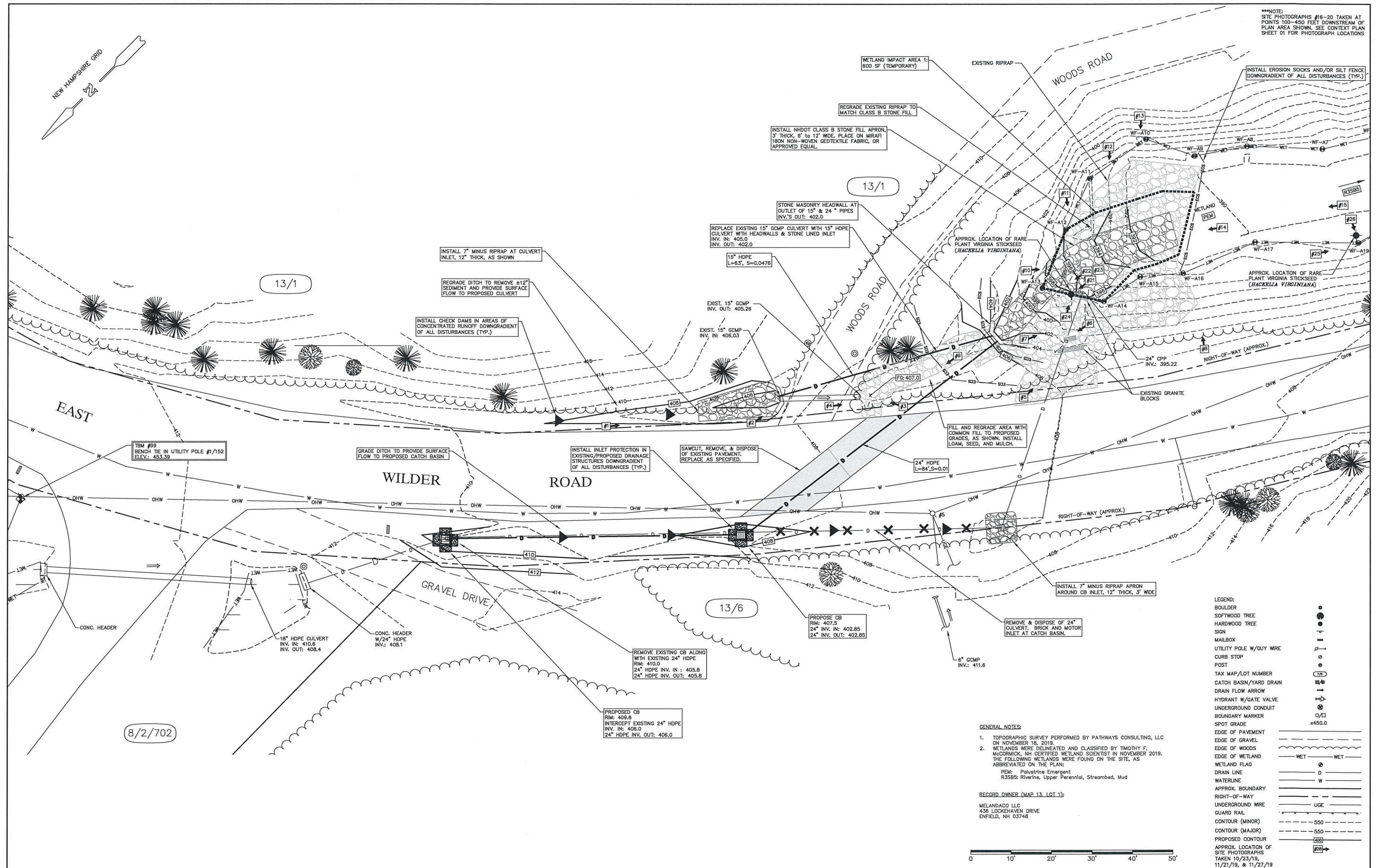
CHECKED BY: RJF

DATE: 01/24/20

PROJ. NO. 10112

1

SHEET 1 OF 3



REVISION NO.	DATE	DESCRIPTION	MADE BY	CHECKED BY	APPROVED BY

EAST WILDER ROAD DRAINAGE IMPROVEMENTS FOR
QUAIL HOLLOW SENIOR LIVING COMMUNITY - PHASE V
EAST WILDER ROAD - LEBANON, NEW HAMPSHIRE

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766
(603) 448-2200

SCALE: 1"= 10'	2
DESIGNED BY: PAB	
DRAWN BY: SAW	
CHECKED BY: RJF	
DATE: 01/24/20	
PROJ. NO. 10112	SHEET 2 OF 3

1. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH "THE HANSEN STORMWATER MANAGEMENT," VOLUMES 1, 2, & 3, DECEMBER 2008 (OR LATEST EDITION). THE CONTRACTOR SHALL HAVE REFERENCE TO THESE PUBLICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSIDERING THE EFFECTS OF EROSION AND MOISTURE CONSERVATION AND REDUCES NEGATIVE IMPACTS ON WATER QUALITY. THE CONTRACTOR SHALL GIVE PRIORITY TO THE TIMELY INSTALLATION OF BOTH TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES.

2. THE EROSION AND SEDIMENT CONTROL PRACTICES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIRED FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE PRACTICES SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE CHANGING SITE CONDITIONS.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED BY SURVEY OR BY THE CONTRACTOR PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED.

4. THE CLEARING LIMITS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION.

5. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT SHALL NOT EXCEED ONE ACRE AT ANY ONE TIME BEFORE STABILIZATION, UNLESS COVERED BY A PERMIT. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS POSSIBLE AND DEVELOPED TO FACILITATE INSTALLATION OF EROSION CONTROL MEASURES AND THE COMPLETION OF GRADING, SEEDING, AND LANDSCAPING AS SOON AS POSSIBLE WITHIN A REASONABLE PERIOD OF TIME.

6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS STABILIZED DRIVEWAYS, SHALL BE INSTALLED AS NECESSARY. IT MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT. ANY TRACKS TRACKED ONTO PAVED AREAS SHALL BE CLEANED BY THE CONTRACTOR. THE SAME WORK DAY IT IS NOTED, AND IF NOTED ON A NON-WORK DAY, NOT LATER THAN THE END OF THE NEXT WORK DAY.

7. ARTIFICIAL STOCKPILES SHALL BE SEEDED AND MULCHED AND HAVE A SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE, AT A MINIMUM. STOCKPILES SHALL BE COVERED WITH IMPERVIOUS TAPPS AND/OR STABILIZED WITH TEMPORARY SEED AND MULCH TO PROTECT THE SOIL IN THE AREA THAT IS TO BE USED FOR LONGER THAN PAVED AREAS.

8. INSTALL EROSION CONTROL MEASURES AS SHOWN. CLEAN ACCUMULATED SEDIMENT AS NECESSARY. LEAVE IN PLACE UNTIL DISTURBED AREAS HAVE BEEN ADEQUATELY STABILIZED. DISTURBED AREAS RESULTING FROM SILT FENCE REMOVAL SHALL BE PERMANENTLY SEED.

9. CUT AND FILL SLOPES CALL FOR INTENSIVE EROSION CONTROL MEASURES. INSTALL MULCH PLANS FOR ALL SLOPES 3:1 (RISE ON 3 RUN) AND STEEPER.

10. ALL DISTURBED AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH AND/OR MULCH MATS FOR PROTECTION OF SOILS. EACH DISTURBED AREA SHALL BE STABILIZED WITHIN 30 DAYS.

11. ROADWAYS SHALL BE STABILIZED WITH BASE COURSE AND BINDER WITHIN 3 WEEKS OF INITIAL DISTURBANCE OF THE SLOPES ON A SECTION OF ROADWAY, IN ADDITION TO THE DISTURBED SLOPES TO FINAL GRADE WITH FINAL SEEDING OR OTHER PRESCRIBED STABILIZATION.

12. WHEN WORK IS SUSPENDED WITHIN THE GROWING SEASON, ALL DISTURBED AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH AND MULCH MATS WITHIN 30 DAYS OF THE END OF THE GROWING SEASON. ALL DISTURBED AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH; MULCH AND TACK ON SLOPES STEEPER THAN 3:1; OR EROSION MATTING ON SLOPES FLATTER THAN 2:1.

13. TEMPORARY STABILIZATION OF DISTURBED AREAS:

MULCHING: MULCH ALL DISTURBED AREAS WITH 1-½ TO 2 TONS OF HAY OR STRAW PER ACRE (70-90#/1,000 SQ. FT.). ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND ON SLOPES SUBJECT TO WASH OR WIND BLOWN CONDITIONS. JUTE OR OTHER BIODEGRADABLE NETTING, STAKING AND STAPLING MAY BE REQUIRED.

SPECIES	PER ACRE	PER 1,000 SQ.FT.	REMARKS
WINTER RYE	2 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO DEPTH OF ONE INCH.
OATS	2 1/2 BU OR 80 LBS.	2 LBS.	BEST FOR SPRING SEEDINGS. LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO DEPTH OF ONE INCH.
ANNUAL RYE	40 LBS.	1 LB.	GROWS QUICKLY, BUT IS OF SHORT GRASS DURATION. WHERE APPEARANCES ARE IMPORTANT, COVER SEED WITH NO MORE THAN 1/4 INCH OF SOIL. WITH MULCH, SEEDING MAY BE DONE THROUGHOUT GROWING SEASON. OTHERWISE SEED EARLY SPRING OR BETWEEN AUGUST 15 & SEPTEMBER 15.

SEED BED PREPARATION:	TOPSOIL (SANDY LOAM, LOAM, OR SILT LOAM), FRAGILE, FREE OF STUMPS, WOOD, AND ROOTS. STONES MORE THAN 1-½ INCHES IN DIAMETER OR LENGTH SHALL BE PLACED OUT OF ALL DISTURBED AREAS IN A 4" (MINIMUM) THICK LAYER. TOPSOIL SHALL BE FREE OF HERBICIDES AND TOXIC MATERIALS. TILL THREE INCHES DEEP, MIXING IN THE FERTILIZER AND LIME. UNIFORMLY APPLY NOT LESS THAN 500#/ACRE (12#/1,000 SQ. FT.) OF 10-20-20 OR EQUIVALENT
FERTILIZE:	SPREAD SEED UNIFORMLY. FIRM SOIL BY ROLLING OR PACKING; IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS.
SEEDING:	
MULCHING:	MULCH ALL DISTURBED AREAS WITH 1-½ TO 2 TONS OF HAY OR STRAW PER ACRE (70-90#/1,000 SQ. FT.). ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND ON SLOPES SUBJECT TO WASH OR WIND BLOWN CONDITIONS. JUTE OR OTHER BIODEGRADABLE NETTING, STAKING AND STAPLING MAY BE REQUIRED.

	<u>LBS/ACRE</u>
CHEWING FESCUE 'SR 5000'	40
CHAMPION PERENNIAL RYE GRASS	30
HARD FESCUE 'SR 3000'	25
RED FESCUE - 'PENNLAWN'	25
BLUEGRASS - 'GLADE'	10
	130
	<u>LBS/ACRE</u>

6. MAINTENANCE: REGULAR MAINTENANCE SHALL OCCUR DURING THE CONSTRUCTION PERIOD UNTIL SUCH TIME AS PERMANENT STABILIZATION IS ESTABLISHED. MINOR MAINTENANCE ACTIVITIES INCLUDING REPAIRS OF EROSION CONTROL MEASURES SHALL BE ADDRESSED BY THE END OF THE NEXT WORK DAY. ADDITIONAL MAINTENANCE MAY INCLUDE:
 - A. DISTURBED AREAS WILL BE FERTILIZED AND RESEEDED, WHERE NECESSARY.
 - B. CATCH BASINS WILL BE CHECKED FOR PROPER OPERATION.
 - C. DRAINAGE AND GRASS TREATMENT SWALES SHALL BE CHECKED FREQUENTLY AND CLEANED AS REQUIRED.
7. THE SILT FENCES AND PAYABLE DIKES WILL BE CHECKED ON A REGULAR BASIS AND REPAIRED AS NECESSARY TO CORRECT ANY DAMAGE, DETERIORATION, AND SHORT CIRCUITING. SEDIMENT WILL BE REMOVED WHEN IT REACHES ON-THIRD OF THE HEIGHT OF SILT FENCE AND ONE-HALF THE HEIGHT OF OTHER BMP'S SUCH AS EROSION CONTROL CHECKS.
8. THE BOTTOM OF SEDIMENT BASINS SHALL BE PERIODICALLY CLEANED, WITH THE SEDIMENT REMOVED TO A SECURE LOCATION.
9. THE EROSION CONTROL PLAN SHALL BE CHECKED ON A REGULAR BASIS TO EVALUATE THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL PRACTICES, AND IN THE EVENT OF ANY EROSION, SEDIMENTATION OR TURBIDITY ISSUES THAT ARISE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EROSION CONTROL PLAN. THE EROSION CONTROL PLANS ARE KEPT UPDATED REGULARLY, AND THE EROSION CONTROLS ON THE SITE ARE MAINTAINED AND WORKING EFFECTIVELY.
10. THE EROSION CONTROL SWALES AND SEDIMENT BASINS AND STRUCTURES SHALL BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMP'S PRIOR TO DIRECTING RUNOFF TO THEM.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROLS DAILY, PRIOR TO ANY ANTICIPATED RAIN EVENTS, AND WITHIN 24 HOURS FOLLOWING ANY RAIN EVENTS. ALL DAMAGED SILT FENCES AND OTHER EROSION CONTROLS SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL BE REMOVED AS NECESSARY.
12. THE MAXIMUM AMOUNT OF TIME ANY AREA MAY BE DISTURBED WITHOUT STABILIZATION SHALL BE 14 DAYS.
13. AN AREA SHALL BE CONSIDERED PERMANENTLY STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED; OR
 - E. NON-VEGETATIVE COVER, SUCH AS HYDROMULCH AND EROSION CONTROL BLANKETS, RIPRAP, STONE FILL, BAGS AND/OR GEOTEXTILES HAVE BEEN PROPERLY INSTALLED.
22. WINTER CONSTRUCTION NOTES:
 - A. TEMPORARY SEEDING SHALL OCCUR PRIOR TO SEPTEMBER 15TH
 - B. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE.
 - C. THE INSTALLATION OF FROZEN COVERING OR FROZEN NETTING SHALL OCCUR AFTER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
 - D. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, SHALL BE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS
 - E. APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AND
 - F. THE PAVING OF ALL INVOLVED 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.

N.T.S.

NOTE: ALL MATERIALS MUST COMPLY WITH NHDOT STANDARD SPECIFICATIONS
FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

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	SCALE: 1" = AS SHOWN	
--	----------------------	--

EAST WILDER ROAD - LEBANON, NEW HAMPSHIRE

240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766
(603) 448-2200

SCALE: 1"= AS SHOWN

DESIGNED BY: PAB

DRAWN BY: SAW

CHECKED BY: RJF

DATE: 01/24/20

3

SHEET 3 OF 3

**Agenda
Conservation Commission
October 8, 2020**

**Agenda Item #3B
Permit Review**

**City of Lebanon
(Applicant),
Lebanon Housing Authority
(Property Owner)
CC202009**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL
SERVICES (NHDES)

WATER DIVISION / WETLANDS BUREAU
WETLANDS PERMIT APPLICATION

for the

COMBINED SEWER SEPARATION PROJECT
CONTRACT NO. 13
LEBANON, NEW HAMPSHIRE

City of Lebanon
Department of Public Works
193 Dartmouth College Hwy
Lebanon, NH

September 2020



230 Commerce Way, Suite 302
Portsmouth, NH 03801
Phone: 603.430.3728 | Fax: 603.430.4083
www.wright-pierce.com

September 25, 2020
W-P Project No. 20239

Tyler Davidson
NHDES Land Resources Management
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095

Subject: NHDES Wetlands Permit Application
Combined Sewer Separation Contract No. 13 Project
City of Lebanon, NH

Dear Mr. Davidson,

On behalf of the City of Lebanon, please find enclosed a Standard Dredge and Fill Wetlands Permit Application and application fee for the work related to the Combined Sewer Separation Contract No. 13 Project. We trust that the information contained in this application and supporting documents fully represents the needs of the NHDES in granting the requested permit for the project.

As Indicated on the attached figures, a total of approximately 2,040 square feet of jurisdictional wetlands will be impacted during construction. The areas shown include temporary (1,560 sq. ft.) and permanent impacts (480 sq. ft.) anticipated. Proper erosion and sedimentation control measures will be utilized to limit the potential impacts to surrounding wetlands and surface waters. These measures will include the use of silt fence at the downslope and/or downstream perimeter of all disturbances adjacent to the wetlands.

We are hopeful that this project will be bid this Winter and we anticipate that construction activities will commence at the site in April 2021 (pending environmental permit approvals and funding). We would appreciate that this application is processed at your earliest convenience.

Please feel free to contact me if you have any questions or need any additional information during your review.

Sincerely,
WRIGHT-PIERCE

A handwritten signature in blue ink, appearing to read "Britt Eckstrom", is written over the printed name.

Britt Eckstrom
Project Manager
Britt.Eckstrom@wright-pierce.com

Enclosures

cc: Christina Hall – City of Lebanon, NH DPW

**Combined Sewer Separation Project
Contract No. 13
Lebanon, New Hampshire**

NHDES Wetlands Permit Application

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Attachment 2 - Wetlands and Natural Resource Delineation

Attachment 3 - NH Natural Heritage Bureau Correspondence

Attachment 4 - US Army Corps of Engineers NH PGP
Requirements

Attachment 5 - USGS Topographic Map

Attachment 6 - Site Photographs

Attachment 7 - Tax Map

Attachment 8 - Abutter Notification

Attachment 9 - Authorization Letters

Attachment 10 - Drawings/Plans

Attachment 11- State General Permits

NHDES-W-06-012



**STANDARD DREDGE AND FILL
WETLANDS PERMIT APPLICATION**
Water Division/Land Resources Management
Wetlands Bureau
[Check the Status of your Application](#)

**RSA/Rule:** RSA 482-A/Env-Wt 100-900**APPLICANT'S NAME:** City of Lebanon**TOWN NAME:** Lebanon, NH

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

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

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

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

Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☒ Yes ☐ No
Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	☒ Yes ☐ No
- Protected species or habitat? - If yes, species or habitat name(s): Virginia Stickseed - NHB Project ID #: 19-1881	☒ Yes ☐ No
Bog?	☐ Yes ☒ No
Floodplain wetland contiguous to a tier 3 or higher watercourse?	☒ Yes ☐ No
Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☐ Yes ☒ No
Is the property within a Designated River corridor? If yes, provide the following information:	☒ Yes ☐ No
- Name of Local River Management Advisory Committee (LAC): Connecticut River Upper Valley LAC - A copy of the application was sent to the LAC on Month: 9 Day: 28 Year: 2020	

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For dredging projects, is the subject property contaminated? • If yes, list contaminant: N/A	☐ Yes ☐ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☒ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): N/A	
SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))	
Provide a brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.	
The project proposes to separate the City of Lebanon's sewer and storm drainage system and reconstruct roads on South Main Street (Route 12A) and Romano Circle. The proposed project involves replacing an existing outfall in poor condition and too small to convey proposed stormwater flows from the project area with a 24" storm drain and precast concrete headwall on the bank of the Connecticut River. The proposed project will require 1,560 sq ft of temporary and 480 sq ft of permanent wetland impacts. See continued project description	
SECTION 3 - PROJECT LOCATION	
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: Romano Circle	
TOWN/CITY: Lebanon	
TAX MAP/BLOCK/LOT/UNIT: 101-20 (where wetland impact occurs - see attached figures for full project area)	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Connecticut River ☐ N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): ° North ° West	

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SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: City of Lebanon

MAILING ADDRESS: 193 Dartmouth College Hwy

TOWN/CITY: Lebanon

STATE: NH

ZIP CODE: 03766

EMAIL ADDRESS: christina.hall@lebanonnh.gov

FAX: [REDACTED]

PHONE: 603-448-3112

ELECTRONIC COMMUNICATION: By initialing here CBAP, I hereby authorize NHDES to communicate all matters relative to this application electronically. Sm**SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))**☐ N/A

LAST NAME, FIRST NAME, M.I.: Eckstrom, Britt - PE

COMPANY NAME: Wright-Pierce

MAILING ADDRESS: 230 Commerce Way Suite 302

TOWN/CITY: Portsmouth

STATE: NH

ZIP CODE: 03801

EMAIL ADDRESS: britt.eckstrom@wright-pierce.com

FAX: [REDACTED]

PHONE: 603-570-7126

ELECTRONIC COMMUNICATION: By initialing here BE, I hereby authorize NHDES to communicate all matters relative to this application electronically.**SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))**

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME: Lebanon Housing Authority - Ditha Alonso (Executive Director)

MAILING ADDRESS: 31 Romano Circle

TOWN/CITY: West Lebanon

STATE: NH

ZIP CODE: 03784

EMAIL ADDRESS: ditha@lebanonhousing.org

FAX: 603-298-0146

PHONE: 603-298-5753

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

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

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

There are no stream crossings, coastal resources, or prime wetlands impacted by this project. Therefore, only Env-Wt 400 and 500 are applicable. Approximately 1,336 sf of wetland impacts are proposed to replace an undersized outfall in poor condition, as well as stabilize the bank downstream of the outfall. Jurisdictional areas were delineated by Powell Asset Mapping, LLC according to Env-Wt 400 regulations. Jurisdictional areas are shown on the attached plans and summarized in the Wetland Report (Attachment 2). The bank stabilization has been designed in accordance with Env-Wt 500 to the maximum extent practicable.

SECTION 8 - AVOIDANCE AND MINIMIZATION

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

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

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

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

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

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

☒ N/A - Mitigation is not required

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

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

☒ N/A – Compensatory mitigation is not required

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

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

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

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

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

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

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River	480		☐	1,560		☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL		480			1560		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE:** Flat fee of \$400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	2,040 SF	×	\$0.40 =	\$ 816
Seasonal docking structure:	SF	×	\$2.00 =	\$
Permanent docking structure:	SF	×	\$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =				\$
Total =				\$ 816

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 816

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SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☐ Minimum Impact Project☒ Minor Project☐ Major Project**SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)**

Initial each box below to certify:

Initials: DS SM BE	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: DS SM BE	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: DS SM BE	The signer understands that: - The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: - Deny the application. - Revoke any approval that is granted based on the information. - If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. - The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. - The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials: DS SM BE	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

DocuSigned by: SIGNATURE (OWNER): Ditha Alonso	PRINT NAME LEGIBLY: Ditha Alonso	DATE: 9/29/2020
DocuSigned by: SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): Shaun Mulholland	PRINT NAME LEGIBLY: Shaun Mulholland	DATE: 9/28/2020
DocuSigned by: SIGNATURE (AGENT, IF APPLICABLE): BE	PRINT NAME LEGIBLY: Britt Eckstrom	DATE: 9/28/2020

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

DocuSigned by: TOWN/CITY CLERK SIGNATURE: Kristin Kenniston	PRINT NAME LEGIBLY: Kristin Kenniston
73ADF3C8F5594A7... TOWN/CITY: LEBANON	DATE: 9/28/2020

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

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NHDES-W-06-012

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer – State of NH".

PROJECT DESCRIPTION (CONTINUED)

The project proposes to separate the City of Lebanon's sewer and storm drainage system and reconstruct roads on South Main Street (Route 12A) and Romano Circle as a part of Combined Sewer Separation Project – Contract 13.

The City owns and operates a 3.18 million gallons-per-day wastewater treatment facility. The capacity of this facility and its influent interceptors are insufficient for handling all of the wastewater combined with stormwater flowing to it during storm events. The City's network of sewers has several locations with separate bypass structures, referred to as Combined Sewer Overflows (CSOs). During storm events, much of this combined sewage is discharged directly into the Connecticut River, Mascoma River and/or Great Brook.

Over the last 20 years, the City has taken a phased approach to separating their combined sewer and to meet the conditions of a Consent Decree from the USEPA. Contract 13 is the final phase of combined sewer separation work to eliminate combined sewer discharges.

Contract 13 project area includes approximately 1,100 ft of South Main Street and all of Romano Circle which serves as the access road and parking area of the Lebanon Housing Authority apartment complex known as Romano Circle. Currently, the catch basins on South Main Street direct stormwater flow to the City's sanitary sewer system. Catch basins within Romano Circle direct stormwater to an outfall at the bank of the Connecticut River. The existing outfall in poor condition and too small to convey proposed stormwater flows from the project area. A new 24" storm drain and concrete headwall is proposed on the bank of the Connecticut River to replace the existing outfall in the same location. Impacts to the bank will be restored upon installation of the drainage infrastructure, a rip rap apron will be installed at the outlet of the storm drain, and vegetation will be reestablished on the bank. The outfall elevation is below the existing 100-year base flood elevation. A check valve on the outfall is proposed to prevent river water from backing up into the drainage system during flooding events.

Installation of the proposed storm drain, outfall, and riprap will result in 1,560 SF of temporary wetland impacts and 480 SF of permanent wetland impacts. Project work is anticipated to begin in April 2021 and be completed by October 2021.

ATTACHMENT 1

Attachment A: Minor and Major Projects

NHDES-W-06-013



STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION ATTACHMENT A: MINOR AND MAJOR PROJECTS

Water Division/Land Resources Management

Wetlands Bureau

[Check the Status of your Application](#)**RSA/ Rule:** RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03**APPLICANT LAST NAME, FIRST NAME, M.I.:** City of Lebanon

Attachment A can be used to satisfy some of the additional requirements for minor and major projects regarding avoidance and minimization, as well as functional assessment.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization.

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

The project area in review is part of the City of Lebanon's Sewer Separation Project - Contract 13. The City owns and operates a 3.18 million gallon-per-day wastewater treatment facility. The capacity of this facility and its influent interceptors are insufficient for handling all of the wastewater combined with stormwater flowing to it during storm events. The City's network of sewers has several locations with separate bypass structures, referred to as Combined Sewer Overflows (CSOs). During storm events, much of this combined sewage is discharged directly into the Connecticut River, Mascoma River, and/or Great Brook. Over the last 20 years, the City has taken a phased approach to separating their combined sewers to meet the conditions of a Consent Decree from the USEPA. Contract 13 is the last phase of combined sewer separation work to eliminate combined sewer discharges.

