



**LEBANON CONSERVATION COMMISSION
AUGUST 12, 2021 - 6:30 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE**

-
- 1. Call to Order**
 - 2. Approval of Minutes**
 - A. July 8, 2021
 - 3. Permit Review**
 - A. **City of Lebanon** - Final review and Comment on an NHDES Wetland Standard Dredge and Fill Application (Major Impact) associated with construction of a new multi-use path on Lahaye Drive, with a total of 18,337 s.f. of total permanent plus temporary wetland impacts on a 5.93-acre parcel owned by Dartmouth College, under preliminary agreement for easement, located at 0 Mount Support Road, Lebanon, Tax Map 10 Lot 24 Plot 200.
 - 4. Study Items**
 - A. Chapter 134 Scenic Road & the Role of the Con Com
 - B. Chambers Memorial Preserve Property Overview Discussion
 - 5. Committee Reports**
 - A. **Reports from other committees:**
 - Conservation Lands Monitors (Various Members) (10 Minutes)
 - Lebanon Biodiversity Group (D. Lacey) (10 Minutes)
 - Workshops & Educational Opportunities (Various Members) (10 Minutes)
 - 6. Other Business**
 - 7. Future Agenda Items**
 - A. None
 - 8. Open to the Public**
 - 9. Adjournment**

The order of agenda items is subject to change.

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so 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 City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

**Agenda
Conservation Commission
August 12, 2021**

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

July 8, 2021

DRAFT

LEBANON CONSERVATION COMMISSION
REGULAR MEETING MINUTES
City Council Chambers
Remote Via Microsoft Teams
LebanonNH.gov/Live
Thursday, July 8, 2021
6:30 PM

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

MEMBERS ABSENT: NONE

STAFF PRESENT: Mark Goodwin (GIS Coordinator)

1. CALL TO ORDER – Chair Oidtmann called the meeting to order at 6:42 PM

- The rules per 91-A under Covid were suspended by Executive Order. The Commission is meeting in person, except under extenuating circumstances. By a special commission, the State will study and determine if virtual meetings will continue in the future. City policy does not require members of the Public to appear in person.

2. APPROVAL OF MINUTES:

May 13, 2021 Minutes

Mr. Heistad MOVED to approve the May 13, 2021 Minutes presented in the July 8th, 2021 agenda packet with amendments.

Seconded by Ms. Almay.

Amendments: Page 3, Line 5; Correct ‘effect’ to ‘affect.’ Page 3 Line 7; Remove ‘in consideration of wildlife was found,’ and Add ‘were found in the NH Natural Heritage database, but a Conservation Commission member had noted the presence of a rare species. Ms. Brody stated she would very much like to hear more on that. Ms. Owens pointed out that there was a property owner aspect to this and that a representative of the property owner was on the call. At that point, Dan Justynski of Dartmouth introduced himself and indicated he would want to continue the conversation about the rare species off-line. He indicated to Ms. Riley that he would be available to talk early the following week about what she found. Ms. Brody requested that she be kept in the loop too. The last category of impacts are the wetland impacts, which Ms. Brody categorized for all intents and purposes as unavoidable. Page 3, Line 8; Remove ‘but wetland impacts were unavoidable.’ Page 4, Line 18; Remove ‘Conservation’ and Add ‘Commission.’ Page 4, Line 26; Remove ‘who might be the members’ and Add ‘which other boards might want representation’. Page 5, Line 12; Remove ‘Select Board member’ and Add ‘City Council alternate representative’. Page 5, Line 18; Add (having gone from semi-retired to semi-semi-retired). Page 5, Line 33; correct spelling of trailhead and Starr Hill. Page 5, Line 34; Add ‘No Dumping’. Page 5, Line 35; Add ‘by DPW.’ Page 5, Line 38; Add ‘Mr. Lacey’. Page 5, Line 39; Add ‘program had been’. Page 5, Line 40; Remove ‘reported’ and Add ‘had been using the online form to report’.

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

2
3 **June 6, 2021 Minutes**

4
5 *Mr. Lacey MOVED to approve the June 6th, 2021 Minutes as amended and presented in the July 8th,*
6 *2021 agenda packet.*

7 *Seconded by Ms. Almay.*

8
9 Amendments: Page 1, Line 28; Remove ‘come from’ and Add ‘were addressed to.’ Page 2, Line 4; Add
10 ‘but suggested something more similar to the Greg Lewis rules of engagement that had been displayed in
11 the old council chambers.’ Page 2, Line 10; Add ‘clubs of Lebanon and Hanover’. Page 2, Line 15; Add
12 ‘temporarily’. Page 2, Line 18; Add ‘at Boston Lot’.

13
14 * *The Vote on the MOTION was unanimously approved (7-0).*

15
16 **3. PERMIT REVIEW: None**

17
18 **4. STUDY ITEMS:**

19
20 **A. Baker’s Crossing Property Overview Discussion**

21
22 Mr. Lacey sent several documents to the members, pertaining to his research on Baker’s Crossing. He
23 provided a presentation highlighting some of the significant content. Baker’s Crossing is next to the
24 Packard Hill Covered Bridge. The hill above the bridge, heading into town is Packard Hill and it was the
25 site of the old Winona Farm. It was the Packard homestead. He provided an informative, historical
26 background of the farm area down by the current existing bridge. He was unable to discover the reason
27 for the name Baker’s Crossing. The first covered bridge was built in 1878 and when it deteriorated a
28 timber bridge was built. The current bridge, a replica of the 1878 bridge, was built in 1991. That created
29 interest in the bridge and the pasture area as a point of interest.

30
31 Mr. Lacey has been doing a remarkable amount of work to reestablish the trail that is there. He has not
32 found any evidence of protection for the land. The members discussed the Lost Fund regarding the
33 purchase of the property. Eventually the entire \$30,000 purchase price was paid with the Lost Fund.
34 They said that extra protection would be warranted on this property. The City Council is responsible for
35 enabling this Fund; therefore, the protection of the land is vulnerable to the current perspective of the
36 current City Council.

37
38 Previously there was a number of ideas and projects that were initiated or contemplated for the area. Mr.
39 Lacey expressed interest in many ideas that previous commissions considered viable and suitable projects
40 related to the property. The Commission could consider some of these historical ideas for the future. One
41 of the previous owners that Mr. Lacey spoke with expressed interest, saying that she would like to see the
42 field mowed on a regular basis and still allow the protection of the birds and wildlife yet protecting from
43 shrubby growth. Mr. Lacey asked Mr. Rick Vanderpole’s opinion regarding what to do with the field. It
44 provides ecological diversity for animals and birds. The Commission will consider the options for the
45 ecological diversity and a management plan of the field.

46
47 The Commission has several points to consider regarding Baker’s Crossing. 1) How to manage the field.
48 2) Establishing a Conservancy easement. 3) Reclaiming the upper hill pasture. 4) It is prime agricultural
49 asset that should not be destroyed. 4) Setting up recreational activities with other organizations. Other

1 organizations have left behind wires and the area is used for snow mobile trails. NH Fish and Game
2 stocks the river in that area. 5) The Commission could consider acquiring the parcel of land across the
3 Mascoma River, which is wetland. That would make it conserved land on both sides of the river.
4 Currently the Rotary Club uses the area. People park there to go on the river, fishermen use the area, the
5 picnic tables are used, and people access the water. Not many people use the rest of the field or walk in
6 that area. The trail will give people more access to that field.

7
8 Mr. Heistad pointed out that this morning there were three areas where sewage was spouting up on the
9 land and running on the mound. DPW was asked to do some digging to keep it from reaching the river.

10
11 Protection seems to be the most important step for the Commission at this time. An agrarian use could
12 be of interest, such as community gardens. The property is currently owned by the City and recognized
13 for Conservation, but it is not fully protected. It is also good agriculture land which could be available in
14 time of need.

15
16 The Commission members discussed their support to protect the area. No one spoke against protecting
17 the property. The members discussed the Upper Valley Land Trust and if it would be interested in
18 protecting Baker's Crossing, how much would it cost to protect the property, and how does it stack up in
19 priorities. There is roughly \$700,000 in the Lost Fund. There is shoreline protection in place along the
20 river. There are two small brooks that come close to there and it is primarily wetlands. Baker's Crossing
21 is one area that could be useful for offsite mitigation during a flood event. Mr. Goodwin will get an
22 estimate of what it costs to protect the property. The Commission will also keep sight of the potential for
23 a mitigation project that is ready to go.

24
25 Mr. Goodwin discussed the field maintenance and management plan. A mowed field, while pleasing to
26 the eye, is not the best management approach. His personal opinion is that it does not make habitat
27 conservation sense and financially it is costly to mow even once, much less annually or on a regular basis.
28 When it is hayed, it depletes the land. The cost to mow the field comes out of the Commission budget.
29 They need to decide what portion should be brush hogged and how often.

30
31 Barb Hirai suggested adding a sign that explains how the field is being managed and maintained. Sarah
32 Riley said if the Commission has the properties, they need to prioritize what the area will be used for and
33 then determine how the fields and meadows should be managed. It may take funds to make this happen
34 to ensure it is done correctly, purposefully and at the correct time. They might consider prescribed
35 burning.

36
37 The next step for protection is to contact the Upper Valley Land Trust and determine what the cost would
38 be and if the commission wants to spend the money to protect the land. Some members thought it was
39 most important to determine what they currently want to do with the land, before determining if they will
40 protect the land. It is a riparian environment that needs to be protected, as well as the meadow area. They
41 do not have to be protected in the same way.

42
43 To protect the water bank, it is a good idea to have the path parallel to the bank and setback. It is
44 important to maintain a trail and establish it back from the shore. There could be a viewing area that
45 people could use, but that would still protect the bank and shoreline.

46
47 Volunteers could be engaged to continue the arduous work that Mr. Lacey has been doing on the
48 property. This would help establish a trail that could protect the access to the river. There are four points
49 of access that have been established for many years. Mr. Lacey does not think that should be changed
50 and he thinks it is important to work on the invasives and protect the important plants. A loop trail
51 through the meadow could protect the waterline. The loop through the meadow could be moved next

1 year. It sounds as though the Commission agrees that a trail should be maintained and potentially expanded. Perhaps a cooperative extension person could help them make some decisions. Signage along the trail and trail markers may be helpful to people using the trails.

5 The Commission will consider reviewing other properties that have a management plan and other property that might need a plan. They may decide to review one property a month. Chambers has a management plan and there is a fair amount of information. It has a meadow. The unofficial steward and team is the neighbors, with Rainey being the point person. Mr. Goodwin will try to pull together a brief presentation for the next meeting.

5. COMMITTEE REPORTS:

A. Conservation Lands Monitors: NONE

B. Lebanon Biodiversity Group: NONE

C. Workshops and Educational Opportunities:

There is a workshop on Thursday July 22, that was mentioned in the emails today from Crystal.

6. Other Business:

How can the Commission find out more about mitigation options? Barb Hirai would like to make sure it stays in the discussion. An email was sent on June 16th regarding mitigation criteria. When an impact is happening to the wetlands, the applicant must come up with a project or write a check.

Mr. Lacey moved to extend the meeting by 10 minutes.

Seconded by Sarah Riley.

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

Sarah Riley will look for help to learn how to make an active list of mitigation projects. In the past, the process has been to 1st-minimize the impact, 2nd-look for a mitigation project and 3rd-write a check. Members are concerned that people prefer to write a check instead of finding a mitigation project.

The Commission asked about the annual update regarding the balance of the Lost Fund and the transactions that have occurred. Finance will be contacted again to ask for more transparency.

Mark Goodwin gave a great presentation about the Open Space Plan with the current Council.

7. Future Agenda Items: None

8. Open to the Public: None

9. ADJOURNMENT:

Erling Heistad MOVED to adjourn the meeting.

Seconded by Mr. Lacey

No vote was held as the meeting time had expired.

The meeting was adjourned at 9:14 PM.

1
2 Respectfully submitted,
3 Linda Billings
4 Recording Secretary

**Agenda
Conservation Commission
August 12, 2021**

**Agenda Item #3A
Permit Review**

**City of Lebanon
NHDES Wetland Standard
Dredge and Fill Application
0 Mount Support Road,
Tax Map 10
Lot 24 Plot 200**



July 29, 2021
624260

Ernst Oidtmann, Chair
City of Lebanon Conservation Commission
Via email, c/o Mark Goodwin, Planning & Development: mark.goodwin@lebanonnh.gov

Dear Mr. Oidtmann,

This letter is to update the City of Lebanon's Conservation Commission on the current status of the proposed 10'-wide multi-use path along the north side of Lahaye Drive between Mt. Support Road and NH Rt. 120. The project involves the construction of approximately 950 linear feet of a 10'-wide bituminous pathway adjacent to Lahaye Drive between Mount Support Road and NH Route 120, with reconstructed curb ramps and drainage improvements. It also includes minor improvements to the existing intersection of Lahaye Drive and NH RT 120, including curb, crosswalk, median and signal work within the intersection.

The project is intended to connect to the existing sidewalk along Mount Support Road south of the project area, and to the existing sidewalk along Centerra Parkway to the east of the project area, as well as to future facilities anticipated to the west on Lahaye Drive and north on Mount Support Road. A preliminary study was performed which found that wetland impacts along alternative alignments on the north and south sides of Lahaye Drive would not differ significantly in wetland impacts. Therefore, the northern alignment was chosen, as it is a better fit with existing infrastructure. The chosen alignment will be immediately adjacent to the north side of Lahaye Drive, thus minimizing wetland impact and preventing wetland fragmentation. Wetland impacts were further minimized by the use of headwalls at culvert outlets. The hydraulic connections into and out of the wetland on the north side of Lahaye Drive will be maintained by the extension of existing culverts. Project demarcation fencing will limit construction activities to the area required to accomplish the work, and silt fence will be installed along the edge of the project before commencement of construction, will be maintained during construction, and will be removed following establishment of permanent erosion control measures.

A preliminary information package for the project was sent to the ConCom on May 5, 2021, and was reviewed in a video conference with the ConCom, the City and the Wetlands Scientist and Engineer consultants from DuBois & King, Inc. on May 13, 2021. As previously noted, no stream crossings, Section 106 historic or archeological resources, or mapped priority resource areas, prime wetlands, highest ranking wildlife habitat, are involved. Aside from City land, there will be impacts on Dartmouth College land. The College is in favor of the project.

The Standard Dredge and Fill Wetlands Application has been updated for the project and was submitted to the NH Wetlands Bureau on July 22, 2021. The project will impact a total of 18,337 SF of wetland, as shown on the attached Wetlands Impacts Plan, Exhibit 1. Permanent impacts are due to fill for the construction of the path and culvert extensions. Temporary impacts are due to removal of trees to facilitate construction of the path and culvert extensions. A complete copy of the application is included for your reference (Exhibits 2 and 3). The application sent to the NH Wetlands Bureau included the following changes from the Draft application sent to you for the May 13 meeting:

1. The plans were updated as follows:
 - The chain link fence was replaced with split rail fence with openings to facilitate movement of wildlife.
 - The erosion protection at the culvert inlet/outlets was changed such that stone will be buried a few inches below final grade and covered with grubbing materials to be seeded and mulched.
 - The one-foot-wide mow zone at the outside toe of the new slope of the path was eliminated to reduce impacts to wetland functions and values.
 - Slopes of fill were changed from 1V:3H to 1V:2H throughout to minimize wetland impacts.
2. The application was updated as follows:
 - The wetland impacts were reduced from 18,642 SF to 18,337 SF.
 - The coordination with the US Fish and Wildlife Service (USFWS) was updated to allow for review of the potential for cutting of trees of northern long-eared bat habitat value during any season. The USFWS issued a letter, dated June 28, 2021, which confirmed that the project may proceed with cutting during any season provided that the mitigation measures outlined in their LAA Consistency Letter of June 3, 2021 are followed. These mitigation measures have been incorporated as Environmental Commitments in the NHDOT NEPA Categorical Exclusion document, will be added to the Project Specifications, and will be reviewed with all potential contractors at the pre-bid meeting.
 - Coordination with the NH Natural Heritage Bureau (NHB) was referenced in regards to the presence of the NH rare plant, barren strawberry (*Geum fragarioides*). An email response from NHB detailing mitigation measures to be incorporated was forwarded to the NH Wetlands Bureau upon receipt (Exhibit 4).
 - A table showing projected costs and wetland impacts from an Alternatives Presentation of 06.03.18 was added.
 - The area of potential impact to emergent wetland was calculated for the alternatives north and south of Lahaye Drive (Vegetative community types mapping).

- No project proponent or City of Lebanon compensatory mitigation sites were identified which would be suitable for the project and available in a workable timeframe. Therefore, the project's wetland impacts will be mitigated through an In-Lieu fee, established by the NH Wetlands Bureau as \$67,958.99. The updated calculation is provided in Exhibit 5.

In addition to the information provided in the Wetlands Application, we are providing you with updated Wetlands Impacts Plans (Exhibit 1) which are annotated to assist you in deciphering the meaning of the various lines on the plans. We recommend that you print these plans out for ease of viewing in advance of the ConCom meeting to facilitate your review and discussion at the meeting.

In regards to the rare plant, *Geum fragarioides* (barren strawberry), we mapped the plant within and near the project area (including on the south side of Lahaye Drive), and submitted a Rare Plant Review Report, dated 07.08.21, to the NH NHB (Exhibit 6). We then coordinated with NHB regarding the potential impacts to the species. All of the plants within the project area are within the temporary impact zone, where impacts would be limited to the removal of trees. NHB requested that tree removal be accomplished during the cold weather season, beginning not earlier than November 1, so that the plants would be in their dormant stage at the time of cutting. NHB also requested that any equipment to be employed within the temporary impact zone in the vicinity of the plants should be tracked to minimize soil disturbance. The City has agreed to these conditions, which will be incorporated into the Project Specifications. Upon assurance of agreement to these conditions, the NHB stated that no further mitigation efforts are required for protection of the species (see attached email from Jessica Bouchard of NH NHB, dated 07.26.21, Exhibit 4).

A pre-application meeting with the NH Wetlands Bureau occurred on May 19, 2021. The meeting minutes, annotated on 07.27.21 to show responses to Wetlands Bureau questions, is attached as Exhibit 7.

A preliminary review meeting with the Lebanon Conservation Commission was held on May 13, 2021. The final minutes from that meeting are attached (Exhibit 8). We have addressed the comments from that meeting by updating the SF of impacted wetland, providing plans with the linework clarified, verified that the 36" culvert does not need to be replaced and that the proposed culvert extensions will not change the hydrologic regime of the wetland, updating the coordination with USFWS regarding the northern long-eared bat, mapping the rare plants and coordinating with NH NHB, steepened the slopes, buried the stone at the culverts, verified that no alternative mitigation opportunities were available, and changed the fence from chain link to split rail.

The project will likely need to be submitted for a Special Exception from the Zoning Board of Adjustment Review under Zoning Criteria Section 401.5 A-G. The wetland is not identified by

City mapping as high or very high value; therefore, a Special Exception may be requested. Criteria A-G are addressed below.

- A. The project cannot be carried out on a portion or portions of the lot which are outside of the Wetlands Conservation District. The project is intended to provide non-motorized access along Lahaye Drive, and therefore cannot be located on another portion of the property. Lahaye Drive has extensive wetland on either side in the vicinity of the project, so relocating it to the south side of the road would not avoid wetland impacts.
- B. The multi-use path does not conform to any of the uses allowed as permitted uses under Section 401.4 of the Zoning Criteria. The project requires a Standard Dredge and Fill permit from the NH Wetlands Bureau. The path therefore requires a Special Exception under this section.
- C. Regarding Section 401.1 (A), the project cannot be located so as to preserve the entire wetland at the site while still achieving the project purpose of providing non-motorized access along Lahaye Drive.

Regarding 401.1 (B), the project includes the treatment of stormwater runoff from Lahaye Drive by routing it along grassy swales, thus limiting pollution of surface or ground water. While the wetland is not classified by the City as high or very high value, it does provide habitat for the State rare species, *Geum fragarioides*, barren strawberry. This species was mapped along both sides of Lahaye Drive in the spring of 2021. Of a total of 1,174 plants identified in the area, 980 were located on the south side of the drive and 194 on the north (project) side. Of the 194 on the project side, 38 were mapped within the impact area of the project. The NH NHB has identified mitigating measures to protect the plants in the project area, including a time-of-year restriction on cutting of trees and the requirement for use of tracked vehicles in the vicinity of the plants to avoid soil disturbance. The City has agreed to these requirements, and NHB has confirmed that with these protections in place, the species is adequately protected and no further mitigation is required. The existing culverts which currently maintain the hydrology, and therefore the wetland vegetative communities, will be extended to accommodate the path, but will be of the same size and invert elevations such that the hydrologic regime of the wetlands is not expected to change. Wetland compensatory mitigation opportunities were sought by the City through the adjacent landowner and the City of Lebanon Conservation Commission, but no appropriate sites were identified. Therefore, wetland compensatory mitigation will be in the form of an In-Lieu Fee to the Aquatic Resource Mitigation Fund in the amount of \$67,958.99.

Regarding 401.1 (C), the project will not cause unnecessary or excessive expenses to the City of Lebanon for essential services and utilities. Rather, the project will provide the service/utility of a non-motorized access route which will protect the safety of pedestrians and bicyclists travelling along Lahaye Drive.

- D. The project does not involve the construction of pipelines, powerlines or other transmission lines.
- E. The project will not create a hazard to individual or public health, safety and welfare. It will improve the safety of pedestrians and bicyclists using the Lahaye Drive corridor between Mount Support Road and NH Rt. 120.
- F. An application for a NH Standard Dredge and Fill permit was submitted on July 22, 2021. A pre-application meeting occurred on May 19, 2021. The attached meeting minutes, annotated on July 27, 2021, (Exhibit 7) indicate that the concerns of the NH Wetlands staff have been addressed.
- G. The Best Management Practices in Appendix A of the City of Lebanon Zoning Ordinance #2 pertaining to forestry, agriculture, ground water, trails and regulated substances do not apply to this project. Surface water will be protected by collection from the road and path and routing through a grass-lined swale which will function as a water quality treatment measure.

The project schedule has been updated as follows:

- The NEPA Categorical Exclusion decision and NH DOT Preliminary Design comments are expected very soon.
- The Notice to Proceed with Final Design is expected from NH DOT this fall.
- NHDES Wetlands has 60 days from wetland application submittal on 7/23/21 to provide its decision, thus by 9/23/21. Concurrent review by the US Army Corps of Engineers has been requested.
- Once the application has been approved, the City has 120 days to pay the mitigation fee.
- A City of Lebanon ZBA Special Exception application will be prepared this fall, following State Wetlands application approval.
- The City intends to draft the bid documents late in 2021.
- The City intends to advertise in early 2022 for construction in FHWA FY203, thus as early as November 2022 for the vegetation clearing aspects.

We will be happy to make a presentation to the Conservation Commission at your next meeting on August 12. Meanwhile, if you have any questions or comments, please do not hesitate to contact me at cbrodie@dubois-king.com, or by telephone at 802-777-5272. We look forward to coordinating with you on this project.

Very truly yours,



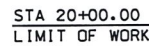
Charlotte Brodie
Field Naturalist

ConComm Submittal for August 19, 2021 Meeting,
List of Exhibits

1. Wetland Impacts Plans, annotated 07.27.21
2. NHDES Wetlands Application, main file (minus full project plans, to be sent separately)
3. NHDES Wetlands Application, additional files
4. Email response from NH NHB, Jessica Bouchard,
5. Updated In-Lieu Fee Calculation, 07.26.21
6. Rare Plant Review Report, 07.08.21
7. NHDES Wetlands Pre-Application minutes, annotated, 07.27.21
8. 2021-05-13 Lebanon ConComm final meeting minutes

[illegible]

Annotated 07.27.21



- NOTES:
- | | |
|--|------------|
| 1. PROPERTY AND R.O.W. LIMITS ARE APPROXIMATE. NO SURVEY BOUNDARY WORK HAS BEEN CONDUCTED. | 2-16 AC. ± |
| 2. WETLAND DELINEATION PERFORMED BY CHARLOTTE W. BRODIE OF DUBOIS & KING ON MAY 10, 2017. | |
| 3. SURVEY WORK PERFORMED BY DUBOIS & KING ON MARCH 15, 2018. | |
- THE WETLAND IS PALUSTRINE EMERGENT (PEM) AND PALUSTRINE FORESTED/SCRUB SHRUB (FPD/SS).
PLANT COMMUNITY IS WETLAND WITH WETLAND PLANT SPECIES. SENSITIVE PLANT SPECIES INCLUDE RED CANARY GRASS, PURPLE LOOSESTRIFE, DARK GREEN BULRUSH, MEADOWSWEET, YELLOW GREY BULRUSH, ALDER, REEDER DOGWOOD, BUCKTHORN, AND BALSAM FIR.
- THIS PROJECT AREA IS OUTSIDE THE 100-TR. FLOODPLAIN.