The proposed impact to the wetlands are required to replace an existing storm drain and outfall that currently discharges to the Connecticut River. Currently, only stormwater from Romano Circle is discharged at the existing outfall. The proposed project will redirect stormwater collected from Route 12A from the sanitary sewer to the replacement stormwater outfall on the bank of the Connecticut River. The storm drain and outfall size must be increased to accommodate the increase in stormwater flow. The proposed outfall includes a new concrete headwall and rip-rap downstream to protect and repair the heavily eroded bank. This impact is necessary to protect the bank and prevent future erosion.

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SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacea, shellfish and wildlife of significant value.

The proposed project is not located within a marsh.

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

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

The proposed project will not impact the hydrologic connectivity of the Connecticut River and adjacent wetland/stream systems.

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SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

The proposed project was designed to minimize all wetland impacts. Replacing an existing outfall is proposed in order to avoid impacts to previously undisturbed jurisdictional impact areas. Overall, this project will have a positive effect on the area because stormwater runoff will be managed to reduce localized flooding and the quantity of stormwater entering the combined sewer system will be reduced, resulting in a reduction in risk of combined sewer overflow discharges.

The NHB report indicated the occurrence of Virginia stickseed, a State threatened species, near the project area. Through follow up correspondence with Amy Lamb, it was determined that "NHB does not have concerns about potential impacts to Virginia stickseed as a result of this project". See Attachment 3 for additional detail

SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

The project will create temporary impacts to public commerce, navigation, and recreation along South Main Street and Romano Circle. These will be temporary during construction only, and adequate detours will be provided, as necessary during construction. The road reconstruction will have an overall positive impact on public commerce, navigation, and recreation by providing a stable roadway to carry traffic including vehicles, cyclists, and pedestrians. The proposed storm drainage improvements will also help by reducing the frequency and severity of flooding through the area.

NHDES-W-06-013

SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

The project does not propose any changes in topography that would impact flood storage.

SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB –MARSH COMPLEXES (Env-Wt 313.03(b)(7))

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

The proposed project will not impact any scrub-shrub marsh complexes.

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SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

The proposed project does not impact wetlands in a way that would be detrimental to adjacent drinking water supply or groundwater aquifer levels.

SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

The proposed project does not impact any stream channels or the ability of such channels to handle runoff of waters.

NHDES-W-06-013

PART II: FUNCTIONAL ASSESSMENT**REQUIREMENTS**

Ensure that project meets requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).

FUNCTIONAL ASSESSMENT METHOD USED:

A functional assessment of the previously disturbed bank was not completed for this project.

NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT:

DATE OF ASSESSMENT:

Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT: ☐

For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable: ☐

Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.

NHDES-W-06-050



AVOIDANCE AND MINIMIZATION CHECKLIST

Water Division/Land Resources Management

Wetlands Bureau

[Check the Status of your Application](#)



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

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

"A/M BMPs" stands for [Wetlands Best Management Practice Techniques for Avoidance and Minimization](#) dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).

"Practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 – CONTACT/LOCATION INFORMATION

APPLICANT LAST NAME, FIRST NAME, M.I.: Christina Hall - Lebanon DPW City of Lebanon Applicant

PROJECT STREET ADDRESS: 67 - 103 S. Main Street, Romano Circle PROJECT TOWN: Lebanon

TAX MAP/LOT NUMBER: 101-20

SECTION 2 - PRIMARY PURPOSE OF THE PROJECT

Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	☐ Yes ☒ No
---------------------	---	---

If you answered "no" to this question, describe the purpose of the "non-access" project type you have proposed.
The purpose of project is to replace an outfall in poor condition and provide bank stabilization at the outfall to reduce bank erosion.

SECTION 3 - AVOIDANCE PROJECT DESIGN TECHNIQUES

Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.

Env-Wt 311.07(b)(2)	For any project that proposes permanent impacts of more than one acre or that proposes permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs.	☒ Check ☐ N/A
---------------------	---	---

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Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values on the subject property or on another property reasonably available to the applicant.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location of the proposed project having the least impact to wetland functions.	☐ Check ☒ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(2)	The proposed project has been designed to have the least impact to wetland functions.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impact to wetland functions is unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	☐ Check ☒ N/A
Env-Wt 313.01(c)(1)-(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments and the project will not cause random or unnecessary destruction of wetlands.	☒ Check ☐ N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	☒ Check ☐ N/A
Env-Wt 313.03(b)(2)	The project avoids impacts to marshes that are documented to provide sources of nutrients for finfish, crustacea, shellfish, and wildlife of significant value.	☒ Check ☐ N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	☒ Check ☐ N/A
Env-Wt 311.01(b) Env-Wt 313.03(b)(4)	The project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern.	☒ Check ☐ N/A
Env-Wt 313.03(b)(5)	The project avoids and minimizes impacts that eliminate, depreciate, or obstruct public commerce, navigation, or recreation.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	☒ Check ☐ N/A

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A/M BMPs	Proposed utilities are suspended from bridges to avoid trenching through wetlands.	☐ Check ☒ N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	☒ Check ☐ N/A
A/M BMPs	Retaining walls are proposed to avoid placing fill in wetlands. The retaining walls would not block hydrology or wildlife corridors.	☐ Check ☒ N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	☐ Check ☒ N/A
A/M BMPs	Natural topography is incorporated in the design to avoid grading.	☒ Check ☐ N/A

SECTION 4 - MINIMIZATION DESIGN TECHNIQUES

Env-Wt 311.10	The project was designed to minimize impacts to higher-quality wetlands.	☐ Check ☒ N/A
Env-Wt 311.01(b) Env-Wt 313.03(b)	The project was designed to minimize impacts to habitat, reproduction areas, fishery, vernal pools, or protected species or habitat.	☒ Check ☐ N/A
A/M BMPs	The project was designed to minimize the number of crossings and their size.	☒ Check ☐ N/A
A/M BMPs	Wetlands and streams are proposed to be crossed at their narrowest point.	☐ Check ☒ N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism passage and wildlife passage.	☐ Check ☒ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.03(b)(6)	The project was designed to avoid and minimize impacts to floodplain wetlands that provide flood storage.	☒ Check ☐ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.03(b)(7)	Impacts to natural riverine forested wetlands systems and scrub-shrub marsh complexes of high ecologic integrity are avoided and minimized.	☒ Check ☐ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.03(b)(8)	Impacts to wetlands that would be detrimental to drinking water supply and groundwater aquifer levels are avoided and minimized.	☒ Check ☐ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.03(b)(9)	Adverse impacts to stream channels and their ability to handle stormwater runoff are avoided and minimized.	☐ Check ☒ N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	☐ Check ☒ N/A

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A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	☒ Check ☐ N/A
RSA 482-A:11, II	Project is designed to minimize impacts to abutting properties.	☒ Check ☐ N/A
Env-Wt 307.13	Setbacks from property lines required by Env-Wt 307.13 are maintained.	☐ Check ☒ N/A
SECTION 5 - RESOURCE-SPECIFIC DESIGN TECHNIQUES		
Env-Wt 500	The project is designed to address resource-specific avoidance and minimization criteria for non-tidal jurisdictional areas.	☒ Check ☐ N/A
Env-Wt 600	The project is designed to address resource-specific avoidance and minimization criteria for coastal lands and tidal waters/wetlands.	☐ Check ☒ N/A
Env-Wt 307.08 Env-Wt 700	The project is designed to address resource-specific avoidance and minimization criteria for designated prime wetlands.	☒ Check ☐ N/A
SECTION 6 - PROJECT-SPECIFIC DESIGN TECHNIQUES		
Env-Wt 500	The project is designed to use techniques outlined in Env-Wt 500 for projects in non-tidal jurisdictional areas.	☒ Check ☐ N/A
Env-Wt 600	The project is designed to use techniques outlined in Env-Wt 600 for projects in coastal lands and tidal waters/wetlands.	☐ Check ☒ N/A
Env-Wt 900	The project is designed to use stream crossing techniques outlined in Env-Wt 900 for stream crossing projects.	☐ Check ☒ N/A

ATTACHMENT 2
Wetlands and Natural Resources Delineation



November 5, 2019

Mr. Lee Gagnon
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062-3399

RE: Wetland Investigation – Romano Circle and adjacent areas along South Main Street, Lebanon, NH.

Dear Mr. Gagnon:

An on-site wetland investigation was conducted on October 29, 2019 to determine if any jurisdictional wetlands were present on Lebanon, NH tax parcel 101-20-200 (32-47 Romano Circle) and adjacent areas along South Main Street as shown in Exhibit 'A'. Wetlands were evaluated according to the *Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (version 2.0, January 2012). Hydric soils were evaluated using the *Field Indicators for Identifying Hydric Soils in New England* (version 4, May 2017) publication.

The top of bank westward to the easterly shoreline of the Connecticut River is the only jurisdictional area in the Exhibit 'A' area. No flagging was hung to define the top of bank and mean high water location of the river as the field survey accurately shows those lines. The following summarizes the steps taken to evaluate the presence of wetlands.

Preliminary Measures

Several sources were evaluated prior to field work. National Flood Insurance maps were viewed online and a National Flood Hazard Layer FIRMette was produced (Figure 1). A significant portion of the Exhibit "A" area is in Zone AE. The designation AE indicates areas at high risk for flooding.

The Natural Resource Conservation Service (NRCS) Web Soil Survey was utilized to get a sense of the soils in the general area. These are not site-specific maps but are useful in assessing soil parent materials and land form. Figure 2 shows the order 3 mapping of soil map units in the Exhibit area generated from the Web Soil Survey. Two map units are noted - the Suncook and Windsor. They are both excessively drained sandy soils. The Suncook is formed in alluvial sediments and is frequently found on flood plains. The Windsor is often formed in sandy outwash on glaciofluvial landforms.

National Wetland Inventory (NWI) Maps were reviewed online. Figure 3 is an NWI map generated for the project area. There are no wetlands shown in the project area.

New Hampshire Fish & Game Maps showing highest ranked wildlife habitat were reviewed. Figure 4 shows the project area is not an area of highest ranked habitat.

Site Investigation

The site lies adjacent to the easterly bank of the Connecticut River. The mean high water and top of bank locations were not flagged as they are clearly topographically defined and have been mapped in the field survey. I walked the entirety of the Main Street frontage identified in Exhibit 'A' and traversed the interior of the lot. Two data plots (Figures 5 and 6) were taken at the shallow swale along the toe of slope on the southerly side of the property. The soils did not match those shown in the NRCS Web soil survey

report. The soils at both data points are moderately well drained loamy soils. No fragments were evident in the soil probes and little profile development was observed. This is typical of a flood plain soil. The upper 15" + in the soil profile does have a dark color but this is not due to wetness but rather parent material. No redoximorphic features were found. It is noteworthy that 0.91" of rain fell the day before (10/28/19) but there was no evidence of soil saturation or movement of surface water (Lebanon Municipal Airport precipitation data).

There were no primary or secondary wetland hydrology indicators observed. Geomorphic Position (secondary indicator D2) was discounted as the shallow swale appears to drain well and there is likely a sandy substrate deeper in the soil profile. It is noted that there was a fox hole located near Data Point 2 (these would typically not be found in wetland systems).

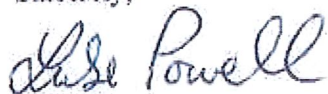
The data points were placed in areas that had the most representative vegetation. Sugar maple seedlings, saplings, and trees were the most dominant vegetation observed. Sugar Maple (*Acer saccharinum*) is a facultative upland species. Some wetland plants were present as noted in the data forms but the hydrophytic vegetation is not dominant.

Proposed Impacts

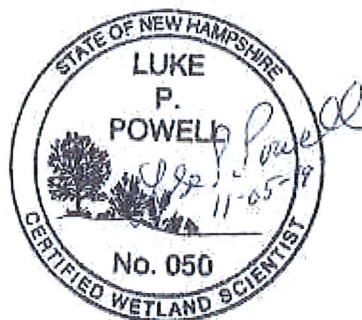
Any work proposed on the riverbank would require a wetlands permit from NH DES. Unless this area is exempt from the Shoreland Water Quality Protection Act (SWQPA), work within 250 feet of the mean high water mark of the river would need a SWQPA permit.

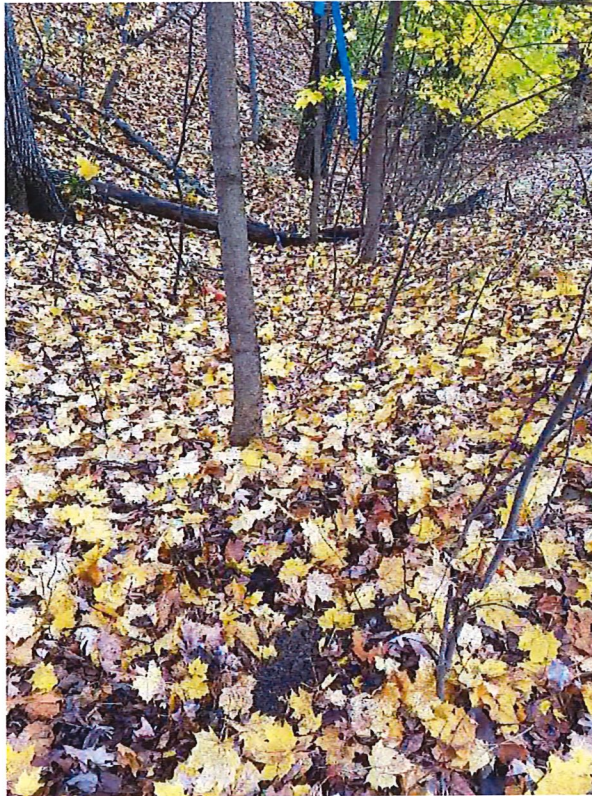
Should you have any questions, please don't hesitate to call me at 364-0136 or email at lpowell@powellmapping.com. It has been a pleasure working with you.

Sincerely,



Luke Powell
NH Certified Wetland Scientist No. 50
NH Certified Soil Scientist No. 81





10-29-2019: Data Point 1 looking westerly.

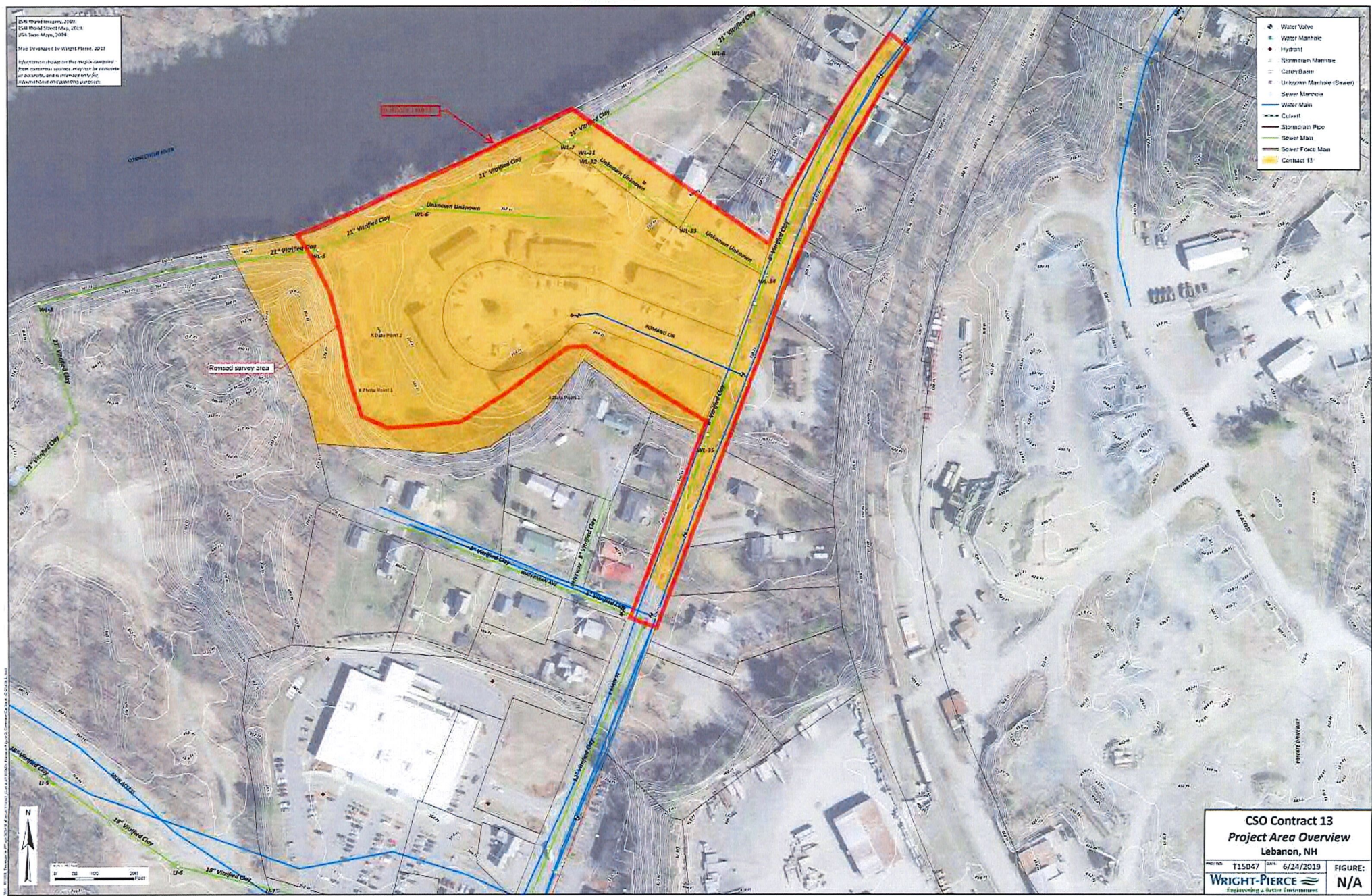


10-29-2019: Data Point 2 looking easterly.



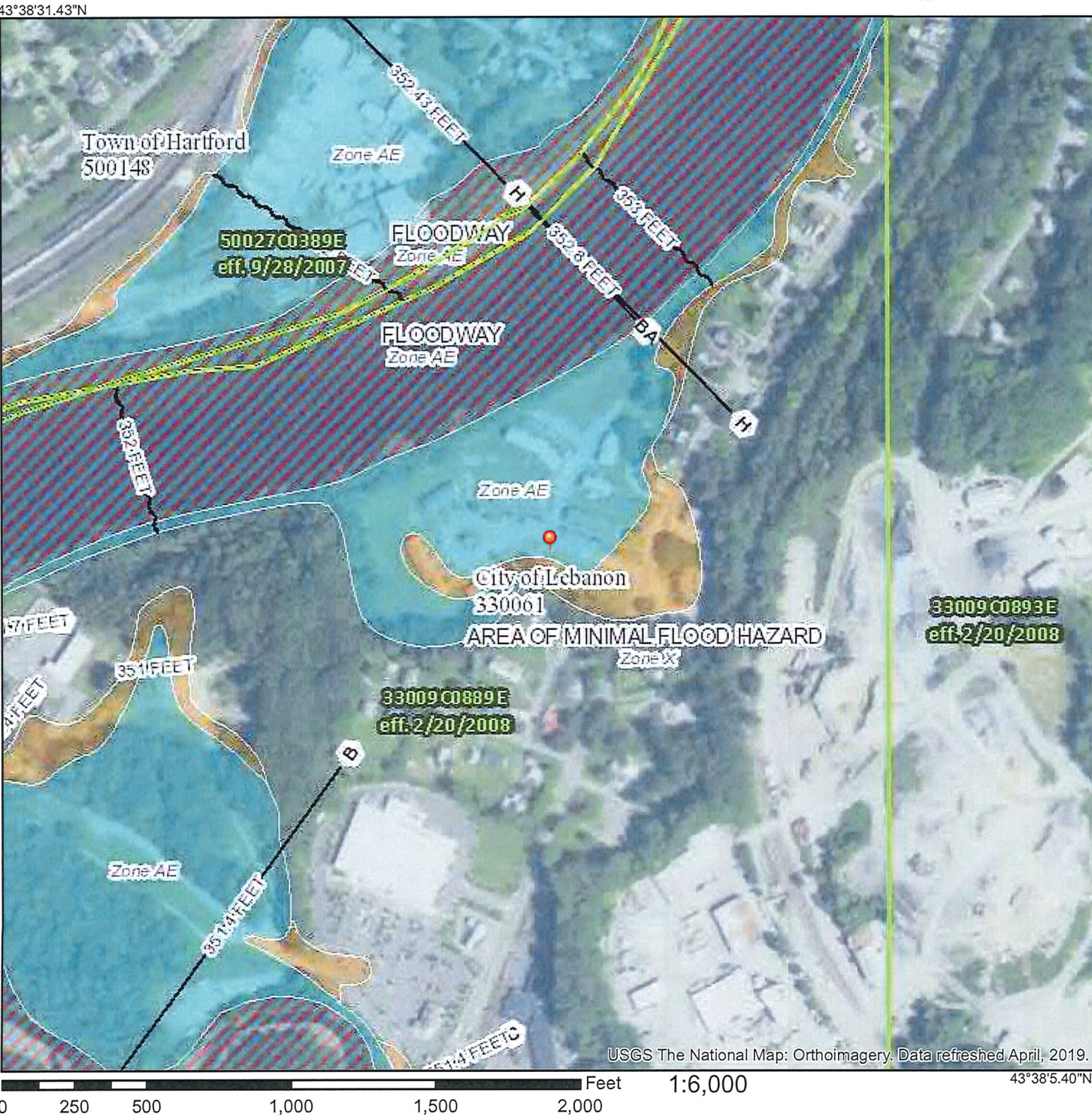
10-29-2019: Photo Point 1 - Southeasterly view of swale at toe of slope.

EXHIBIT 'A'



National Flood Hazard Layer FIRMette

Figure 1



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone J
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes, Zone X
		Area with Flood Risk due to Levee Zone D

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/28/2019 at 3:55:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Custom Soil Resource Report
Soil Map