CITY OF LEBANDON, NEW HAMPSHIRE

WETLAND IMPACTS PLAN 01

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
wetland impacts	41366	1	3

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, Rebecca Owens **TOWN NAME:** Lebanon

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): - NHB Project ID #: NHB21-1710	☐ 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): - A copy of the application was sent to the LAC on Month: Day: Year:	

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

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

www.des.nh.gov

NHDES-W-06-012

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	☐ Yes ☒ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☒ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): 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 purpose of this project is to safely convey bicycle and pedestrian traffic within the Lahaye Drive corridor in Lebanon, NH, between the Mt. Support Road intersection and existing and proposed facilities adjacent to the NH Route 120 intersection. Average daily traffic on Lahaye Drive and NH 120 are approximately 5,000 vpd and 19,000 vpd, respectively within the project area. Multi-lane vehicular traffic with minimal shoulder widths discourages bicycle and pedestrian use along the roadway and the location is surrounded by a high intensity of existing and new development. The proposed project will construct approximately 950 linear feet of a 10-foot wide bituminous multi-use path along the north side of Lahaye Drive. Related additions include reconstructed curb ramps, drainage improvements and minor improvements to the existing intersection of Lahaye Drive and NH Rt 120, including curb, crosswalk, median and signal work within the intersection. Temporary and permanent impacts are involved, as shown on the Wetland Impact Plans. Mitigation opportunities were investigated. Project proponent-sponsored mitigation is not feasible, since the City owns only a narrow band of right-of-way along Lahaye Drive. A preliminary meeting with the Lebanon Conservation Commission was held on May 13, 2021. The ConComm had no sites to offer as mitigation (see attached meeting minutes). Therefore, mitigation will be in the form of payment to the ARM fund. The attached ARM calculator indicates a \$44,733.31 fee required. Once confirmed by DES Wetlands, the fee will be submitted. The Project Planning Tool did not identify any Priority Resource Areas in the project area. The landowner (Dartmouth College Trustees) is aware that a NH Natural Heritage Bureau report is being filed. The applicant and landowner (Dartmouth College Trustees) are working together on the terms of an easement.	
SECTION 3 - PROJECT LOCATION	
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: Lahaye Drive	
TOWN/CITY: Lebanon	
TAX MAP/BLOCK/LOT/UNIT: 10-24-200, 10-24-2,	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME:	
☒ N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	43.67345° North -72.26274° 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, Attn: Rebecca Owens Note: Applicant is also property owner of right-of-way.

MAILING ADDRESS: 51 N. Park St., Attn: Planning & Development

TOWN/CITY: Lebanon

STATE: NH

ZIP CODE: 03766

EMAIL ADDRESS: rebecca.owens@lebanonnh.gov

FAX: [REDACTED]

PHONE: 603-442-6138

ELECTRONIC COMMUNICATION: By initialing here: RO, 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.: Brodie, Charlotte, M.

COMPANY NAME: DuBois & King, Inc.

MAILING ADDRESS: 6 Green Tree Drive

TOWN/CITY: South Burlington

STATE: VT

ZIP CODE: 05403

EMAIL ADDRESS: cbrodie@dubois-king.com

FAX: [REDACTED]

PHONE: 802-777-5272

ELECTRONIC COMMUNICATION: By initialing here CB, 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: Dartmouth College Trustees

MAILING ADDRESS: PO Box 5188

TOWN/CITY: Hanover

STATE: NH

ZIP CODE: 03755

EMAIL ADDRESS: daniel.j.justynski@dartmouth.edu

FAX: [REDACTED]

PHONE: 603-646-2654

ELECTRONIC COMMUNICATION: By initialing here DJ, 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):

No stream crossings, coastal resources, prime wetlands. Project footprint minimized by the use of headwalls at culverts, steepening the slopes from 1V:3H to 1V:2H throughout. Based upon DES Wetlands comments, stone pads at culvert inlet/outlets have been eliminated, replaced by biodegradable erosion control with seeding and mulching, and mowing at toe of slope has been eliminated. During the planning process, the potential wetland impacts on either side of Lahaye Drive were estimated to be 17,500 SF on the north side of the road and 16,700 on the south side. Since the impacts were similar, the northern alignment was chosen because of the better fit with existing and proposed infrastructure. The amount of open emergent wetland to be impacted on the north side of the road is 170 LF, whereas the amount of open emergent wetland on the south side is 41 LF. However, on the north side, the open emergent marsh gives way to FO/SS wetland on either side, whereas on the south side, there is an additional amount of 202 LF of EM/SS on either side of the open emergent area. If the emergent cover of the EM/SS is included in the emergent wetland calculation, then the comparison is 170 LF on the north side and 243 LF of emergent wetland on the south side. See attached Vegetative Cover Type exhibit. Project construction sequence will be as follows: Demarcation fence and silt fence will be installed prior to construction, maintained during construction, and removed following establishment of permanent erosion control measures. This erosion control approach helps to reduce project impacts, including any to vegetation beyond the construction boundaries.

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: 05 Day: 19 Year: 2021

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

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

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

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland	10772		☐	4515		☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland	2322		☐	758		☐
	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		13,094			5273		

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:

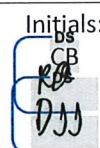
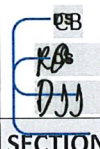
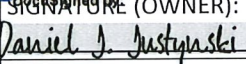
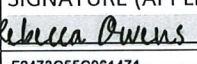
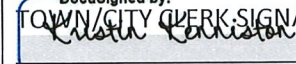
Permanent and temporary (non-docking):	18,367 SF	×	\$0.40 =	\$ 7346.80
Seasonal docking structure:	SF	×	\$2.00 =	\$
Permanent docking structure:	SF	×	\$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =				\$
Total =				\$ 7346.80

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The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 7346.80		
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: 	To the best of the signer's knowledge and belief, all required notifications have been provided.	
Initials: 	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: 	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: 	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.	
SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)		
SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: Dartmouth College Trustees, Attn: Daniel Justynski	DATE: 7/9/2021
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): 	PRINT NAME LEGIBLY: City of Lebanon, Attn: Rebecca Owens	DATE: 7/9/2021
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: DuBois & King, Inc., Attn: Charlotte Brodie	DATE:
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: 	PRINT NAME LEGIBLY: Kristin Kenniston	city clerk

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TOWN/CITY: Lebanon	DATE: 7/13/2021
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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".

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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](#).

- ☒ 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 2,000 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)).

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- ☐ For all projects in the protected tidal zone, a copy of the recorded deed with book and page numbers for the property (Env-Wt 311.06(e)).
- ☒ If the applicant is not the owner in fee of the subject property, documentation of the applicant's legal interest in the subject property, provided that for utility projects in a utility corridor, such documentation may comprise a list that:
 - (1) Identifies the county registry of deeds and book and page numbers of all of the easements or other recorded instruments that provide the necessary legal interest; and
 - (2) Has been certified as complete and accurate by a knowledgeable representative of the applicant (Env-Wt 311.06(f)).
- ☒ The NHB memo containing the NHB identification number and results as well as any written follow-up communications such as additional memos or email communications with either NHB or NHF&G (Env-Wt 311.06(g)). See [Wetlands Permitting: Protected Species and Habitat Fact Sheet](#).
- ☒ A statement of whether the applicant has received comments from the local conservation commission and, if so, how the applicant has addressed the comments (Env-Wt 311.06(h)).
- ☐ For projects in LAC jurisdiction, a statement of whether the applicant has received comments from the LAC and, if so, how the applicant has addressed the comments (Env-Wt 311.06(i)).
- ☐ If the applicant is also seeking to be covered by the state general permits, a statement of whether comments have been received from any federal agency and, if so, how the applicant has addressed the comments (Env-Wt 311.06(j)).
- ☒ [Avoidance and Minimization Written Narrative](#) or the [Avoidance and Minimization Checklist](#), or your own avoidance and minimization narrative (Env-Wt 311.07).
- ☐ For after-the-fact applications: information required by Env-Wt 311.12.
- ☐ [Coastal Resource Worksheet](#) for coastal projects as required under Env-Wt 600.
- ☐ Prime Wetlands information required under Env-Wt 700. See [WPPT](#) for prime wetland mapping.

Required Attachments for Minor and Major Projects

- ☒ [Attachment A: Minor and Major Projects](#) (Env-Wt 313.03).
- ☒ [Functional Assessment Worksheet](#) or others means of documenting the results of actions required by Env-Wt 311.10 as part of an application preparation for a standard permit (Env-Wt 311.03(b)(3); Env-Wt 311.03(b)(10)). See [Functional Assessments for Wetlands and Other Aquatic Resources Fact Sheet](#). For shoreline structures, see shoreline structures exemption in Env-Wt 311.03(b)(10)).

Optional Materials

- ☐ [Stream Crossing Worksheet](#) which summarizes the requirements for stream crossings under Env-Wt 900.
- ☐ Request for [concurrent processing of related shoreland / wetlands permit applications](#) (Env-Wt 313.05).

Lahaye Drive Multi-Use Path
NHDES Wetlands Application Table of Contents

1. Wetlands Application Table of Contents
2. Wetlands Application Attachment A
3. COE Appendix B Checklist
4. Avoidance and Minimization Checklist
5. COE Functions and Values Evaluation Form
6. Functions Assessment Worksheet
7. Section 106 clearance
8. USGS Location Map
9. Tax map
10. Photo Exhibit
11. Wetland Impacts Plan
12. GRANIT map
13. NHB DataCheck Tool Results
14. USFWS IPaC LAA Documentation Letter, 06.03.21
15. USFWS Reliance on BO approval 06.28.21
16. NOAA Fisheries ESA Mapper Results
17. Highest Ranked Habitat Map
18. Wildlife and Vegetation Diversity Lists
19. Landowner (Dartmouth College) Agreement with Project, 05.04.21
20. NHDES Wetlands Project Planning Tool Map
21. Pre-Application Mitigation Meeting Notes
- ~~22.~~ Lebanon Conservation Commission Draft 2021-05-13 Meeting Minutes *removed - see final minutes at LebanonNH.gov*
23. Alternatives Presentation Meeting 6-13-18, Wetland Impacts
24. Vegetative Cover Type Mapping, May 2021
25. Wetlands Arm Fund Calculator, 06.28.21
26. Abutter list to northern parcel
- ~~27.~~ Preliminary Project Plans, 2021-06-30 *Refer to exhibit 11*

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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'S NAME: **City of Lebanon; Rebecca Owens** TOWN NAME: **Lebanon**

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the [Avoidance and Minimization Narrative](#) or [Checklist](#) that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

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.

PROJECT IS INTENDED TO CONNECT SIDEWALKS TO THE WEST OF THE PROJECT ALONG LAHAYE DRIVE AND EAST OF THE PROJECT ALONG CENTERRA ROAD. THUS, PROJECT MUST BE LOCATED ALONG LAHAYE DRIVE. DURING THE PLANNING PROCESS, POTENTIAL WETLAND IMPACTS ON EITHER SIDE OF LAHAYE DRIVE WERE CONSIDERED COMPARABLE (17,500 SF NORTH SIDE VS 16,700 SF SOUTH SIDE). THE NORTH SIDE ALTERNATIVE WAS CHOSEN FOR EASE OF VEHICULAR TRAFFIC AND PEDESTRIAN FLOW AT THE INTERSECTION OF MT. SUPPORT ROAD AND NH RT 120. **THE PROJECT FOOTPRINT HAS BEEN MINIMIZED BY THE USE OF HEADWALLS AT THE CULVERTS AND BY STEEPENING THE SLOPES FROM 1V:3H TO 1V:2H THROUGHOUT. STONE PADS AT CULVERT INLET/OUTLETS HAVE BEEN ELIMINATED AND REPLACED BY BIODEGRADABLE EROSION CONTROL WITH SEEDING AND MULCHING.** THE AMOUNT OF OPEN EMERGENT WETLAND TO BE IMPACTED ON THE NORTH SIDE OF THE ROAD IS 86 LF, WHEREAS THE AMOUNT OF OPEN EMERGENT WETLAND ON THE SOUTH SIDE IS 21 LF. HOWEVER, ON THE NORTH SIDE, THE OPEN EMERGENT MARSH GIVES WAY TO FO/SS WETLAND ON EITHER SIDE, WHEREAS ON THE SOUTH SIDE, THERE IS AN ADDITIONAL AMOUNT OF 101 LF OF EM/SS ON EITHER SIDE OF THE OPEN EMERGENT AREA. IF THE EMERGENT COVER OF THE EM/SS IS INCLUDED IN THE EMERGENT WETLAND CALCULATION, THEN THE COMPARISON IS 86 LF ON THE NORTH SIDE AND 122 LF OF EMERGENT WETLAND ON THE SOUTH SIDE.

PROJECT CONSTRUCTION SEQUENCE WILL BE AS FOLLOWS: DEMARCATION FENCE AND SILT FENCE WILL BE INSTALLED PRIOR TO CONSTRUCTION, MAINTAINED DURING CONSTRUCTION, AND REMOVED FOLLOWING ESTABLISHMENT OF PERMANENT EROSION CONTROL MEASURES. THIS EROSION CONTROL APPROACH HELPS TO REDUCE PROJECT IMPACTS, INCLUDING ANY TO VEGETATION BEYOND THE CONSTRUCTION BOUNDARIES.

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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, crustacean, shellfish, and wildlife of significant value.

The marsh does not support finfish, crustaceans or shellfish. The wildlife habitat is not considered to be highest ranked in NH or in the biological region.

The amount of open emergent wetland to be impacted on the north side of the road is 170 LF, whereas the amount of open emergent wetland on the south side is 41 LF. However, on the north side, the open emergent marsh gives way to FO/SS wetland on either side, whereas on the south side, there is an additional amount of 202 LF of EM/SS on either side of the open emergent area. If the emergent cover of the EM/SS is included in the emergent wetland calculation, then the comparison is 170 LF on the north side and 243 LF of emergent wetland on the south side.

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 project will maintain the current hydrologic connections to and from the wetland through the extensions of the 30" rcp culvert at station 20+15 and the 36" culvert at station 24+50.

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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.

Since the path follows Lahaye Drive, and there are wetlands on both sides of Lahaye Drive, wetland impacts could not be avoided. Alternative alignments on both sides of the road were studied, and it was determined that there would not be a significant difference in wetland impact between the two alignments, so minimization by choosing a different alignment was not feasible. The proposed alignment is as close as possible to Lahaye Drive, thus minimizing direct impacts as well as indirect impacts of wetland fragmentation. Headwalls at culvert ends have minimized impacts.

The project area is considered to be potential summer habitat for the Federal Threatened Northern Long-Eared Bat. Coordination with the USFWS indicates that impacts to the habitat can be permitted if certain avoidance and minimization measures are incorporated into the project design (see attached USFWS IPaC coordination for NLEB. These measures have been incorporated.

A state threatened plant, Geum fragarioides, was discovered during planning for the project, with some individuals within the project area. The population was surveyed and mapped, The population was surveyed and mapped. Approval for submittal of results to NHB has been granted and a report has been sent to NHB.

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.

14. USFWS IPaC coordination for NLEB The project will not impact public commerce, navigation or recreation. It will increase recreational use of 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.

There is no stream associated with the wetland in this location. Therefore, there is no floodplain.

**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.

There are no natural riverine forested wetland systems present. The scrub-shrub and marsh wetlands are not of high ecological integrity, since they are immediately adjacent to a roadway. Avoidance and minimization of wetland impact in general is discussed under Section I.IV above.

NHDES-W-06-013

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 path is not for motorized vehicles, so it would not contribute vehicle-associated pollution to any surface waters associated with drinking water supply. It will not cause a change to any potential groundwater aquifer levels, as it will not impede the flow of water into or out of the wetland.

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.

There is no stream channel present.

NHDES-W-06-013

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

There are no shoreline structures involved.

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

There are no shoreline structures involved.

NHDES-W-06-013

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

There are no shoreline structures involved.

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

There are no shoreline structures involved.

NHDES-W-06-013

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

There are no shoreline structures involved.

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

There are no shoreline structures involved.

NHDES-W-06-013

PART II: FUNCTIONAL ASSESSMENT
REQUIREMENTS Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).
FUNCTIONAL ASSESSMENT METHOD USED: COE Highway Methodology Workbook Supplement.
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: CHARLOTTE BRODIE
DATE OF ASSESSMENT: 05.03.21
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.

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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.



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

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

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		x
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?		x
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/ . The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		x
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	x	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		x
2.5 The overall project site is more than 40 acres?		x
2.6 What is the area of the previously filled wetlands?	0.51 ac	
2.7 What is the area of the proposed fill in wetlands?	0.4 ac.	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	85	
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.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?		N/A
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

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

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

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(c)

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(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in [Attachment A: Minor and Major Projects \(NHDES-W-06-013\)](#)).

The following definitions and abbreviations apply to this worksheet:

- "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.: City of Lebanon Attn: Rebecca Owens

PROJECT STREET ADDRESS: Lahaye Drive

PROJECT TOWN: Lebanon

TAX MAP/LOT NUMBER: 10-24-200

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:
To provide a multi-use path.

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NHDES-W-06-050

SECTION 3 - A/M 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 new permanent impacts of more than one acre or that proposes new 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
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.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are 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) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction 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)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	☒ 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
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	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	☐ Check ☒ N/A

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A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	☒ Check ☐ N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	☐ Check ☒ N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	☐ Check ☒ N/A
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
SECTION 4 - NON-TIDAL SHORELINE STRUCTURES		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	☐ Check ☒ N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	☐ Check ☒ N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	☐ Check ☒ N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	☐ Check ☒ N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	☐ Check ☒ N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.	☐ Check ☒ N/A

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Wetland Function-Value Evaluation Form

Total area of wetland 341 Ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Roads. Hospital development to north Distance to nearest roadway or other development Adjacent

Dominant wetland systems present PFO/SS/EM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? None in project area Wildlife & vegetation diversity/abundance (see attached list)

Wetland A, north side of Lahaye
Wetland I.D. Drive.
Latitude 43.67335 Longitude -72.26265
Prepared by: C. Brodie Date 05 03.21
Wetland Impact:
Type PFO/SS/EM Area 0.3 ac.
Evaluation based on:
Office X Field X
Corps manual wetland delineation completed? Y X N

	Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
5	 Groundwater Recharge/Discharge	Y	2,5,15	X	Wetland supported by broad-scale groundwater discharge
4	 Floodflow Alteration	Y	1,2,3,4,5,6,8,9,11,14,16,17,18	X	Multiple indicators
3	 Fish and Shellfish Habitat	N	N/A		Water flow is diffuse, no defined stream in project area
10	 Sediment/Toxicant Retention	Y	1,3,4,5,6,7,9,	X	Multiple indicators, sediments (e.g., sand, salt, solvents) from road
7	 Nutrient Removal	Y	1,3,5,7,8,9,10,11,		Multiple indicators, yet no substantial contributors of nutrients
8	 Production Export	Y	1,2,7,8,		Flushing opportunity low, no defined stream in project area
11	 Sediment/Shoreline Stabilization	Y	3,4,15		Stabilization of sediments likely, but no streams or waterbodies
14	 Wildlife Habitat	Y			Wetland is large and well-vegetated, but is surrounded by roads, with hospital development to north.
13	 Recreation	N	None		No indicators
2	 Educational/Scientific Value	N	None		No indicators
12	 Uniqueness/Heritage	N	4		Only 1 indicator
9	 Visual Quality/Aesthetics	N	11,12		Only 2 indicators, no good, safe viewing location
6	 ES Endangered Species Habitat	Y	1	Y	State rare plant under review by NH NHB
	Other				

Notes:

* Refer to backup list of numbered considerations.

EXHIBIT 5



WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management

Wetlands Bureau

[Check the Status of your Application](#)



RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: City of Lebanon, Attn: Rebecca Owens

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the [Coastal Area Worksheet \(NHDES-W-06-079\)](#) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the [Avoidance and Minimization Written Narrative \(NHDES-W-06-089\)](#) and the [Avoidance and Minimization Checklist \(NHDES-W-06-050\)](#) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)

ADJACENT LAND USE: Roads, hospital development

CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☒ Yes ☐ No

DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): adjacent

SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Charlotte Brodie

DATE(S) OF SITE VISIT(S): 05.10.18

DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No

CONFIRM THAT THE EVALUATION IS BASED ON:

☒ Office and

☒ Field examination.

METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"):

☒ USACE Highway Methodology.

☐ Other scientifically supported method (enter name/ title):

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SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: A	LOCATION: (LAT/ LONG) 43.67345/-72.26274
WETLAND AREA: 2+ac	DOMINANT WETLAND SYSTEMS PRESENT: PFO/SS/EM
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0	COWARDIN CLASS: PFO/SS/EM
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☐ Yes ☒ No if not, where does the wetland lie in the drainage basin? Upper	IS THE WETLAND PART OF: ☐ A wildlife corridor or ☐ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☐ Yes ☒ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☐ Yes ☒ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☐ Yes ☒ No
PROPOSED WETLAND IMPACT TYPE: fill	PROPOSED WETLAND IMPACT AREA: 0.4 ac
SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: 1. Ecological Integrity (from RSA 482-A:2, XI) 2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) 3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) 4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration) 5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) 6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) 7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal) 8. Production Export (Nutrient) (from USACE Highway Methodology) 9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics) 10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention) 11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization) 12. Uniqueness/Heritage (from USACE Highway Methodology) 13. Wetland-based Recreation (from USACE Highway Methodology: Recreation) 14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat) First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i>. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i>, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.	

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FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☒ Yes ☐ No	some integrity where bordered by undeveloped land, but project area adjacent to a road	☐ Yes ☒ No	Adjacent to a road
2	☐ Yes ☒ No	None	☐ Yes ☒ No	
3	☐ Yes ☒ No	None	☐ Yes ☒ No	
4	☒ Yes ☐ No	1,2,3,4,5,6,8,9,11,14,16,17,18	☒ Yes ☐ No	
5	☒ Yes ☐ No	2,5,15	☒ Yes ☐ No	
6	☒ Yes ☐ No	1	☒ Yes ☐ No	State rare plant discovered during project review, under review by NHB
7	☒ Yes ☐ No	1,3,5,7,8,9,10,11	☐ Yes ☒ No	No substantial contributors of nutrients
8	☒ Yes ☐ No	1,2,7,8	☐ Yes ☒ No	Production occurs, but no stream to export them
9	☐ Yes ☒ No	11,12	☐ Yes ☒ No	No safe viewing location
10	☒ Yes ☐ No	1,3,4,5,6,7,9	☒ Yes ☐ No	sand, salt, solvents from road
11	☒ Yes ☐ No	3,4,15	☐ Yes ☒ No	some stabilization of sediments, but no shoreline
12	☐ Yes ☒ No	4	☐ Yes ☒ No	
13	☐ Yes ☒ No	None	☐ Yes ☒ No	
14	☒ Yes ☐ No	8,11,13,14,15	☐ Yes ☒ No	Wetland is large and well-vegetated, but is surrounded by roads, with hospital development to north.

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

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1	None				
2					
3					
4					
5					

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM: None

STREAM TYPE (ROSGEN):

HAVE FISHERIES BEEN DOCUMENTED?

☐ Yes ☒ No

DOES THE STREAM SYSTEM APPEAR STABLE?

☐ Yes ☐ No

OTHER KEY ON-SITE FUNCTIONS OF NOTE:

The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

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

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FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☐ No		☐ Yes ☐ No	
2	☐ Yes ☐ No		☐ Yes ☐ No	
3	☐ Yes ☐ No		☐ Yes ☐ No	
4	☐ Yes ☐ No		☐ Yes ☐ No	
5	☐ Yes ☐ No		☐ Yes ☐ No	
6	☐ Yes ☐ No		☐ Yes ☐ No	
7	☐ Yes ☐ No		☐ Yes ☐ No	
8	☐ Yes ☐ No		☐ Yes ☐ No	
9	☐ Yes ☐ No		☐ Yes ☐ No	
10	☐ Yes ☐ No		☐ Yes ☐ No	
11	☐ Yes ☐ No		☐ Yes ☐ No	
12	☐ Yes ☐ No		☐ Yes ☐ No	
13	☐ Yes ☐ No		☐ Yes ☐ No	
14	☐ Yes ☐ No		☐ Yes ☐ No	

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

- ☒ Wildlife and vegetation diversity/abundance list.
- ☒ Photograph of wetland.
- ☒ Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.
- ☐ For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the [Coastal Area Worksheet \(NHDES-W-06-079\)](#) for more information.

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

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Appendix B Certification – Activities with Minimal Potential to Cause Effects**Date Reviewed:** 4/22/2021

This Project uses only State funding; however project activities listed below comply with the PA.

(Desktop or Field Review Date)

Project Name: Lahaye Drive Multi-Use Path**State Number:** 41366**FHWA Number:** X-A004(617)**Environmental Contact:** Sheila Charles**DOT****Email Address:** Sheila.Charles@dot.nh.gov**Project**

Robert Hudson

Manager:

Project Description: Construct approximately 950 linear feet of pathway adjacent to Lahaye Drive between Mt. Support Rd. and NH Route 120. Includes construction of new 10' bituminous multi-use path, reconstructed curb ramps, and extension of existing drainage culverts, as well as improvements within the intersection of Lahaye and Rt 120, including curb, crosswalk, median and signal work within the intersection.