Figure 2

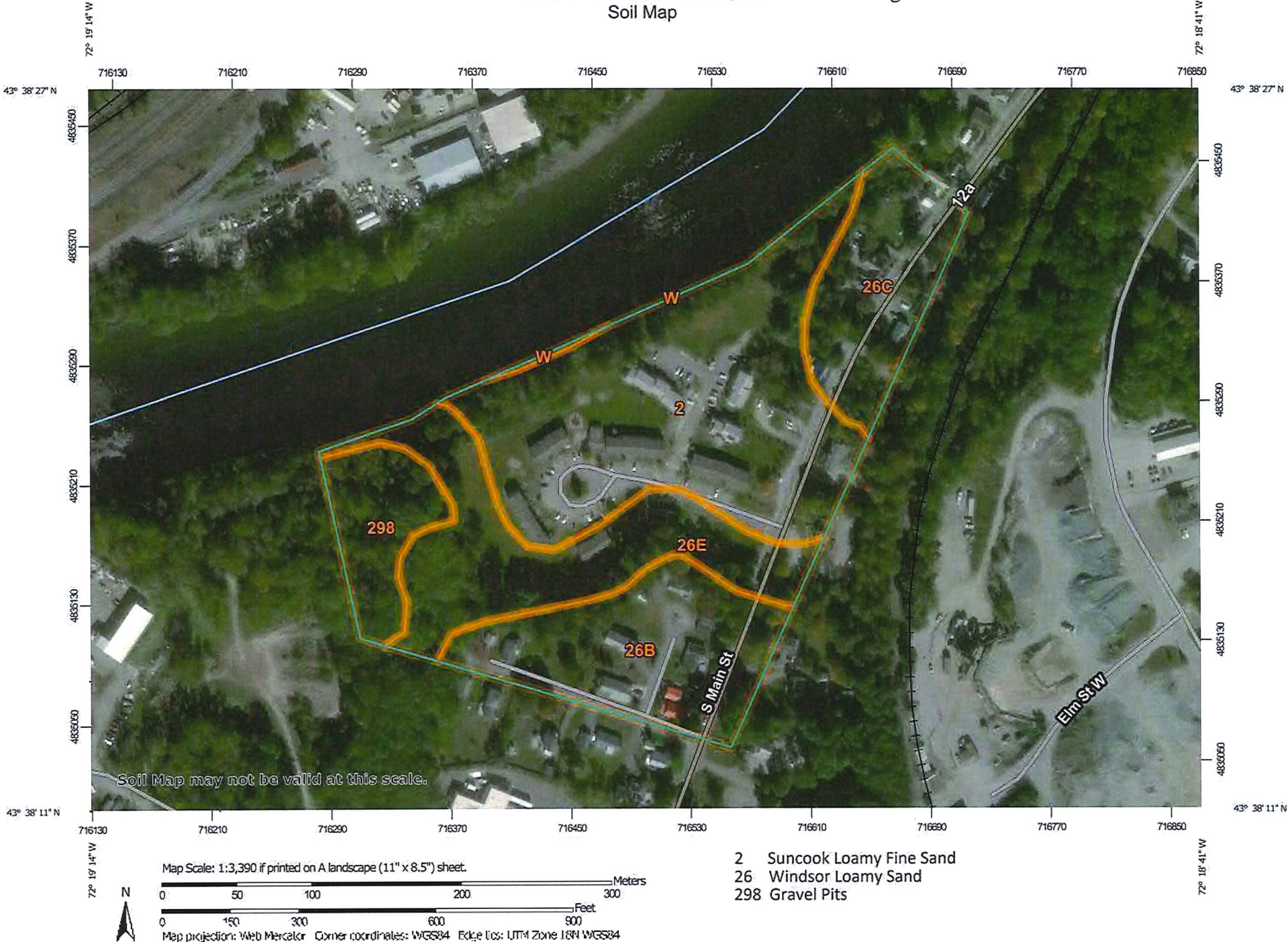


Figure 3
Romano Circle, West Lebanon, NH



October 21, 2019

Wetlands

- | | | |
|---|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

2015 HIGHEST RANKED WILDLIFE HABITAT BY ECOLOGICAL CONDITION

 Highest Ranked Habitat in New Hampshire

 Highest Ranked Habitat in the Biological Region

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

 Supporting Landscapes

 Conservation or public

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

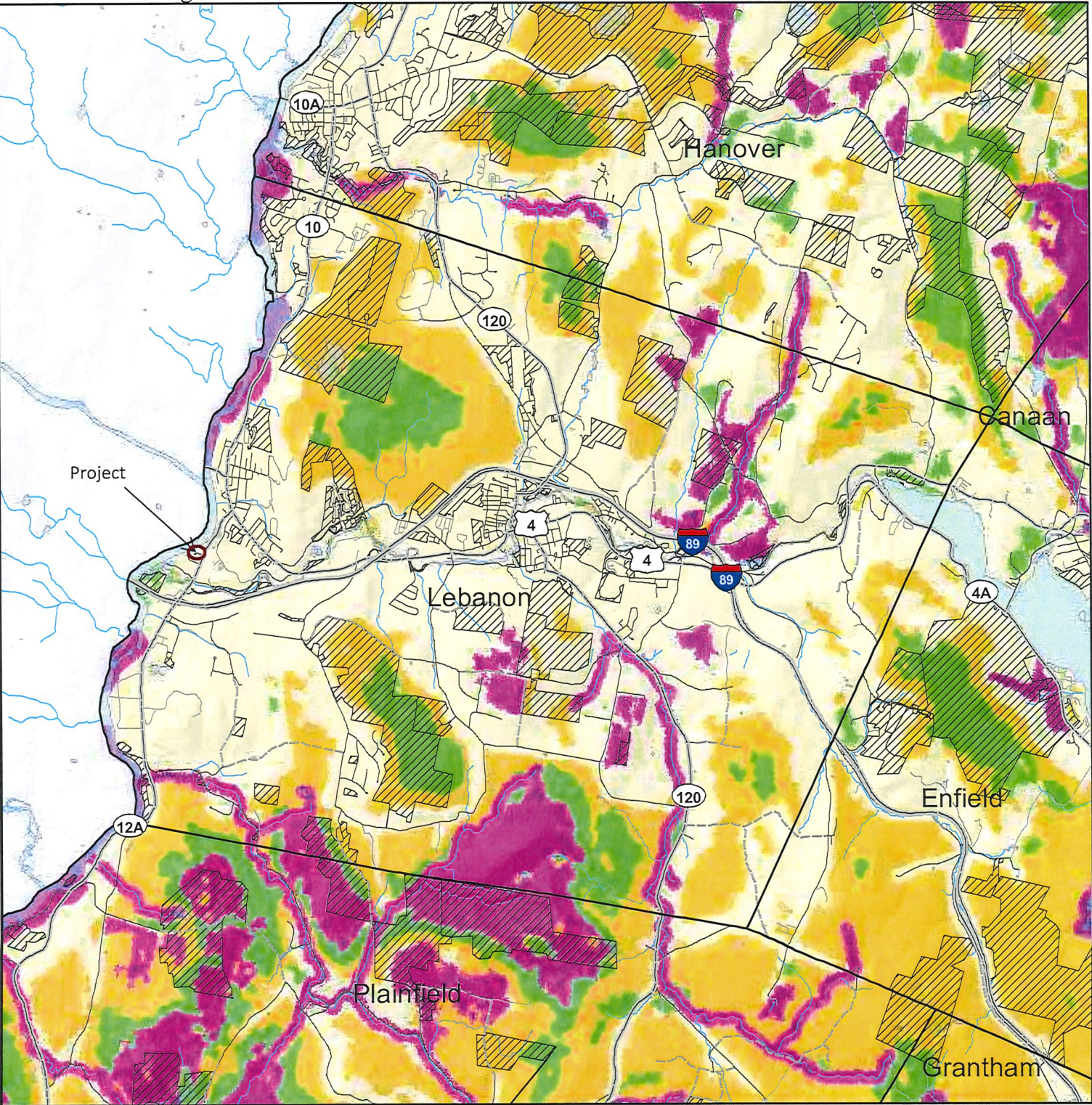
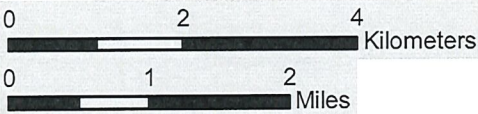


Figure 5

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Romano Circle City/County: Lebanon, NH Sampling Date: 10-29-19
 Applicant/Owner: _____ State: _____ Sampling Point: 1
 Investigator(s): Luke Powell Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Slightly Concave Slope (%): < 5%
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Somerset Windsor (web soil survey) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NOT (If needed, explain any answers in Remarks.)
to steep slope

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?

Yes _____

No ☒

Hydric Soil Present?

Yes _____

No ☒

Wetland Hydrology Present?

Yes _____

No ☒Is the Sampled Area
within a Wetland?

Yes _____

No ☒

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

None

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9)
☐ High Water Table (A2) ☐ Aquatic Fauna (B13)
☐ Saturation (A3) ☐ Marl Deposits (B15)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks)
☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Moss Trim Lines (B16)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ Microtopographic Relief (D4)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? Yes _____ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data Point is in shallow sunb at toe of steep slope.

VEGETATION – Use scientific names of plants.

Sampling Point: 1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Acer saccharum</i> (sugar maple)	30	Y	Fav V
2. <i>Tilia americana</i> (Basswood)	30	Y	Fav V
3. <i>Ulmus americana</i>	10		Fav W
4. _____			
5. _____			
6. _____			
7. _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: 3 (B)Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is $\geq 50\%$
☐ 3 - Prevalence Index is ≤ 3.0 ¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.**Woody vines** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes _____ No ✓

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Acer saccharum</i> - sugar maple	30	Y	Fav V
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

30 = Total Cover

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Urtica dioica</i>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

_____ = Total Cover

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			

_____ = Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)

Figure 6

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Romano Circle City/County: Lebanon, NH Sampling Date: 10-29-19
 Applicant/Owner: _____ State: NH Sampling Point: 2
 Investigator(s): Luke Powell Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Slightly Concave Slope (%): 25%
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Windsor (wet soil survey) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ☒	Is the Sampled Area within a Wetland?	Yes _____ No ☒
Hydric Soil Present?	Yes _____ No ☒	If yes, optional Wetland Site ID: _____	
Wetland Hydrology Present?	Yes _____ No ☒		
Remarks: (Explain alternative procedures here or in a separate report.)			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Marl Deposits (B15)	☐ Moss Trim Lines (B16)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquifer (D3)
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)
		☐ FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes _____ No ☒
Surface Water Present? Yes _____ No ☒	Depth (inches): _____	
Water Table Present? Yes _____ No ☒	Depth (inches): _____	
Saturation Present? Yes _____ No ☒ (includes capillary fringe)	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Carpinus caroliniana</i> Ironwood	10	Y	FAC
2. <i>Thuja occidentalis</i> Buxwood	10	Y	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
= Total Cover			
20.5%			
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Cornus amomum</i> Spiny Dogwood	50	Y	FACW
2. <i>Carpinus caroliniana</i> Ironwood	20	Y	FAC
3. <i>Fraxinus americana</i> White Birch	10	Y	FACW
4. <i>Rosa carolina</i> - Spiny Rose	10	Y	FACW
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
= Total Cover			
90.5%			
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Onoclea sensibilis</i> - Sensitive Fern	40	Y	FACW
2. <i>Polypodium</i> - Maidenhair	20	Y	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
= Total Cover			
60.5%			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
= Total Cover			
0%			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50% Y

___ 3 - Prevalence Index is ≤3.0¹

___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No Y

Remarks: (Include photo numbers here or on a separate sheet.)

ATTACHMENT 3
NH Natural Heritage Bureau Correspondence

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Nathan Edwards, Wright-Pierce
230 Commerce Way #302
Portsmouth, NH 03801

From: Amy Lamb, NH Natural Heritage Bureau
Date: 6/28/2019 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB19-1881

Town: Lebanon

Location: Tax Maps: Work within the right-of-way and multiple lots.

Description: This is the 13th contract of a combined sewer separation project for the City of Lebanon. The project is intended to separate storm drainage and sewer to eliminate combined sewer overflow.

An updated NHB review has been requested and will be submitted to NHDES upon completion.

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

Comments: Please clarify the extent of proposed work. Please send a plan set that shows wetland impacts and limits of ground disturbance.

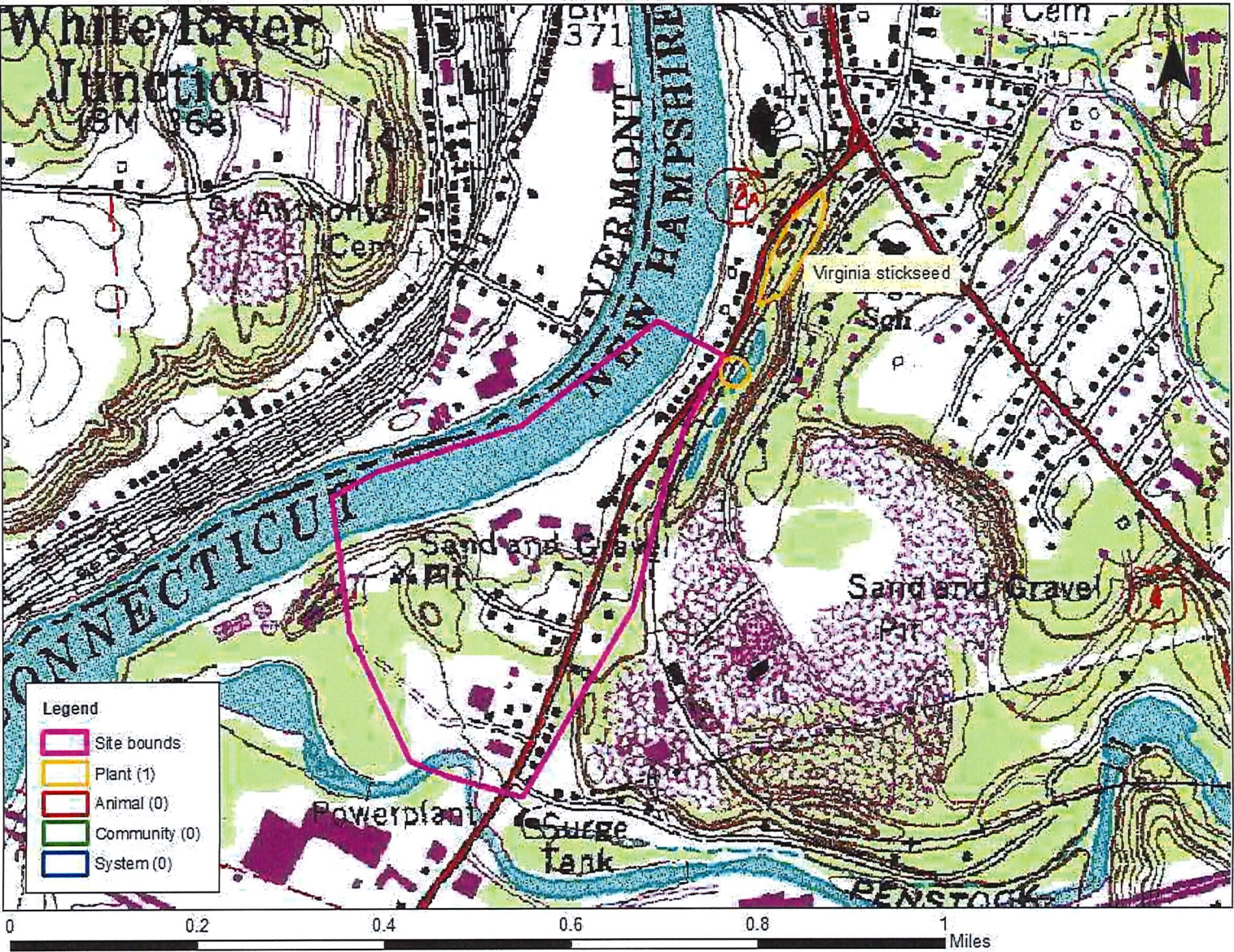
Plant species	State ¹	Federal	Notes
Virginia stickseed (<i>Hackelia virginiana</i>)	T	--	This species is found in moist or dry woods, including floodplain forests. Threats would primarily be major alterations to their habitat.

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

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

CONFIDENTIAL – NH Dept. of Environmental Services review

NHB19-1881



New Hampshire Natural Heritage Bureau - Plant Record

Virginia stickseed (*Hackelia virginiana*)**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 1: 29 plants observed. Area 2: 214 plants spread among 10 clumps. Overall 70% with mature fruit and a total of 256 plants counted.

General Area: 2011: Associated plants include sugar maple (*Acer saccharum*), white snakeroot (*Ageratina altissima*), common blackberry (*Rubus allegheniensis*), Virginia creeper (*Parthenocissus quinquefolia*), hair sedge (*Bulbostylis capillaris*), bluecurls (*Trichostema dichotomum*), celandine (*Chelidonium majus*), common dayflower (*Commelina communis*), fireweed (*Erechtites hieraciifolia*), and hay-scented fern (*Dennstaedtia punctilobula*).

General Comments: 2011: DOT road-re-alignment planned. Plants found as part of environmental review request. Potential impacts to some of population in Area 2. Seed collected as mitigation measure for 12% of plants that may be impacted.

Management Comments: 2011: Some evidence of herbicide treatment along RR corridor and a roadside patch was recently mowed. Avoid direct impacts from herbicide and mowing, while allowing for continued adequate light and lack of competition, and adequate nearby suitable habitat.

Location

Survey Site Name: Rte. 12A
 Managed By:

County: Grafton
 Town(s): Lebanon
 Size: 2.6 acres

Elevation:

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

Directions: 2011: From Interstate 89 take exit 20. Turn right at the end of ramp onto Rte. 12A. Drive 0.8 miles to gravel pull-off on the right. Park here. Plants are located along the RR tracks on top of the bluffs east of the pull off, in an open area just south of an old red house, also just south of the bridge over the RR, and at one location just south of the pull-off east of the utility pole 7P10.

Dates documented

First reported: 2011-08-11 Last reported: 2011-08-11

Jacob Shactman

From: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Sent: Wednesday, August 5, 2020 10:33 AM
To: Jacob Shactman
Subject: RE: NHB 19-1881 - Lebanon Contract 13 Combined Sewer Separation

Hello Jacob,

My apologies, I just discovered this message buried deep in my email inbox. I hope that you were not waiting for my response.

Based on the plans provided, titled "COMBINED SEWER SEPARATION CONTRACT NO. 13 ROMANO CIRCLE AREA," dated 4/27/2020, NHB does not have concerns about potential impacts to Virginia stickseed (*Hackelia virginiana*) as a result of this project.

Best,
Amy

Amy Lamb
Ecological Information Specialist
(603) 892-5162 – work cell
amy.lamb@dncr.nh.gov

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

[NHB DataCheck Tool](#)

From: Jacob Shactman <jacob.shactman@wright-pierce.com>
Sent: Tuesday, May 26, 2020 1:28 PM
To: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Subject: NHB 19-1881 - Lebanon Contract 13 Combined Sewer Separation

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Good Afternoon Amy,

I am reaching out in regards to NHB File ID: NHB19-1881 dated 6/28/19. You had requested a clarification of the extent of proposed work. I have attached the original review memo, a Wetlands Impact Figure, and the 75% design plans for your review, as requested. The Wetlands Impact Figure shows the impacts cause by the replacement of an outfall into the Connecticut River. This outfall is currently undersized, in poor condition, and causing downstream bank erosion. We are hoping to apply for an NHDES Wetlands Permit and Shoreland PBN in the near future, and would appreciate you reviewing this supplementary information. Please feel free to reach out with any additional questions related to this project.

Thanks,
Jake

Jake Shactman

Wright-Pierce | Project Engineer

Office 603.430.3728 | **Direct** 603.570.7115



To help protect your privacy, Microsoft Office prevented automatic download of this picture from the Internet.

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ATTACHMENT 4
U.S. Army Corps of Engineers NH PGP Requirements



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

Appendix B

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

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

All Projects:

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



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

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

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

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/ . The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	N/A	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)	X	
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	0 SF	
2.7 What is the area of the proposed fill in wetlands?	480 SF	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	0% previous fill	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	X	

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		
3.5 Are stream crossings designed in accordance with the GC 21?	N/A	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	N/A	
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**		

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

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



United States Department of the Interior

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



In Reply Refer To:

March 25, 2020

Consultation Code: 05E1NE00-2020-SLI-1850

Event Code: 05E1NE00-2020-E-05509

Project Name: Lebanon Contract 13 Sewer Separation

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-1850

Event Code: 05E1NE00-2020-E-05509

Project Name: Lebanon Contract 13 Sewer Separation

Project Type: WASTEWATER PIPELINE

Project Description: The proposed project location is South Main Street (Route 12A) and Romano Circle as can be seen in the sketch. The work to be performed is ~2,000 LF of separation of sewer system, water main replacement, stormwater improvements, and roadway reconstruction. Construction is planned to begin late spring/early summer.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/43.63847410641037N72.3160807043387W>



Counties: Grafton, NH

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

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

Critical habitats

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

Please mail the completed form and required material to:

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

RECEIVED

JUN 24 2019

DHR Use Only

R&C #

10843

Log In Date

6 / 24 / 19

Response Date

6 / 25 / 19

Sent Date

6 / 25 / 19

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

☒ This is a new submittal

☐ This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION

Project Title Combined Sewer Separation - Contract 13

Project Location Romano Circle and South Main Street

City/Town Lebanon

Tax Map

Lot # 86/1,2,61 and 101/17,19-31 and 101/18/100,200

NH State Plane - Feet Geographic Coordinates: Easting ~~71659~~ Northing ~~483508~~
(See RPR Instructions and R&C FAQs for guidance.) 812196, 415749

Lead Federal Agency and Contact (if applicable) U.S. Army Corps of Engineers
(Agency providing funds, licenses, or permits)

Permit Type and Permit or Job Reference #

State Agency and Contact (if applicable) NHDES

Permit Type and Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name Christina Hall (City Engineer - City of Lebanon)

Mailing Address 193 Dartmouth College Hwy

Phone Number 6034483112

City Lebanon

State NH

Zip 03766

Email christina.hall@lebanonnh.gov

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Britt Eckstrom, PE (Wright-Pierce)

Mailing Address 230 Commerce Way, Suite 302

Phone Number 6035707126

City Portsmouth

State NH

Zip 03801

Email britt.eckstrom@wright-pierce.com

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

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

10843

Project Boundaries and Description

- ☒ Attach the Project Mapping *using EMMIT or relevant portion of a 7.5' USGS Map.* (See RPR Instructions and R&C FAQs for guidance.)
- ☒ Attach a detailed narrative description of the proposed project.
- ☒ Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- ☒ Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) (Informative photo captions are requested.)
- ☒ A DHR records search must be conducted to identify properties within or adjacent to the project area. Provide records search results via EMMIT or in Table 1. (Blank table forms are available on the DHR website.)
- EMMIT or in-house records search conducted on 6/21/2019.

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area? ☒ Yes ☐ No

If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s):

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

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☒ Yes ☐ No

If yes, submit all of the following information:

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

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

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

☐ Insufficient information to initiate review. ☒ Additional information is needed in order to complete review.

☐ No Potential to cause Effects ☐ No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect

Comments: PROJECT AREA IS ARCHAEOLOGICALLY SENSITIVE. SITE PREVIOUSLY
RECORDED WITHIN PROJECT BOUNDARIES. PLEASE PROVIDE MAPS OF
PROPOSED IMPACTS FOR CROSS-COUNTRY SEGMENT AND NEW OUTFALL.

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

Authorized Signature: David J. [Signature]

Date: 6.25.19

Please mail the completed form and required material to:

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

RECEIVED

JUN 24 2019

DHR Use Only

R&C # 10843
Log In Date 6/24/19
Response Date 6/25/19
Sent Date 6/25/19

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

☒ This is a new submittal

☐ This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION

Project Title Combined Sewer Separation - Contract 13

Project Location Romano Circle and South Main Street

City/Town Lebanon Tax Map Lot # 86/1,2,61 and 101/17,19-31 and 101/18/100,200

NH State Plane - Feet Geographic Coordinates: Easting 71653 Northing 483508
(See RPR Instructions and R&C FAQs for guidance.) 812196, 415749

Lead Federal Agency and Contact (if applicable) U.S. Army Corps of Engineers
(Agency providing funds, licenses, or permits)
Permit Type and Permit or Job Reference #

State Agency and Contact (if applicable) NHDES

Permit Type and Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name Christina Hall (City Engineer - City of Lebanon)

Mailing Address 193 Dartmouth College Hwy Phone Number 6034483112

City Lebanon State NH Zip 03766 Email christina.hall@lebanonnh.gov

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Britt Eckstrom, PE (Wright-Pierce)

Mailing Address 230 Commerce Way, Suite 302 Phone Number 6035707126

City Portsmouth State NH Zip 03801 Email britt.eckstrom@wright-pierce.com

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

10843

Project Boundaries and Description

- ☐ Attach the Project Mapping using EMMIT or relevant portion of a 7.5' USGS Map. (See RPR Instructions and R&C FAQs for guidance.)
- ☐ Attach a detailed narrative description of the proposed project.
- ☐ Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- ☐ Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) (Informative photo captions are requested.)
- ☐ A DHR records search must be conducted to identify properties within or adjacent to the project area. Provide records search results via EMMIT or in Table 1. (Blank table forms are available on the DHR website.)
- EMMIT or in-house records search conducted on / / .

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area? ☐ Yes ☐ No

If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s):

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

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☐ Yes ☐ No

If yes, submit all of the following information:

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

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

☐ Additional information is needed in order to complete review.

☐ No Potential to cause Effects ☒ No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect

Comments: WHILE THERE IS A PREVIOUSLY RECORDED ARCHAEOLOGICAL SITE IN THE PROJECT VICINITY, 7.5' PLANS SHOW PROPOSED OUTFALL PIPE WILL NOT IMPACT THIS LOCATION. NO ACCESS, EQUIPMENT STAGING, OR MATERIAL STOCKPILING SHOULD OCCUR IN THE FIELD NORTH OF DDC PLACE. IF AREA CANNOT BE AVOIDED, FURTHER CONSULTATION WILL BE NECESSARY.

Follow up to email dated 6/3/2020

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

Authorized Signature: J. L. Miller, DSHR

Date: 6/16/2020

Jacob Shactman

From: Trubey, David <David.Trubey@dncr.nh.gov>
Sent: Friday, May 29, 2020 3:47 PM
To: Jacob Shactman
Subject: RE: R&C # 10843 - Additional Information

Hi Jake,

I received the plans from Marika today and they're in my box for Monday.

Have a great weekend,

David

From: Jacob Shactman <jacob.shactman@wright-pierce.com>
Sent: Friday, May 29, 2020 9:53 AM
To: Trubey, David <David.Trubey@dncr.nh.gov>
Cc: Labash, Marika <Marika.Labash@dncr.nh.gov>
Subject: RE: R&C # 10843 - Additional Information

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Hi David,

The plans were sent on Tuesday and look like they were delivered on Wednesday. I just wanted to confirm you received them. Also, please feel free to reach out with any additional questions on the project.

Thanks,
Jake

From: Trubey, David <David.Trubey@dncr.nh.gov>
Sent: Friday, May 22, 2020 2:31 PM
To: Jacob Shactman <jacob.shactman@wright-pierce.com>
Cc: Labash, Marika <Marika.Labash@dncr.nh.gov>
Subject: RE: R&C # 10843 - Additional Information

Hello Jake,

Thank you for the update on the project.

The best way to submit the plans is in hard copy via USPS. Please send them to:

Marika Labash, Review & Compliance Program Specialist
NH Division of Historical Resources
19 Pillsbury Street
Concord, NH 03301

Sincerely,

David

From: Jacob Shactman <jacob.shactman@wright-pierce.com>

Sent: Friday, May 22, 2020 12:56 PM

To: Trubey, David <David.Trubey@dncr.nh.gov>

Subject: R&C # 10843 - Additional Information

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Good Afternoon David,

I hope you are well. I am looking to follow up with you in regards to the RPR for the Lebanon Contract 13 Combined Sewer Separation Project that you reviewed on 6/25/19. In your comments, you mentioned that the project area is archaeologically sensitive and that you wanted to see maps for the proposed cross country stormdrain segment that is proposed to discharge to the replaced outfall. We now have plans showing this work, and I am wondering what the best way would be to submit them? Is email acceptable?