Please select the applicable activity/activities:

Highway and Roadway Improvements	
☐	1. Modernization and general highway maintenance <u>that may require additional highway right-of-way or easement</u> , including: Choose an item. Choose an item.
☐	2. Installation of rumble strips or rumble stripes
☐	3. Installation or replacement of pole-mounted signs
☐	4. Guardrail replacement, provided any extension does not connect to a bridge older than 50 years old (unless it does already), and there is no change in access associated with the extension
Bridge and Culvert Improvements	
☐	5. Culvert replacement (excluding stone box culverts), when the culvert is less than 60" in diameter and excavation for replacement is limited to previously disturbed areas
☐	6. Bridge deck preservation and replacement, as long as no character defining features are impacted
☐	7. Non-historic bridge and culvert maintenance, renovation, or total replacement, <u>that may require minor additional right-of-way or easement</u> , including: Choose an item. Choose an item.
☐	8. Historic bridge maintenance activities within the limits of existing right-of-way, including: Choose an item. Choose an item.
☐	9. Stream and/or slope stabilization and restoration activities (including removal of debris or sediment obstructing the natural waterway, or any non-invasive action to restore natural conditions)
Bicycle and Pedestrian Improvements	
☐	10. Construction of pedestrian walkways, sidewalks, sidewalk tip-downs, small passenger shelters, and alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons
☐	11. Installation of bicycle racks
☐	12. Recreational trail construction
☐	13. Recreational trail maintenance when done on existing alignment
☒	14. Construction of bicycle lanes and shared use paths and facilities within the existing right-of-way
Railroad Improvements	

Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding**Appendix B Certification – Activities with Minimal Potential to Cause Effects**

☐	15. Modernization, maintenance, and safety improvements of railroad facilities within the existing railroad or highway right-of-way, <u>provided no historic railroad features are impacted</u> , including, but not limited to: Choose an item. Choose an item.
☐	16. In-kind replacement of modern railroad features (i.e. those features that are less than 50 years old)
☐	17. Modernization/modification of railroad/roadway crossings provided that all work is undertaken within the limits of the roadway structure (edge of roadway fill to edge of roadway fill) and no associated character defining features are impacted
Other Improvements	
☐	18. Installation of Intelligent Transportation Systems
☐	19. Acquisition or renewal of scenic, conservation, habitat, or other land preservation easements where no construction will occur
☐	20. Rehabilitation or replacement of existing storm drains.
☒	21. Maintenance of stormwater treatment features and related infrastructure

Please describe how this project is applicable under Appendix B of the Programmatic Agreement.

The proposed project will result in minimal impacts. There are no improvements beyond the toe of slope and into areas identified in Harten's 2018 Archaeological report as potentially sensitive areas. Additionally, there will be no grubbing in the tree clearing areas.

Please submit this Certification Form along with the Transportation RPR, including photographs, USGS maps, design plans and as-built plans, if available, for review. Note: The RPR can be waived for in-house projects, please consult Cultural Resources Program Staff.

Coordination Efforts:

Has an RPR been submitted to NHDOT for this project?	Yes	NHDHR R&C # assigned?	Click here to enter text.
Please identify public outreach effort contacts; method of outreach and date:	A Local Concerns Meeting was held with the City of Lebanon Planning & Zoning Dept. and DuBois & King, Inc. on 05.23.18.		

Finding: (To be filled out by NHDOT Cultural Resources Staff)

☐	No Potential to Cause Effects	☐	No Historic Properties Affected
This finding serves as the Section 106 Memorandum of Effect. No further coordination is necessary.			
☐	This project does <i>not</i> comply with Appendix B. Review will continue under Stipulation VII of the Programmatic Agreement. Please contact NHDOT Cultural Resources Staff to determine next steps.		
NHDOT comments:			
_____ NHDOT Cultural Resources Staff		_____ Date	

Coordination of the Section 106 process should begin as early as possible in the planning phase of the project (undertaking) so as not to cause a delay.

Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

Appendix B Certification – Activities with Minimal Potential to Cause Effects

Project sponsors should not predetermine a Section 106 finding under the assumption a project is limited to the activities listed in Appendix B until this form is signed by the NHDOT Bureau of Environment Cultural Resources Program staff.

Every project shall be coordinated with, and reviewed by the NHDOT-BOE Cultural Resources Program in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the New Hampshire State Historic Preservation Office, the Army Corps of Engineers, New England District, the Advisory Council on Historic Preservation, and the New Hampshire Department of Transportation Regarding the Federal Aid Highway Program in New Hampshire*. In accordance with the Advisory Council's regulations, we will continue to consult, as appropriate, as this project proceeds.

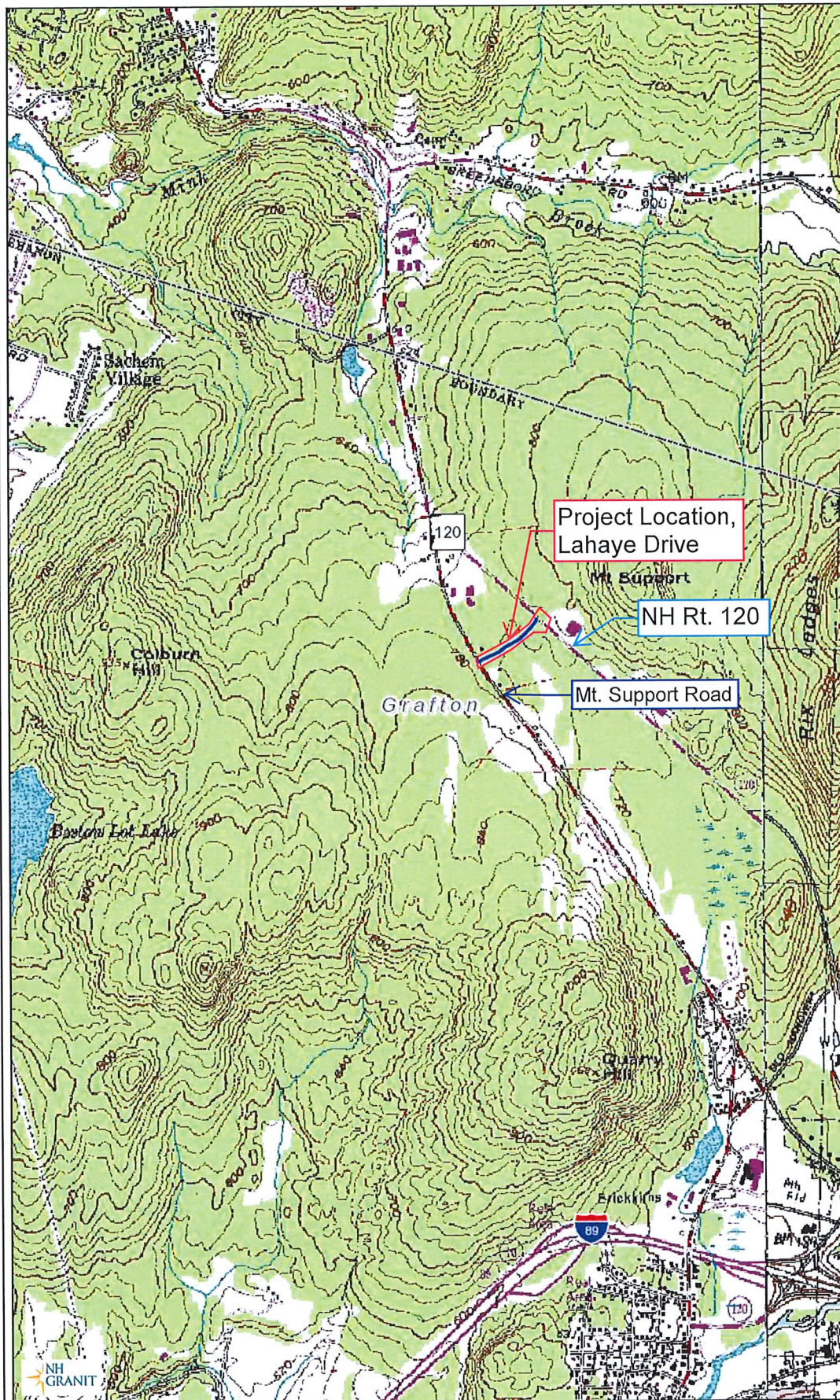
If any portion of the project is not entirely limited to any one or a combination of the activities specified in Appendix B (with, or without the inclusion of any activities listed in Appendix A), please continue discussions with NHDOT Cultural Resources staff.

This No Potential to Cause Effect or No Historic Properties Affected project determination is your Section 106 finding, as defined in the Programmatic Agreement.

Should project plans change, please inform the NHDOT Cultural Resources staff in accordance with Stipulation VII of the Programmatic Agreement.

Map by NH GRANIT

EXHIBIT 8



Legend

- State
- County
- City/Town

Map Scale

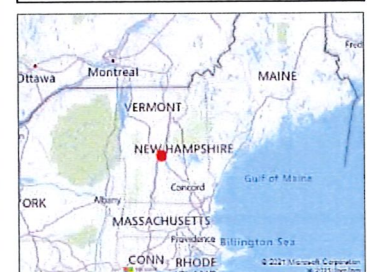
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Map Generated: 4/20/2021

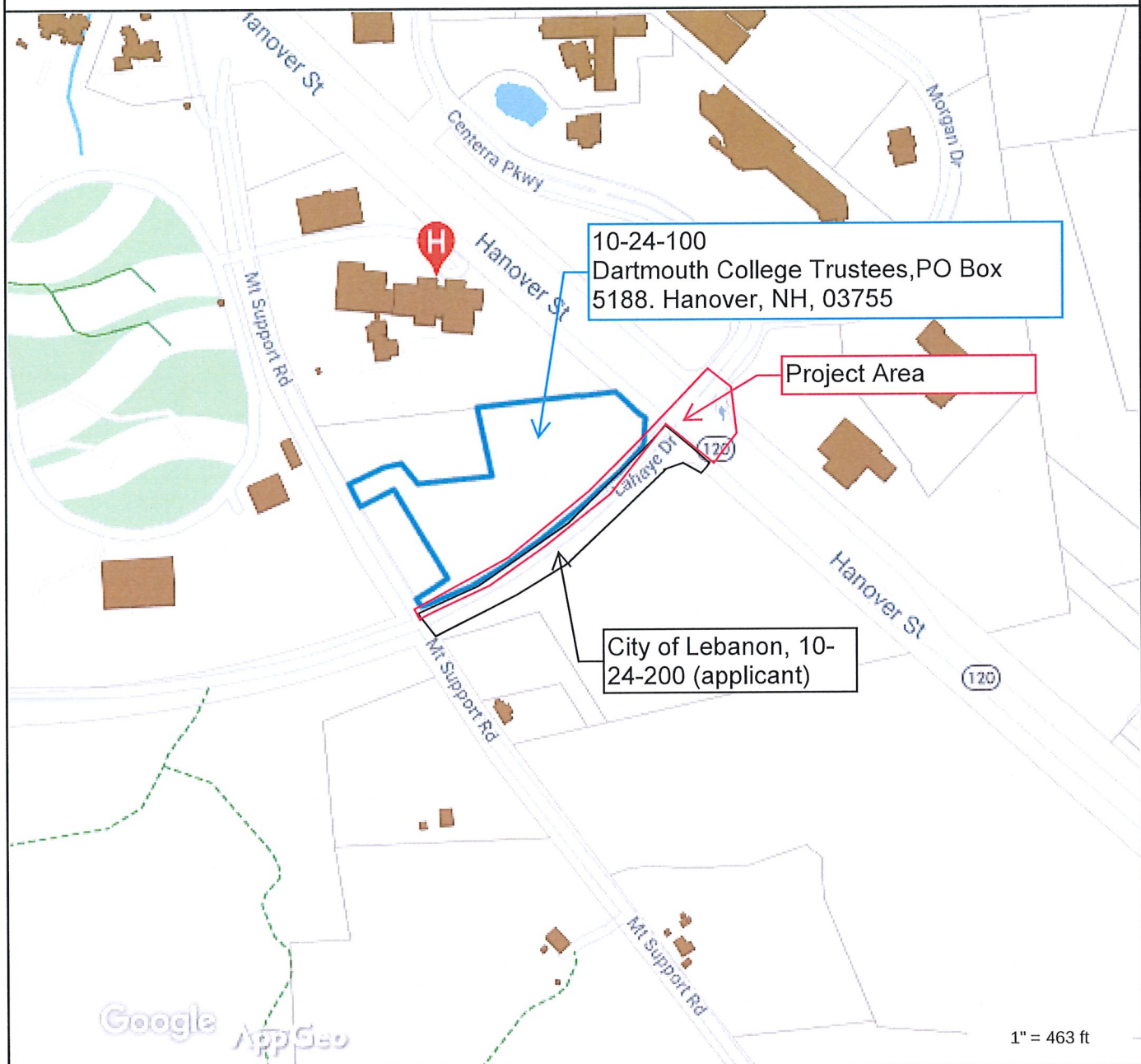


Notes



City of Lebanon, NH

Tax Map, Lahaye Drive

**Property Information**

Property ID 10-24-200
Location 00 MOUNT SUPPORT RD
Owner DARTMOUTH COLLEGE TRUSTEES

**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

City of Lebanon, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/23/2018
Data updated 11/18/2018

Print map scale is approximate.
Critical layout or measurement
activities should not be done using
this resource.

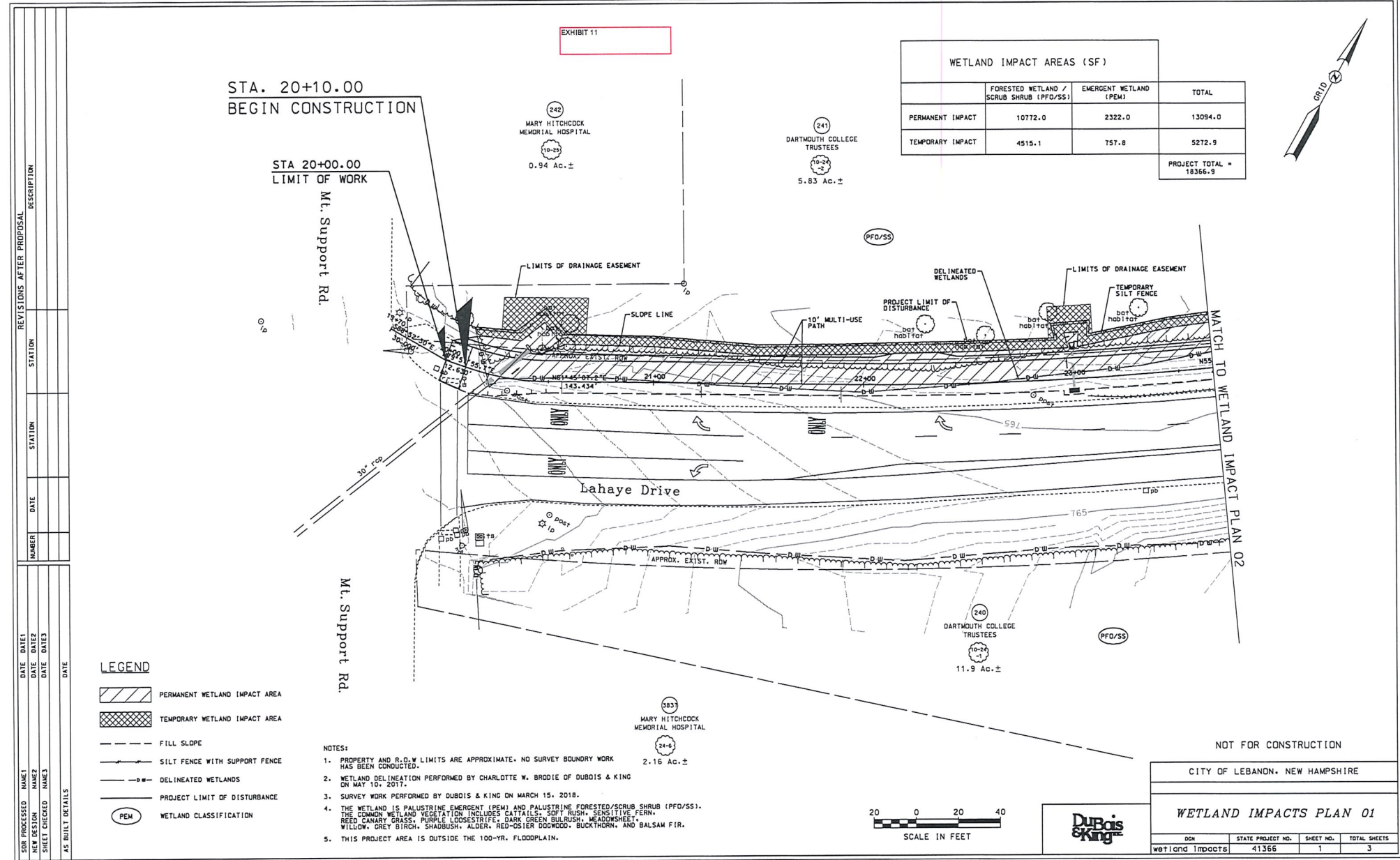
Lehay Drive Sidewalk Study, Wetlands Photos, May 2018



Wetland, north side, northeast corner, facing north



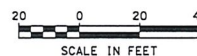
Wetland, north side, SW corner, facing east



[illegible]

	PERMANENT WETLAND IMPACT AREA
	TEMPORARY WETLAND IMPACT AREA
	FILL SLOPE
	SILT FENCE WITH SUPPORT FENCE
	DELINEATED WETLANDS
	PROJECT LIMIT OF DISTURBANCE
	WETLAND CLASSIFICATION LIMITS
	WETLAND CLASSIFICATION

- NOTES:
1. PROPERTY AND R.D.W LIMITS ARE APPROXIMATE. NO SURVEY BOUNDARY WORK HAS BEEN CONDUCTED.
 2. WETLAND DELINEATION PERFORMED BY CHARLOTTE W. BRODIE OF DUBOIS & KING ON MAY 10, 2017.
 3. SURVEY WORK PERFORMED BY DUBOIS & KING ON MARCH 15, 2018.
 4. THE WETLAND IS PALUSTRINE EMERGENT (PEM) AND PALUSTRINE FORESTED/SCRUB SHRUB (PFD/SS). PLANT SPECIES OBSERVED INCLUDE: BROWN DOGWOOD, RED DOGWOOD, RUSH, SENSITIVE FERN, REED CANARY GRASS, PURPLE LOOSESTRIFE, FLOODPLAIN BULRUSH, MEADOWSWEET, BLUEBELLY, GREY BIRCH, SHADBLOW, ALDER, REDDOCK, DOGWOOD, BUCKTHORN, AND BALSAM FIR.
 5. THIS PROJECT AREA IS OUTSIDE THE 100-YR. FLOODPLAIN.

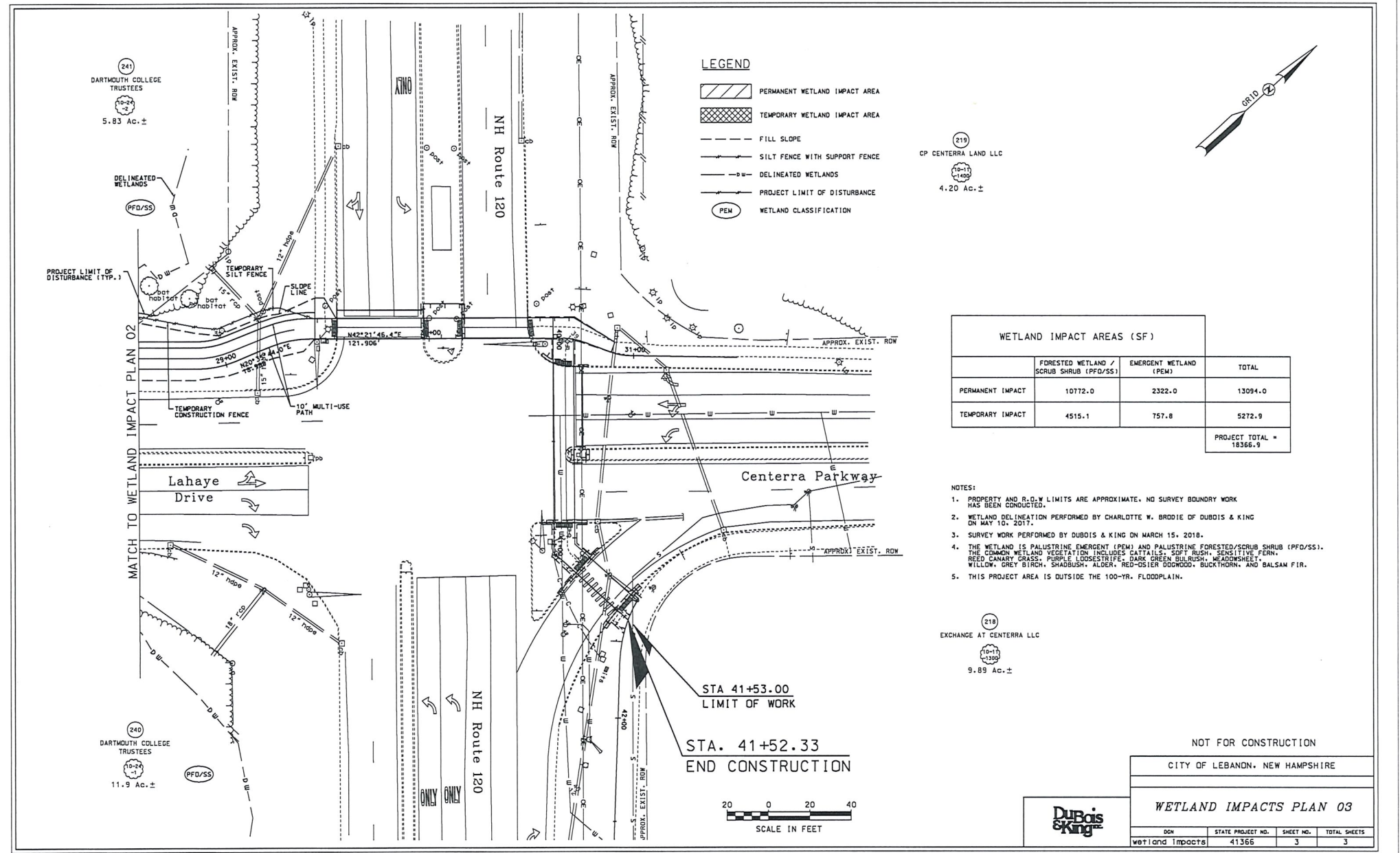


NOT FOR CONSTRUCTION

CITY OF LEBANDON, NEW HAMPSHIRE

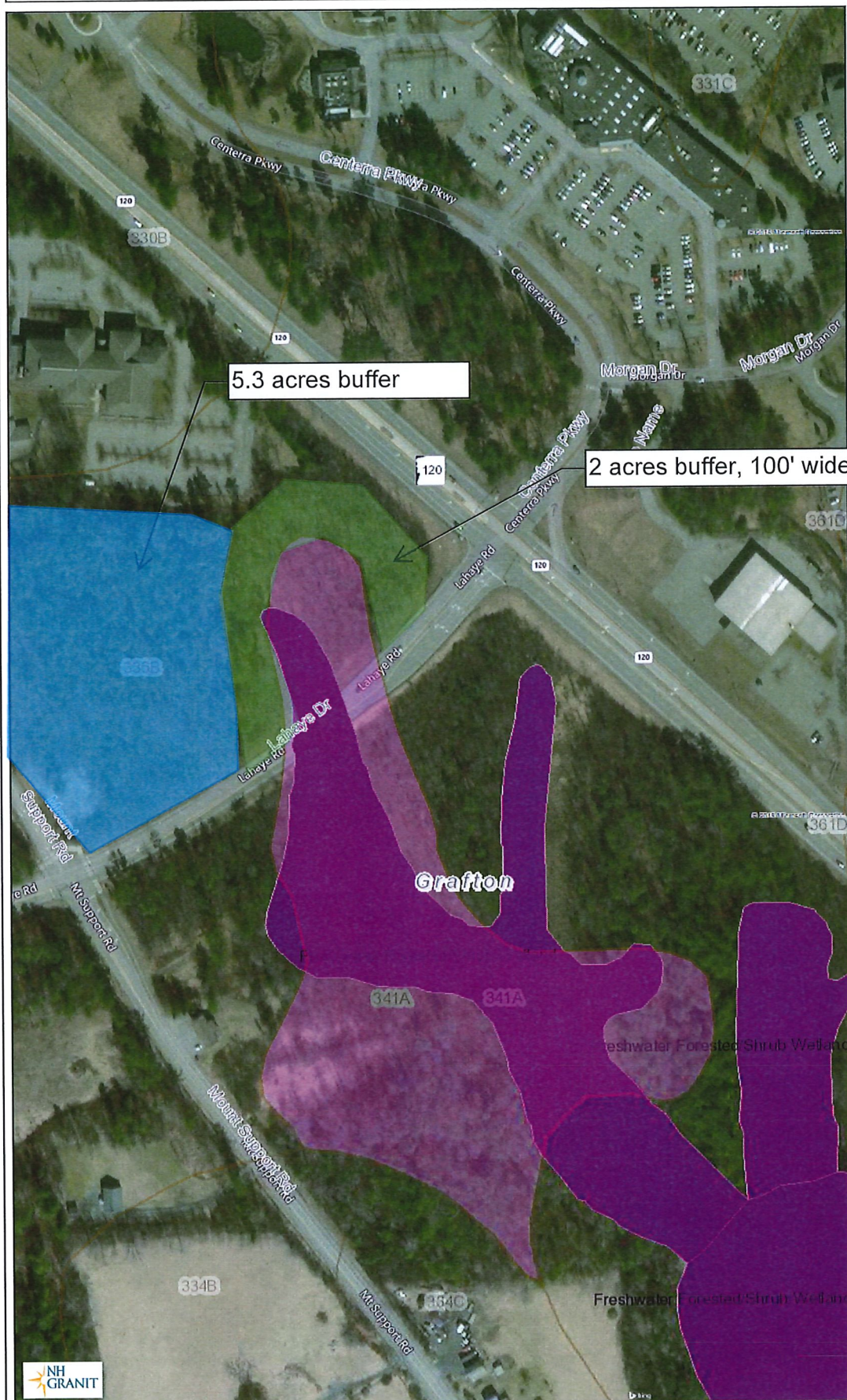
WETLAND IMPACTS PLAN 02

DCN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
wetland impacts	41366	2	3



Map by NH GRANIT

EXHIBIT 12



Legend

- State
- County
- City/Town
- Conservation and Public Land
- Soil Series
- Hydric Soils
- Stream Centerlines
 - Perennial Stream
 - Intermittent Stream
- Artificial Paths
- Water Bodies
 - Lake/Pond
 - Reservoir
 - Estuary
 - Swamp/Marsh
- Other Water Features
 - River
 - Spillway
 - Inundation Area
 - Dam/Weir
 - Canal/Ditch
 - Rapids
- Wetlands
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
 - Riverine

Map Scale

1: 3,247

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Map Generated: 5/9/2018



Notes

NH GRANIT MAP



New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Charlotte Brodie
6 Green Tree Drive
South Burlington, VT 05403

From: NH Natural Heritage Bureau

Date: 5/18/2021 (This letter is valid through 5/18/2022)

Re: Review by NH Natural Heritage Bureau of request dated 5/18/2021

Permit Type: Wetland Standard Dredge & Fill - Major

NHB ID: NHB21-1710

Applicant: Charlotte Brodie

Location: Lebanon
Tax Map: 10-24, Tax Lot: 200
Address: Lahaye Drive

Proj. Description: Construct 10'-wide multi-use path along north side of Lahaye Drive between Mt. Support Road and NH Rt 120. Also construct minor improvements within the existing intersections of Mt. Support Road and NH Rt 120

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

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

New Hampshire Natural Heritage Bureau NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: NHB21-1710





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>



IPaC Record Locator: 934-102660918

June 03, 2021

Subject: Consistency letter for the 'Lahaye Drive Multi-Use Path' project (no current TAILS record) under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request to verify that the **Lahaye Drive Multi-Use Path** (Proposed Action) may rely on the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, and is likely to adversely affect the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

For Proposed Actions that include bridge/structure removal, replacement, and/or maintenance activities: If your initial bridge/structure assessments failed to detect Indiana bats, but you later detect bats during construction, please submit the Post Assessment Discovery of Bats at Bridge/Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act

06/03/2021

IPaC Record Locator: 934-102660918

2

may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

06/03/2021

IPaC Record Locator: 934-102660918

3

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

Lahaye Drive Multi-Use Path

Description

Construct 10'-wide multi-use path along the north side of Lahaye Drive between Mt. Support Road and NH RT 120, along with minor improvements within the existing intersection of Mt. Support Road and NH RT 120.