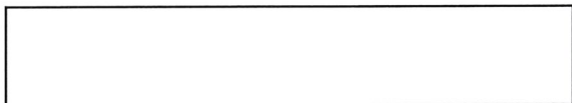
Thanks,

Jake

Jake Shactman

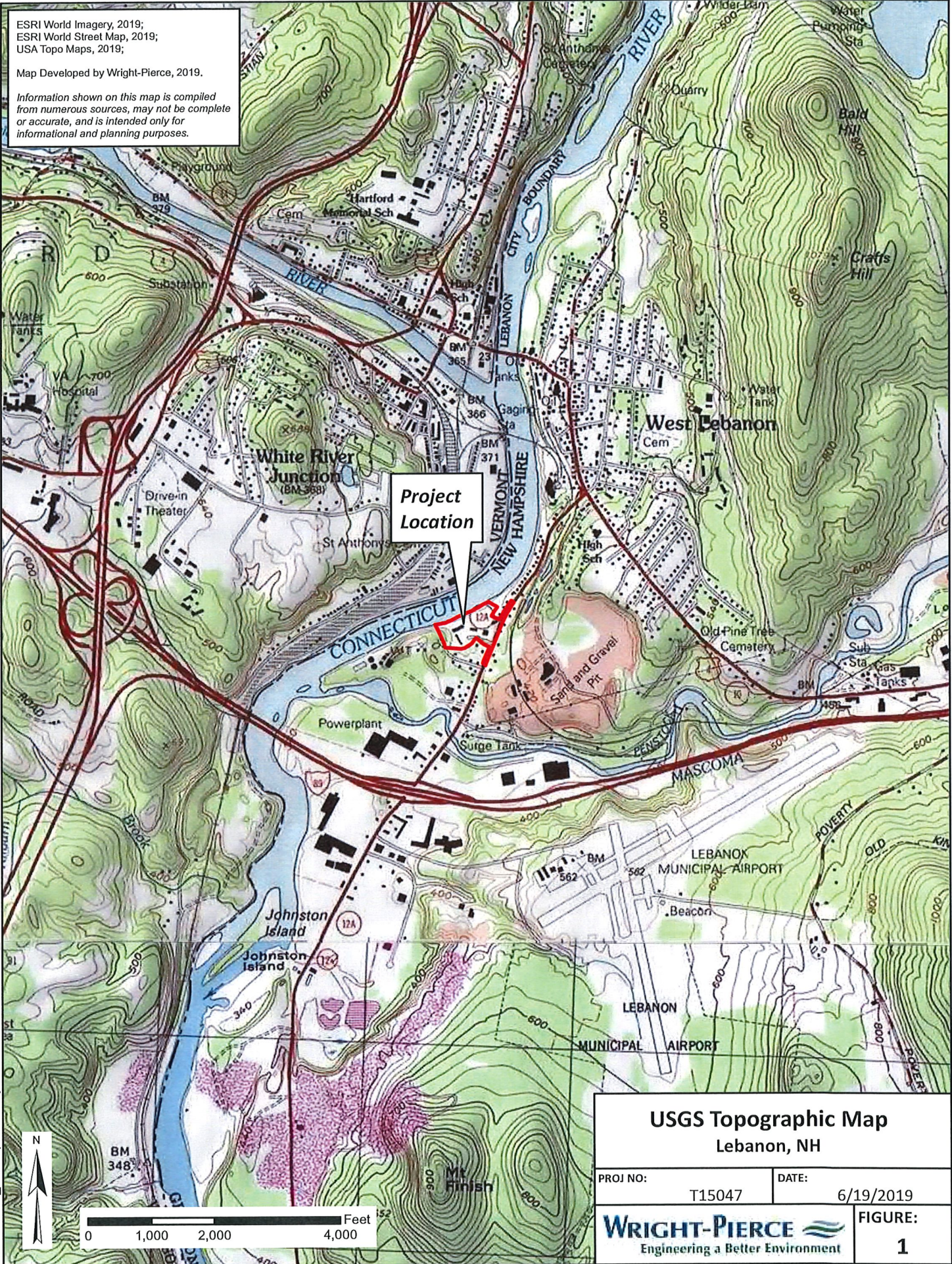
Wright-Pierce | Project Engineer

Office 603.430.3728 | **Direct** 603.570.7115



Visit our website for industry insights: www.wright-pierce.com

ATTACHMENT 5
USGS Topographic Map



TAH W:\GIS_Development\Projects\NH\Lebanon\T15047_Contract\31MXDs\Romano-Figure-1-USGSLocationMap-v1-8x11-P.mxd

ATTACHMENT 6
Site Photographs



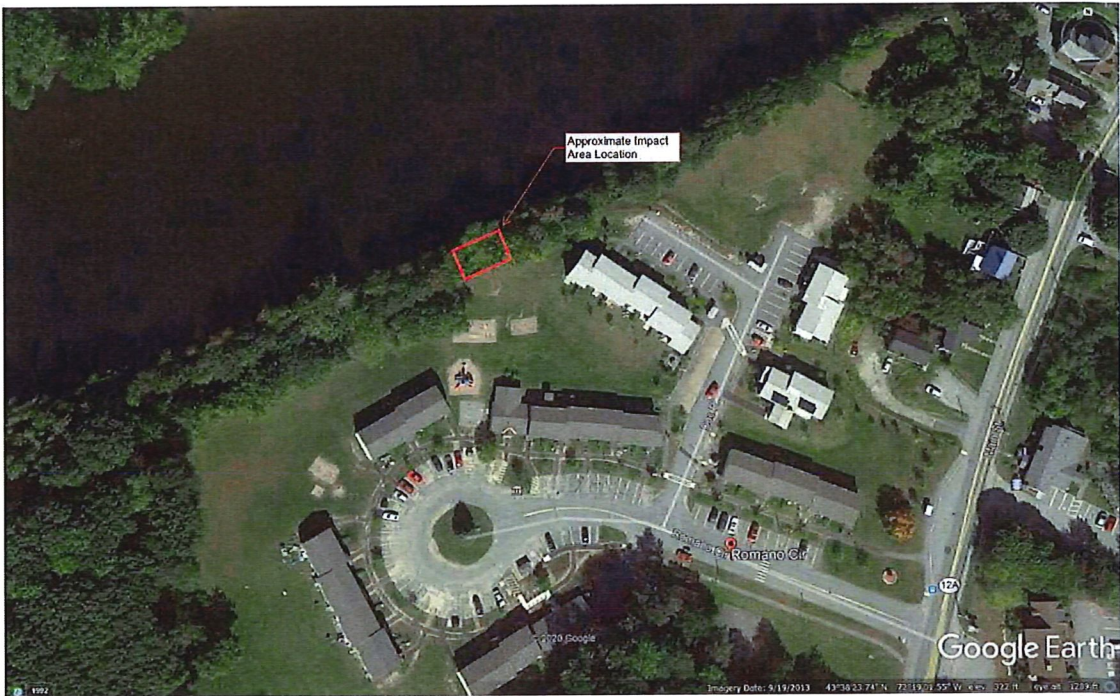
Photograph 1: Existing stormwater outfall



Photograph 2: Drainage from outfall to Connecticut River

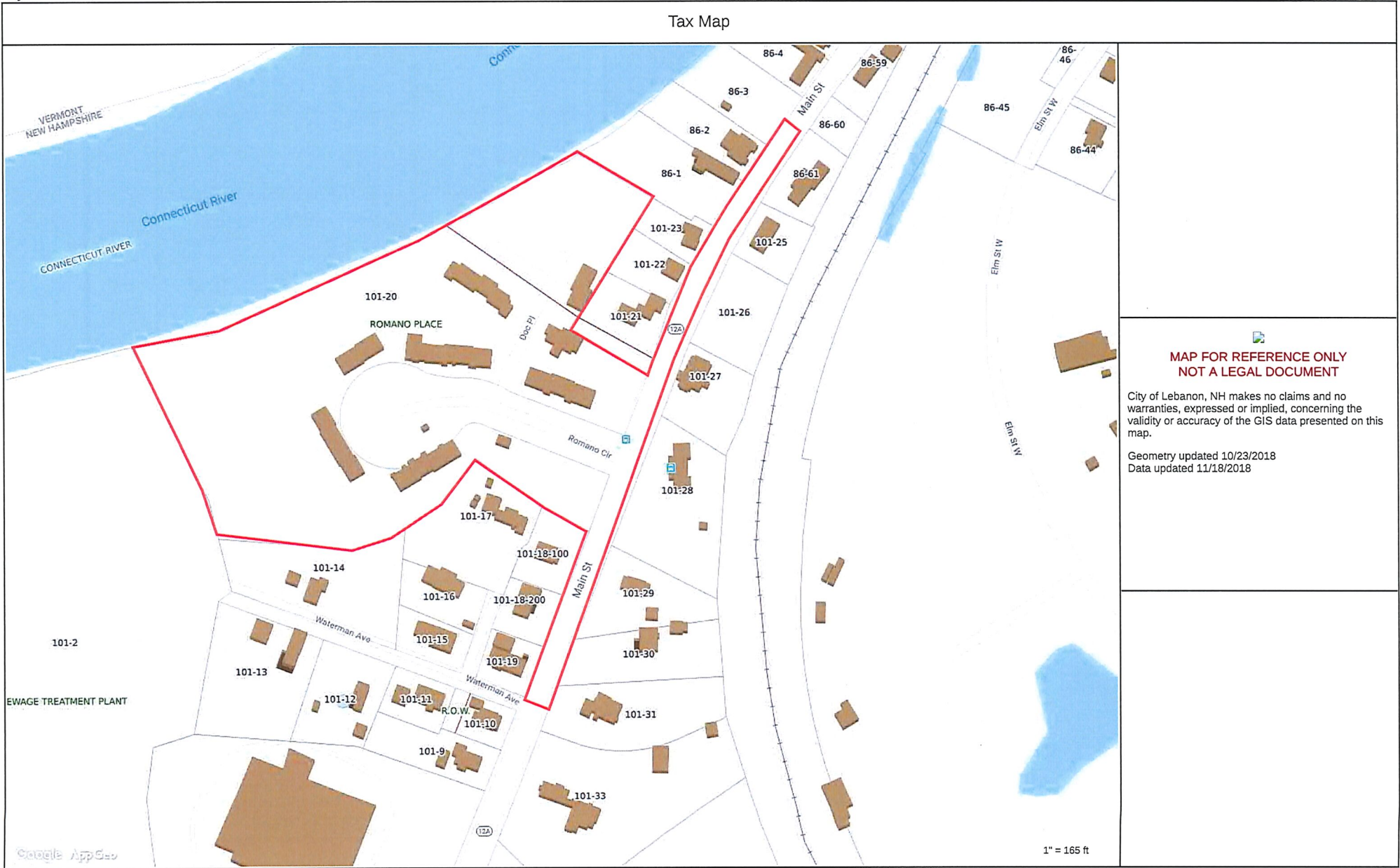


Photograph 3: Top of Bank



Photograph 4: Aerial Imagery of Proposed Impact Area

ATTACHMENT 7
Tax Map



ATTACHMENT 9
Authorization Letters

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

RE: Letter of Authorization
City of Lebanon Combined Sewer Separation Contract 13

To whom it may concern:

The City of Lebanon is proposing improvements to the municipal utilities, including separating the combined sewer system, within the Contract 13 project area. The project area includes a portion of South Main Street (Route 12A) and Romano Circle. Sewer, water, and stormwater infrastructure will be replaced. The proposed improvements include the installation of a new stormdrain and reconstruction of an existing storm water outfall on property owned by the Lebanon Housing Authority (Lot 101-20). The proposed work will require impacts to jurisdictional wetlands.

I have been made aware of the proposed project and as the owner of the subject property, I authorize the City to submit a wetlands permit application and complete work on and adjacent to Lebanon Housing Authority property.

Sincerely,

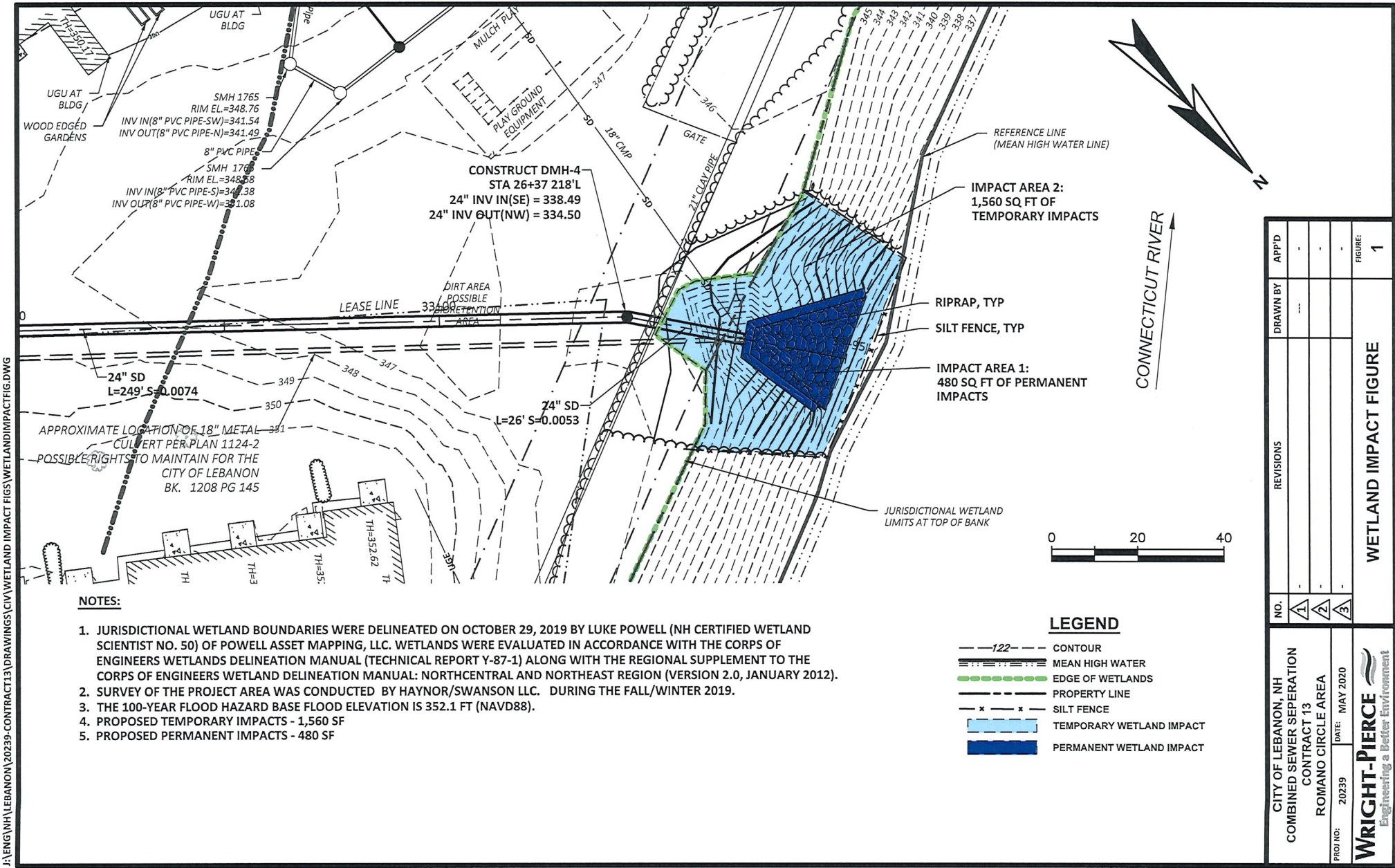
DocuSigned by:

Ditha Alonso

2463FA03D-26480

Ditha Alonso
Executive Director
Lebanon Housing Authority
31 Romano Circle
West Lebanon, NH 03784

ATTACHMENT 10
Drawings/Plans



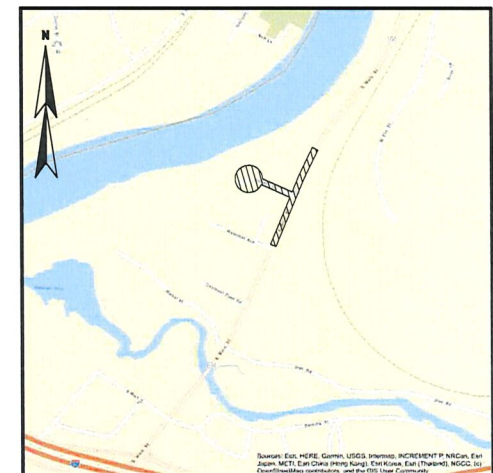
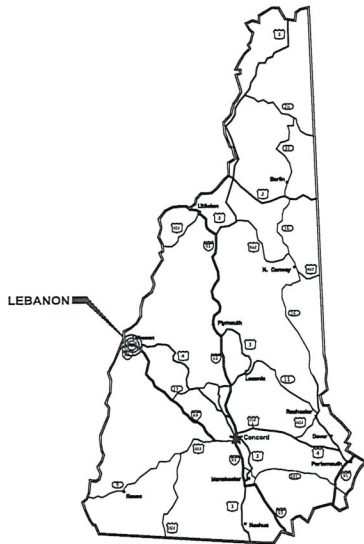
CITY OF LEBANON, NH COMBINED SEWER SEPARATION CONTRACT 13 ROMANO CIRCLE AREA		NO.	1	2	3
DATE: MAY 2020		WETLAND IMPACT FIGURE		FIGURE: 1	
PROJ NO: 20239		DRAWN BY		APP'D	
WRIGHT-PIERCE Engineering a Better Environment		REVISIONS		FIGURE: 1	

CITY OF LEBANON, NH

COMBINED SEWER SEPARATION CONTRACT NO. 13 ROMANO CIRCLE AREA SRF PROJECT NO. CS-330092-13 APRIL 2020

DRAWING INDEX

SHEET	TITLE
-	COVER SHEET
C-1	LOCATION PLAN
C-2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
C-3	EROSION CONTROL NOTES AND DETAILS
C-4	TYPICAL ROADWAY SECTIONS
C-5	PLAN AND PROFILE: SOUTH MAIN ST STA 1+00 TO 7+00
C-6	PLAN AND PROFILE: SOUTH MAIN ST STA 7+00 TO 13+00
C-7	PLAN AND PROFILE: ROMANO CIRCLE STA 20+00 TO STA 23+00
C-8	PLAN AND PROFILE: ROMANO CIRCLE STA 23+00 TO STA 27+50
C-9	PLAN AND PROFILE: CROSS COUNTRY STORM STA 30+00 TO STA 33+95
C-10	LAYOUT PLAN: SOUTH MAIN ST
C-11	LAYOUT PLAN: ROMANO CIRCLE
C-12	DETAILS I
C-13	DETAILS II
C-14	DETAILS III
C-15	DETAILS IV
C-16	DETAILS V
C-17	DETAILS VI
C-18	DETAILS V
C-19	RETAINING WALL PROFILE AND DETAILS
<u>CROSS SECTIONS</u>	
C-20 TO C-27	*CROSS SECTIONS: SOUTH MAIN ST
C-28 TO C-30	*CROSS SECTIONS: ROMANO CIRCLE
Plans with strikethrough omitted from permit drawing set	



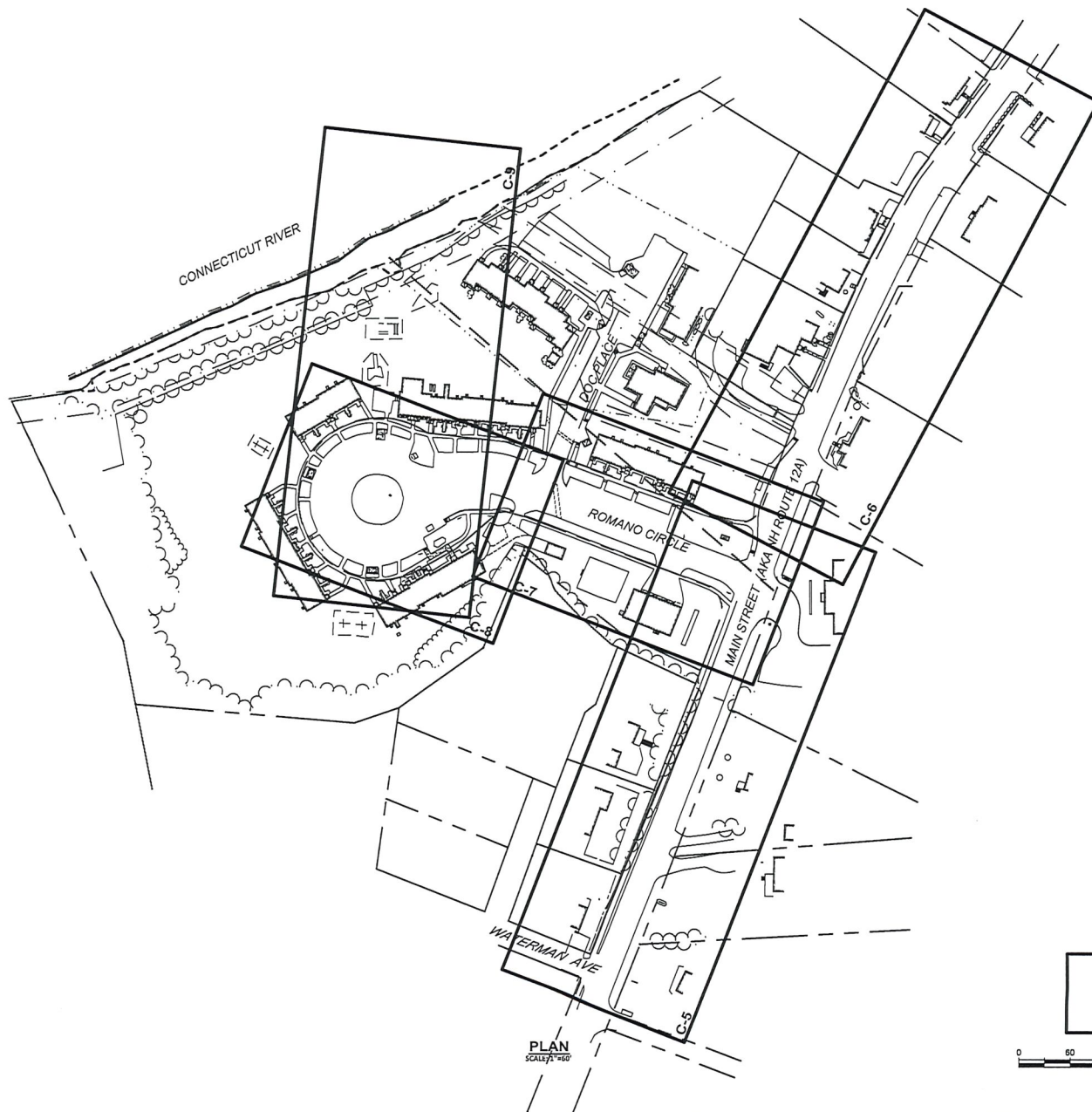
MAIN LOCATION PLAN
SCALE 1"=400'

75% REVIEW
04/27/2020

WRIGHT-PIERCE 
Engineering a Better Environment

Offices Throughout New England
888.621.8156 | www.wright-pierce.com

REVIEW DATE: _____
BID DATE: _____
WP PROJECT NO. 20239A



75% REVIEW
04/27/2020

A horizontal number line with tick marks at 0, 60, and 1. The segment between 0.2 and 0.6 is shaded with a thick black bar.



DRAWING	C-1	CITY OF LEBANON, NH COMBINED SEWER SEPARATION CONTRACT 13 ROMANO CIRCLE AREA	 WRIGHT-PIERCE Engineering a Better Environment 888.621.8156 www.wright-pierce.com	DESIGNED BY: B. CASTRO CHECKED BY: J. JACOBSON DRAWN BY: A. DATE: A. APPROVED BY: A. PROJECT NO.: 20239		SUBMISSIONS/REVISIONS		APP'D DATE
				NO.	DATE			

GENERAL NOTES

1. BELOW GRADE UTILITY INFORMATION IS BASED ON INFORMATION PROVIDED BY EACH UTILITY. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWERS, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY REPRESENTATIVE PRIOR TO COMMENCING WORK. REFER TO SPECIFICATION SECTION 0155G. UTILITY CONTACTS ARE AS FOLLOWS:

ELECTRIC LIBERTY UTILITIES MELVIN EMERSON 407 MIRACLE MILE #2 LEBANON, NH 03766 TEL. (603) 306-8215	CABLE TELEVISION COMCAST-TIME DENT 166 HANOVER ST LEBANON, NH 03766 TEL. (603) 678-8271	WATER/SEWER CITY OF LEBANON PUBLIC WORKS DEPARTMENT JAY CARRELL, ASSISTANT PUBLIC WORKS DIRECTOR 193 DARTMOUTH COLLEGE HIGHWAY LEBANON, NH 03766 TEL. (603) 448-1112
TELEPHONE CONSOLIDATED COMMUNICATIONS JOHN POMEROY 135 GATES ST WHITE RIVER JUNCTION, VT 05001 TEL. (802) 295-4187 TEL. (802) 735-7029	AT&T FIBER OPTIC SCOTT ZELLNER TEL. (603) 370-0325 325943.AT&T.COM	FIRE DEPARTMENT LEBANON FIRE DEPARTMENT FIRE PREVENTION BUREAU JEFFREY LIBBY TEL. (603) 448-8810 12 SOUTH PARK ST LEBANON, NH 03766 TEL. (603) 448-3112
FIRST LIGHT POWER ED TOBINSON TEL. (603) 296-7652	SOVEREIGN COMMUNICATIONS JEFF GOUGER TEL. (603) 460-9110 EMAIL: JGOUGER@SOVEREIGN.COM	DRAINAGE CITY OF LEBANON PUBLIC WORKS DEPARTMENT MIKE HAMMOND 193 DARTMOUTH COLLEGE HIGHWAY LEBANON, NH 03766 TEL. (603) 448-3112

ADJUSTMENTS OF ALL PRIVATE UTILITY COVERS OR SIMILAR STRUCTURES TO MATCH THE NEW PAVEMENT GRADE AND THE RELOCATION OF UTILITY POLES WILL BE PERFORMED BY THE APPROPRIATE UTILITY OR ITS AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY IN EVERY WAY TO EXPEDITE SUCH ADJUSTMENTS. CONTRACTOR TO COORDINATE ALL UTILITY RELOCATION AND INSTALLATION WITH THE APPROPRIATE UTILITY COMPANIES.

2. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AT THE APPROXIMATE LOCATIONS NOTED ON THE PLANS AND ACTUAL LOCATIONS, DEPTHS, AND DIMENSIONS OF SUBSURFACE UTILITIES SHALL BE REPORTED TO THE ENGINEER. WHERE APPROPRIATE, MINOR ADJUSTMENTS TO THE ALIGNMENTS OF PROPOSED LINES SHALL BE MADE TO ACCOMMODATE EXISTING UTILITIES. ALL ADJUSTMENTS (NOTINGS, EASTINGS AND ELEVATIONS) MUST BE DEPICTED IN THE RECORD AS-BUILT DRAWING DATA SUBMITTED TO THE ENGINEER FOR INCLUSION IN THE RECORD AS-BUILT DRAWINGS.

3. ALL EXISTING COMBINED SEWER AND STORM DRAIN LINES LOCATED WITHIN THE PROJECT LIMITS THAT ARE TO BE REPLACED BY NEW SEWER AND STORM DRAIN LINES SHALL BE REMOVED, UNLESS OTHERWISE INDICATED. EXISTING SEWER AND STORM DRAIN LINES TO BE ABANDONED IN PLACE AND FILLED WITH FLOWABLE FILL WILL BE DONE SO AT THE DISCRETION OF THE CITY OF LEBANON. ANY EXISTING SEWER LINES, STORM DRAIN LINES OR CULVERT DAMAGED DURING CONSTRUCTION AND NOT TO BE REPLACED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SEWER AND DRAINAGE FLOWS THROUGHOUT THE DURATION OF THE PROJECT.

4. FOR ABBREVIATIONS SEE SPECIFICATIONS SECTION 0107G.

5. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.

6. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO LIBERTY UTILITIES, COMCAST, OR FAIRPOINT. NO ADDITIONAL PAYMENT WILL BE REQUIRED FOR TEMPORARY BRACING OF UTILITIES. THE CONTRACTOR SHALL COORDINATE RELOCATION OF TELEPHONE POLES WITH LIBERTY UTILITIES, COMCAST, CONSOLIDATED COMMUNICATIONS AND OTHER UTILITIES AS NEEDED. NO ADDITIONAL PAYMENT WILL BE PROVIDED TO THE CONTRACTOR DUE TO DELAYS CAUSED BY THE UTILITY COMPANIES (SEE SPECIFICATION 0155G).

7. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. TOPOGRAPHY BASED ON HAYNER/SWANSON, INC. FIELD SURVEY PERFORMED IN FALL 2019.

8. CONTRACTOR SHALL INSTALL AND MAINTAIN PERMANENT AND TEMPORARY TRAFFIC CONTROL DEVICES AS NECESSARY AND IN A MANNER CONSISTENT WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER AND ENGINEER PRIOR TO COMMENCING CONSTRUCTION. THE LEBANON POLICE DEPARTMENT (448-1212) AND FIRE DEPARTMENT (448-8810) ARE TO BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF ANY STREET CLOSING OR DETOUR. REFER TO SPEC. SECTION 0157D. BE ADVISED THAT UNIFORMED POLICE OFFICERS MAY BE REQUIRED FOR WORK ON LOCATIONS AS DETERMINED BY THE CITY.

10. THE OWNER IS RESPONSIBLE FOR OBTAINING ANY NECESSARY RIGHTS-OF-WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BEGINNING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF SUCH RIGHTS-OF-WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW FROM THE CITY OF LEBANON.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. MATERIALS AND METHODS USED FOR TEMPORARY EROSION CONTROL SHALL BE AS SPECIFIED BY THE "NEW HAMPSHIRE STORMWATER MANUAL" (DECEMBER 2008) AND REFER TO SPECIFICATION 0227D AND DRAWING C-3.

12. COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 0220G. ANY SETTLEMENT OCCURRING WITHIN TWO YEARS OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER AT NO ADDITIONAL EXPENSE TO THE OWNER.

13. OPEN TRENCHES IN THE ROADWAY MUST BE BACKFILLED AT THE END OF THE WORKDAY. UNLESS PERMISSION TO LEAVE THEM OPEN IS GIVEN IN WRITING BY THE OWNER. ALL STREETS MUST BE PAVED PRIOR TO THE WINTER SHUTDOWN. TEMPORARY PAVEMENT SHALL BE CONSIDERED INCIDENTAL.

14. CONTRACTOR SHALL MITIGATE FUGITIVE DUST TO A TOLERABLE LIMIT AS OUTLINED IN SPECIFICATION SECTION 0156G. CONTRACTOR SHALL NOT TRUCK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS WITHIN AND/OR OUTSIDE THE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEEPED AND FREE OF DEBRIS.

15. ALL AREAS (EXCEPT GRAVEL DRIVEWAYS) THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH GRAVEL OR RIPRAP SHALL BE LOADED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED. ALL AREAS TO RECEIVE 4" MIN. OF TOPSOIL (SEE SPECIFICATION SECTION 0248G).

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTling ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY THEIR OPERATIONS AT NO EXPENSE TO THE OWNER. THIS WORK IS TO BE DONE BY A LAND SURVEYOR LICENSED IN THE STATE OF NEW HAMPSHIRE. PROPERTY BOUNDS FOUND ARE SHOWN ON LAYOUT PLANS AND MAY NOT BE INCLUSIVE OF ALL BOUNDS THAT EXIST IN THE PROJECT AREA. IF ANY ADDITIONAL BOUNDS ARE FOUND, THE CONTRACTOR SHALL DOCUMENT THE LOCATION AND NOTIFY THE ENGINEER.

17. THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL MAY BE INCORPORATED IN THE PROJECT. EXCESS MATERIAL IS TO BE TAKEN TO 370 PLAINFIELD ROAD, IF OWNER SO DESIRES, AT NO ADDITIONAL COST. SILT FENCE AND STABILIZATION OF EXCESS SOIL IS ALSO REQUIRED. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CONTRACT DOCUMENTS AND ALL STATE, FEDERAL AND LOCAL REGULATIONS.
18. ENGINEER WILL PROVIDE HORIZONTAL CONTROL POINTS TO ESTABLISH THE CONSTRUCTION BASELINE. THE POINTS TO BE PROVIDED ARE SHOWN ON THE LAYOUT PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND REESTABLISHING THESE POINTS FOR THE DURATION OF THE PROJECT. CONTRACTOR SHALL LAYOUT ALL CONSTRUCTION AS SHOWN ON THE DRAWINGS USING THE CONSTRUCTION BASELINE. THE LAYOUT SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION. ANY DEVIATIONS FROM THE ROADWAY OR UTILITY LAYOUTS MUST BE APPROVED BY THE ENGINEER/OWNER.

19. CONSTRUCT HANDICAP RAMPS AT ENDS OF ALL SIDEWALKS AND ROADWAYS AND AS OTHERWISE SHOWN ON THE PLANS. SIDEWALKS AND HANDICAP RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES (ADA).

20. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED.

21. APPROXIMATE LIMITS OF WORK INDICATED ON PLANS IS INTENDED TO SHOW GENERAL SCOPE OF THE WORK. ACTUAL LIMITS OF THE WORK ARE TO BE DETERMINED IN THE FIELD TO MEET PROJECT NEEDS AS DETERMINED BY THE OWNER AND THE ENGINEER.

22. PAVEMENT IS TO BE SAWCUT AT ALL SIDE ROADS, PAVED DRIVES, PAVED SIDEWALKS, AS WELL AS THE BEGINNING AND END OF THE PROJECT LIMITS. PAVEMENT GRINDING BEYOND THE SAW CUT WILL BE REQUIRED AT ALL SIDE ROADS, AS WELL AS THE BEGINNING AND END OF THE PROJECT LIMITS. SEE DETAIL DRAWINGS FOR TAPERED GRIND PAVEMENT JOINT DETAIL.

23. SAW CUT LINES FOR PAVED DRIVEWAY & SIDEWALK MATCHES ARE APPROXIMATE AS SHOWN. CONTRACTOR SHALL FIELD VERIFY SAW CUT LOCATIONS FOR DRIVEWAY AND WALKWAY MATCHES.

24. ALL UNDERGROUND UTILITIES ENCOUNTERED DURING CONSTRUCTION WILL BE IN SERVICE OR OUT OF SERVICE. IF, OUT OF SERVICE WHEN ENCOUNTERED, THE CONTRACTOR SHALL COMPLETELY REMOVE THE UTILITY WITHIN THE LIMITS OF WORK AND DISPOSE OF THE DEBRIS. IF A UTILITY IS TO BE TAKEN OUT OF SERVICE AS A RESULT OF THIS PROJECT, THE UTILITY WILL ALSO BE COMPLETELY REMOVED WITHIN THE LIMITS OF THE WORK AFTER THE UTILITY IS DISCONTINUED. IF ASBESTOS CEMENT PIPE IS ENCOUNTERED, CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER IMMEDIATELY. ALL ACTIVITIES, HANDLING AND DISPOSAL OF ASBESTOS CEMENT PIPE SHALL BE IN ACCORDANCE WITH OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.

25. EXISTING STORM AND SEWER STRUCTURES (I.E. MANHOLES, CATCH BASINS, ETC.) NOTED TO BE REMOVED DURING CONSTRUCTION, SHALL BE REMOVED BY THE CONTRACTOR AND RELOCATED AS SPECIFIED BY THE OWNER. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING STRUCTURES.

26. EXISTING STORM AND SEWER STRUCTURES (I.E. MANHOLES, CATCH BASINS, ETC.) NOTED TO REMAIN IN SERVICE, SHALL BE ADJUSTED TO MEET FINISHED GRADE. ALL BRICKWORK, FRAMES AND GRATES/COVERS SHALL BE REPLACED AND SET TO THE PROPOSED FINISHED GRADE.

27. WHERE GRAVEL DRIVES NEED TO BE REGRADED BEYOND THE PROPOSED EDGE OF ROADWAY OR PROPOSED SIDEWALK, USE CRUSHED 3/4" HARD PAVEMENT (BLUE STONE) OR MATCH EXISTING TO ADJUST GRADE. DCAVATE AS NECESSARY TO PROVIDE A MINIMUM GRAVEL DEPTH OF 12" IN ANY CUT SECTION.

28. WHERE CONDITIONS REQUIRE CROSSING OF SEWER MAINS AND HOUSE SERVICE CONNECTIONS WITH WATER MAINS THEY SHALL BE INSTALLED UNDER THE WATER MAIN WHENEVER

POSSIBLE. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND TOP OF THE SEWER SHALL BE MAINTAINED. WHERE SITE CONDITIONS DICTATE LESS THAN THE ABOVE SEPARATION 18 INCH SEPARATION, THE FOLLOWING CONSTRUCTION METHODS ARE REQUIRED: THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THE 18" SEPARATION, AND ONE FULL LENGTH OF SEWER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING TO LOCATE JOINTS AS FAR AS POSSIBLE FROM THE WATER MAIN. THE CONTRACTOR SHALL RELOCATE THE WATER MAIN TO THE SATISFACTION OF THE LEBANON DEPARTMENT OF PUBLIC WORKS.

29. PROVIDE 2 INCH RIGID INSULATION OVER WATER MAINS WHEN COVER IS LESS THAN 6 FEET AND WHERE DIRECTED BY THE ENGINEER (SEE DETAILS).

30. PROVIDE 2 INCH RIGID INSULATION OVER SEWER MAINS WHEN COVER IS LESS THAN 6 FEET AND WHERE DIRECTED BY THE ENGINEER (SEE DETAILS).

31. WHERE APPROPRIATE, MINOR ADJUSTMENTS TO THE ALIGNMENT OF PROPOSED UTILITIES SHALL BE MADE TO ACCOMMODATE EXISTING UTILITIES. COORDINATE ADJUSTMENTS WITH ENGINEER. AS-BUILT DOCUMENTS SHALL BE PREPARED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION SECTION 0172G.

32. THE CONTRACTOR MAY, WITH APPROVAL OF ENGINEER, REGRADE AREAS ADJACENT TO THE ROADWAY USING SURPLUS EXCAVATED MATERIAL. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR THIS WORK.

33. CONTRACTOR SHALL BE REQUIRED TO PROVIDE TEMPORARY WATER SERVICE TO RESIDENTS IN THOSE PLACES WHERE UTILITIES ARE TO BE REPLACED. TEMPORARY WATER LINES SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) DRILLED JOINTS BY BUTT FUSION OR PVC FITTINGS SHALL BE PREFORMED. EXISTING FLANGED OR BUTT FUSION JOINTS, INDIVIDUAL TAPS SHALL BE MADE WITH FULL WRAP AROUND SADDLES. CORPORATION STOPS, SHALL BE USED AT THE CONNECTION TO THE MAIN. TEMPORARY SERVICE CONNECTIONS SHALL BE FORD BALL VALVE CURB STOP, CAMBRIDGE MODEL #306-N, OR EQUIVALENT. INDIVIDUAL SERVICE PIPES SHALL BE CTS POLYETHYLENE 3/4" MIN. ALL TEMPORARY WATER LINES SHALL BECOME THE PROPERTY OF THE CONTRACTOR. TEMPORARY WATER MAIN MUST BE DISINFECTED ACCORDING TO SPECIFICATION SECTION 0167S PRIOR TO USE. COORDINATE WITH THE LEBANON DEPARTMENT OF PUBLIC WORKS.

34. CONTRACTOR SHALL COORDINATE LOCATION OF SEWER SERVICE WYES TO AVOID CONFLICT BETWEEN SEWER SERVICES, WATER LINES AND SERVICES, AND NEW STORM DRAINAGE PIPING.

35. SEWER SERVICE LINES SHALL BE REPLACED UNDER THIS CONTRACT. NEW SERVICES SHALL BE REPLACED UP TO THE PROPERTY LINE AND RECONNECTED TO THE EXISTING SERVICE WHEN SOUND PIPE IS LOCATED. CLEANOUTS WITH BRASS CAPS SHALL BE INSTALLED ON EVERY SERVICE AT THE PROPERTY LINE. SEE DETAIL DRAWINGS. SEWER REPLACEMENT BEYOND THE PROPERTY LINE UP TO APPROXIMATELY 5' OUTSIDE OF THE BUILDING FOUNDATION MAY BE REQUIRED DEPENDING ON THE CONDITION OF THE EXISTING PIPES AS DETERMINED BY ENGINEER AND WILL REQUIRE AN EASEMENT OR LICENSE. SERVICE CONNECTIONS ARE SHOWN FOR ESTIMATING PURPOSES ONLY AND TO INFORM THE CONTRACTOR OF THE NEED FOR A SERVICE AT THAT PROPERTY. THE ACTUAL LENGTH AND LOCATIONS WILL BE DETERMINED IN THE FIELD, BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND VERIFYING LOCATION OF EXISTING SERVICES.

36. REPLACE ALL WATER SERVICES AND CURB STOPS WHERE WATERLINES ARE TO BE REPLACED. ALL CURB STOPS WILL BE LOCATED ON THE RESIDENTIAL SIDE OF SIDEWALKS. SERVICE CONNECTIONS ARE SHOWN FOR ESTIMATING PURPOSES ONLY AND TO INFORM THE CONTRACTOR OF THE NEED FOR A SERVICE AT THAT PROPERTY. THE ACTUAL LENGTH AND LOCATIONS WILL BE DETERMINED IN THE FIELD, BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND VERIFYING LOCATION OF EXISTING SERVICES. THE CONTRACTOR SHALL MAKE ALL CONNECTIONS TO THE EXISTING SERVICE PIPES. SERVICES SHALL BE ONE INCH MINIMUM OR MATCH EXISTING UNLESS SHOWN OTHERWISE ON THE DRAWINGS. ALL TAPS SHALL INCLUDE CORPORATION STOPS AND SHALL BE MADE "WET" AFTER THE NEW LINE HAS BEEN TESTED AND PLACED IN SERVICE.

37. A MINIMUM 10 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATERLINE AND ALL UTILITIES. 2" RIGID INSULATION SHALL BE INSTALLED WHEN THE HORIZONTAL SEPARATION IS LESS THAN 4 FEET FROM A SEWER OR DRAIN STRUCTURE.

38. A MINIMUM VERTICAL SEPARATION OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE WATER OR SEWER LINES (INCLUDING SERVICES) AND STORM DRAINAGE PIPES OR STRUCTURES. WHEN NOT BE MAINTAINED FROM STORM DRAINAGE PIPES, 2" OF RIGID INSULATION SHALL BE INSTALLED PER CULVERT/STORM DRAIN WATER CROSSING. SEE SANITARY SEWER/WATER CROSSING DETAILS ON DETAIL DRAWINGS.

39. CURB CUT LOCATIONS FOR DRIVEWAYS SHALL BE FIELD VERIFIED. ADJUST CURB CUTS IF APPROPRIATE.

40. EXISTING SIGNS THAT ARE IMPACTED BY THIS PROJECT SHALL BE REPLACED PER CITY STANDARDS AND IN ACCORDANCE WITH NHDOT AND M.U.T.C.D. ADDITIONAL SIGNS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. ALL EXISTING SIGNS THAT ARE TO BE REMOVED, SHALL BE DONE SO WITH CAUTION AND BROUGHT TO THE DEPARTMENT OF PUBLIC WORKS BUILDING AT DARTMOUTH COLLEGE HIGHWAY.

41. CONTRACTOR SHALL REST OR REBUILD WALKWAYS AND STEPS AS NECESSARY.

42. PIPE RESTRAINT FOR WATER MAINS: ALL BENDS, TEES, REDUCERS, HYDRANT CAPS, AND PLUGS SHALL BE RESTRAINED BY USING CONCRETE THRUST BLOCKS AND "GRIP RINGS" OR OTHER METHOD AS SHOWN ON THE DRAWINGS AND APPROVED BY OTHERS. ANCHOR TEES SHALL BE USED FOR ALL HYDRANT BRANCHES EXCEPT IN LOCATIONS WHERE GATE VALVES CAN NOT BE CONNECTED DIRECTLY TO TEE, IN WHICH CASE "GRIP RINGS" ON THE RODS SHALL BE USED.

43. CONSTRUCTION AND DISINFECTION OF WATER MAIN AND APPURTENANCES SHALL BE IN ACCORDANCE WITH NHDES REGULATIONS AND ENV DW 402. CONSTRUCTION AND TESTING OF SEWER MAINS AND MANHOLES SHALL BE IN ACCORDANCE WITH ENV DW 700.

44. WATER MAIN SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 200 PSI WHICHEVER IS GREATER. TEST DURATION WILL BE TWO HOURS. REFER TO SPECIFICATION SECTION 0267S.

45. BORING LOGS, PROBE LOGS AND THE GEOTECHNICAL REPORT ARE INCLUDED IN APPENDIX "A" OF THE SPECIFICATIONS.

46. MANHOLES AND CATCH BASINS ARE TO BE 4' DIAMETER STRUCTURES UNLESS OTHERWISE NOTED.

47. THE STORM AND SANITARY INVERTS INDICATED ON THE PLAN AND PROFILE SHEETS ARE THE INVERTS AT THE INSIDE FACE OF THE MANHOLE OR CATCH BASIN.

48. STATIONS AND OFFSETS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE CENTER OF THE CATCH BASIN FRAME AT THE CURB/GUTTER LINE AND THE CENTER OF THE SEWER OR STORM DRAIN MANHOLE COVER.

49. ALL CATCH BASIN STRUCTURES SHALL BE EQUIPPED WITH A PUMP - SEE DETAIL DRAWINGS FOR PUMP DEPTH. ALL CATCH BASIN STRUCTURES, NOT LOCATED ON THE MAIN TRUNK LINE, SHALL BE EQUIPPED WITH HOODS ON STORM DRAINAGE PIPE OUTLETS. HOOD SIZES SHOULD BE CHECKED AGAINST CATCH BASIN OPENINGS AND REVIEWED WITH ENGINEER PRIOR TO ORDERING AND DELIVERING TO THE SITE.

50. FLOWS FROM DEWATERING EFFORTS SHALL NOT BE DISCHARGED TO SANITARY OR COMBINED SEWERS, THEY SHALL BE DISCHARGED IN ACCORDANCE WITH SPECIFICATIONS.

51. CONNECTIONS OF NEW WATERMAINS TO EXISTING MAINS SHALL BE CONSTRUCTED AS SHOWN ON DRAWINGS. ALL FITTINGS, BENDS AND CONNECTIONS SHALL BE AS SPECIFIED IN SECTION 0261G. PAYMENT FOR THESE CONNECTIONS SHALL BE CONSIDERED INCIDENTAL.

52. CONTRACTOR TO PROVIDE AND MAINTAIN ON SITE AT ALL TIMES A STOCKPILE OF EMERGENCY REPAIR MATERIALS FOR THE 8" AND 12" WATERLINE CONSISTING OF AT LEAST THE FOLLOWING EQUIPMENT OF EACH WATERMAIN SIZE:
A. (2) WRAP AROUND REPAIR CLAMPS
B. (2) SOLID SLEEVES
C. (4) SPARE GASKETS
D. (2) LENGTHS CLASS 52 PIPE
E. (2) 12" BENDS

54. ALL MATERIALS REMAINING AT THE COMPLETION OF THE WORK SHALL BECOME THE PROPERTY OF THE OWNER.

55. THE CONTRACTOR SHALL NOTIFY RESIDENTS 48 HOURS IN ADVANCE WHEN CONSTRUCTION WILL DISRUPT ACCESS AND/OR SERVICES TO THE RESIDENTS' PROPERTY, INCLUDING ALL UTILITY SERVICES, DRIVEWAYS, WALKWAYS, ETC. DURING NOTIFICATION, CONTRACTOR SHALL VERIFY WITH OWNER ANY KNOWN BOUNDARY MARKER LOCATIONS.

56. ALL SEWER PIPE SHALL BE PVC OR D.I. MEETING THE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

57. ALL WATER CONSTRUCTION SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA STANDARDS.

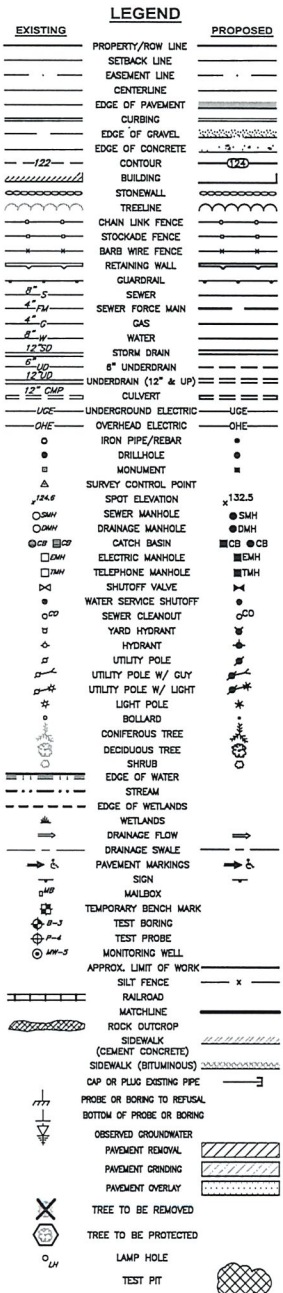
58. ALL WATER MAINS, VALVES AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH SPECIFICATION 0261SW.

59. PROTECT TREES AND SHRUBS WITHIN THE LIMITS OF WORK AS INDICATED. TREES AND SHRUBS OUTSIDE THE LIMIT OF WORK ARE NOT TO BE DISTURBED.

60. ALL WATER VALVES SHALL OPEN COUNTER CLOCKWISE (LEFT).

61. THE CONTRACTOR SHALL NOT OPERATE WATER GATE VALVES. THE CONTRACTOR SHALL CONTACT THE CITY OF LEBANON WATER DEPARTMENT FOR ALL WATER GATE VALVE OPERATIONS.

62. WHERE CATCH BASINS ARE SHOWN ALONG CURB LINES ON THE DRAWINGS IT IS INTENDED THAT THE CATCH BASIN GRATES BE LOCATED DIRECTLY ADJACENT TO THE PROPOSED CURB. STATIONS AND OFFSETS PROVIDED FOR CATCH BASIN LOCATIONS ARE ROUNDED TO THE NEAREST FOOT AND CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE PRECAST SECTIONS TO ALLOW FOR INSTALLATION OF THE GRATES AS INTENDED, AND AS SHOWN ON THE DETAILS. COORDINATED WITH ENGINEER AS NECESSARY.