Determination Key Result

Based on your answers provided, this project is likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat. Therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the conclusion and Incidental Take Statement provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat^[1]?

[1] See [Indiana bat species profile](#)

Automatically answered

No

2. Is the project within the range of the Northern long-eared bat^[1]?

[1] See [Northern long-eared bat species profile](#)

Automatically answered

Yes

3. Which Federal Agency is the lead for the action?

A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction^[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces^[1]?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum^[1]?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

No

7. Is the project located **within** a karst area?

No

8. Is there *any* suitable^[1] summer habitat for Indiana Bat or NLEB **within** the project action area^[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [national consultation FAQs](#).

Yes

9. Will the project remove *any* suitable summer habitat^[1] and/or remove/trim any existing trees **within** suitable summer habitat?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

No

11. Have presence/probable absence (P/A) summer surveys^{[1][2]} been conducted^{[3][4]} **within** the suitable habitat located within your project action area?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

[4] Negative presence/probable absence survey results obtained using the [summer survey guidance](#) are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

No

12. Does the project include activities **within documented NLEB habitat**^{[1][2]}?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

C) During both the active and inactive seasons

15. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

Yes

16. Will **more than** 10 trees be removed **between** 0-100 feet of the road/rail surface *during* the active season^[1]?

[1] Areas containing more than 10 trees will be assessed by the local Service Field Office on a case-by-case basis with the project proponent.

No

17. Has a visual emergence survey^[1] been conducted?

[1] Refer to the [summer survey guidance](#)

No

18. Do you plan on conducting a visual emergence survey prior to removing trees^[1]?

[1] If bats are detected during a visual emergence survey conducted in suitable but **undocumented** Indiana and/or NLEB habitat, this consultation will no longer be valid and a new consultation will be conducted through IPaC with the habitat now considered as **documented** Indiana and/or NLEB habitat.

No

19. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

No

20. Are *all* trees that are being removed clearly demarcated?

Yes

21. Will the removal of habitat or the removal/trimming of trees involve the use of **temporary** lighting?

No

22. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

No

23. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

No

24. Does the project include slash pile burning?

No

25. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

No

26. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

No

27. Will the project involve the use of **temporary** lighting *during* the active season?

No

28. Will the project install new or replace existing **permanent** lighting?

No

29. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?

No

30. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage, rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

Yes

31. Will the project raise the road profile **above the tree canopy**?

No

32. Are the project activities that are not associated with habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

Automatically answered

Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO

33. Is the habitat removal portion of this project consistent with a Likely to Adversely Affect determination in this key?

Automatically answered

Yes, because tree removal that occurs within the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, and is not in documented NLEB roosting/foraging habitat or travel corridors, and a visual emergence survey has not been conducted

34. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

Automatically answered

Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

35. **General AMM 1**

Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

Yes

36. **Tree Removal AMM 1**

Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal^[1] in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word "trees" as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS' current summer survey guidance for our latest definitions of suitable habitat.

Yes

37. Tree Removal AMM 3

Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

38. For Indiana bat, if applicable, compensatory mitigation measures are required to offset adverse effects on the species (see Section 2.10 of the BA). Please select the mechanism in which compensatory mitigation will be implemented:

6. Not Applicable

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

N/A

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

N/A

3. How many acres^[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

0.3

4. Please verify:

All tree removal will occur greater than 0.5 mile from any hibernaculum.

Yes, I verify that all tree removal will occur greater than 0.5 miles from any hibernaculum.

5. Is the project location 0-100 feet from the edge of existing road/rail surface?

Yes

6. Is the project location 100-300 feet from the edge of existing road/rail surface?

No

7. Please verify:

No documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted between June 1 and July 31.

Yes, I verify that no documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted during this period.

Avoidance And Minimization Measures (AMMs)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on April 22, 2021. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>



June 28, 2021

Rebecca Martin
Bureau of Environment
NH Department of Transportation
7 Hazen Drive, P.O. Box 483
Concord, New Hampshire 03302-0483

Re: NH DOT Project Lahaye Drive Multi-Use Path, Lebanon, NH (TAILS # 2021-F-3704)

Dear Ms. Martin:

The U.S. Fish and Wildlife Service (Service) is responding to your June 8, 2021 electronic transmission, requesting we verify that the New Hampshire Department of Transportation (NHDOT) proposed Lahaye Drive Multi-Use Path project (Project) in Lebanon, New Hampshire, may rely on the revised February 5, 2018, Programmatic Biological Opinion (BO) for federally funded or approved transportation projects that may affect the northern long-eared bat (*Myotis septentrionalis*) (NLEB). This letter provides the Service's response as to whether the Federal Highway Administration may rely on the BO to comply with section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; U.S.C. 1531 *et seq.*) for the Project's effects to the NLEB.

The NHDOT, as the non-Federal agency representative for the Federal Transportation Agency, has determined that the Project may affect, and is likely to adversely affect the NLEB. The Project consists of the construction of a 10-foot-wide multi-use path along the north side of Lahaye Drive and minor improvements within the existing intersection of Mt. Support Road and NH RT 120. Less than ten trees may be cleared during the bat active season.

NHDOT also determined the Project may rely on the programmatic BO to comply with section 7(a)(2) of the ESA, because the Project meets the conditions outlined in the BO and all tree clearing related to the proposed work will occur farther than 0.25 mile from documented roosts and farther than 0.5 mile from any known hibernacula. The Service reviewed the LAA Consistency Letter and concurs with NHDOT's determination. This concurrence concludes your ESA section 7 responsibilities relative to this species for this Project, subject to the Reinitiation Notice below.

Rebecca Martin
June 28, 2021

2

Conclusion

The Service has reviewed the effects of the proposed Project, which include the NHDOT's commitment to implement the impact avoidance, minimization, and compensation measures as indicated on the LAA Consistency Letter. We confirm that the proposed Project's effects are consistent with those analyzed in the BO. The Service has determined that the Project is consistent with the BO's conservation measures, and the scope of the program analyzed in the BO is not likely to jeopardize the continued existence of the NLEB. In coordination with your agency, the Federal Highway Administration, and the other sponsoring Federal Transportation Agencies, the Service will reevaluate this conclusion annually in light of any new pertinent information under the adaptive management provisions of the BO.

Incidental Take of the Northern Long-eared Bat

The Service anticipates that tree removal associated with the proposed Project will cause incidental take of the NLEB. However, the Project is consistent with the BO, and such projects will not cause take of NLEBs that is prohibited under the final 4(d) rule for this species (50 CFR §17.40(o)). Therefore, this taking does not require exemption from the Service.

Reporting Dead or Injured Bats

The NHDOT, the Federal Highway Administration, its State/local cooperators, and any contractors must take care when handling dead or injured NLEBs that are found at the project site, in order to preserve biological material in the best possible condition and to protect the handler from exposure to diseases, such as rabies. Project personnel are responsible for ensuring that any evidence about determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species is required in all cases to enable the Service to determine whether the level of incidental take exempted by this BO is exceeded, and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any endangered or threatened species must promptly notify the Service's New England Field Office.

Reinitiation Notice

This letter concludes consultation for the proposed Project, which qualifies for inclusion in the BO issued to the Federal Transportation Agencies. To maintain this inclusion, a reinitiation of this project-level consultation is required where the Federal Highway Administration's discretionary involvement or control over the Project has been retained (or is authorized by law) and if:

1. new information reveals that the Project may affect listed species or critical habitat in a manner or to an extent not considered in the BO;
2. the Project is subsequently modified in a manner that causes an effect to listed species or designated critical habitat not considered in the BO; or
3. a new species is listed or critical habitat designated that the Project may affect.

In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease, pending reinitiation.

Rebecca Martin
June 28, 2021

3

We appreciate your continued efforts to ensure that this Project is fully consistent with all applicable provisions of the BO. If you have any questions regarding our response, or if you need additional information, please contact Susi von Oettingen of this office at 603-227-6418.

Sincerely,

**AUDREY
MAYER**

Audrey Mayer
Field Supervisor
New England Field Office

Digitally signed by
AUDREY MAYER
Date: 2021.06.28
14:48:02 -04'00'

cc: Reading file
Rebecca Martin/NHDOT, via email
ES: SvonOettingen:jd:6-28-21:603-748-8357



+

lahaye drive, lebanon, nh

X

Q

-

Show search results for lahaye drive, l...

More Information

Welcome!

Draw Your Action Area

Get Details

Back

Area : 2,350.95 acres

the ESA

Atlantic Sturgeon

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on the

Shortnose Sturgeon

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In or Near Critical Habitat

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Using these data layers, action agencies can better determine whether the activities they plan to authorize, fund, or carry out may affect listed species or designated critical habitat under our jurisdiction (Maine through Virginia).

We plan to update the spatial and temporal data reflecting life stages and behaviors as new data from peer-reviewed literature, research reports, and field observations become available.

About the Data

Use of the ESA S7 Mapper does NOT replace the Section 7 consultation process; it is a first step in determining if a proposed federal action overlaps with listed species or critical habitat presence.

The polygons representing our listed species' presence and behaviors may lack the spatial resolution to capture your action area. We recommend you extend your action area into the nearest major waterway (e.g., main channel of a river), to be certain that we do not expect any listed species or critical habitat to be in your action area.

2020 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
May 2020. Intended for planning use only.

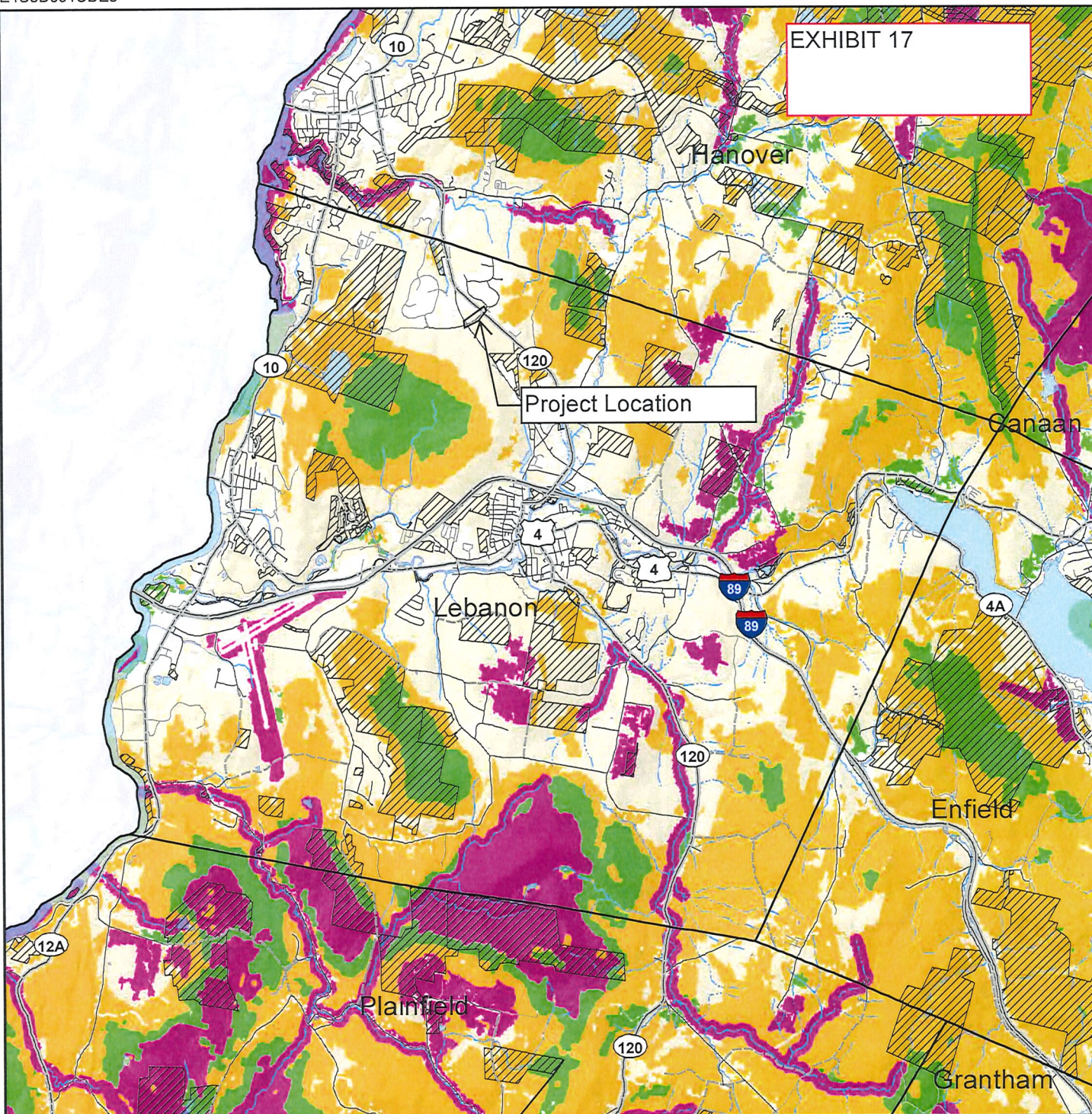


NEW HAMPSHIRE
**Wildlife Action
Plan**

Sept. 2015, spatial data Apr. 2020

0 2 4 Kilometers

0 1 2 Miles



Wildlife and Vegetation Diversity Lists
Lahaye Drive Multi-Use Path, Lebanon, NH

Wildlife

Observed: paper wasp nest attached to cattails

Possible/probable: red-winged blackbirds, green frogs, tree frogs, wood frogs, mink, fisher, fox, voles, coyote

Vegetation

Red maple
Green ash
American elm
Balsam fir
Shadbush
Grey birch
Alder
Red-osier dogwood
Willow
Meadowsweet
Glossy buckthorn
Cattails
Sedges
Giant goldenrod
Soft rush
Reed canary grass
Purple loosestrife
Dark-green bulrush



EXHIBIT 19

Charlotte Brodie <cbrodie@dubois-king.com>

FW: Lebanon TAP project: multi-use path on Lahaye Drive & Dartmouth easement

Rebecca Owens <Rebecca.Owens@lebanonnh.gov>

Tue, May 4, 2021 at 10:01 AM

To: Charlotte Brodie <cbrodie@dubois-king.com>

FYI

DARTMOUTH COLLEGE TRUSTEES

PO BOX 5188

HANOVER NH 03755

DANIEL J JUSTYNSKI, RE DIRECTOR

From: David Brooks <David.Brooks@lebanonnh.gov>

Sent: Friday, January 8, 2021 4:00 PM

To: Rebecca Owens <Rebecca.Owens@lebanonnh.gov>

Subject: RE: Lebanon TAP project: multi-use path on Lahaye Drive & next steps

Rebecca

I just talked with Dan Justynski at Dartmouth College. He had stashed your email in a "Lebanon" folder awaiting subsequent communication, but our call brought it back to the forefront. He indicated that Dartmouth would be willing to forego the easement fees in order to help reduce the overall project cost and accelerate the completion of the project.

Now we just need to have D&K and VHB coordinate efforts as we don't want to record easements and then have the TAP path pushed beyond the limits of that easement. I told Dan that you would follow-up with next steps when we're ready to take them.

Since he's got a lot of projects on his plate, maybe next time we call first and then follow-up with an email.

David

David R. Brooks

DIRECTOR OF PLANNING & ZONING

CITY OF LEBANON

From: Rebecca Owens

Sent: Monday, November 9, 2020 4:10 PM

To: Daniel J. Justynski <Daniel.J.Justynski@dartmouth.edu>

Cc: Patrick F. O'Neill <Patrick.F.O'Neill@dartmouth.edu>; David Brooks <David.Brooks@lebanonnh.gov>

Subject: Lebanon TAP project: multi-use path on Lahaye Drive & next steps

Good afternoon,

I am reaching out to you, as a representative of Dartmouth College's Real Estate Office, to share a transportation project update. The City of Lebanon previously communicated with Ellen Arnold about the study, design and construction of a multi-use path on Lahaye Drive (between Mt. Support Road and Route 120 – see attached "BOUNDARY" aerial view for approximate location). One of our last emails is below.

The project was funded in the state's Ten Year Plan for transportation and includes local match requirements; we have progressed the project through Engineering Study and Preliminary Design stages, the latter which is undergoing an amendment. Next steps include final design, right-of-way and easements, bid preparation for construction, bid, and construction. The Oct. 2018 Engineering Study report that Dubois & King prepared for the City pursuant to the NHDOT project requirements, including stakeholder outreach meetings with DHMC and the College, determined that Alternative 2 is the preferred design. This design consists of a 10-foot wide multi-use path on the north side of Lahaye Drive along a vegetated embankment, with associated grading, drainage improvements, and grass shoulder with fencing. The City is working with NHDES on wetland mitigation for approximately 17,500sf. The state's plan has changed the construction year to 2023 however we are working with NHDOT to complete the final design and other consultant work as soon as possible, as construction dates may be adjusted.

Dartmouth College owns parcels on both sides of the project bounds and is a project partner; the direct funding contribution (to address Ellen's question below) has been completed and next steps with the College involve easements. According to the Engineering Study:

The existing right-of-way at Mt. Support Road, Centerra Parkway and Lahaye Drive is City-owned, and maintained. The existing right-of-way along NH Route 120 is State-owned, and maintained. The right-of-way for Lahaye Drive and NH Route 120 is controlled access. The limits of right-of-way have been mapped based on research performed by a Licensed New Hampshire Professional Land Surveyor. **It is anticipated that permanent path easements will be required...Drainage will need to be modified to facilitate construction of the path. As such, permanent drainage easements will be required. For temporary easements, it is anticipated that slope and construction will be required.**

The consultant will prepare a survey sketch with metes and bounds. They will tell us the total square footage and types of easements, between permanent, drainage/slope and construction (if outside the permanent easement bounds). The City Engineer prepares draft easement documents. We will then share this information with the City assessor to determine the compensation value. At that point, which might not be until well into 2021, the City will connect with you/the College to review this information. Our hope, as part of Dartmouth's cost-sharing coordination to date, is for the College to consider waiving recompense for the easements. The final step will be to record the executed easements and communications with the College.

Again, there is no paperwork in hand to review at this point but I wanted to get you up to speed as we re-initiate the project (and bid the delays of 2020 farewell!). Additional information is available and will be updated here once we have further detail from NHDOT: <https://lebanonnh.gov/1192/Lahaye-Drive-Path>. We will continue to apprise Dartmouth College of project advances and needs but if you have any questions in the meantime, please let me know.

Rebecca

Rebecca.Owens@LebanonNH.gov

 Please consider the environment before printing this e-mail.

Hi Rebecca,

Ellen

603-646-2654

From: Owens, Rebecca [<mailto:Rebecca.Owens@lebcity.com>]
Sent: Wednesday, February 07, 2018 1:05 PM
To: Ellen L. Arnold <Ellen.L.Arnold@dartmouth.edu>
Cc: Brooks, David <David.Brooks@lebcity.com>
Subject: Lebanon TAP project FY18 contribution

Dear Ellen,

The snow-filled view from your offices must be a welcome sight right now! In the meantime, we're organizing spring projects, including commencement of the scope of work for the NHDOT-TAP grant project along Lahaye Drive. The contractor has notice to proceed with surveying for the area of pedestrian and bicyclist improvements between Mt. Support Road and Route 120 and the City is prepared to disburse funds for their services, anticipating that we fulfill continued support from project partners and include the project in upcoming capital improvements budgeting. The authorized preliminary engineering phases include \$73,106 of the approximately \$800,000 total project design and engineering costs and are scheduled for completion in mid-2019. I working with David Brooks, cc'd, to take over project oversight and partner communications for the City.

On that note, thank you again for facilitating Dartmouth College's commitment in July 2016 of \$20,000 to the project in FY17, which we received, and of \$20,000 for FY18, which we would like to follow up on at this time. The College's financial contribution supports an important need for the community and projected future growth at this location.

Are you still the point of contact for the project, and if so, has the College scheduled provisions for the second portion of its commitment? Please let me know if you need any information to assist with related coordination or would like a detailed project update by phone or in person. We have not received a pre-design conference date to review the project with the consultant, which will be a local meeting, but can keep you apprised.

Kind regards,

Rebecca

Rebecca Owens, MBA, LEED AP

ASSOCIATE PLANNER, PLANNING AND DEVELOPMENT DEPT.

[CITY OF LEBANON](#)

[51 N. Park Street](#)

CITY HALL, 1ST FL.

LEBANON, NH 03766

603-448-1457 x1473

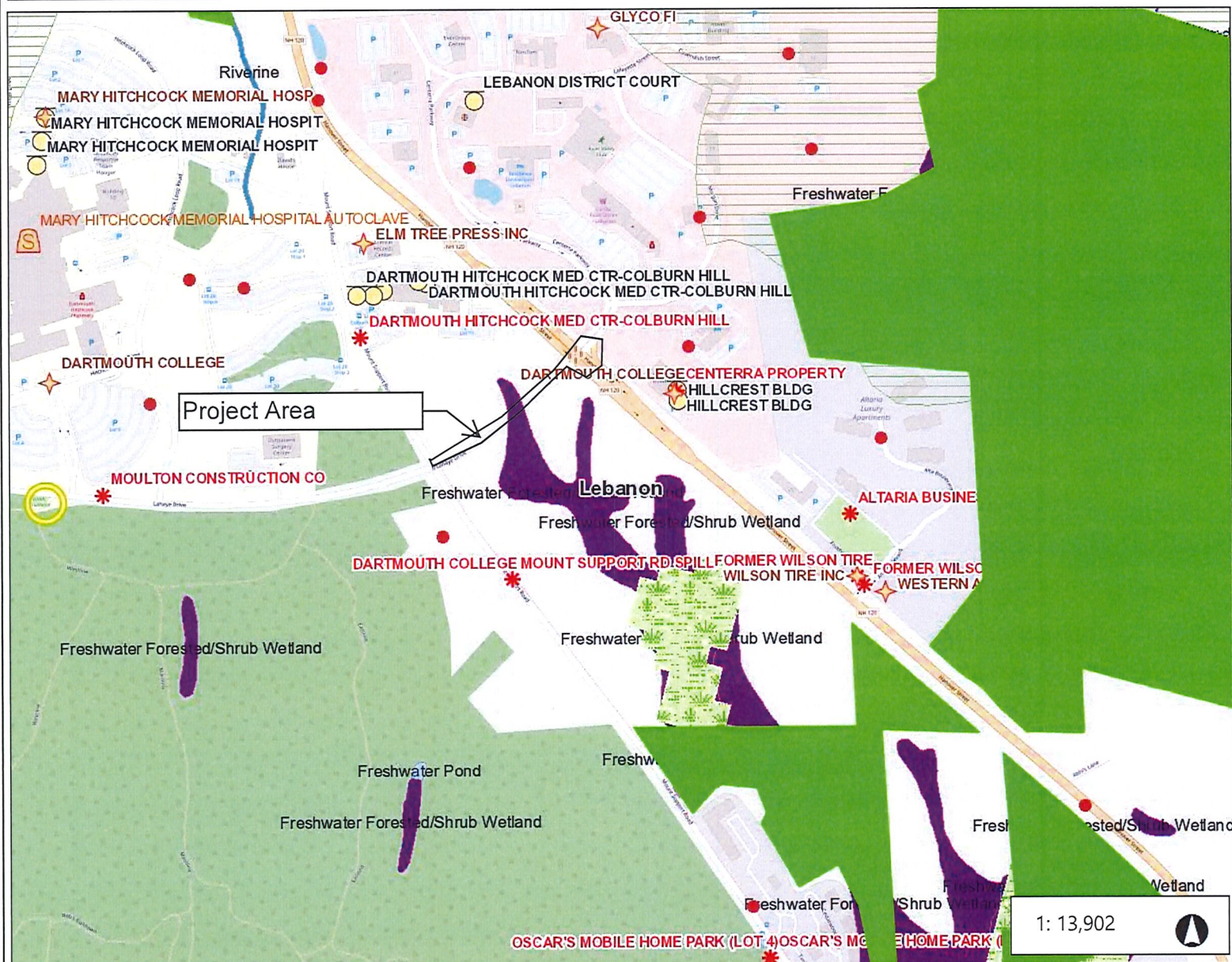
REBECCA.OWENS@LEBCITY.COM

[CURIOUS ABOUT THE CITY'S MASTER PLAN IMPLEMENTATION? LEARN MORE HERE.](#)



Your Organization | Lahaye Drive Multi-Use Path

EXHIBIT 20



Legend

- Aboveground Storage Tank Sit
- Asbestos Disposal Sites
- Automobile Salvage Yards
- Hazardous Waste Generators
- NPDES Outfalls
- Outstanding Resource Water v
- Remediation Sites
- Solid Waste Facilities
- Underground Storage Tank Sit
- NHDES Wetland and Shorelan
- Shoreland Act Urban Exemptic 4th Order and Above Streams
- 4
- 5
- 6
- 7
- Shoreland Jurisdiction - Lakes
- NH City/Town Boundaries
- Flood Plain Wetlands Adjacent
- Prime Wetlands with 100 ft Buf
- Prime Wetlands
- Peatlands
- Designated Rivers
- Subject to SWQPA
- Not Subject to SWQPA
- FEMA Floodplains

Notes

0.4 0 0.22 0.4 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere
© Latitude Geographics Group Ltd.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

EXHIBIT 21



624260
June 14, 2021

Tyler Davidson, Joe Schmittal, Lori Sommer (NHDES Wetlands)
Lindsey Lefebvre (COE)
Amy Lamb, Jessica Bouchard (NHB)
Rebecca Owens (City of Lebanon)
Brian Breslend (DuBois & King, Inc.)
(All via email)

Subject: Pre-application Mitigation Meeting for the Lahaye Drive Multi-Use Path, Lebanon

Dear Pre-Application Meeting Members,

This letter is to document the key points of the May 19, 2021 pre-application mitigation meeting for the Lahaye Drive Multi-Use Path in Lebanon. The meeting was held virtually, and was attended by all the addressees of this letter plus myself, Charlotte Brodie. The key points were as follows:

- Charlotte, Brian and Rebecca provided details of the project design and the planning process which resulted in the choice of the alignment along the north side of Lahaye Drive.
- Amy reported that she had received preliminary information on the presence of a State rare (S2, threatened) plant, "Appalachian Barren Strawberry," (*Geum fragarioides*) from Sarah Riley of the Lebanon Conservation Commission. The plant was reported as occurring mostly within 10-15' of the edge of the forested area along the north side of Lahaye Drive. She requested more information on the location of the plants, especially in regards to their locations in relation to the limits of construction of the proposed project. She stated that NHB would need to know the anticipated impacts, and that impacts should be avoided if possible. Once the required information is presented to NHB, discussion can proceed in regards to the next steps. Permission is required from the landowner (Dartmouth College Trustees) to field-review the plants and to send the report to NHB. Results of the field review should be presented in an NHB Field Form.
- Joe requested that the stone at the culvert inlets and outlets be reviewed for possible elimination, if the areas can be appropriately treated with biodegradable erosion control materials instead so that those areas could be restored to more natural conditions. Brian noted that he will check the site conditions and NHDOT design requirements for compatibility.
- Joe stated that NHDES Wetlands considers impacts to emergent wetlands to be more environmentally damaging than impacts to wooded wetlands. He requested verification of the the amount of emergent wetlands on either side of Lahaye Drive, in order to assess avoidance of

undue adverse impacts through appropriate project siting. He also requested details on the early assessment of wetland impacts during the planning phase of the project.

- Rebecca stated that the minutes of the May 13, 2021 Conservation Commission preliminary meeting for this project were to be finalized soon, and that they could be included in the Wetland Permit application to document that coordination.
- Lori confirmed that only the permanent impacts would require mitigation.
- Lindsey stated that if any areas are to be maintained as a different vegetative cover type from their current condition, such areas must be mitigated. For this project, that would mean that a 1' wide mowed strip to be maintained along the toe of the path's fill slope must be mitigated where wooded wetlands will be converted and maintained as emergent wetland.
- Charlotte discussed the mitigation options that were considered for the project. She stated that the City owns only a very narrow strip of right-of-way along Lahaye Drive, and that there is no opportunity there for wetland buffer preservation or wetland creation or restoration.
- Charlotte also reported on a preliminary meeting with the Lebanon Conservation Commission on May 13, 2021, in which she asked the ConComm if they were aware of any sites that the Town would like to offer as wetland mitigation. The ConComm did not have any such sites.
- Charlotte and Rebecca reported that the City had been in discussion with the other landowner of the project, Dartmouth College Trustees, about the potential for using some of their land for wetland buffer preservation. Rebecca mentioned that the cost to purchase the land (note; she did not refer to easements) would be \$300,000.00, that such a mitigation project would be complicated and time-consuming, that the project's viability depends in part on its ability to stay on track with its current NHDOT Ten Year Plan funding year for construction, which is 2023, and that any decision by Dartmouth would require extensive review through the Dartmouth administrative system.
- Lori requested documentation of the discussions with Dartmouth to be included in the wetlands application. She then acknowledged that there are no readily available parcels for project-sponsored mitigation, and that payment to the Aquatic Resource Management In-Lieu Fee would be appropriate mitigation. She mentioned that payment of the fee would be required within 120 days of the submittal of the wetlands application, and that the permit could not be issued until the payment was received by DES. There would be a 50-day review time for the wetlands application.
- Lori also stated that a payment to the ConComm to allow for researching of Town mitigation opportunities for future projects would not be allowed.
- Lindsey stated that the COE maximum turn-around time for a permit is 60 days, which typically begins upon receipt of the State Wetlands permit. However, concurrent review by NHDES Wetlands and the COE can be requested, which would shorten the COE turn-around time. Lindsey asked that the State wetlands application be sent to her at the time of submittal to DES,

through a COE FTP site if necessary, if concurrent review is sought.

DRAFT**LEBANON CONSERVATION COMMISSION
REGULAR MEETING MINUTES****Remote Via Microsoft Teams****LebanonNH.gov/Live****Thursday, May 13th, 2021****6:30 PM**

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

MEMBERS ABSENT: Chris Johnson, Bruce James, Darla Bruno (Alt.), Suellen Balestra (Alt.)

STAFF PRESENT: Mark Goodwin (GIS Coordinator)

1 **1. CALL TO ORDER – Chair Oidtmann called the meeting to order at 6:33 PM**

- 2 • Mr. Mark Goodwin reviewed the meeting procedures for remote meetings and NH RSA 91-A
3 “Right to Know” requirements. A Roll Call of Commission Members who participated remotely
4 are listed above.
5 • Chair Oidtmann appointed Barbara Hirai as a regular voting member in place of Chris Johnson.
6 • Chair Oidtmann wanted to compliment Vice Chair Sarah Riley for the work she had done on the
7 garlic mustard project. He also wanted to thank Mr. Bruce James for the great work on the report
8 he did.
9

10 **2. APPROVAL OF MINUTES: April 8th, 2021**

11
12 *Mr. Heistad MOVED* to approve the April 8th, 2021 Minutes as amended and presented in the May
13 13th, 2021 agenda packet.

14 *Seconded by Ms. Riley.*

15
16 Amendments:

17
18 Page 4, Line 3 Change “his” to “their”
19 Page 5, Line 48 Change “trail head” to “trailhead”
20

21 **Roll Call Vote:**

22 Ernst Oidtmann, Erling Heistad, Sarah Riley, Donald Lacey, Barbara Hirai, and Susan Almy all
23 voting Yea.

24 None voted Nay.
25

26 ** The Vote on the MOTION was approved (6-0).*
27

28 **3. PERMIT REVIEW:**

29
30 **A. City of Lebanon-** Preliminary review and comment on a draft NHDES Wetland Standard Dredge and
31 Fill Application (Major Impact) associated with construction of a new multi-use path on Lahaye Drive
32 with a total of 18,642 square feet of total permanent plus temporary wetland impacts on a 5.93 acre parcel

1 owned by Dartmouth College, under preliminary agreement for easement, located at 0 Mount Support
2 Road, Lebanon, Tax Map 10, Lot 24, Plot 200.

3
4 Mr. Goodwin explained to the Commission that this was not a formal application process and therefore
5 did not need to have a Motion done at the end of the presentation.

6
7 Ms. Rebecca Owens, with the City of Lebanon, started the presentation by explaining the background of
8 the project. She said the project had been around for a while. In 2016 it was part of a federal application
9 for a grant for the work to be done. The goal was to construct just under 1,000 linear feet of a 10-foot-
10 wide multi-use path to safely convey pedestrian and bicycle traffic from Route 120 to the Mt. Support
11 Road intersection. The preliminary design was done in 2019, but the project was held up due to Covid-
12 19. They were hoping the project would go out to bid in the winter and that construction would start in
13 2023, if not sooner.

14
15 Mr. Lacey asked if federal funding was still going to be involved in the project and Ms. Owens said yes, it
16 would be an 80/20 funding. Mr. Lacey asked if because federal funding was involved if there would be
17 more extensive requirements being made? Ms. Owens said the project was subjected to categorical
18 exclusion.

19
20 Ms. Hirai asked how the timing of the project being presented coincided with the project being done on
21 Route 120? Would this project be done before or during that project? Ms. Owens said this project was
22 on a faster track than the other project. The scope of work on 120 did not include the part of Lebanon that
23 this project was incorporating.

24
25 Chair Oidtmann said that the map he was looking at showed two different properties on it. He was
26 questioning the property lines on the map. He also asked what the structure was at the head of the project
27 area? Mr. Goodwin suggested that after the presentation was over, they may cover any questions that the
28 Commission members may have.

29
30 Ms. Charlotte Brody, Wetland Specialist and Field Naturalist with Dubois and King, gave her
31 presentation on the project. Mr. Brian Bresland was also there as the engineer who worked on the project.
32 The project is only on the north side of Lahaye Drive. Chair Oidtmann asked what the area represented in
33 the right upper corner of the project was? Ms. Brody said it showed where the intersection with NH
34 Route 120 was involved. She said the wetland extended up north and south of Lahaye Drive. This would
35 be a multi-use path on the north side of Lahaye Drive between Mt. Support Road and Route 120. The
36 City of Lebanon was the applicant for the project. The purpose of the project was to safely convey
37 bicycles and pedestrian traffic on Lahaye Drive. The new path would connect to the existing sidewalk at
38 Mt. Support Road, south of the project area, and to the existing sidewalk along Centerra Parkway.

39
40 Ms. Almy asked for more clarification on the map and where exactly the project was located. Ms. Brody,
41 Ms. Owens, and Mr. Bresland provided clarification on the drawings of the project. Ms. Hirai asked if
42 the bicycles and the pedestrians would all use the same lane, or would there be separate lanes? Ms.
43 Owens said it would be like the Mt. Support pathway. It was decided that before the next presentation
44 was given a better drawing of the project map would need to be created and provided.

1 Ms. Almy asked what would happen with the water on either side of the new pathway. Ms. Brody said
2 that was why the culverts would be put in place. Ms. Owens said there was already a culvert there, it
3 would just be moved a little. The culvert would be 36 inches wide.
4

5 The area was cleared for Section 106 (Historical and Archeological Resources) and there was potential
6 habitat for the Long-Eared Bat. Cutting trees in a non-active time of year would result in "May effect, not
7 likely to adversely affect the species". No other listed species or communities of concern in consideration
8 of wildlife was found, but wetland impacts were unavoidable.
9

10 Ms. Brody showed a map of the wetland delineation and impacts of the western section of the project.
11 Ms. Owens said that the culvert would eventually need to be maintained at some point due to age and
12 wear and tear. Vice Chair Riley asked about the two culverts shown on the map. Mr. Bresland said that
13 the lowest part of the roadway would have a catch basin and the other culvert was an existing culvert.
14 More conversation was had on the culverts and their placement and what they would be draining.
15

16 Ms. Brody explained the total wetland impacts would include 13,257 ½ square feet of permanent impact
17 and 5,383.9 square feet of temporary impact. The total impact would be 18,641.4 square feet. The
18 impacts were unavoidable, if they tried to go to the south side of the road, even more wetlands would be
19 impacted over there. She did say that they had been able to minimize the impacts to wetlands by
20 steepening the slopes. Having the path immediately adjacent to the road also helped to minimize the
21 wetland impact.
22

23 Because of the wetland impact the NHDES Wetlands Rules required compensatory mitigation for the
24 major wetland's application. The project had to investigate on-site opportunities first for mitigation, but
25 there were none since the City of Lebanon only owned a narrow strip of right-of-way along Lahaye Drive.
26 The next route that was being taken was to ask the Conservation Commission if they knew of any projects
27 that could be done for the wetland mitigation. If there were any suggestions, they would be investigated.
28 If there were no suggestions than an In-Lieu Fee would have to be paid by the City.
29

30 Mr. Goodwin asked if, with the increase of slope, that would require a fence being put in, interrupting a
31 wildlife corridor? Ms. Owens said there would be a fence that was required. Mr. Bresland said he would
32 confirm the need for a chain link fence.
33

34 Mr. Lacey suggested fixing the continuity of the wetland on either side of Lahaye Drive as the mitigation
35 for the wetland impact. Ms. Owens said it could be possible to ask the owners of the land, Dartmouth
36 College, to see what their willingness would be to help with the wetland impact. Ms. Owens reminded
37 the Commission that since it was a federal grant, they also needed to raise matching funds and the project
38 was close to being at its limit where that was concerned.
39

40 Ms. Hirai asked where land would come from for mitigation? Ms. Owens said on-site would be
41 Dartmouth, off-site would be first City opportunities then, possibly Dartmouth College property. More
42 discussion was had on mitigation property and projects. Ms. Brody asked if she was hearing that the
43 Conservation Commission did not have any ideas for a mitigation project?
44

45 Vice Chair Riley would like to come up with a project instead of in-lieu funds being paid for mitigation.
46 She thought, given time, a project could be thought of. She said it was hard though not knowing the
47 figures that were being thought of for the mitigation.

1 More conversation was had on different places that mitigation could take place. Questions were asked as
2 to what would constitute a mitigation project? Ms. Brody explained the rules of mitigation and the in-lieu
3 fee process and who might benefit from the fees. Ms. Owens explained that as delays continued the
4 project, the project cost continued to go up.

5
6 Mr. Lacey suggested treating Japanese Knotweed. Ms. Brody asked if they would be in wetlands? Mr.
7 Lacey said he thought most of the Japanese Knotweed would be in wetlands. Ms. Hirai thought the
8 Commission should look at the wetland options in the City and have another meeting. She thought they
9 could find little areas in the City for mitigation.

10
11 Ms. Brody asked if they could find some areas and sketch them on a map and send them to her. She
12 asked how long that may take?

13
14 It was decided by some of the members of the Conservation Commission that they would get together to
15 investigate wetland areas in Lebanon. Vice Chair Riley said they could get together informally in a non-
16 quorum group and look for some wetlands.

17
18 Mr. Goodwin summarized what the Conservation was thinking for mitigation. He said that some
19 members of the Conservation Commission were going to try to brainstorm wetland enhancement ideas to
20 satisfy the mitigation. He said probably a land protection idea was out of the question but perhaps they
21 could come up with a wetland enhancement that would satisfy the DES requirement.

22 23 **4. STUDY ITEMS:**

24
25 **A. Review and Comment Regarding Proposed COL Tree Advisory Board-** Vice Chair Riley said that
26 Mr. Paul Coats asked her to present this idea to the Commission. Some residents of the City have shown
27 interest to do more to protect the trees of Lebanon. They would like to set up a more formalized Tree
28 Board. This Board would be an Advisory Board. She believed that the City Manager asked that the
29 Conservation Commission weigh in on the idea.

30
31 Ms. Hirai said that it looked like the trees being proposed to keep safe were on City lands, not necessarily
32 on Conservation lands. Mr. Goodwin agreed with that statement and said it would be a new Board in the
33 City. He thought the Conservation Commission might like a voice on the new Board.

34
35 *Ms. Riley MOVED to extend the meeting until 9:00PM.*

36 *Seconded by Mr. Heistad.*

37 38 **Roll Call Vote:**

39 **Ernst Oidtmann, Erling Heistad, Sarah Riley, Donald Lacey, Barbara Hirai, and Susan Almy all**
40 **voting Yea.**

41 **None voted Nay.**

42
43 ** The Vote on the MOTION passed (6-0).*

44
45 Chair Oidtmann asked if this new Board would fill a need? The consensus was it would. More
46 discussion was had on who might be the members on the new Board.

1 Mr. Heistad thought LEAC, the Conservation Commission, City Council, and the Recreational
2 Department should all have a seat on the new Board. Ms. Almy added that the Public Works Department
3 should also be involved. Mr. Heistad thought the Board should have 7 members on it. Mr. Goodwin said
4 they could suggest that one of the members on the Tree Board should be a representative from the
5 Conservation Commission. Chair Riley said she would volunteer to be on the Board, it was scheduled to
6 meet every 2 months.

7
8 It was decided that Conservation Commission members would e-mail Vice Chair Riley with any ideas or
9 suggestions that they might have for the new Tree Board. It was agreed that the Tree Board was a good
10 idea.

11
12 Mr. George Sykes, Select Board member, thought the new Tree Board was a very good idea. He thought
13 it should encompass all trees in the City.

14 15 **5. COMMITTEE REPORTS:**

16
17 **A. Conservation Lands Monitors:** Mr. Goodwin said that the City had hired a new Ranger. His name
18 was Mr. Clayton Morlock, but said that Mr. Ron Bailey was still around.

19
20 Mr. Morlock said he had lived in the City for approximately the last 30 years and was very familiar with
21 the trails in the City. He is on the Board of Directors for the Upper Valley Mountain Biking Club. He
22 said his priorities were to take an inventory on what would be needed to stabilize the trails and what
23 signage was needed. He would be looking into getting some grants and volunteers for trail maintenance.

24
25 Ms. Hirai said she had several people who were interested in working on the bog bridges at Boston Lot.
26 She said she needed the information of when the project was going to take place, to e-mail the volunteers.

27
28 Ms. Hirai reported that she has at least 16 volunteers who have reported to the Stewards at the Jackson
29 Conservation Area and Boston Lot. The Stewards have been using the new reporting system online. She
30 also said that there were approximately 20 volunteers from the Church of Jesus Christ of Latter-day Saints
31 that cleared out the north mitigation area at Two Rivers Conservation Area.

32
33 Vice Chair Riley said that there were some people who were using the Eldridge Street Trail head at Star
34 Hill to dump their yard waste. She said the next time she looked the yard waste was gone and a sign was
35 up. Mr. Goodwin said 5 truck loads of debris was removed from that area.

36
37 **B. Lebanon Biodiversity Group:** Mr. Lacey said there was a lot going on, but he yielded his time to
38 Vice Chair Riley. She reported that she and Ms. Hirai, along with other volunteers, had been pulling
39 Garlic Mustard. She also reported that the amphibian migration was successful, and people reported what
40 they had found during crossings in the City.

41
42 Mr. Lacey left the meeting at 8:59pm.

43
44 Chair Oidtmann reported that he had been attending the NH DOT meetings of the Route 120 Committee.
45 He said he had been trying to push to get trees in the median just south of Exit 18.

46
47 **C. Workshops and Educational Opportunities:** Ms. Hirai reported that the Connecticut River Joint
48 Committee was going to have a presentation on invasive plants along the river on May 25th, 2021 at
49 6:30pm.

1 **6. ADJOURNMENT:**

2

3 **The meeting was adjourned at 9:01 PM.**

4

5 Respectfully submitted,

6 Barbara R. Higgins

7 Recording Secretary

Alternatives Matrix

06.13.18

Lebanon-Lahaye Drive Alternatives Matrix

Alternative	Purpose & Need		Environmental		w/o Mit.	w/ Mit.
	Improve Safety	Improve Connectivity	Wetland Impacts	Clearing	Construction Cost	Construction Cost
Alternative 1-No Build	No	No			\$0	\$0
Alternative 2-North Path (Earth Slope)	Yes	Yes	17,500 SF	0.3 A	\$400,000	\$480,000
Alternative 2A-North Path (Retaining Wall)	Yes	Yes	14,600 SF	0.3 A	\$680,000	\$740,000
Alternative 3-South Path (Earth Slope)	Yes	Yes	16,700 SF	0.5 A	\$375,000	\$445,000
Alternative 3A-South Path (Retaining Wall)	Yes	Yes	10810 SF	0.3 A	\$794,000	\$844,000



In collaboration with





GRAPHIC SCALE



1 inch = 150 ft.

**DuBois
& King** inc.

engineering
planning
management
development

LAHAYE DRIVE
LEBANON, NEW HAMPSHIRE
VEGETATIVE COVER TYPE MAP

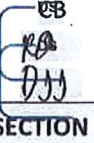
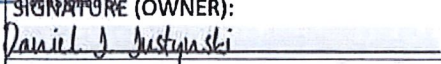
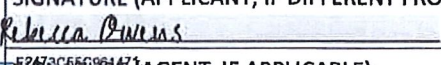
DRAWN BY JWP	DATE JUN. 2021
CHECKED BY	PROJ. NO. 624260X2
PROJ. ENG. CWB	DRAW. NO.

**NHDES AQUATIC RESOURCE MITIGATION FUND
WETLAND PAYMENT CALCULATION**
INSERT AMOUNTS IN YELLOW CELLS

1 Convert square feet of impact to acres:			
INSERT SQ FT OF IMPACT	Square feet of impact =	13816.00	
		43560.00	
	Acres of impact =	0.3172	
2 Determine acreage of wetland construction:			
	Forested wetlands:	0.2500	
	Tidal wetlands:	0.0000	
	All other areas:	0.0500	
3 Wetland construction cost:			
	Forested wetlands:	\$24,168.80	
	Tidal Wetlands:	\$0.00	
	All other areas:	\$4,833.76	
4 Land acquisition cost (See land value table):			
INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)	Town land value:	27584	
	Forested wetlands:	\$6,896.00	
	Tidal wetlands:	\$0.00	
	All other areas:	\$1,379.20	
5 Construction + land costs:			
	Forested wetland:	\$31,064.80	
	Tidal wetlands:	\$0.00	
	All other areas:	\$6,212.96	
6 DES Administrative cost:			
	Forested wetlands:	\$6,212.96	
	Tidal wetlands:	\$0.00	
	All other areas:	\$1,242.59	
***** TOTAL ARM PAYMENT*****			
	Forested wetlands:	\$37,277.76	
	Tidal wetlands:	\$0.00	
	All other areas:	\$7,455.55	

Total= \$44,733.31

NHDES-W-06-012

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 7346.80		
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: 	To the best of the signer's knowledge and belief, all required notifications have been provided.	
Initials: 	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: 	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.	
Initials: 	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.	
SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)		
SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: Dartmouth College Trustees, Attn: Daniel Justynski	DATE: 7/9/2021
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): 	PRINT NAME LEGIBLY: City of Lebanon, Attn: Rebecca Owens	DATE: 7/9/2021
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: DuBois & King, Inc., Attn: Charlotte Brodie	DATE: 7/12/21
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:	

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



Charlotte Brodie <cbrodie@dubois-king.com>

Comments to application - City of Lebanon, Multi-Use Path, Lahaye Drive

David F. Duncan <David.F.Duncan@hitchcock.org>

Wed, Jul 21, 2021 at 5:58 PM

To: "cbrodie@dubois-king.com" <cbrodie@dubois-king.com>, "tyler.j.davidson@des.nh.gov" <tyler.j.davidson@des.nh.gov>

Cc: David Brooks <David.Brooks@lebanonnh.gov>

Mr. Brodie and Mr. Davidson,

I wanted to comment as an abutter to this project. Dartmouth Hitchcock leaderships, employees and physician support this project 100%.

As the Vice President of Facilities at Dartmouth-Hitchcock, I received consistent complaints from staff and physicians about the unsafe walking and bicycles conditions along the northern edge of Lahaye Drive between Mount Support Road and Rt. 120. Daily, I personally observed people walking along the edge of the road during very busy vehicle traffic in every type of weather.

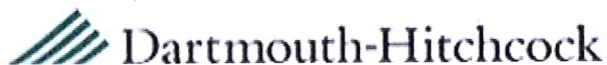
This project will eliminate an unsafe conditions and everyone will extremely happy when this multi-use path is completed.

Thank you for your help with this project and please feel free to contact me at any time.

David Duncan

Vice President Facilities Management

Dartmouth-Hitchcock

603-650-5880 | david.f.duncan@hitchcock.org**IMPORTANT NOTICE REGARDING THIS ELECTRONIC MESSAGE:**

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 20210721130003.pdf



EXHIBIT 4

Charlotte Brodie <cbrodie@dubois-king.com>

Response to your 07.21.21 email, Lahaye Drive Multi-Use Path

Bouchard, Jessica <Jessica.R.Bouchard@dnr.nh.gov>

Mon, Jul 26, 2021 at 12:05 PM

To: Charlotte Brodie <cbrodie@dubois-king.com>

Cc: Rebeca Owens <rebecca.owens@lebanonnh.gov>, Brian Breslend <bbreslend@dubois-king.com>, "Davidson, Tyler" <Tyler.J.Davidson@des.nh.gov>

Hi Charlotte,

Thank you for providing a response to the questions I raised (in email dated 7-21-2021, attached) following review of the Rare Plant Review Report FINAL 07.08.21 (attached).