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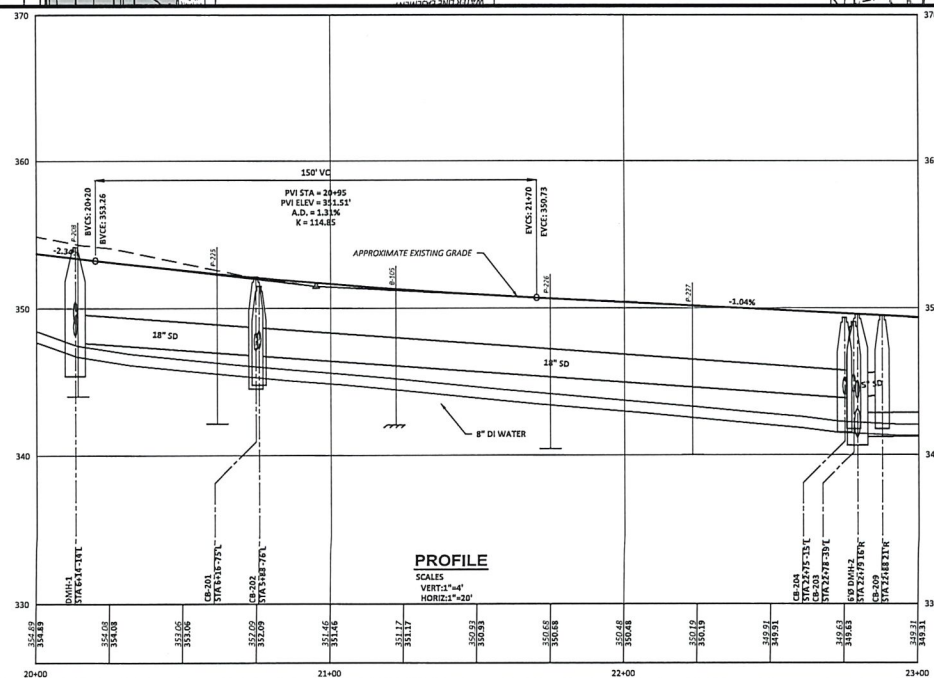
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DESIGNED BY: BECKSTROM	A
CAD CODED: J.MICHAUD	A
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OK'D BY:	A
DATE:	A
APPROVED BY:	A
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PROJECT NO.: 20239	A

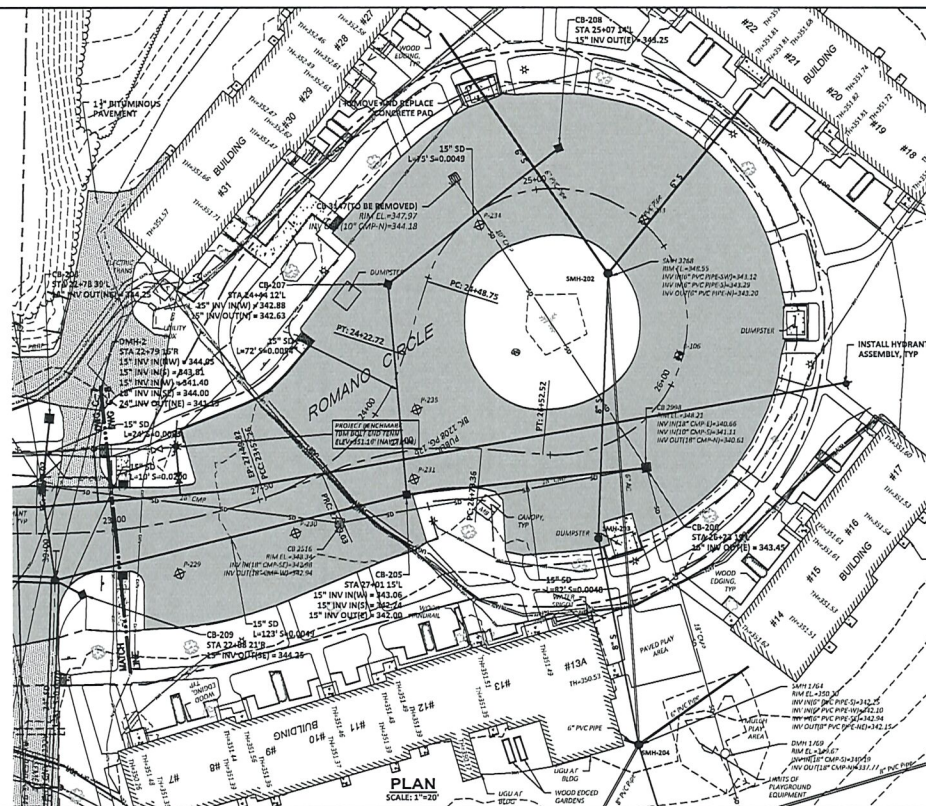


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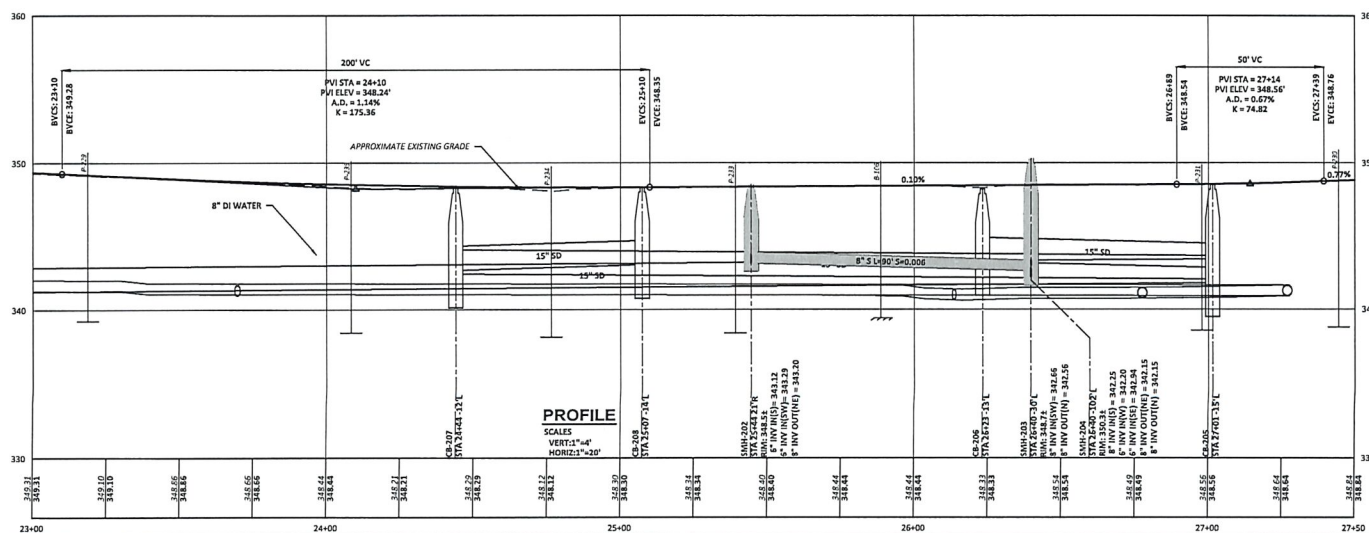




CITY OF LEBANON, NH COMBINED SEWER SEPARATION CONTRACT 13 ROMANO CIRCLE AREA PLAN AND PROFILE ROMANO CIRCLE	WRIGHT-PIERCE  Engineering a Better Environment 889.621.8156 www.wright-pierce.com	DESIGNED BY: <u>BLACKSTONE</u>	NO.	SUBMISSIONS/REVISIONS	APPRO. DATE
		DRAWN BY: <u>JAQUAN</u>	DATE: <u>11/11/10</u>		
		APPROVED BY: <u>JAQUAN</u>	DATE: <u>11/11/10</u>		
		PROJECT NO. <u>30219</u>			



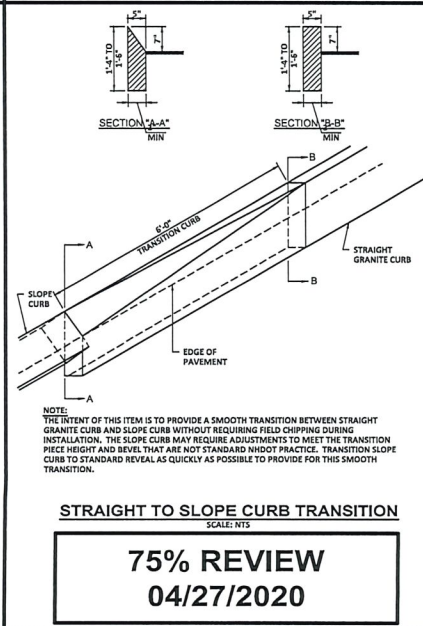
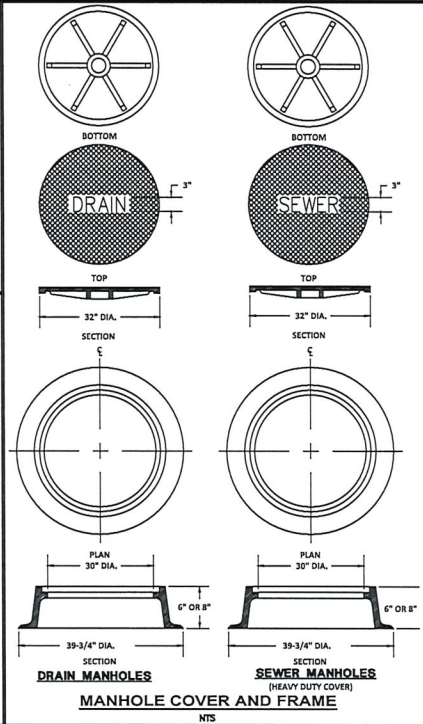
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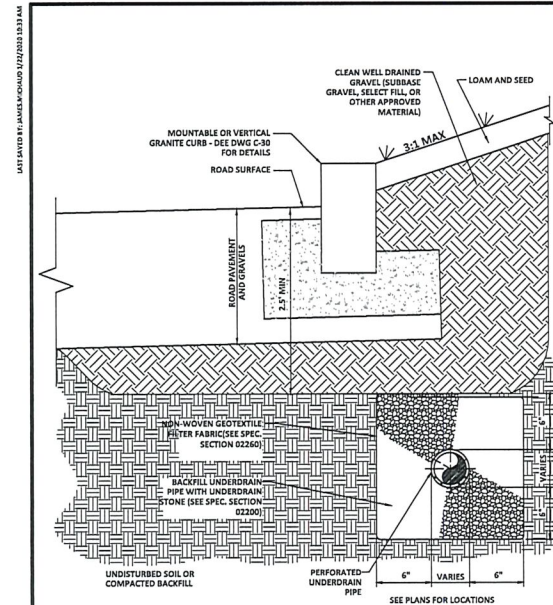


CITY OF LEBANON, NH COMBINED SEWER SEPARATION CONTRACT 13 ROMANO CIRCLE AREA PLAN AND PROFILE: ROMANO CIRCLE	 WRIGHT-PIERCE Engineering a Better Environment 888.621.8156 www.wright-pierce.com	DESIGNED BY: J. KURT HORN	NO.	SUBMISSIONS/REVISIONS	APPROVAL DATE
		CHECKED BY: J. KURT HORN	DATE: 06/11/2019		



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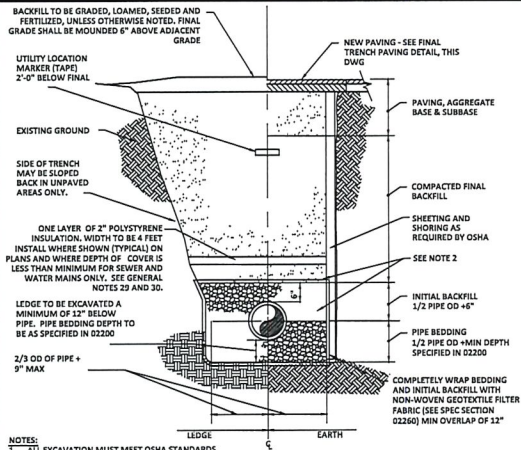
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UNDERDRAIN BEDDING AND SURROUND DETAIL

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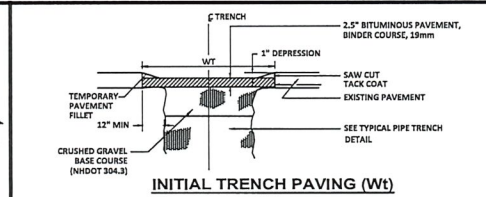
NOTE: PIPE PERFORATIONS SHALL BE IN THE LOWER 12\"/>



TYPICAL PIPE TRENCH DETAIL

NTS

- NOTES:
1. ALL EXCAVATION MUST MEET OSHA STANDARDS
 2. SEE SPECIFICATION SECTION 02200 FOR BEDDING AND BACKFILL REQUIREMENTS.
 3. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 300' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNLED ALONG BEDDING/INITIAL BACKFILL. DAMS ARE NOT TO BE USED IN UNDERDRAIN TRENCH. INSTALL CONCRETE TRENCH DAMS ON SANITARY PIPE WHERE SHOWN ON PLANS ACCORDING TO THE TRENCH DAM/ANCHOR DETAIL.
 4. THE MAXIMUM ALLOWABLE TRENCH WIDTH FOR SEWER PIPE LESS THAN 15" IN DIAMETER, AT A PLANE 12" ABOVE THE PIPE, SHALL BE NO MORE THAN 36". FOR PIPE LARGER THAN 15", THE ALLOWABLE TRENCH WIDTH SHALL BE EQUAL TO THE PIPE OUTSIDE DIAMETER PLUS 24".
 5. PERFORATED STORM DRAIN PIPE SHALL HAVE PERFORATIONS IN THE BOTTOM 12" AND THE PIPE BEDDING AND FILTER FABRIC INCLUDED PER THE UNDERDRAIN BEDDING DETAIL ON THIS PAGE.



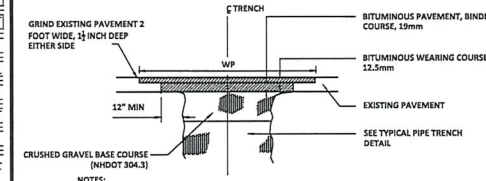
INITIAL TRENCH PAVING (Wt)

NTS

TRENCH PAVING PAY LIMITS			
PIPE I.D.	W (in.)	W ₆ (in.)	W ₁₀ (in.)
6" - 24"	72	96	108
24" - 30"	84	108	120
30"	96	120	120

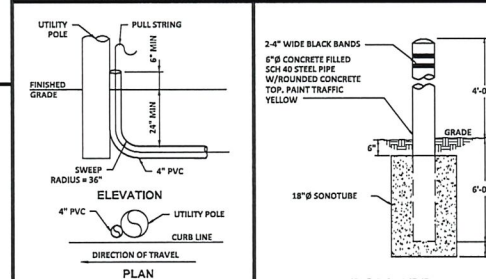
*FOR CONSTRUCTION 10' TO 15' DEEP, INCREASE W₆ AND W₁₀ BY 4'-0".
*FOR CONSTRUCTION 15' TO 20' DEEP, INCREASE W₆ AND W₁₀ BY 8'-0".
*FOR CONSTRUCTION OVER 20' DEEP, ADJUSTMENTS WILL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.

*DEPTH OF TRENCH CUT BASED ON "TYPICAL PIPE TRENCH DETAIL" THIS DRAWING.



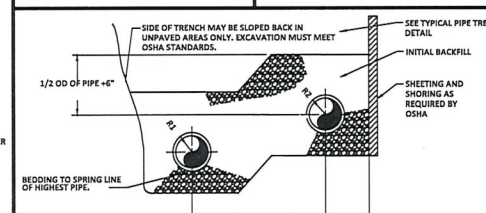
FINAL TRENCH PAVING (Wp)

NTS



TYPICAL CONDUIT PLACEMENT ON POLE

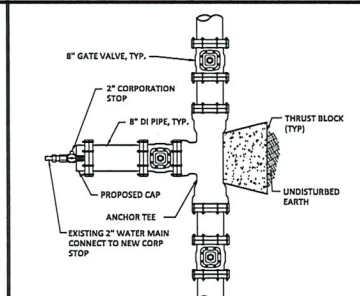
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MULTIPLE PIPE TRENCH SECTION

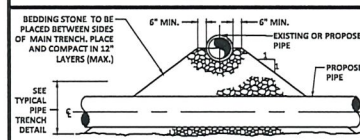
NTS

- 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 INDICATED.
 4. MINIMUM 10' HORIZONTAL SEPARATION REQUIRED BETWEEN SEWER AND WATER PIPES.
 5. ALL SCREEN OR CRUSHED STONE FOR PIPE BEDDING AND INITIAL BACKFILL SHALL BE ENCASED IN NON-WOVEN GEOTEXTILE FILTER FABRIC MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 02200.



WATER MAIN CONNECTION DETAIL

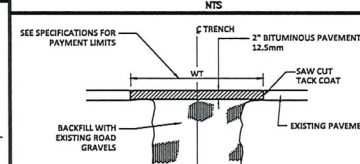
NTS



- NOTE:
1. JOINTS ON EACH PIPE TO BE AS FAR FROM INTERSECTION AS POSSIBLE.
 2. 18" MINIMUM SEPARATION FOR WATER & SEWER/STORMDRAIN CROSSINGS.
 3. WATER MAINS SHALL ALWAYS BE INSTALLED ABOVE SEWER MAINS.
 4. ALL SCREEN OR CRUSHED STONE FOR PIPE BEDDING AND INITIAL BACKFILL SHALL BE ENCASED IN NON-WOVEN GEOTEXTILE FILTER FABRIC MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 02200.

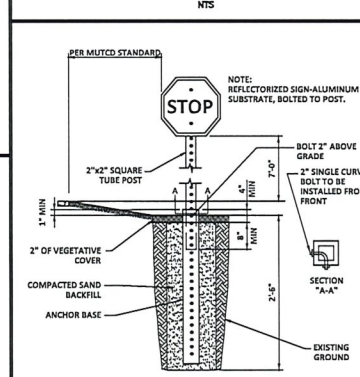
PIPE CROSSING DETAIL

NTS



TEMPORARY TRENCH PAVING

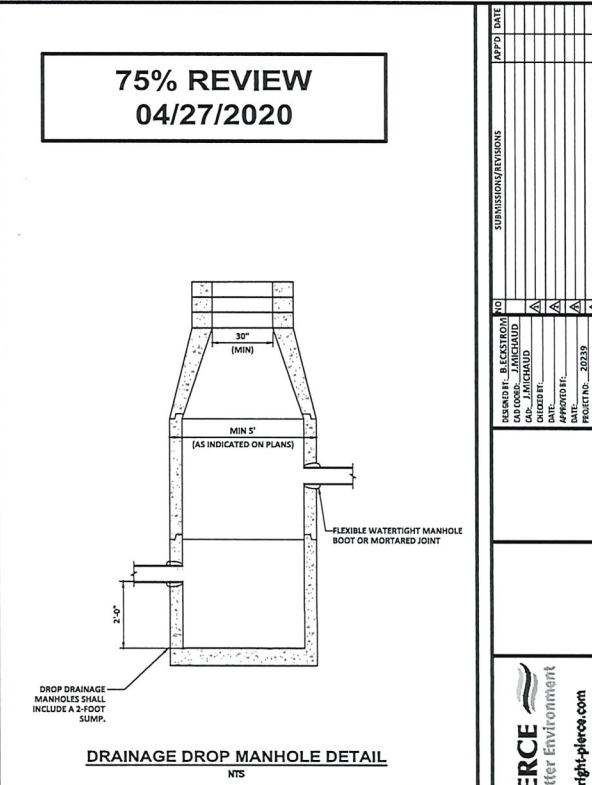
NTS



- NOTES:
1. ALL SIGNS AND POSTS TO BE REPLACED UNLESS OTHERWISE DIRECTED BY ENGINEER.
 2. REFER TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)" FOR SPECIFIC SIGN DIMENSIONS AND MATERIALS.

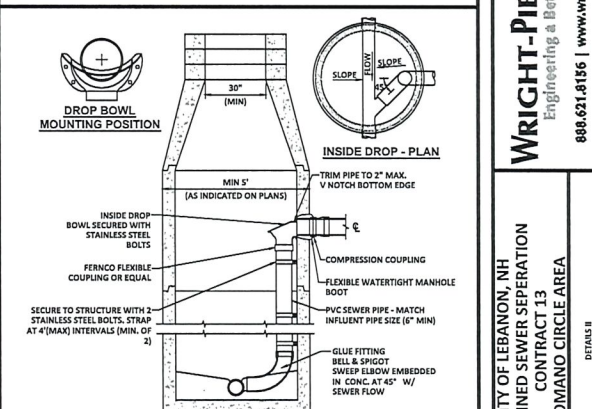
TYPICAL SIGN DETAIL - 2" GALVANIZED TELESAR POST WITH ANCHORS

NTS



DRAINAGE DROP MANHOLE DETAIL

NTS



INSIDE DROP CONNECTION

NTS

- NOTES:
1. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS SHOWN.
 2. SECURE DROP PIPE TO MANHOLE WALL WITH STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS.

INSIDE DROP MANHOLE DETAIL

NTS

DATE	04/27/2020
DESIGNED BY	B. ECKSTROM
CHECKED BY	J. HANAUER
APPROVED BY	
PROJECT NO.	2023.09

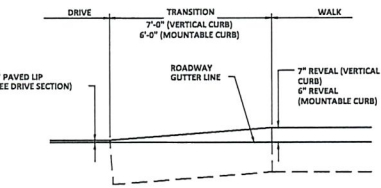
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CITY OF LEBANON, NH
COMBINED SEWER SEPARATION
CONTRACT 13
ROMANO CIRCLE AREA

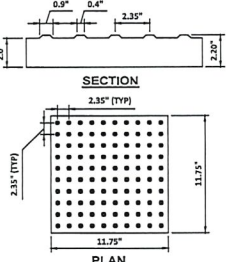
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07/14/2020 10:34 AM

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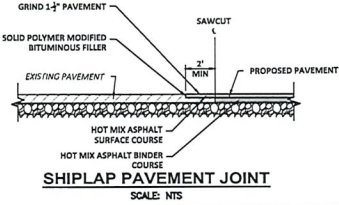


GRANITE CURBING TRANSITION AT DRIVES
 NTS



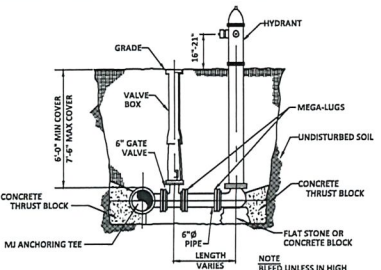
NOTE:
 1. DETAIL REPRESENTS "DETECTABLE WARNING PAVERS" CONFORMING TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

**CAST IRON HANDICAP
 DETECTABLE WARNING PAVERS**
 NTS

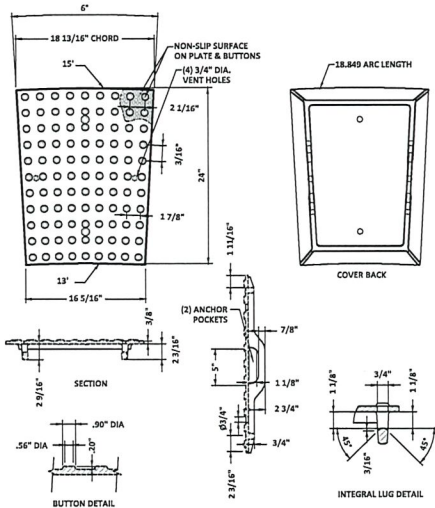


SHIPLAP PAVEMENT JOINT
 SCALE: NTS

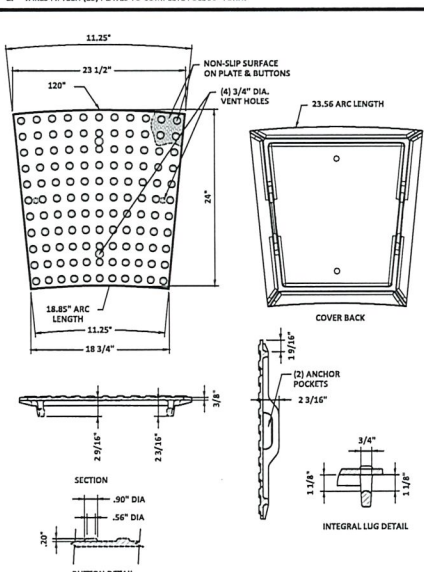
**75% REVIEW
 04/27/2020**



TYPICAL HYDRANT CONNECTION
 SCALE: NTS

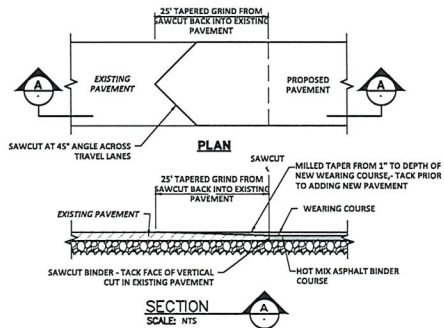


NOTE:
 1. REFER TO RECTANGULAR DETECTABLE WARNING DEVICE DETAIL, THIS DRAWING FOR EMBEDMENT AND CONCRETE SURROUND DETAILS.
 2. TAKES FIFTEEN (15) PLATES TO COMPLETE FULL 90° TURN.

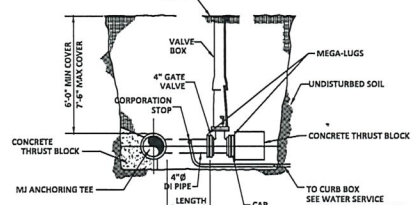


**10 FT RADIUS CAST IRON
 DETECTABLE WARNING PLATE**
 NTS

NOTE:
 1. REFER TO RECTANGULAR DETECTABLE WARNING DEVICE DETAIL, THIS DRAWING FOR EMBEDMENT AND CONCRETE SURROUND DETAILS.
 2. TAKES FIFTEEN (15) PLATES TO COMPLETE FULL 90° TURN.

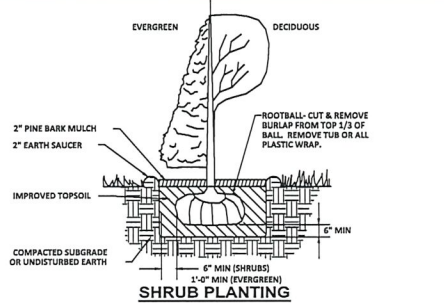


TAPERED GRIND PAVEMENT JOINT
 SCALE: NTS

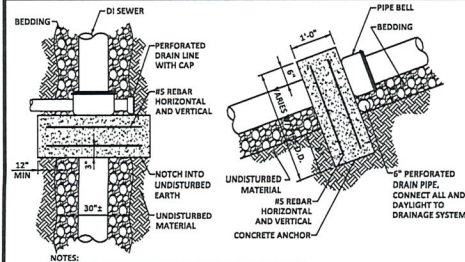


NOTE:
 1. 4" FIRE SERVICE TO BE BORED AND TAPPED FOR CORPORATION STOP.
 2. 4" GATE VALVE AND CURB BOX SHALL BE INSTALLED WITHIN RIGHT OF WAY.

4-INCH FIRE SERVICE
 SCALE: NTS

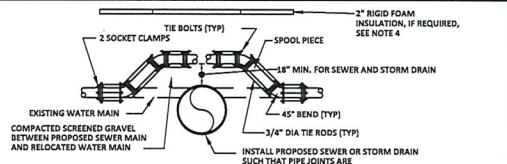


SHRUB PLANTING
 NTS



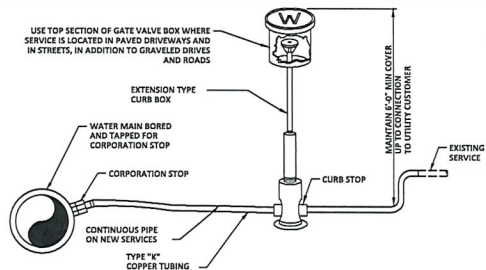
CONCRETE TRENCH DAM DETAIL
 NTS

NOTE:
 1. INSTALL CONCRETE TRENCH DAMS WHERE SHOWN ON PLANS.
 2. ALL SEWER MAINS TO BE ENCASED IN CONCRETE SHALL BE DUCTILE IRON PIPE.



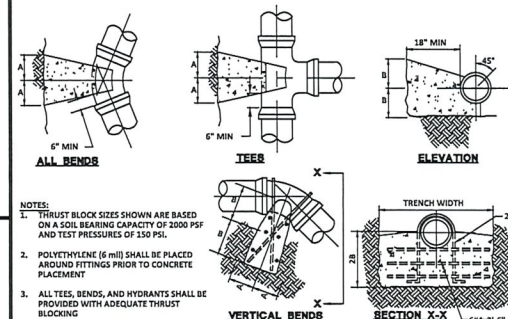
NOTES:
 1. WATER MAIN MATERIALS TO BE CLASS 52 DUCTILE IRON. JOINT RESTRAINT TO BE BY MECHANICAL JOINT WITH MEGA-LUGS. ALL PUSH-ON JOINTS SHALL BE RESTRAINED WITH ROD CLAMPS AND TIE BOLTS.
 2. TIE RODS, TIE BOLTS, SOCKET CLAMPS AND BRIDLES SHALL BE COATED WITH A BITUMINOUS PAINT AFTER ASSEMBLY OR IF NECESSARY PRIOR TO ASSEMBLY.
 3. TIE RODS: 10" DIA WATER MAIN OR LARGER - 4 REQUIRED. 8" DIA WATER MAIN OR SMALLER - 2 REQUIRED.
 4. EXISTING WATER MAINS TO BE RELOCATED OVER NEW SEWERS WHEREVER SUFFICIENT GROUND COVER EXISTS (6" MINIMUM COVER). IF SUFFICIENT COVER IS NOT AVAILABLE, A SINGLE LAYER OF 2" RIGID FOAM INSULATION SHALL BE INSTALLED.
 5. WATER MAINS OR SERVICES WITHIN 4 FEET HORIZONTALLY OR 58 INCHES VERTICALLY OF ANY CULVERT OR STORM DRAIN PIPE SHALL HAVE INSULATION TO PROTECT WATER MAIN FROM FREEZING, SEE CULVERT/STORM DRAIN CROSSING DETAIL.

WATER MAIN RELOCATION DETAIL
 NTS



NOTE:
 1. WATER SERVICE CONNECTIONS TO BE 1" DIAMETER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
 2. WATER MAINS OR SERVICES WITHIN 5 FEET HORIZONTALLY OR A FEET VERTICALLY OF ANY CULVERT OR STORM DRAIN PIPE SHALL HAVE INSULATION, SEE CULVERT/STORM DRAIN CROSSING DETAIL.
 3. A MINIMUM OF 50" HORIZONTAL AND 18" VERTICAL SEPARATION IS REQUIRED BETWEEN WATER AND SEWER SERVICES.

WATER SERVICE CONNECTION
 NTS



NOTE:
 1. THRUST BLOCK SIZES SHOWN ARE BASED ON A SOIL BEARING CAPACITY OF 2000 PSF AND TEST PRESSURES OF 150 PSI.
 2. POLYETHYLENE (6 mil) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.
 3. ALL TEES, BENDS, AND HYDRANTS SHALL BE PROVIDED WITH ADEQUATE THRUST BLOCKING.
 4. MEGA-LUGS WILL ALSO BE REQUIRED.

PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE	VERT BEND
6"	18"	12"	12"	9"	9"	9"
8"	24"	15"	12"	12"	12"	18"
10"	24"	24"	18"	12"	12"	24"
12"	24"	24"	18"	12"	12"	24"

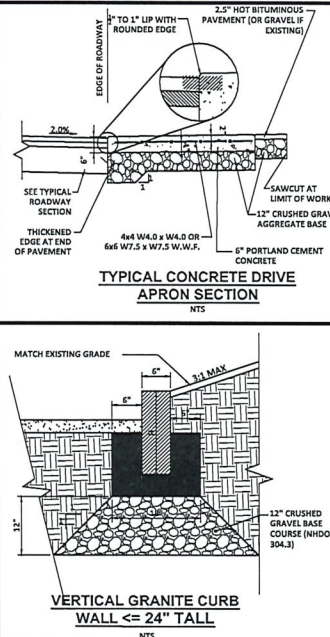
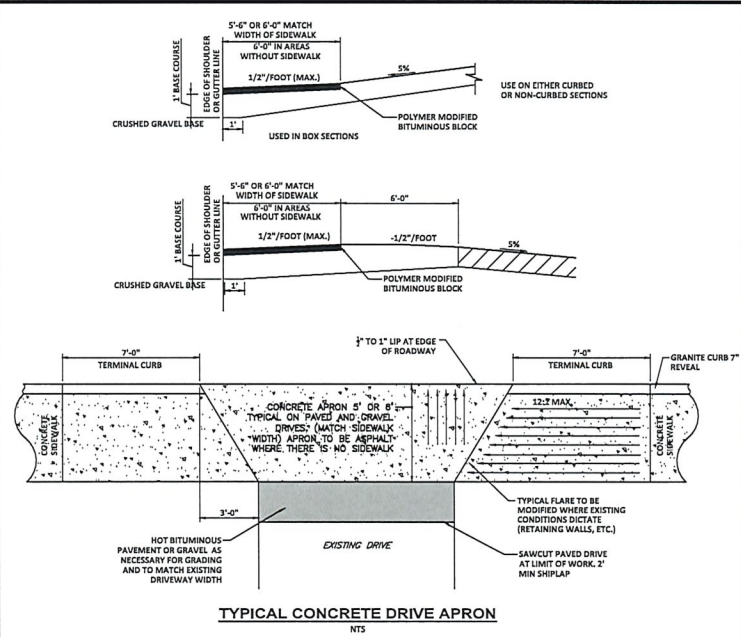
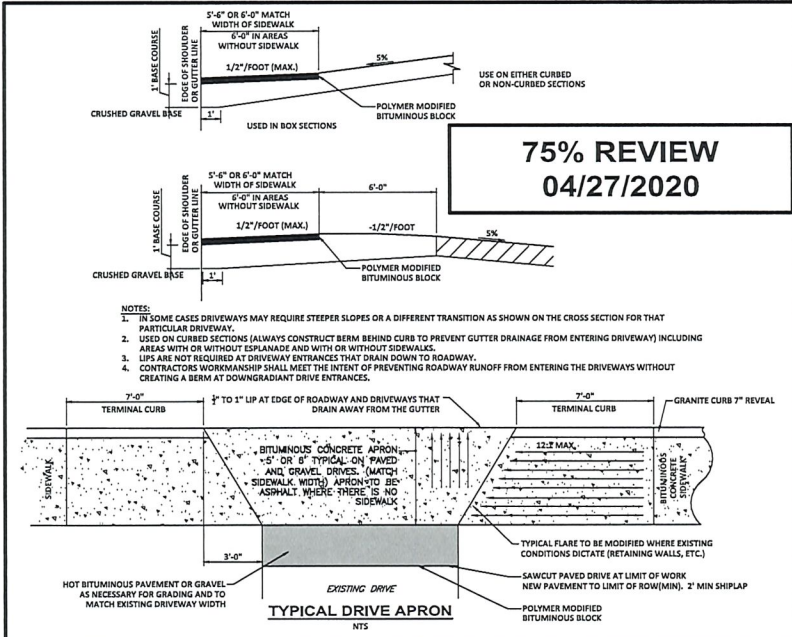
THRUST BLOCK DETAIL
 NTS

NO.	REVISION	DATE
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2	ISSUED FOR CONSTRUCTION	07/14/2020
3	ISSUED FOR AS-BUILT	07/14/2020

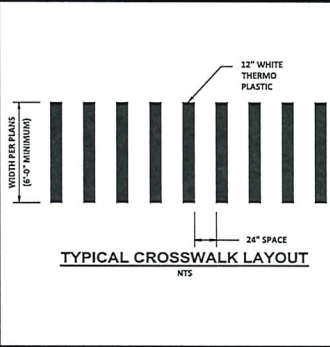
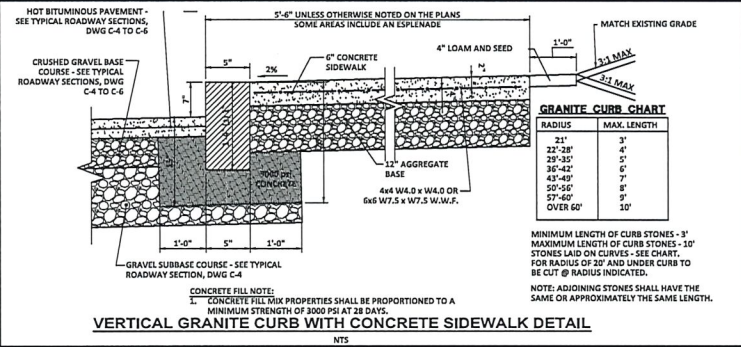
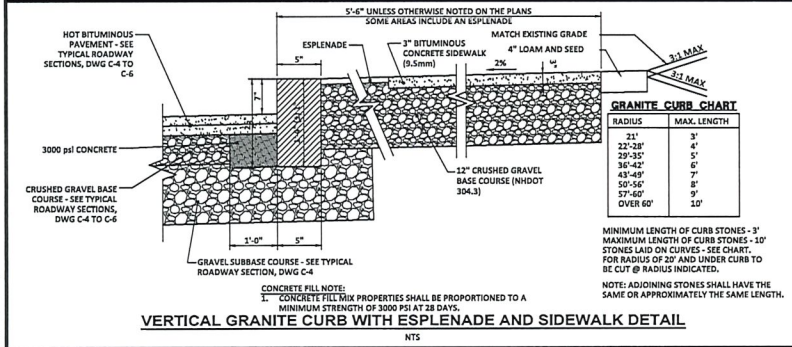
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 COMBINED SEWER SEPARATION
 CONTRACT 13
 ROMANO CIRCLE AREA

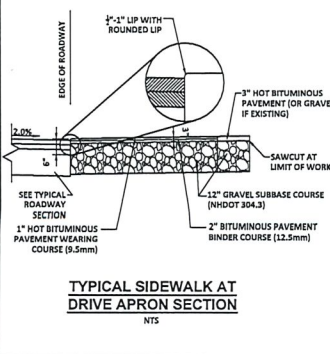
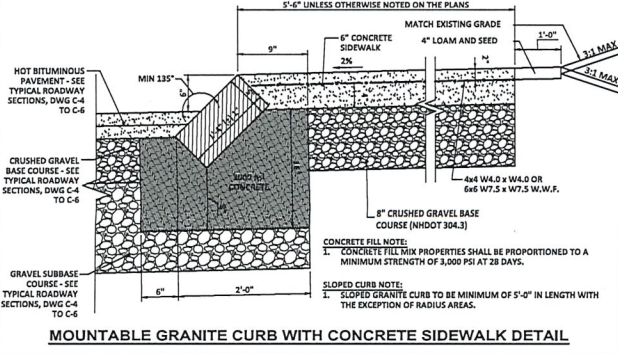
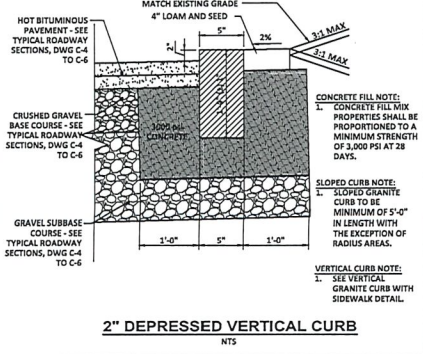
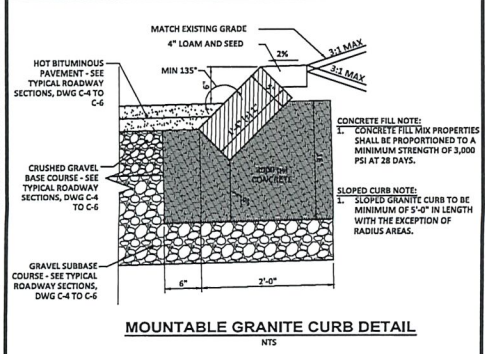
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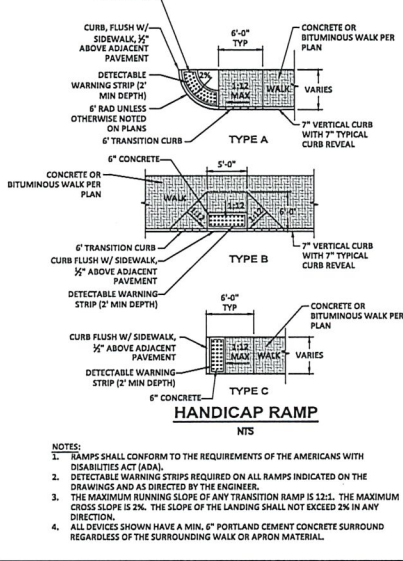
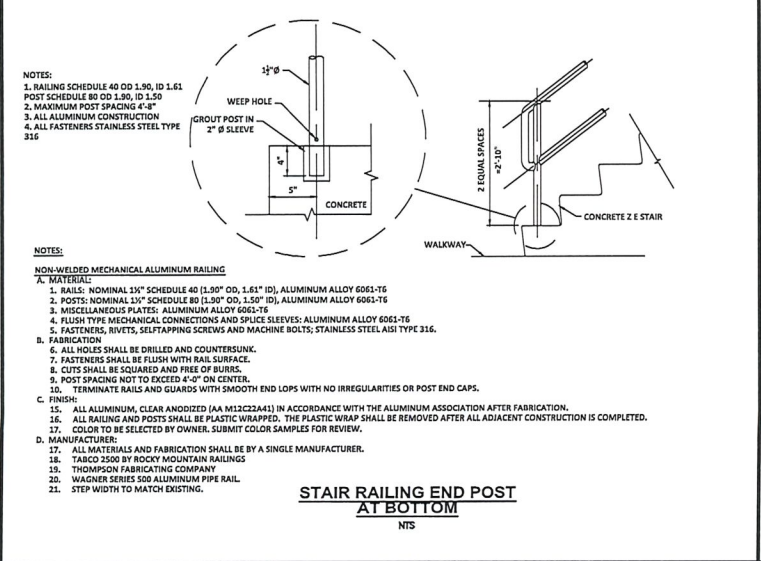
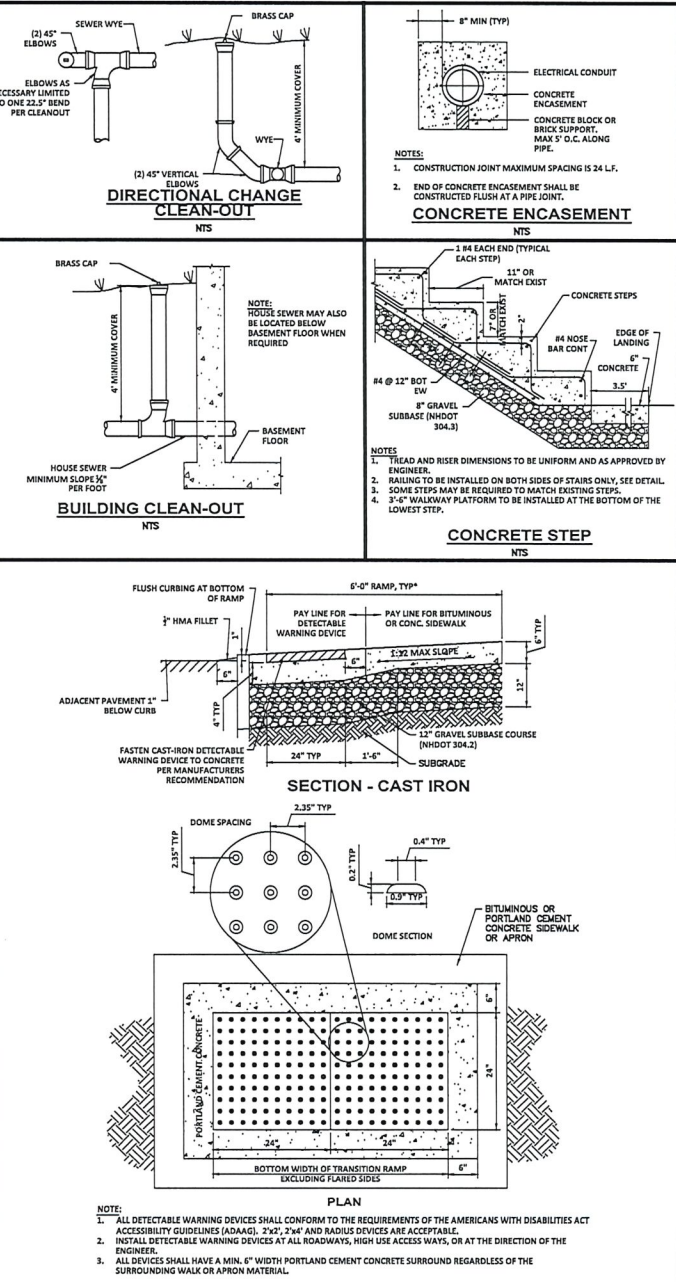
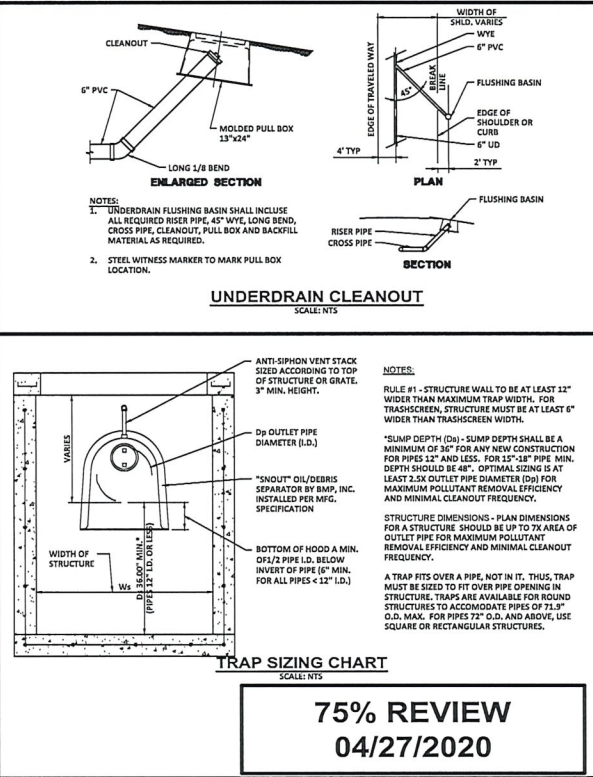
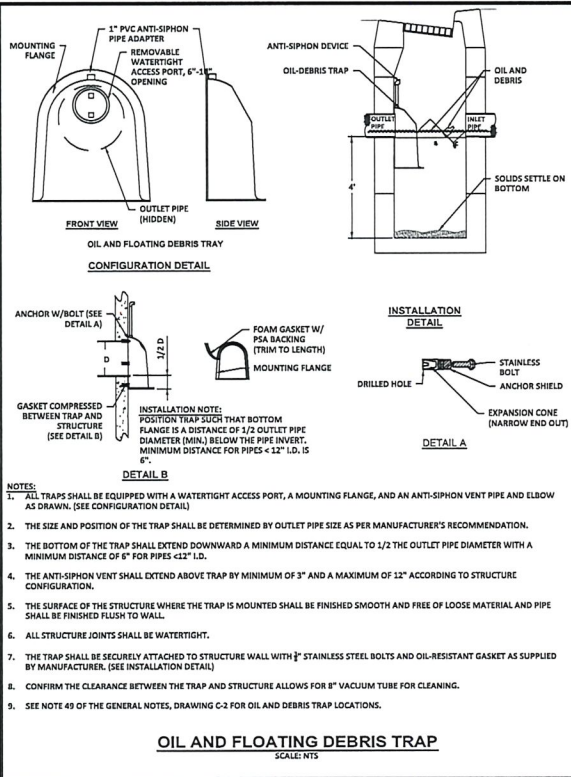
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CITY OF LEBANON, NH COMBINED SEWER SEPERATION CONTRACT 13 ROMANO CIRCLE AREA		DETAILS IV
DRAWING		C-15

1/24/2020 3:48:48 AM JAVELMAKHOUD

1/24/2020 3:48:48 AM JAVELMAKHOUD



DATE	1/24/2020
APPROVED	
SUBMISSIONS/REVISIONS	
NO.	
DESIGNED BY	B. LECHE/STROUD
CHECKED BY	J. JAVELMAKHOUD
DATE	1/24/2020
APPROVED BY	J. JAVELMAKHOUD
PROJECT NO.	20239

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CITY OF LEBANON, NH

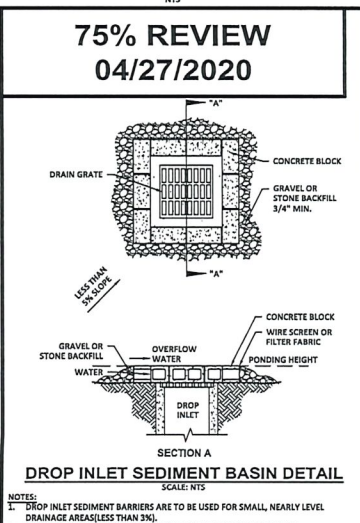
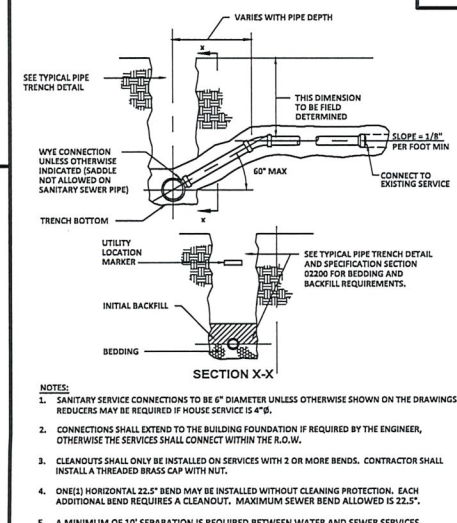
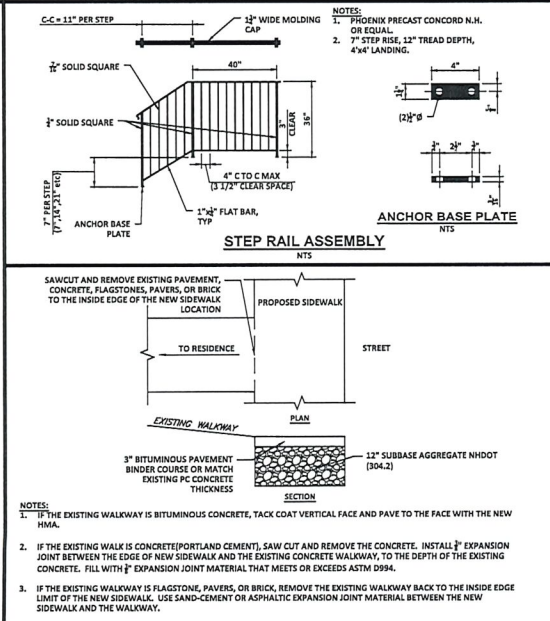
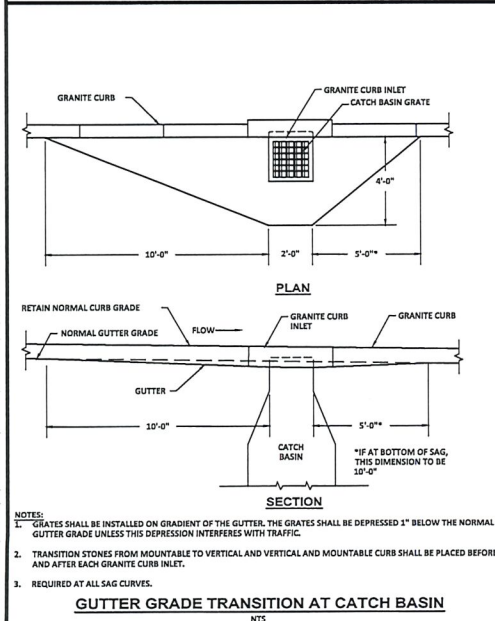
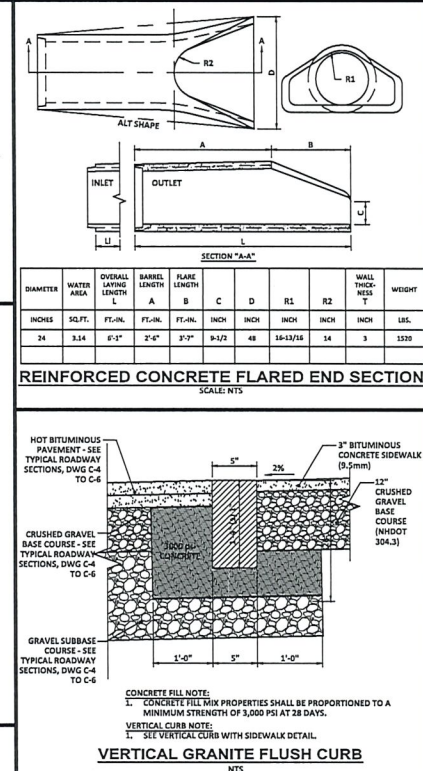
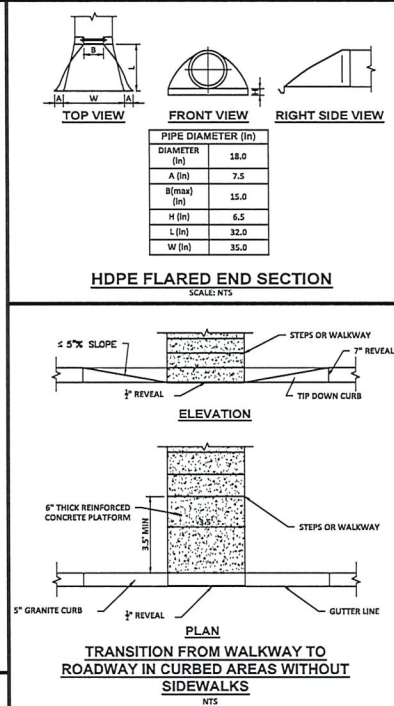
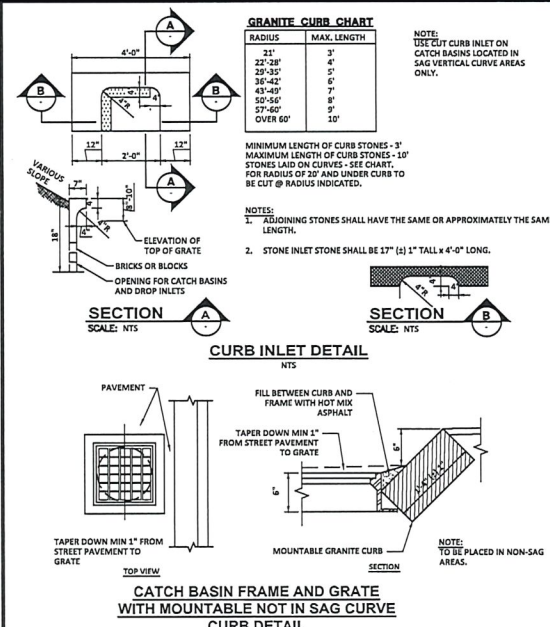
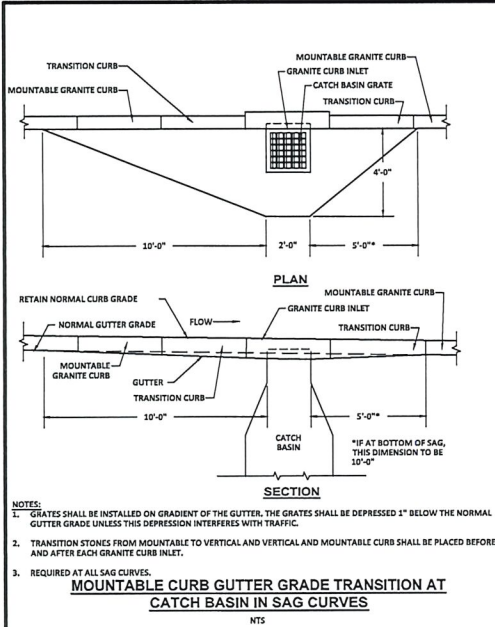
COMBINED SEWER SEPARATION

CONTRACT 13

ROMANO CIRCLE AREA

DRAWING

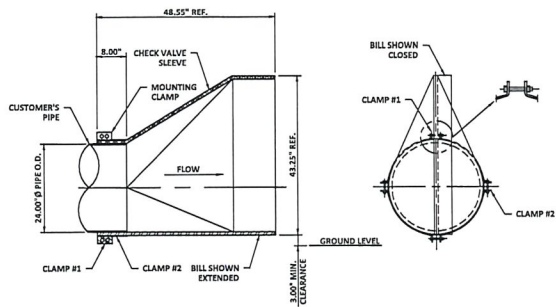
C-16



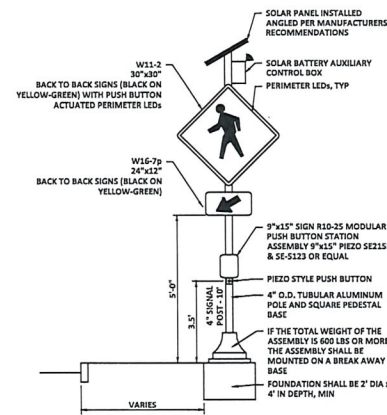
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COMBINED SEWER SEPARATION
CONTRACT 13
ROMANO CIRCLE AREA

DRAWING
C-17



24" TIDEFLEX CHECK VALVE DETAIL
SCALE: NTS



PEDESTRIAN ACTUATED FLASHING BEACON
SCALE: NTS

- NOTES:**
1. FINAL LOCATIONS OF THE CROSSING ASSEMBLY WILL BE COORDINATED IN THE FIELD WITH THE ENGINEER.
 2. TREE TRIMMING NEEDED TO IMPROVE VISIBILITY OF THE CROSSING BEACON SHALL BE INCIDENTAL TO ITEM 616.21.
 3. PUSH BUTTON SHALL BE ORIENTATED TO FACE MOST ACCESSIBLE LOCATION ON ADJACENT SIDEWALK AS DIRECTED BY THE ENGINEER.
 4. CROSSING BEACON FOUNDATION SHALL BE FLUSH WITH ADJACENT SIDEWALK TO ALLOW FOR SIDEWALK FLOW PASSAGE.
 5. POST AND BASE SHALL BE BLACK, POWDER COATED.