As discussed in our phone conversation on Thursday July 22nd, NHB recommends that work not occur prior to November 1st, and that if large machinery is used within the temporary impact area in the vicinity of the plants, that the machinery will be tracked to avoid rutting of the soil and reduce soil compaction. I have confirmation from the state botanist that a November 1st time of year restriction, whereby work does not occur prior to November 1st, is sufficient to protect *Geum fragarioides* in the project temporary impact footprint. It is expected that *G. fragarioides* will have undergone senescence by this date.

As long as the time of year restrictions and tracked machinery recommendations are adhered to, no further impact minimization or mitigation is required by NHB.

Thank you,

Jessica Bouchard

Environmental Reviewer / Ecological Information Specialist

New Hampshire Natural Heritage Bureau (NHB)

Division of Forests & Lands

NH Dept. of Natural & Cultural Resources

172 Pembroke Rd

Concord, NH 03301

(603) 271-2834 (office)

NHB DataCheck Tool

From: Charlotte Brodie <cbrodie@dubois-king.com>
Sent: Friday, July 23, 2021 11:06 AM
To: Bouchard, Jessica <Jessica.R.Bouchard@dnr.nh.gov>
Cc: Rebeca Owens <rebecca.owens@lebanonnh.gov>; Brian Breslend <bbreslend@dubois-king.com>
Subject: Response to your 07.21.21 email, Lahaye Drive Multi-Use Path

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

Hi Jessica,

Attached please find a response to your 07.21.21 email, with additional comments on commitments to rare plant protection. Let me know if you have any further questions.

Best Regards,

Charlotte Brodie
Field Naturalist
DuBois & King, Inc.
[6 Green Tree Drive](#)

[South Burlington, VT 05403](#)

802-728-7202 (w)

802-777-5272 (c)

----- Forwarded message -----

From: "Bouchard, Jessica" <Jessica.R.Bouchard@dnr.nh.gov>
To: Charlotte Brodie <cbrodie@dubois-king.com>, "Lamb, Amy" <Amy.E.Lamb@dnr.nh.gov>
Cc: Rebeca Owens <rebecca.owens@lebanonnh.gov>, Brian Breslend <bbreslend@dubois-king.com>
Bcc:
Date: Wed, 21 Jul 2021 20:07:47 +0000
Subject: RE: Lebanon Multi-Use Path, Rare Plant Report

Hi Charlotte,

Thank you for your patience while I reviewed the report and previous project material. I have a few questions, comments, and requests. Your input will help guide the recommendations that NHB provides for this project.

Also, thank you for the reporting form and key diagnostic characteristics that distinguish *Geum fragarioides* from *Geum ternatum*. Please provide a few photos of the proposed trail area and plant clumps that are within the project limit of disturbance (LOD). Photos of the larger population areas would also be helpful. Additionally, we need GPS shapefiles of documented rare plant locations so that we can add the precise locations to our database.

Certainly not a large difference, but I noticed that the report mentions 37 plants within the LOD, while I counted 38 in total. I see 32 plants between station 22 and 23, and then an additional 6 plants between station 23 and 24. Please

double-check the total count of plants within the LOD and let me know what you get.

Based on the proposed conditions plans, *Geum fragarioides* that occur within the limit of disturbance appear to be within the proposed temporary impact areas only, outside of the slope line. Is this correct? Please explain the nature of the temporary work that is proposed along the perimeter of the slope line and the methods used. Will there be any ground disturbance, large machinery, etc. in the temporary impact area?

NHB requests consideration of whether it is possible to modify components of the project to avoid impacts to the plants. For example, would it be possible to avoid impacts by steepening the slope and pulling it back, and by not clearing vegetation beyond the base of the slope in the *Geum fragarioides* locations? The proposed chain-link fence would ensure that pedestrians, cyclists, etc. do not impact the plants upon project completion.

Additionally, depending on the type of impact proposed at the plant locations, it may be possible to avoid impacts by modifying work timing so that it occurs later in the season when the above-ground portions of the plants have died back.

Finally, if avoidance is not possible, NHB will recommend transplanting the *G. fragarioides* clumps that fall within the LOD.

Thank you,

Jessica Bouchard

Environmental Reviewer / Ecological Information Specialist

New Hampshire Natural Heritage Bureau (NHB)

Division of Forests & Lands

NH Dept. of Natural & Cultural Resources

172 Pembroke Rd

Concord, NH 03301

(603) 271-2834 (office)

NHB DataCheck Tool

From: Charlotte Brodie <cbrodie@dubois-king.com>

Sent: Tuesday, July 13, 2021 11:04 AM

To: Lamb, Amy <Amy.E.Lamb@dncr.nh.gov>; Bouchard, Jessica <Jessica.R.Bouchard@dncr.nh.gov>

7/26/2021

DuBois & King, Inc. Mail - Response to your 07.21.21 email, Lahaye Drive Multi-Use Path

Cc: Rebeca Owens <rebecca.owens@lebanonnh.gov>; Brian Breslend <bbreslend@dubois-king.com>

Subject: Lebanon Multi-Use Path, Rare Plant Report

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

Dear Amy and Jessica,

Attached please find our report on *Geum fragarioides* in the vicinity of the proposed Multi-Use Path along the north side of Lahaye Drive, between Mt. Support Road and NH Rt 120.

Please let me know how to proceed. We have submitted the Wetlands application to the City Clerk as of this morning, and expect to forward it to the State very soon. It references our coordination with you.

Best Regards,

Charlotte Brodie
Field Naturalist
DuBois & King, Inc.
[6 Green Tree Drive](#)

[South Burlington, VT 05403](#)

802-728-7202 (w)

802-777-5272 (c)

2 attachments

 **RE: Lebanon Multi-Use Path, Rare Plant Report.eml**
22K

 **Rare Plant Review Report Final 07.08.21.pdf**
8318K



EXHIBIT 5

Charlotte Brodie <cbrodie@dubois-king.com>

Wetlands application for Lahaye Drive Multi-Use Path, Lebanon

Sommer, Lori <LORI.L.SOMMER@des.nh.gov>

Mon, Jul 26, 2021 at 8:22 AM

To: Charlotte Brodie <cbrodie@dubois-king.com>, "Davidson, Tyler" <Tyler.J.Davidson@des.nh.gov>

Cc: Rebeca Owens <rebecca.owens@lebanonnh.gov>

Hi Charlotte,

I have the ARM Calculator totaling \$67,958.99 for the 13,094 sqft of permanent impact. Please note this as received and we will add it to the file. Thank you,

Lori

**NHDES AQUATIC RESOURCE MITIGATION FUND
WETLAND PAYMENT CALCULATION
INSERT AMOUNTS IN YELLOW CELLS**

1	Convert square feet of impact to acres:			
INSERT SQ FT OF IMPACT	Square feet of impact =		13094.00	
			43560.00	
	Acres of impact =		0.3006	
2	Determine acreage of wetland construction:			
	Forested wetlands:		0.4509	
	Tidal wetlands:		0.9018	
	All other areas:		0.4509	
3	Wetland construction cost:			

	Forested wetlands:		\$45,290.42	
	Tidal Wetlands:		\$90,580.84	
	All other areas:		\$45,290.42	

4 Land acquisition cost (See land value table):

INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)

Town land value:		25155	
Forested wetlands:		\$11,342.07	
Tidal wetlands:		\$22,684.14	
All other areas:		\$11,342.07	

5 Construction + land costs:

Forested wetland:		\$56,632.49	
Tidal wetlands:		\$113,264.98	
All other areas:		\$56,632.49	

6 DES Administrative cost:

Forested wetlands:		\$11,326.50	
Tidal wetlands:		\$22,653.00	
All other areas:		\$11,326.50	

TOTAL ARM PAYMENT*****

Forested wetlands:		\$67,958.99	
Tidal wetlands:		\$135,917.98	

7/28/2021

DuBois & King, Inc. Mail - Wetlands application for Lahaye Drive Multi-Use Path, Lebanon

All other areas:		\$67,958.99
------------------	--	-------------

From: Charlotte Brodie <cbrodie@dubois-king.com>

Sent: Friday, July 23, 2021 1:32 PM

To: Davidson, Tyler <Tyler.J.Davidson@des.nh.gov>; Sommer, Lori <LORI.L.SOMMER@des.nh.gov>

Cc: Rebeca Owens <rebecca.owens@lebanonnh.gov>

Subject: Wetlands application for Lahaye Drive Multi-Use Path, Lebanon

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

[Quoted text hidden]

EXHIBIT 6



Charlotte W. Brodie
Field Naturalist

6 Green Tree Drive
South Burlington, Vermont 05403-6025
(802) 728-7202
Fax (866)783-7101
cbrodie@dubois-king.com

ENGINEERING ▤ PLANNING ▤ SURVEY
PROGRAM MANAGEMENT

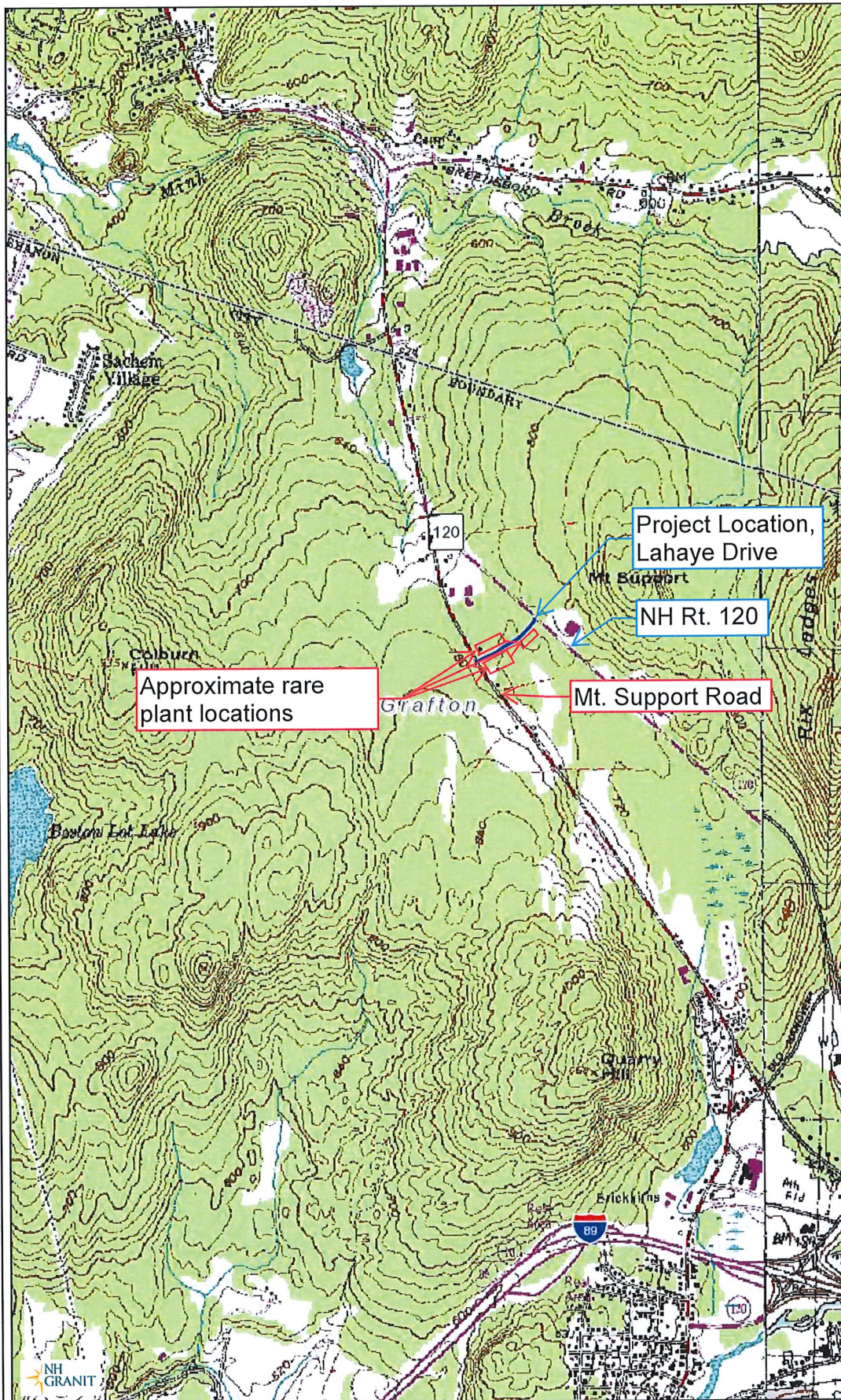
MEMORANDUM

624260

TO: Project File
SUBJECT: Lebanon, NH, Lahaye Drive Multi-Use Path; Rare Plants Review
DATE: July 8, 2021

1. The proposed Lahaye Drive Multi-Use Path is located along the north side of Lahaye Drive between Mount Support Road and NH RT 120 in the City of Lebanon, as shown on the attached USGS Location Map.
2. I visited the site on May 27, 2021 to search for the rare plant, *Geum fragarioides*, (with the common name of "barren strawberry") which had been reported in the area. I searched a band of generally approximately 100' from the edge of the road to the north and south of the road.
3. I located a total of 1,174 plants. I GPS'd the locations of the plants, usually at the centers of clumps of more than one plant. The GPS unit was a Trimble Geo7X with sub-meter accuracy. The GPS locations were transferred to the project plans to create a Rare Plants Location Plan (attached). Rare plants were found on the north side of the road in woodlands between Mt. Support Road and the marsh. Note that I was unable to locate plants reported to occur on the north side of the road and northeast of the marsh. On the south side of the road, rare plants were found in woodlands on either side of the marsh. Representative photos of the plants are attached.
4. The attached NHB Rare Species Reporting Form gives details on identification of the plants based upon leaf shape, division, and depth of sinuses, presence of rhizomes, flower color, shape of petals, flower stalk separate from leaf stalks, absence of epicalyx, and degree of covering of the receptacle by the achenes.
5. On the north side of Lahaye Drive, there were 37 plants within the limits of construction of the proposed project, and 157 plants outside of those limits.
6. On the south side of Lahaye Drive, there were 980 plants.

Map by NH GRANIT



Legend

- State
- County
- City/Town

Map Scale

1: 24,000



© NH GRANIT, www.granit.unh.edu

Map Generated: 4/20/2021

Notes



Lahaye Drive Multi-Use Path
Photos of *Geum fragarioides* ("barren strawberry")
May 27, 2021



Plant in flower, petals not overlapping



Ternate leaves, leaflet sinuses extend less than 50% of the distance to the midvein



Epicalyx absent



Achenes beginning to form

David Dunean
7/21/21



June 30, 2021
624260

*Mary Hitchcock Memorial Hospital
1 Medical Center Drive
Lebanon, NH 03756*

Subject: Notification of Proposed Project: City of Lebanon, Multi-Use Path, Lahaye Drive

Dear Mary Hitchcock Memorial Hospital,

This is to inform you of the intent of the City of Lebanon to construct a 10'-wide multi-use path along the northern edge of Lahaye Drive between Mount Support Road and NH Rt. 120. The project will impact wetlands, and is subject to the jurisdiction of the NH Wetlands Rules. According to these rules, you, as an abutter to the property on which the project is proposed, are entitled to notice of a pending NHDES Wetlands Permit Application for this work.

Attached please find a Location Map and a Wetland Impacts Plan showing the proposed project and its impacts to wetlands.

If you have any questions, or would like to comment on the application, you may contact me at cbrodie@dubois-king.com or Tyler Davidson with the NH DES Wetlands Bureau at Tyler.J.Davidson@des.nh.gov.

Best Regards,

A handwritten signature in cursive script that reads 'Charlotte Brodie'.

Charlotte Brodie
Certified Wetlands Scientist

Rebecca Owens

From: David Brooks
Sent: Thursday, July 22, 2021 10:12 AM
To: Rebecca Owens
Subject: FW: [EXTERNAL]Comments to application - City of Lebanon, Multi-Use Path, Lahaye Drive
Attachments: 20210721130003.pdf

FYI

David

DAVID R. BROOKS

PLANNING & DEVELOPMENT DIRECTOR
CITY OF LEBANON

From: David F. Duncan <David.F.Duncan@hitchcock.org>
Sent: Wednesday, July 21, 2021 5:58 PM
To: cbrodie@dubois-king.com; tyler.j.davidson@des.nh.gov
Cc: David Brooks <David.Brooks@lebanonnh.gov>
Subject: [EXTERNAL]Comments to application - City of Lebanon, Multi-Use Path, Lahaye Drive

Mr. Brodie and Mr. Davidson,

I wanted to comment as an abutter to this project. Dartmouth Hitchcock leaderships, employees and physician support this project 100%.

As the Vice President of Facilities at Dartmouth-Hitchcock, I received consistent complaints from staff and physicians about the unsafe walking and bicycles conditions along the northern edge of Lahaye Drive between Mount Support Road and Rt. 120. Daily, I personally observed people walking alone the edge of the road during very busy vehicle traffic in every type of weather.

This project will eliminate an unsafe conditions and everyone will extremely happy when this multi-use path is completed.

Thank you for your help with this project and please feel free to contact me at any time.

David Duncan

Vice President Facilities Management
Dartmouth-Hitchcock
603-650-5880 | david.f.duncan@hitchcock.org



EXHIBIT 25

NHDES AQUATIC RESOURCE MITIGATION FUND WETLAND PAYMENT CALCULATION

INSERT AMOUNTS IN YELLOW CELLS

Actual: Revisions per NHDES response to calculation:

1 Convert square feet of impact to acres:			
INSERT SQ FT OF IMPACT	Square feet of impact =	13816.00	13094
		43560.00	
	Acres of impact =	0.3172	0.3006
2 Determine acreage of wetland construction:			
	Forested wetlands:	0.2500	0.4509
	Tidal wetlands:	0.0000	0.9018
	All other areas:	0.0500	0.4509
3 Wetland construction cost:			
	Forested wetlands:	\$24,168.80	\$45,290.42
	Tidal Wetlands:	\$0.00	\$90,580.84
	All other areas:	\$4,833.76	\$45,290.42
4 Land acquisition cost (See land value table):			
INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)	Town land value:	27584	25155
	Forested wetlands:	\$6,896.00	11,342.07
	Tidal wetlands:	\$0.00	22,684.14
	All other areas:	\$1,379.20	11,342.07
5 Construction + land costs:			
	Forested wetland:	\$31,064.80	56,632.49
	Tidal wetlands:	\$0.00	113,264.98
	All other areas:	\$6,212.96	56,632.49
6 DES Administrative cost:			
	Forested wetlands:	\$6,212.96	11,326.50
	Tidal wetlands:	\$0.00	22,653.00
	All other areas:	\$1,242.59	11,326.00
***** TOTAL ARM PAYMENT *****			
	Forested wetlands:	\$37,277.76	67,958.99
	Tidal wetlands:	\$0.00	135,917.98
	All other areas:	\$7,455.55	67,958.99

ARM calculator Total= \$44,733.31

\$67,958.99 for 13,094sf

*Note: Revisions received from NHDES post - application, via email on 7/26/21

Rare Species Reporting Form

NH Natural Heritage Bureau (NHB)

Please fill out this form to report the location of a rare plant or animal species to the New Hampshire Natural Heritage Bureau. Required information is indicated by an asterisk; other items are desirable but not required. Call Peter Bowman at (603) 271-2792 with any questions. Thank you!

Send form to: Peter Bowman
 DNCR - NHB
 172 Pembroke Road
 Concord, NH 03301

Or email to: peter.bowman@dncr.nh.gov

What and When

* Scientific name:	Geum fragarioides	DRAFT REPORT
Common name:	Barren strawberry	
* Date(s) observed:	May 27, 2021	
* Who observed it:	Charlotte Brodie	
* Phone #:	802-777-5272	Email: cbrodie@dubois-king.com

Location

Town Name: Lebanon
* Map. Attach a map with the location marked. Ideally, use a USGS topographic map. If you hand-sketch the map, be sure to include a north arrow, scale, and landmarks such as roads and major water bodies. If you provide GPS coordinates, please tell us the model of the unit and the datum (e.g., WGS 84 or NAD 83). <i>USGS attached. GPS unit was Trimble Geo7X. Datum was NAD 83 (Conus) CORS96.</i>
Directions. Write this as if you are telling someone how to get back to the exact site: <i>Start at the intersection of Mt. Support Road and Lahaye Drive. On the north side, go northeast to the third traffic sign, which is a white sign showing left turn only lane, straight arrow and right turn only lane. Go about 20' further, then enter the woods to the north. Plant/plant cluster locations are marked with pink and black striped flagging, and extend from that point to the marsh. No plants were found to the northeast of the marsh. On the south side of Lahaye Drive, start at Mt. Support Road and enter the woods from Mt. Support Road, about 20' south of Lahaye Drive. Plants/plant cluster locations are flagged with pink and black striped flagging, and occur on both sides of the central marsh area.</i>

Taxonomy

* How did you identify the species? What traits helped you decide that you had seen this species? What similar species did you consider and how did you exclude them? Photos showing key characteristics are welcome. A specimen is usually required to document a new plant population, however, an entire plant should never be collected if there are < 20 plants present. <i>Plants have dark green ternate, toothed leaves, leaflets are generally obovate. No epicalyx present. Flowers yellow, petals ovate with space between each. Flower stalk from base of plant, not on leafy shoots. Rhizomatous. Distinguished from Geum ternatum by absence of epicalyx, deepest sinuses of leaflets extending <50% of distance to midvein, petals relatively narrow and not overlapping. Achenes just starting to form, but appeared that they would cover the receptacle (vs embedded in fleshy receptacle with receptacle exposed between achenes as in Fragaria spp.)</i> <i>Photos attached.</i> <i>Pressed specimen to be sent to NHB.</i>
--

4.9

* Certainty of ID (1=dubious, 5=absolutely positive):

If a specimen was collected, collector, collection number, and where the specimen is stored:

Charlotte Brodie, Collection #1, South Burlington, VT

Biology

* How many? If there are a few, count them. If there are a lot, estimate (e.g., 50-100).

Total of 1,174, with 194 on north side of Lahaye Drive and 980 on south side.

Plants: How are they distributed, in how large an area? For example: "In a tight clump about 2 feet square" or "Scattered over a 30 x 60-foot area".

Scattered, mostly in clumps of several to 200. See attached Rare Plant Location Map.

Evidence of reproduction? Plants: Flowers/fruit/seed. Animals: Nests/youngsters... etc.

Only four plants still in flower.

78 plants in fruit, shortly after petal drop.

Local surroundings: What do you see when you look around the area? Is it a steep slope or the middle of a swamp? What are the most common plants?

Gradient is nearly flat. Plants occur in forested/shrub areas, mostly wetland. Red and sugar maples, white oak, white ash, grey birch, glossy buckthorn, shrubby willow, cinnamon and sensitive ferns, giant goldenrod.

Conservation Status (if known)

* Land ownership: Name of owner (private) or area (if public). *Dartmouth College Trustees*

Phone number of owner (if known): *Daniel Justynski, 603-646-2654*

Is the landowner aware that you are reporting this find to NH Natural Heritage? ☒ Yes ☐ No

Factors that indicate how secure the occurrence is (e.g., evidence of disturbance / owner is interested in protecting it...).

Three percent (37/1174) of inventoried population to be impacted by proposed multi-use path.

No activities are proposed outside of the proposed path and its construction.



624260

June 14, 2021 Updated 07.27.21

Tyler Davidson, Joe Schmittal, Lori Sommer (NHDES Wetlands)
 Lindsey Lefebvre (COE)
 Amy Lamb, Jessica Bouchard (NHB)
 Rebecca Owens (City of Lebanon)
 Brian Breslend (DuBois & King, Inc.)
 (All via email)

Subject: Pre-application Mitigation Meeting for the Lahaye Drive Multi-Use Path, Lebanon

Dear Pre-Application Meeting Members,

This letter is to document the key points of the May 19, 2021 pre-application mitigation meeting for the Lahaye Drive Multi-Use Path in Lebanon. The meeting was held virtually, and was attended by all the addressees of this letter plus myself, Charlotte Brodie. The key points were as follows:

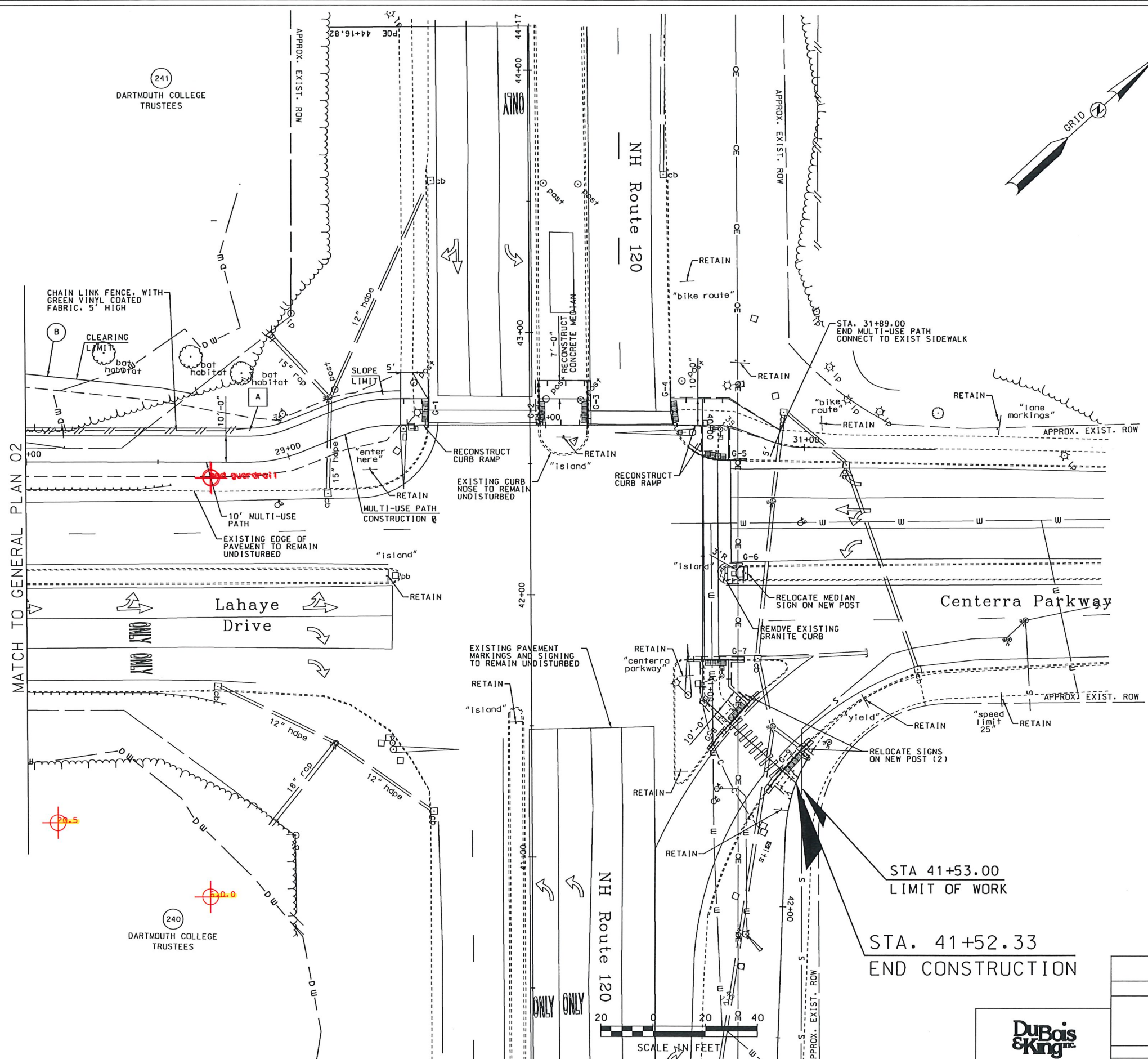
- Charlotte, Brian and Rebecca provided details of the project design and the planning process which resulted in the choice of the alignment along the north side of Lahaye Drive.
- Amy reported that she had received preliminary information on the presence of a State rare (S2, threatened) plant, "Appalachian Barren Strawberry," (*Geum fragarioides*) from Sarah Riley of the Lebanon Conservation Commission. The plant was reported as occurring mostly within 10-15' of the edge of the forested area along the north side of Lahaye Drive. She requested more information on the location of the plants, especially in regards to their locations in relation to the limits of construction of the proposed project. She stated that NHB would need to know the anticipated impacts, and that impacts should be avoided if possible. Once the required information is presented to NHB, discussion can proceed in regards to the next steps. Permission is required from the landowner (Dartmouth College Trustees) to field-review the plants and to send the report to NHB. Results of the field review should be presented in an NHB Field Form. **Rare Plant Review Report sent to NHB, project reviewed with NHB, mitigation measures identified by NHB committed to by City of Lebanon. NHB confirmed no further mitigation measures to be required.**
- Joe requested that the stone at the culvert inlets and outlets be reviewed for possible elimination, if the areas can be appropriately treated with biodegradable erosion control materials instead so that those areas could be restored to more natural conditions. Brian noted that he will check the site conditions and NHDOT design requirements for compatibility. **Stone at culverts buried and covered with grubbing materials to be seeded and mulched so that those areas can revert to natural conditions.**
- Joe stated that NHDES Wetlands considers impacts to emergent wetlands to be more

environmentally damaging than impacts to wooded wetlands. He requested verification of the amount of emergent wetlands on either side of Lahaye Drive, in order to assess avoidance of undue adverse impacts through appropriate project siting. He also requested details on the early assessment of wetland impacts during the planning phase of the project. **Amount of emergent wetlands on either side of Lahaye Drive identified in Vegetative Cover Types mapping in wetlands application. Alternatives Presentation Meeting 6-13-18, wetland impacts table provided in wetlands application.**

- Rebecca stated that the minutes of the May 13, 2021 Conservation Commission preliminary meeting for this project were to be finalized soon, and that they could be included in the Wetland Permit application to document that coordination. **We have not received finalized minutes from the ConComm, and have submitted the draft minutes in the wetlands application.**
- Lori confirmed that only the permanent impacts would require mitigation.
- Lindsey stated that if any areas are to be maintained as a different vegetative cover type from their current condition, such areas must be mitigated. For this project, that would mean that a 1' wide mowed strip to be maintained along the toe of the path's fill slope must be mitigated where wooded wetlands will be converted and maintained as emergent wetland. **1' mowed strip eliminated from plans.**
- Charlotte discussed the mitigation options that were considered for the project. She stated that the City owns only a very narrow strip of right-of-way along Lahaye Drive, and that there is no opportunity there for wetland buffer preservation or wetland creation or restoration.
- Charlotte also reported on a preliminary meeting with the Lebanon Conservation Commission on May 13, 2021, in which she asked the ConComm if they were aware of any sites that the Town would like to offer as wetland mitigation. The ConComm did not have any such sites. **None were provided following the May 13, 2021 meeting.**
- Charlotte and Rebecca reported that the City had been in discussion with the other landowner of the project, Dartmouth College Trustees, about the potential for using some of their land for wetland buffer preservation. Rebecca mentioned that the cost to purchase the land (note; she did not refer to easements) would be \$300,000.00, that such a mitigation project would be complicated and time-consuming, that the project's viability depends in part on its ability to stay on track with its current NHDOT Ten Year Plan funding year for construction, which is 2023, and that any decision by Dartmouth would require extensive review through the Dartmouth administrative system. **Use of Dartmouth land for mitigation was untenable, given costs and lengthy review and approval times.**
- Lori requested documentation of the discussions with Dartmouth to be included in the wetlands application. **Details provided in Section 2 of the wetlands application.** She then acknowledged that there are no readily available parcels for project-sponsored mitigation, and that payment to the Aquatic Resource Management In-Lieu Fee would be appropriate mitigation. She mentioned that payment of the fee would be required within 120 days of the submittal of the wetlands application, and that the permit could not be issued until the payment was received by DES.

There would be a 50-day review time for the wetlands application.

- Lori also stated that a payment to the ConComm to allow for researching of Town mitigation opportunities for future projects would not be allowed.
- Lindsey stated that the COE maximum turn-around time for a permit is 60 days, which typically begins upon receipt of the State Wetlands permit. However, concurrent review by NHDES Wetlands and the COE can be requested, which would shorten the COE turn-around time. Lindsey asked that the State wetlands application be sent to her at the time of submittal to DES, through a COE FTP site if necessary, if concurrent review is sought. **Request for concurrent review sent to COE.**



(241)
DARTMOUTH COLLEGE
TRUSTEES

(219)
CP CENTERRA LAND LLC

(218)
EXCHANGE AT CENTERRA LLC

(240)
DARTMOUTH COLLEGE
TRUSTEES

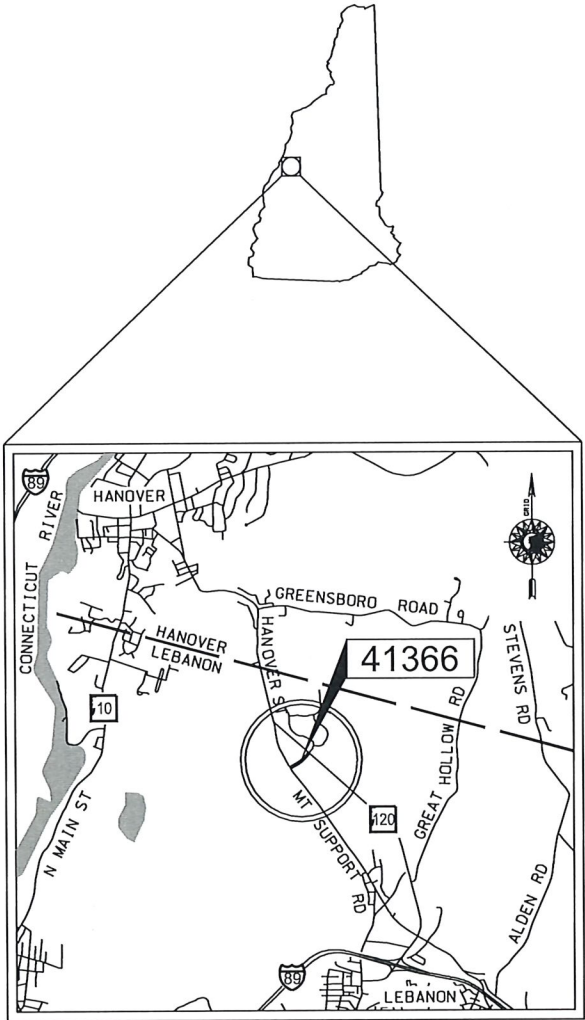
STA. 41+53.00
LIMIT OF WORK

STA. 41+52.33
END CONSTRUCTION

CITY OF LEBANON, NEW HAMPSHIRE			
RARE PLANT LOCATIONS 03			
DGN Rareplants plans	STATE PROJECT NO. 41366	SHEET NO. 1	TOTAL SHEETS 27

DuBois
& King
INC.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS
TRANSPORTATION ALTERNATIVES PROGRAM (TAP)
FHWA PROJECT NO. X-A004(617)
NH PROJECT NO. 41366
LAHAYE DRIVE MULTI-USE PATH



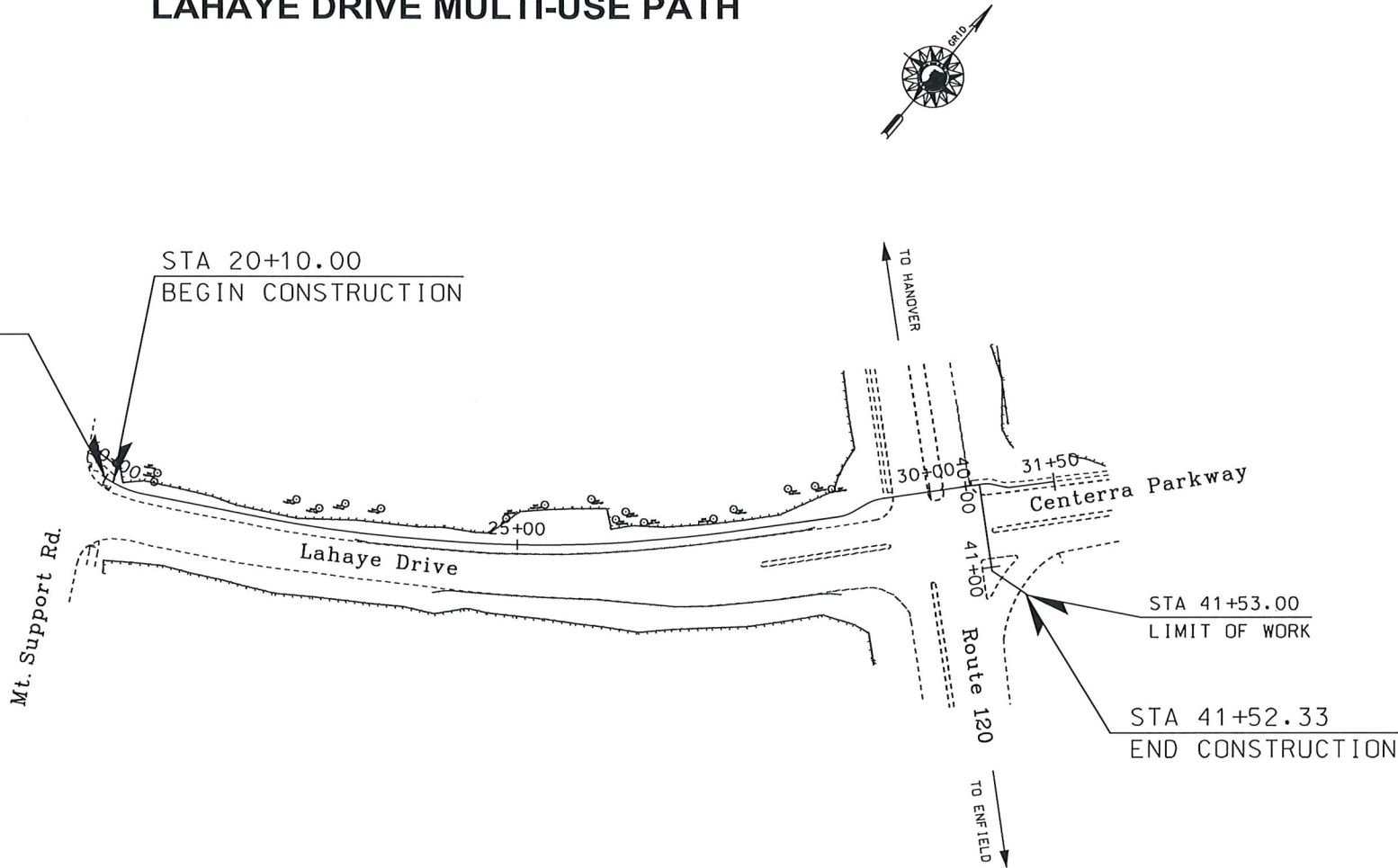
LOCATION MAP



DRAWN BY: GMC
CHECKED BY: JCH
DATE: 6/30/2021
DATE: 6/30/2021

DuBois & King inc.

ENGINEERING • PLANNING •
MANAGEMENT • DEVELOPMENT
18 CONSTITUTION DRIVE
BEDFORD, NH 03110
TEL: (603) 637-1043
FAX: (866) 783-7101
www.dubois-king.com
LACONIA, NH
SPRINGFIELD, VT
RANDOLPH, VT
SOUTH BURLINGTON, VT
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PRELIMINARY PLANS
REVIEW SUBMISSION
SUBJECT TO CHANGE
DATE 6/30/2021

NOT FOR CONSTRUCTION

CITY OF LEBANON
COUNTY OF GRAFTON
SCALE: 1" = 100'

CITY OF LEBANON, NEW HAMPSHIRE

DUBOIS & KING PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
624260	41366	1	27

SDR PROCESSED	GMC	DATE	6/30/2021	
	NEW DESIGN	JCH	DATE	6/30/2021
	SHEET CHECKED		DATE	
	AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	STATION	DESCRIPTION

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	INDEX OF SHEETS AND GENERAL NOTES
3-4	STANDARD SYMBOLS
5	TYPICAL SECTION
6	SUMMARY OF QUANTITIES
7-9	GENERAL PLANS
10	PROFILE
11	SIGNALIZATION PLAN
12-24	CROSS SECTIONS
25-27	RIGHT-OF-WAY PLANS

GENERAL NOTES

- ① FOR STANDARD PLANS, SEE "STANDARD PLANS FOR ROAD CONSTRUCTION" DATED 2010 (A BOUND BOOK).

② HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.

③ MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.

④ EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.

⑤ NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
- ⑥ PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.

⑦ REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).

⑧ SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY SDR AND THE FIELD NOTES CAN BE FOUND IN THE FIELD BOOK(S) _____. COORDINATES ARE NEW HAMPSHIRE STATE PLANE COORDINATES OF NAD83, 1986 ADJUSTMENT AND THE BEARINGS ARE GRID. ELEVATIONS ARE REFERENCED TO NGVD 1929.

⑨ QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:											
①	○	○	④	⑤	⑥	⑦	○	⑨	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○

NOT FOR CONSTRUCTION

REVISION DATE
11-21-14



CITY OF LEBANON, NEW HAMPSHIRE			
INDEX OF SHEETS AND GENERAL NOTES			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
index_sheet	41366	2	27

GENERAL

SHORELAND - WETLAND

EDGE OF PAVEMENT TRAVELED WAY

PROPOSED ROADWAY

existing roadway

(pavement removed outside slope lines)

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type)

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE)

FENCE (LABEL TYPE)

SIGNS

GAS PUMP

FUEL TANK (ABOVE GROUND)

STORAGE TANK FILLER CAP

SEPTIC TANK

GRAVE

MAILBOX

VENT PIPE

SATELLITE DISH ANTENNA

PHONE

GROUND LIGHT/LAMP POST

BORING LOCATION

TEST PIT

INTERSTATE NUMBERED HIGHWAY

UNITED STATES NUMBERED HIGHWAY

STATE NUMBERED HIGHWAY

DRIVEWAYS

(label surface type)

BUILDINGS

(label house or type of building)

(building to be removed)

FOUNDATION

(label type)

LEACH FIELD

leach field

BRIDGE CROSSINGS

STREAM

OVERPASS

STEPS AND WALK

(label type)

INTERMITTENT WATER COURSE

SHORE LINE

river/stream

pond

(label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS)

(deciduous)(coniferous)(stump)

(show station, circumference in feet & type)

TREE OR STUMP (CROSS-SECTIONS)

HEDGE

(label type)

MONITORING WELL

WELL

FLAG POLE

DELINEATED WETLAND

ORDINARY HIGH WATER

TOP OF BANK

TOP OF BANK & ORDINARY HIGH WATER

NORMAL HIGH WATER

WIDTH AT BANK FULL

PRIME WETLAND

PRIME WETLAND 100' BUFFER

NON-JURISDICTIONAL DRAINAGE AREA

COWARDIN DISTINCTION LINE

TIDAL BUFFER ZONE

DEVELOPED TIDAL BUFFER ZONE

HIGHEST OBSERVABLE TIDE LINE

MEAN HIGH WATER

MEAN LOW WATER

VERNAL POOL

SPECIAL AQUATIC SITE

REFERENCE LINE

WATER FRONT BUFFER

NATURAL WOODLAND BUFFER

PROTECTED SHORELAND

INVASIVE SPECIES LABEL

INVASIVE SPECIES

existing

PROPOSED

bgr

cgr

(points toward retained ground)

(single post)

(double post)

gp

ft (label size & type)

fc

gr

mb

vp

da

ph

gl

lp

B

TP

293

3

102

WETLAND DESIGNATION AND TYPE

PUB2E

DW

OHW

TOB

TOB OHW

NHW

WBF

PWET

PWET100

NJDA

CDL

TBZ

DTBZ

HOTL

NHW

NLW

VP

SAS

REF

WB50

NWB150

PS250

I.S.

INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY

100 YEAR FLOODPLAIN BOUNDARY

FLOODWAY

FP500

FP100

FW

ENGINEERING

CONSTRUCTION BASELINE

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:

ORIGINAL GROUND ELEVATION (LEFT)

FINISHED GRADE ELEVATION (RIGHT)

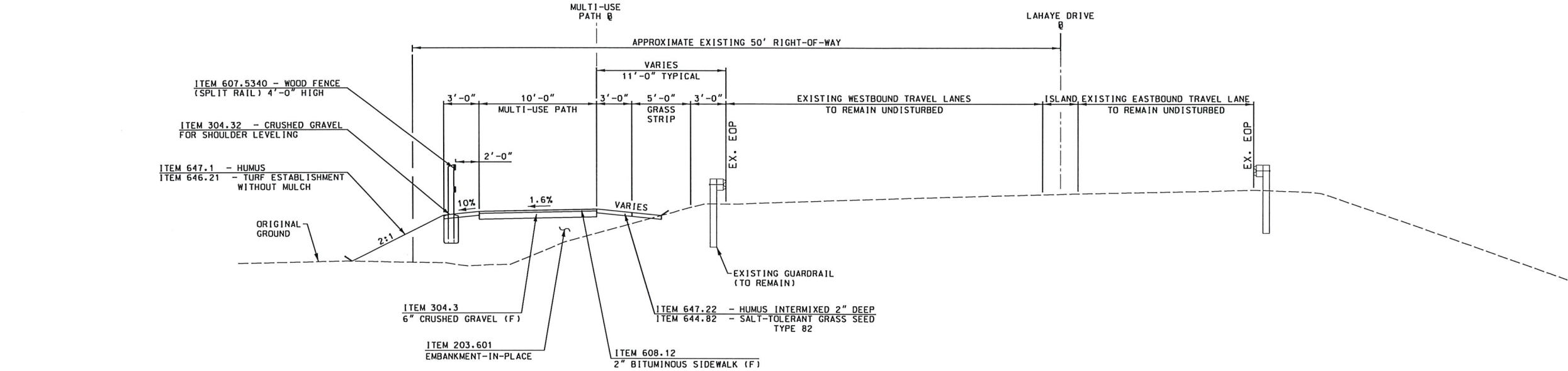
72.5

79.14

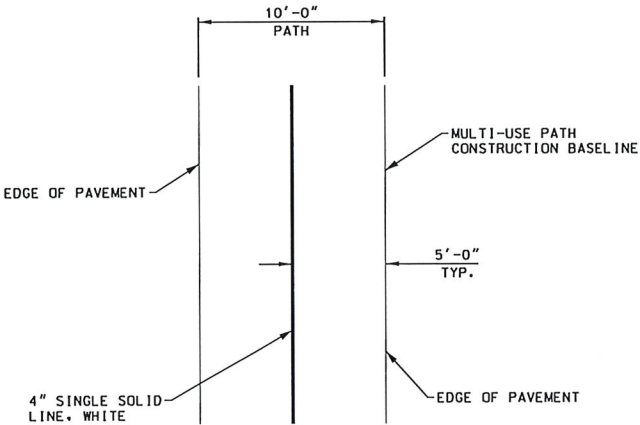
SHEET 1 OF 2

STATE OF NEW HAMPSHIRE CITY OF LEBANON				
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN				
STANDARD SYMBOLS				
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	stdsyml-2	41366	3	27

SDR PROCESSED		DATE		REVISIONS AFTER PROPOSAL	
NEW DESIGN	GMC	DATE	6/30/2021	STATION	DESCRIPTION
SHEET CHECKED	JCH	DATE	6/30/2021	DATE	
AS BUILT DETAILS		DATE		NUMBER	



LAHAYE DRIVE
 10' MULTI-USE PATH
 STA 20+10.00 TO STA 29+45.00
 1" = 5'-0"



PAVEMENT MARKING DETAIL
 NOT TO SCALE

NOTES:
 1. SEE GENERAL PLANS FOR PAVEMENT STRIPE LOCATION.

NOT FOR CONSTRUCTION

CITY OF LEBANON, NEW HAMPSHIRE

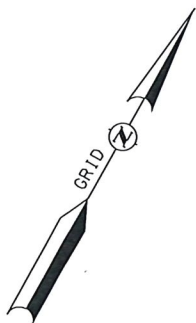
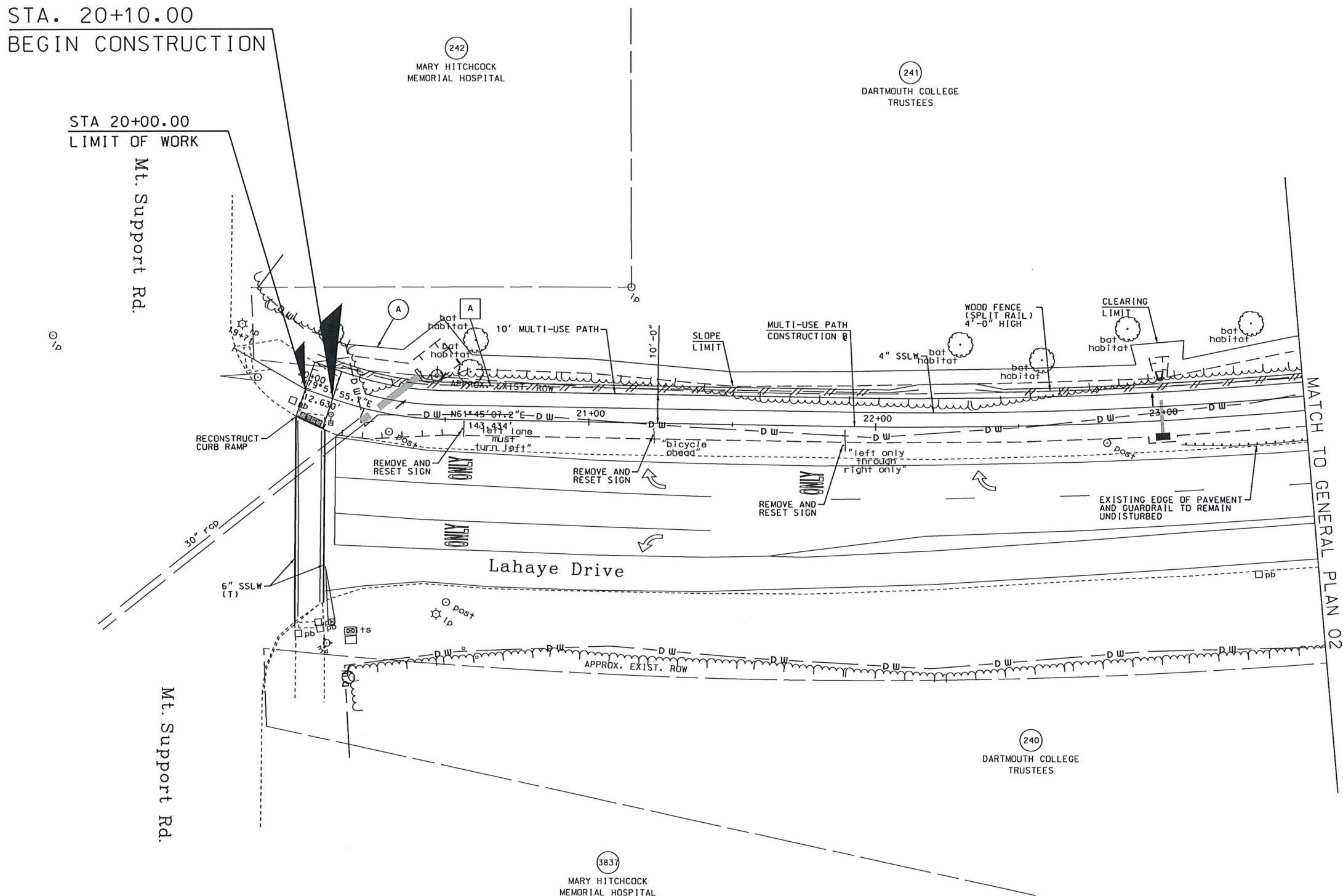
TYPICAL SECTION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366typ	41366	5	27

DuBois & King

5

SDR PROCESSED					DATE		REVISIONS AFTER PROPOSAL							
NAME1			NAME2		NAME3		DATE	DATE2	DATE3	NUMBER	DATE	STATION	STATION	DESCRIPTION
NEW DESIGN							DATE							
SHEET CHECKED							DATE							
AS BUILT DETAILS							DATE							



CITY OF LEBANON, NEW HAMPSHIRE			
GENERAL PLAN 01			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
genplans	41366	7	27

REVISIONS AFTER PROPOSAL	DESCRIPTION
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**DuBois
& King^{INC.}**

SDR PROCESSED NEW DESIGN SHEET CHECKED AS BUILT DETAILS	GMC JCH	DATE	6/30/2021	NUMBER	DATE	STATION	STATION	REVISIONS AFTER PROPOSAL	
		DATE	6/30/2021						
		DATE							
		DATE							

SCALE:
1" = 50' HORIZ.
1" = 10' VERT.