75% REVIEW
04/27/2020

CITY OF LEBANON, NH
COMBINED SEWER SEPARATION
CONTRACT 13
ROMANO CIRCLE AREA

DRAWING
C-18

WRIGHT-PIERCE
Engineering a Better Environment
888.621.8156 | www.wright-pierce.com

DATE	REVISIONS	NO	DESCRIPTION
		1	ISSUED FOR PERMIT
		2	ISSUED FOR PERMIT
		3	ISSUED FOR PERMIT
		4	ISSUED FOR PERMIT
		5	ISSUED FOR PERMIT
		6	ISSUED FOR PERMIT
		7	ISSUED FOR PERMIT
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		10	ISSUED FOR PERMIT
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		18	ISSUED FOR PERMIT
		19	ISSUED FOR PERMIT
		20	ISSUED FOR PERMIT

DETAILS V

**Combined Sewer Separation Contract No. 13 Project - Lebanon, NH
NHDES Wetlands Permit Application**

Attachment 10 – Construction Sequence

Construction work associated with the Combined Sewer Separation Contract No. 13 project will include tree removal, demolition of pavement, excavation, installation of new sewer and water mains, installation of stormdrains/outfall, site grading, and reconstruction of roadway. Stabilization of disturbed areas with loam, seed, and complete landscaping will also occur.

The City would like to complete the work as quickly as possible beginning in the Spring 2021. A general sequence of construction activities is detailed below, final schedule will be determined by the owner and contractor upon receipt of permit approvals.

Note: During construction the contractor shall exercise extreme caution not to over expose the site by limiting the disturbed area. During construction the contractor may close the road to through traffic and provide the necessary traffic controls for detouring.

General Schedule:

1. Contractor mobilizes to project area (Spring 2021).
2. Install perimeter silt fence and other applicable erosion and sedimentation controls practices.
3. Remove trees within limit of work prior to June 1, 2021.
4. Remove pavement and excavate soil in necessary areas according to the plans for utility improvements.
5. Install new sewer mains, water mains, storm drains, and outfall.
6. Coordinate with the City of Lebanon for service connections.
7. Perform site grading and reconstruct roadway.
8. Stabilize disturbed areas with riprap, loam, seed, and complete landscaping as indicated on the plans.
9. Install surface course paving.
10. Remove accumulated sediment ahead of any sediment barriers as necessary.
11. Once the site is permanently stabilized remove all temporary erosion control measures.
12. Touch up loam and seed, as needed.
13. Contractor demobilizes from project area.

ATTACHMENT 11
State General Permits

Lebanon Contract 13 – Combined Sewer Separation

STATE GENERAL PERMITS
An EPA NPDES Construction General Permit will be applied for by the contractor at the appropriate time since disturbed area of the overall project will be greater than 1 acre. This will include a Stormwater Pollution Prevention Plan (SWPPP). The USACE Appendix B, New Hampshire General Permits checklist will be submitted along with this application. No comments have been received from any federal agency at this time. A Shoreland Permit by Notification will also be obtained.

**Agenda
Conservation Commission
October 8, 2020**

**Agenda Item #4A
Study Items**

**Alfred & Lorelee West
(Property Owners),
Saxon Partners
(Applicant)
CC202007**



September 24, 2020

Ref: 52616.00

Conservation Commission
City of Lebanon
51 N. Park Street
Lebanon, NH

Re: 343 Mt. Support Road
NHDES Wetland Permit Application
RMFI Follow-On

To Whom it May Concern,

On behalf of our client, Saxon Partners, VHB has prepared the following summary of the current application under consideration by NHDES and requested follow-on actions by the Conservation Commission.

At the July 9, 2020 Conservation Commission meeting, the commission reviewed and commented on the NHDES Wetland Standard Dredge and Fill Application prepared by VHB for the above referenced project. In support of the application, VHB participated in the meeting to provide a general overview and answer questions as needed. At that time, it was noted that the commission had some concerns with the drop structure proposed for the culvert crossing the proposed drive aisle in the area of the stream restoration.

In order to address the concern, the applicant revised the stream layout to accommodate the removal of the 24-inch culvert with drop structure, and replace it with a 4-ft by 4-ft box culvert, consistent with the culvert located immediately downstream at the Mt. Support Road crossing. The revised plan was subsequently submitted to NHDES for review.

As noted in the Request for More Information (RSA 482-A) letter from NHDES dated September 8, 2020, the reviewer requested the following:

17. Confirm whether the conservation commission has provided comments on the revised design with regard to its concern about aquatic organism passage noted in the 7/18/20 minutes.

It is our understanding that the Conservation Commission intends to review this item at the upcoming October 8, 2020 meeting. As such, please find attached the revised plans related to the culvert improvements for your review. VHB and the applicant will be available to participate in the October 8th meeting if that would be helpful.

Engineers | Scientists | Planners | Designers

2 Bedford Farms Drive
Suite 200
Bedford, New Hampshire 03110
P 603.391.3900
F 603.518.7495

Conservation Commission
Ref: 52616.00
September 24, 2020
Page 2



Sincerely,

Vanasse Hangen Brustlin, Inc.

A handwritten signature in black ink, appearing to read "DFenstermacher", with a long horizontal line extending to the right.

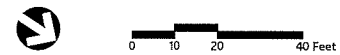
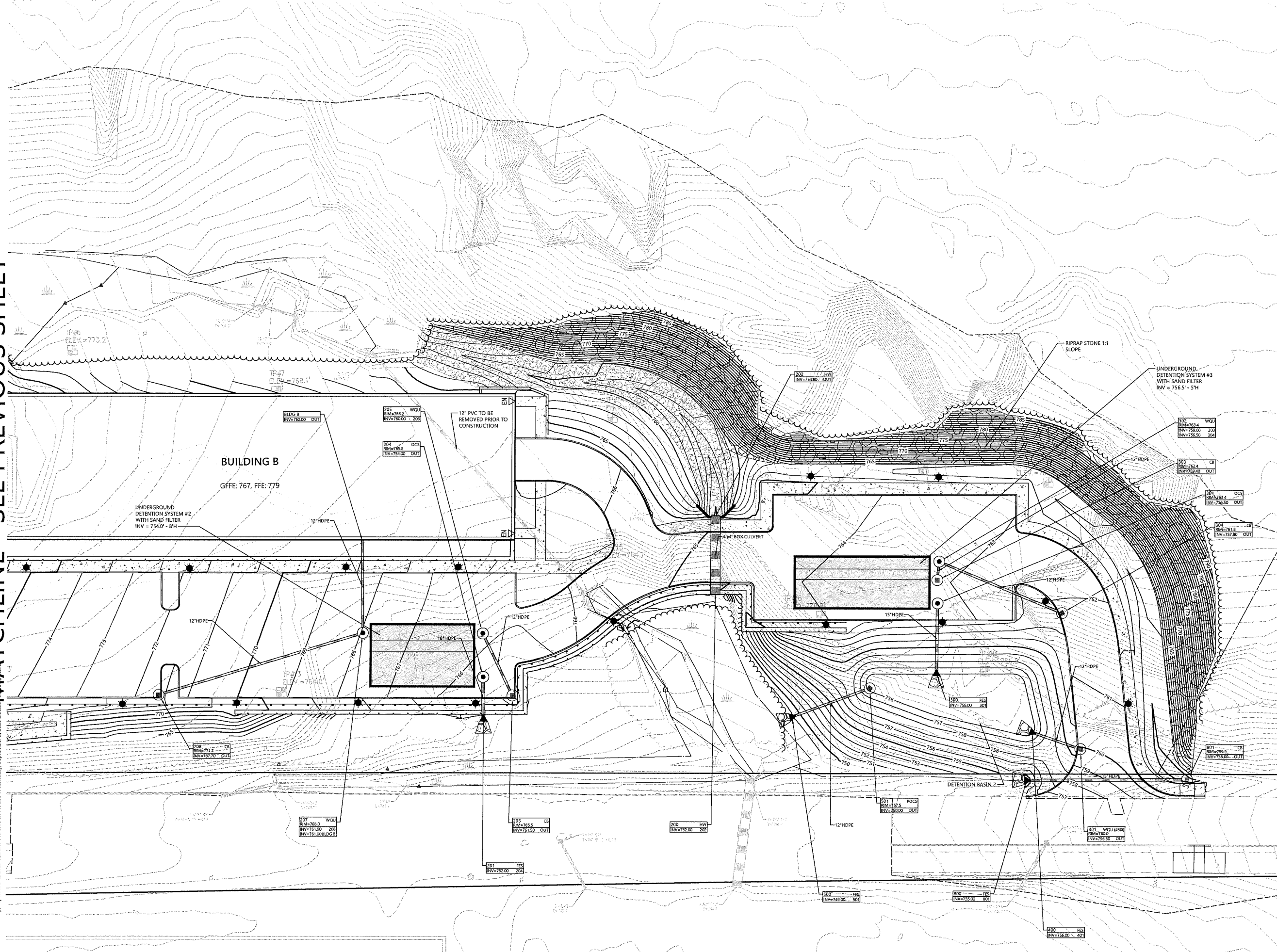
David Fenstermacher, PE

Project Manager

dfenstermacher@vhab.com

CC: Don Smith, Saxon Partners
Phil Hastings, CWBPA

MATCHLINE - SEE PREVIOUS SHEET



**The Marek
at Lebanon, NH**
343 Mount Support Road
Lebanon, New Hampshire

No.	Revision	Date	Appr.
2	RESPONSE TO COMMENTS	4/16/2020	
4	RESPONSE TO CITY ENGINEER COMMENTS	6/4/2020	
5	ALTERATION OF TERRAIN	6/19/2020	
8	NHDES WETLAND RESUBMITTAL	9/2/2020	

Designed by: **EKG** Checked by: **DHF**

Issued for: **Permitting** Date: **March 9, 2020**

Not Approved for Construction

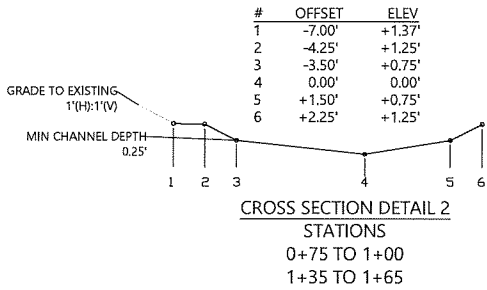
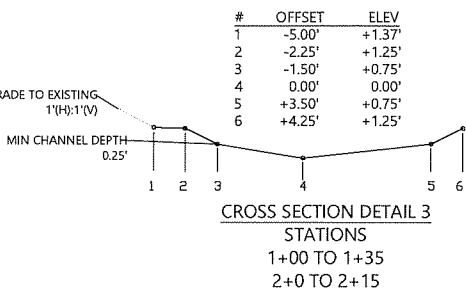
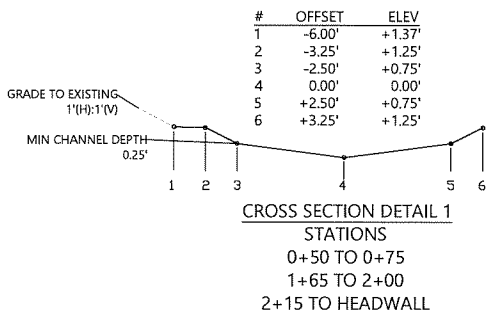
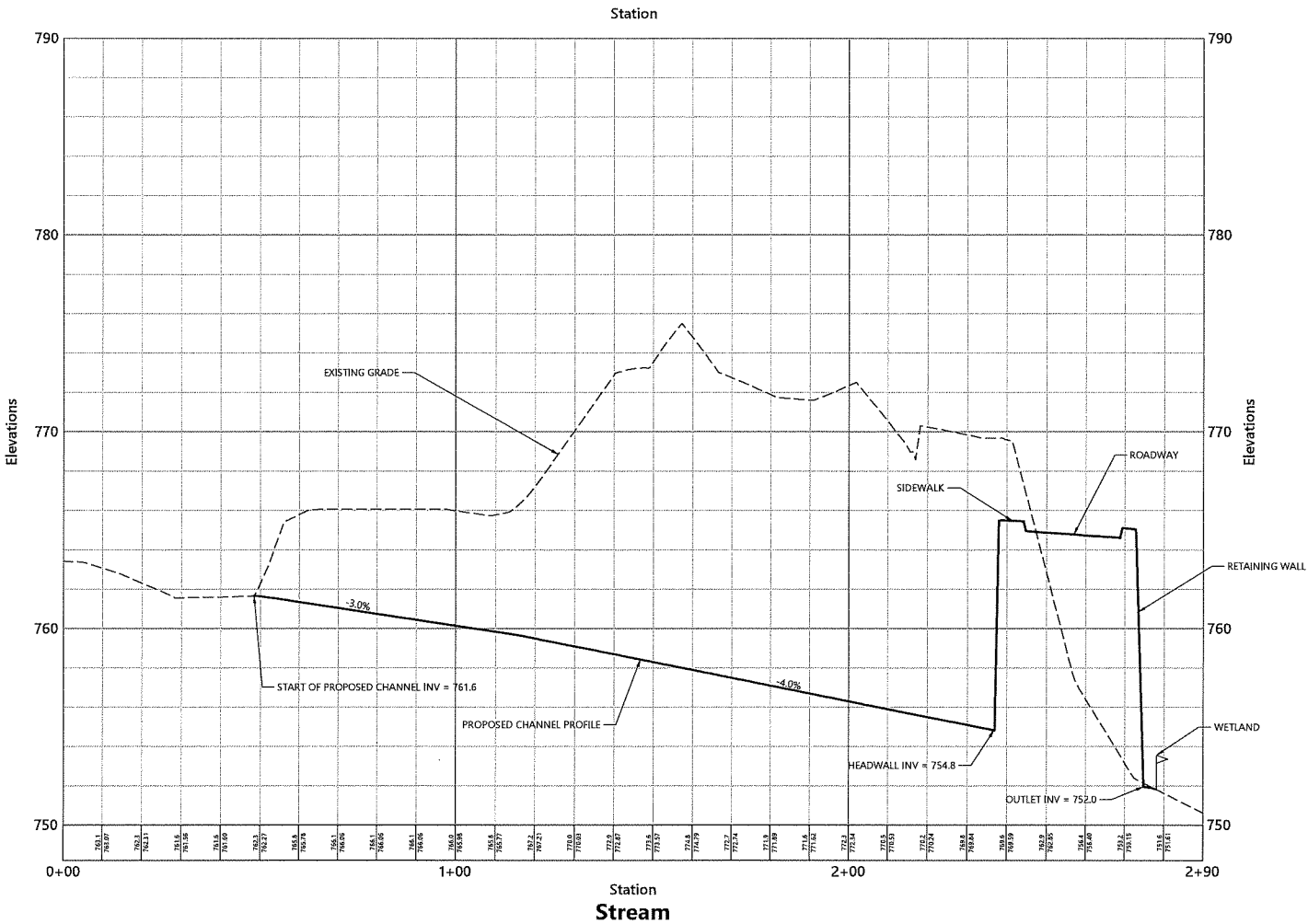
**Grading and
Drainage Plan 2**

Drawing Number
C-4.2

Sheet **07** of **29**

Project Number
52616.00

STATE OF NEW HAMPSHIRE
DAVID H. FENSTERMACHER
No. 13002
LICENSED PROFESSIONAL ENGINEER



PLANTING TABLE			
COMMON NAME	SCIENTIFIC NAME	SIZE/NUMBER	VALUE
HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	18-24"/16	WILDLIFE FOOD SOURCE
SILKY DOGWOOD	CORNUS AMOMUM	18-24"/16	COLORFUL IN AUTUMN
WINTERBERRY HOLLY	ILEX VERTICILLATA	18-24"/16	COLORFUL BERRIES IN FALL/WINTER

- Construction Sequence

1.

COMPLETE GRADING OF THE ADJACENT HILL SLOPE, PROPOSED PARKING AREA AND PROPOSED ACCESS ROAD. STABILIZED ADJACENT GRADED AREAS.

2.

INSTALL EROSION CONTROLS AS DEPICTED ON THE RESTORATION PLAN.

3.

INSTALL THE CULVERT, MANHOLE, HEADWALL AND RETAINING WALL AND COVER WITH COARSE GRADE MATERIAL FOR USE DURING CONSTRUCTION.

4.

GRADE THE CHANNEL IN ACCORDANCE WITH THE RESTORATION PLAN.

5.

COVER THE CENTER OF THE STREAM (5FT FROM 3 TO 5 IN CROSS SECTION DETAIL) WITH A MIXTURE COMPRISED OF 15% BOULDERS, 70% COBBLES AND 10% GRAVEL*. THE BALANCE OF COVERAGE (5-15%) CAN REMAIN UNCOVERED EXPOSING FINE-GRAINED SUBSTRATE.

6.

OUTSIDE OF THE STREAM CHANNEL, THE BANKS SHALL BE SEEDED WITH AN APPROPRIATE WETLAND RESTORATION PLANTING MIX, AS SPECIFIED ON THE PLAN OR EQUIVALENT, AND LIGHTLY MULCHED.

7.

SHRUB PLANTINGS INCLUDING DOGWOOD, Highbush Blueberry and Winterberry or equivalent native riparian plants shall be installed along the stream banks at different elevations and intervals to resemble a more natural planting arrangement. Refer to Planting Table.

8.

RELOCATION OF THE STREAM SHALL BE COMPLETED UNDER LOW FLOW CONDITIONS.

9.

SANDBAGS SHOULD BE USED TO DAM THE STREAM WHILE THE AREA IS REGRADED TO DIRECT THE STREAMFLOW INTO THE NEW CHANNEL. COBBLE AND GRAVEL SHALL BE SPREAD OVER THE NEWLY GRADED PORTION OF THE STREAM TO PREVENT EROSION.

10.

REMOVE THE SANDBAGS AND ALLOW THE STREAM TO FLOW INTO THE RESTORED CHANNEL. MONITOR FOR SIGNS OF EROSION AND ENSURE THE CHANNEL IS STABLE.

11.

RE-ARRANGE COBBLES, AS APPROPRIATE, TO FORM POOLS AND RIFFLES TO MIMIC THE UPSTREAM PORTIONS OF THE CHANNEL.
- Contractor Responsibilities

1.

CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.

2.

CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.

3.

CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.

4.

UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES.

5.

EROSION CONTROL MEASURES TO INSURE THAT SURFACE WATER RUN-OFF FROM UNSTABILIZED AREAS DOES NOT CARRY SILT, SEDIMENT, AND OTHER DEBRIS OUTSIDE OF THE LIMITS OF WORK.

6.

ALL SEEDING SHALL BE AS FOLLOWS (UNLESS OTHERWISE NOTED):

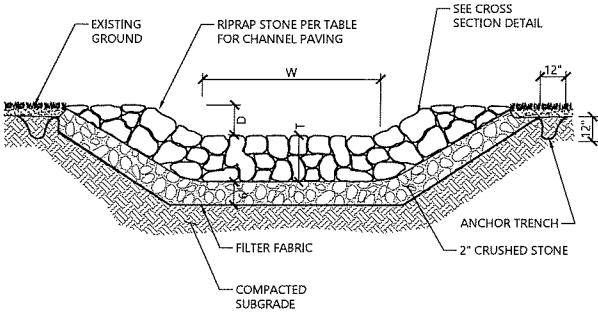
UPLAND PLANTING MIX

"NEW ENGLAND CONSERVATION WILDLIFE MIX" AS MANUFACTURED BY NEW ENGLAND WETLAND PLANTS, INC.

WETLAND RESTORATION PLANTING MIX

"NEW ENGLAND EROSION-CONTROL / RESTORATION MIX (FOR DETENTION BASINS AND MOIST SITES) AS MANUFACTURED BY NEW ENGLAND WETLAND PLANTS, INC., AMHERST, MA. (413) 256-1752

TABLE				
CHANNEL DESIGNATION	W	T	D	STONE DIA. (D ₅₀)
STREAM RELOCATION	5'-0"	1'-3"	1'-3"	64mm-255.9mm



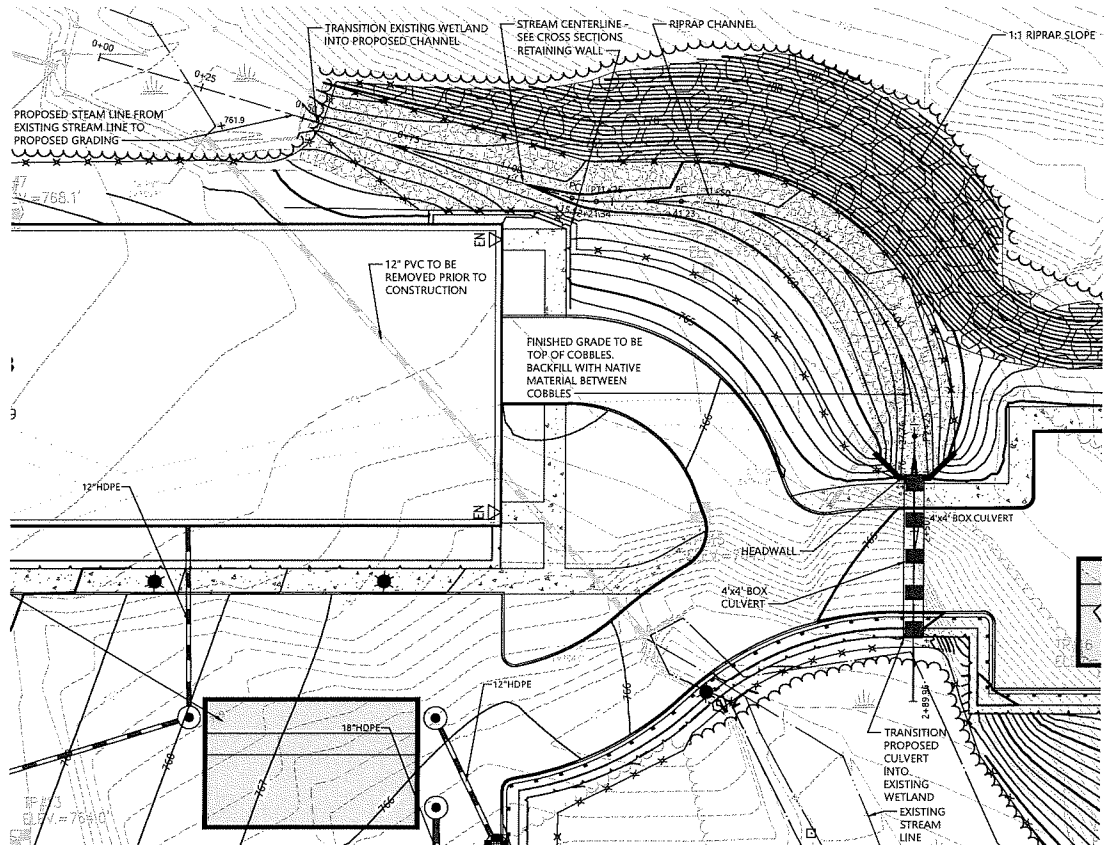
Riprap Channel

N.T.S.

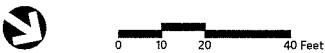
Source: VHB

1/16

LD_170



PLAN
1" = 20'



The Marek
at Lebanon, NH

343 Mount Support Road
Lebanon, New Hampshire

No.	Revision	Date	Appr.
5	RESPONSE TO COMMENTS	6/19/2020	
8	NHIDES WETLAND RESUBMITTAL	9/2/2020	

Designed by	EKG	Checked by	DHF
Issued for	Permitting	Date	March 9, 2020

Not Approved for Construction

Stream Relocation

Drawing Number

C-8

Sheet 13 of 29

Project Number
52616.00