LAHAYE DRIVE
MULTI-USE PATH

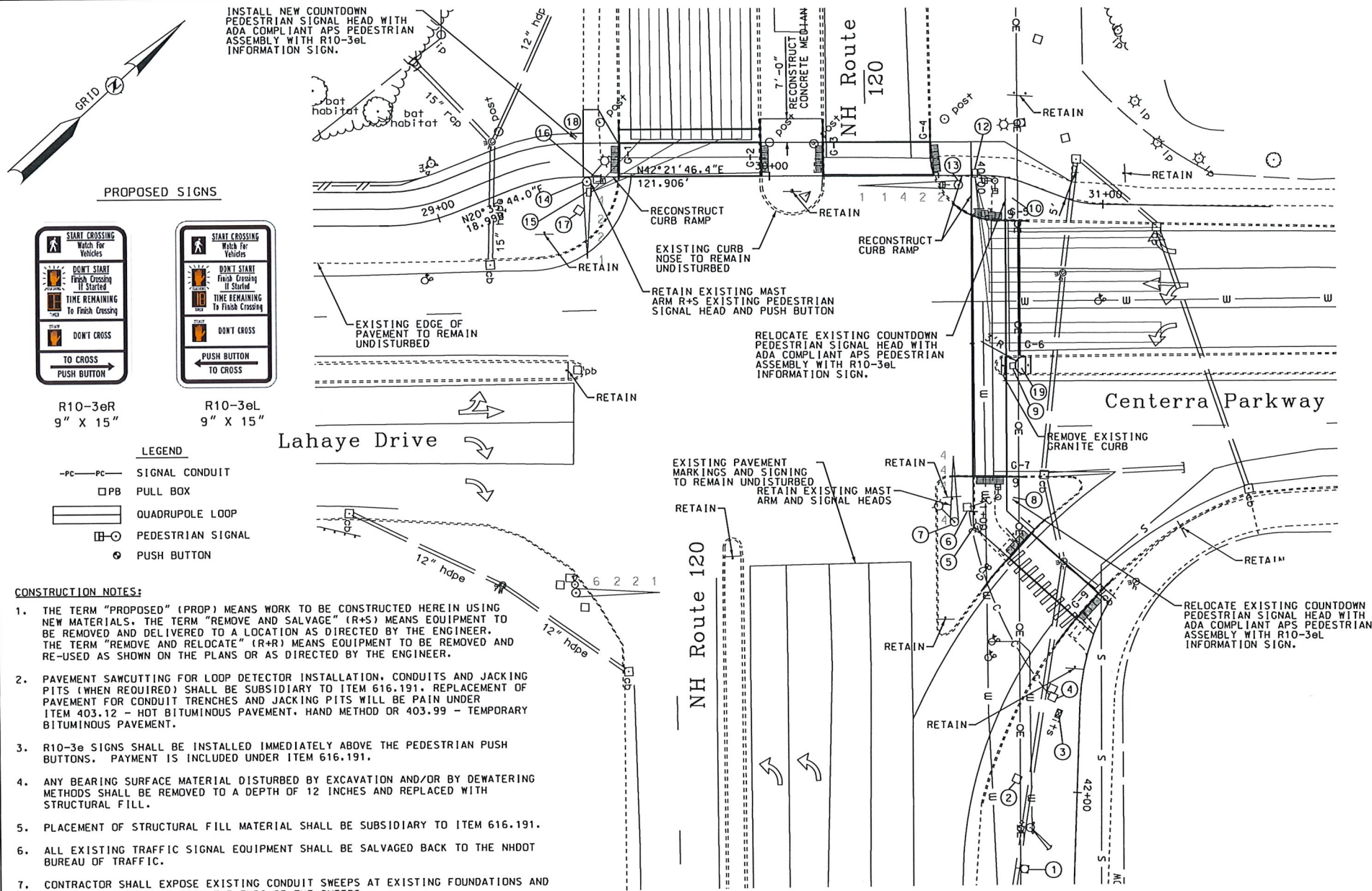


NOT FOR CONSTRUCTION

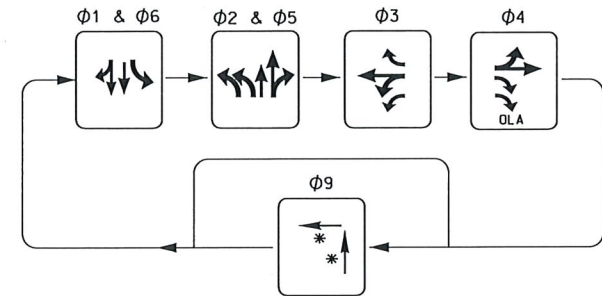
CITY OF LEBANON, NEW HAMPSHIRE

PROFILE

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Profile	41366	10	27



EXISTING N.E.M.A. PHASE SEQUENCE



2022 ROADWAY DESIGN VOLUMES AM (PM)

50 (45)	65 (190)
415 (770)	60 (70)
170 (165)	115 (560)
(80) 45	(235) 1135
(150) 50	(460) 725
(775) 310	(260) 480

2032 ROADWAY DESIGN VOLUMES AM (PM)

55 (50)	75 (210)
440 (845)	70 (80)
190 (180)	125 (620)
(90) 50	(250) 1245
(165) 60	(485) 795
(850) 330	(290) 530

SIGNAL FOUNDATION SCHEDULE

FOUNDATION LOC. TYPE	STATION	NOTES
1	42+23 LT 16'	existing power source
2	41+97 LT 18'	existing pull box
3	41+77 LT 6'	existing meter pedestal
4	41+72 LT 8'	existing controller cabinet
5	41+06 RT 1'	existing pull box
6	40+99 LT 2'	existing pull box
7	41+03 LT 6'	existing mast arm pole
8	40+96 RT 11'	RELOCATE EXISTING PEDESTRIAN PEDESTAL
9	40+57 RT 12'	existing pull box
10	40+06 RT 11'	RELOCATE EXISTING PEDESTRIAN PEDESTAL
11	NOT USED	
12	40+00 RT 1'	existing pull box
13	40+03 LT 4'	existing mast arm pole
14	29+46 RT 1'	existing mast arm pole
15	29+47 RT 6'	existing pull box
16	29+49 RT 1'	existing pull box
17	29+43 RT 10'	existing pull box
18	29+43 LT 11'	PROPOSED PEDESTRIAN PEDESTAL
19	PB 40+56 RT 15'	PROPOSED PULL BOX

PB = 14" CONCRETE PULL BOX CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARD SL-1

TSFND = CONCRETE FOUNDATION FOR PEDESTALS (SIGNAL AND METER) CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARDS SL-2

SIGNAL PHASING

	Φ1	Φ2	Φ3	Φ4	Φ5	Φ6	Φ7	Φ8	Φ9
TIMING IN SECONDS	↶	↷	↶↷	↶↷	↶↷	↶↷	NOT USED	NOT USED	EXCL PED
INITIAL INTERVAL	5	5	5	5	5	5	-	-	1
VEHICLE EXTENSION	4	4	3	3	4	4	-	-	
MAXIMUM I	21	41	8	8	44	18	-	-	29
MAXIMUM II	17	26	27	17	10	33	-	-	29
YELLOW	4	4	4	4	4	4	-	-	3
ALL RED	2	2	2	2	2	2	-	-	0
PEDESTRIAN WALK	-	-	-	-	-	-	-	-	4
PEDESTRIAN CLEAR	-	-	-	-	-	-	-	-	22
FLASH							-	-	DARK
RECALL	NL	SOFT	NL	NL	NL	SOFT	-	-	
DETECTOR							-	-	
PRE-EMPT PRIORITY							-	-	

Φ9 ACTIVATED BY PEDESTRIAN PUSH BUTTON

DETECTOR SCHEDULE

DETECTOR			AMPLIFIER		INDUCT. U H	RESIST. OF LOOP	RESIST. LOOP TO GROUND (MEG OHMS)	RESIST. SHIELD TO GROUND (MEG OHMS)
STREET	DIRECTION	LANE	Φ	NO. CHANNEL				
NH ROUTE 120	SOUTHBOUND	LEFT	1	1	1			
NH ROUTE 120	SOUTHBOUND	THRU	6	2	1			
NH ROUTE 120	SOUTHBOUND	THRU-RIGHT	6	2	2			
NH ROUTE 120	NORTHBOUND	LEFT	5	3	1			
NH ROUTE 120	NORTHBOUND	LEFT	5	3	2			
NH ROUTE 120	NORTHBOUND	THRU	2	4	1			
NH ROUTE 120	NORTHBOUND	THRU	2	4	2			
CENTERRA PKWY	WESTBOUND	LEFT	3	5	1			
CENTERRA PKWY	WESTBOUND	THRU-LEFT	3	5	1			
CENTERRA PKWY	WESTBOUND	RIGHT	3	5	2			
LAHAYE DRIVE	EASTBOUND	THRU-LEFT	4	6	1			
LAHAYE DRIVE	EASTBOUND	RIGHT	4	6	1			
LAHAYE DRIVE	EASTBOUND	RIGHT	4	6	2			

RECORD FIELD MEASUREMENTS ABOVE

SIGNAL HEADS

EXISTING				PROPOSED
1,3	4	4	2,3,4,6	9
				16"x18" LED HOUSING

CITY OF LEBANON, NEW HAMPSHIRE

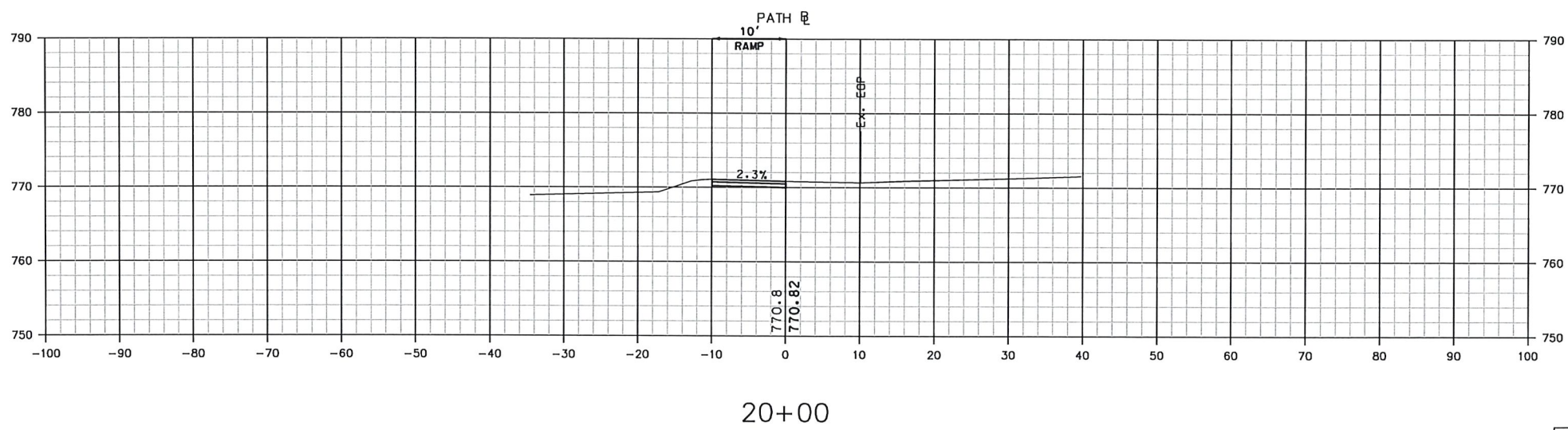
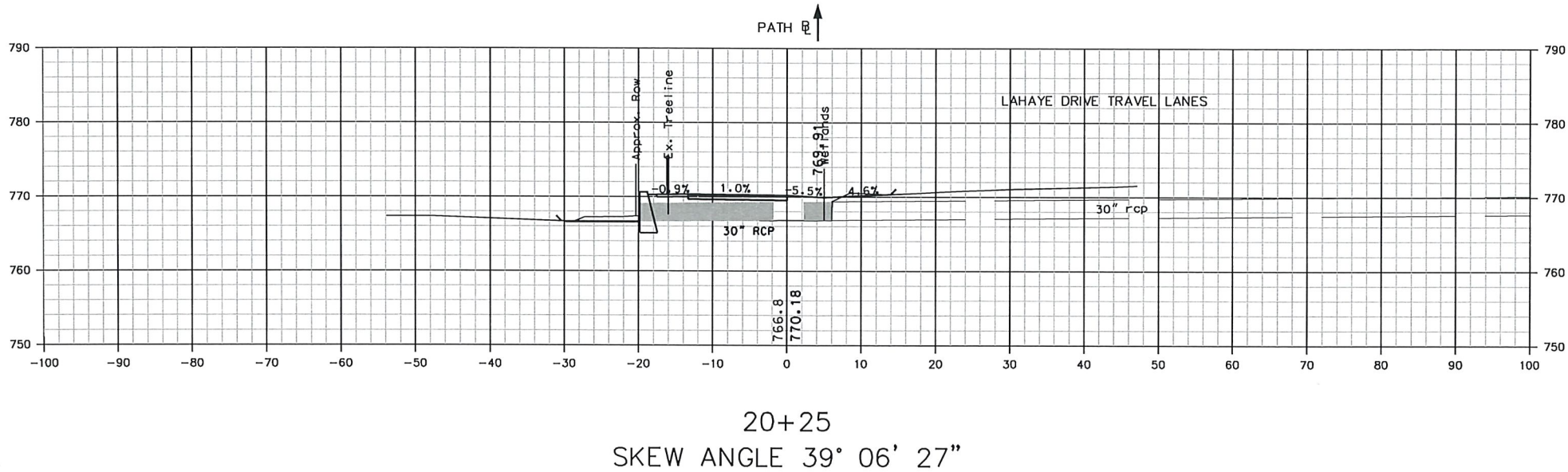
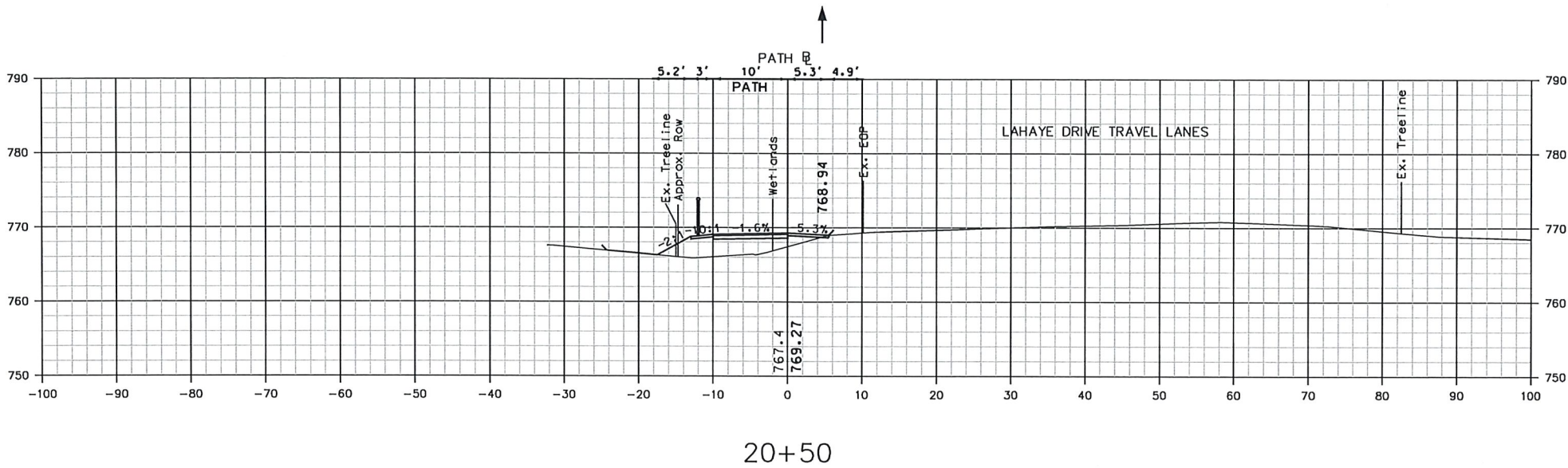
SIGNALIZATION PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
sigplans	41366	11	27

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	DATE	DATE	DATE
NEW DESIGN	GMC	6/30/2021	
SHEET CHECKED	JCH	6/30/2021	
AS BUILT DETAILS	DATE		

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.



STA 20+10.00 – BEGIN CONSTRUCTION
STA 20+00.00 – LIMIT OF WORK

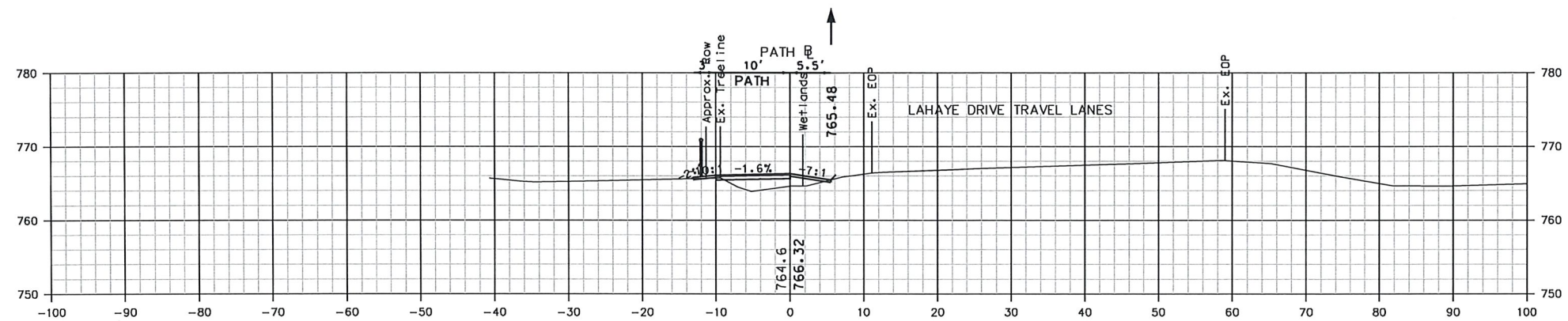
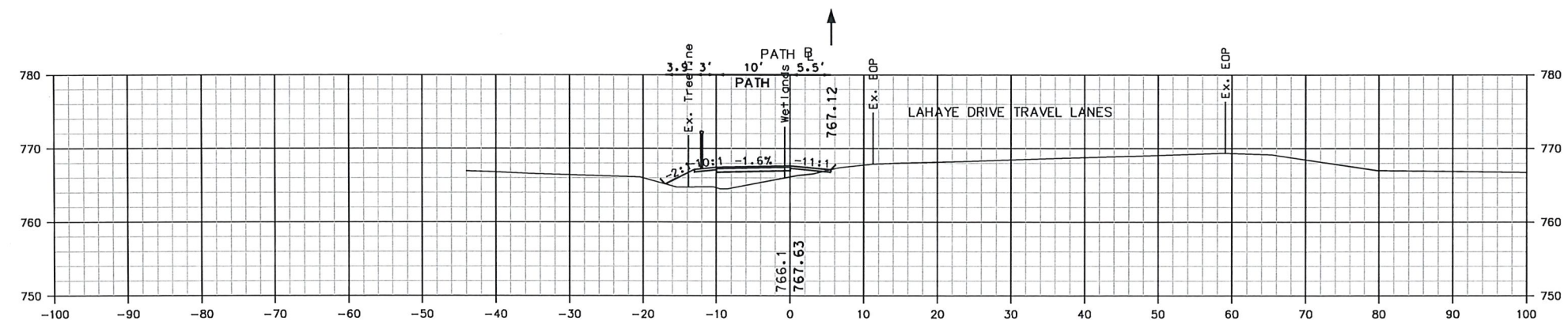
LAHAYE DRIVE

NOT FOR CONSTRUCTION			
SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366XS	41366	12	27

SDR PROCESSED		DATE				
NEW DESIGN		GMC	DATE	6/30/2021		
SHEET CHECKED		JCH	DATE	6/30/2021		
AS-BUILT DETAILS						
			DATE			

REVISIONS AFTER PROPOSAL				
NUMBER	DATE	STATION	STATION	DESCRIPTION

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.

 $21 + 50$ 

21+00

NOT FOR CONSTRUCTION

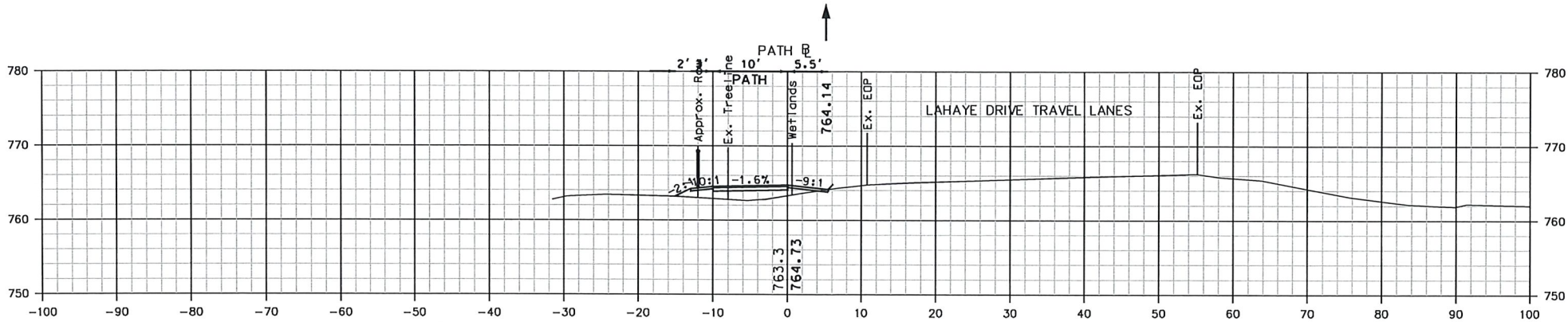
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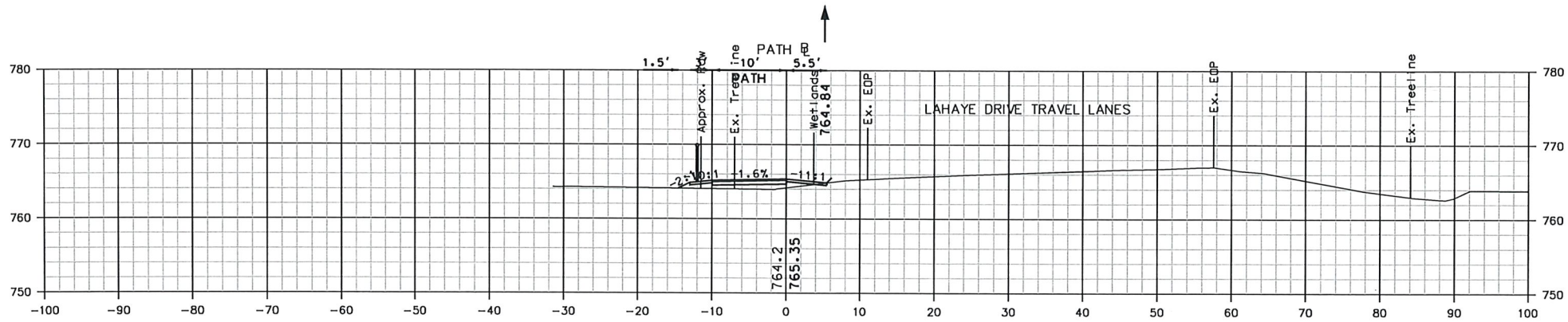
COMMON EXCAV. _____ C.Y.		ROCK EXCAV. _____ C.Y.	
FILL _____ C.Y.		MUCK EXCAV. _____ C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	13	27

SDR PROCESSED				REVISIONS AFTER PROPOSAL			
NEW DESIGN	GMC	DATE	6/30/2021	NUMBER	DATE	STATION	DESCRIPTION
SHEET CHECKED	JCH	DATE	6/30/2021				
AS BUILT DETAILS							

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.



22+50



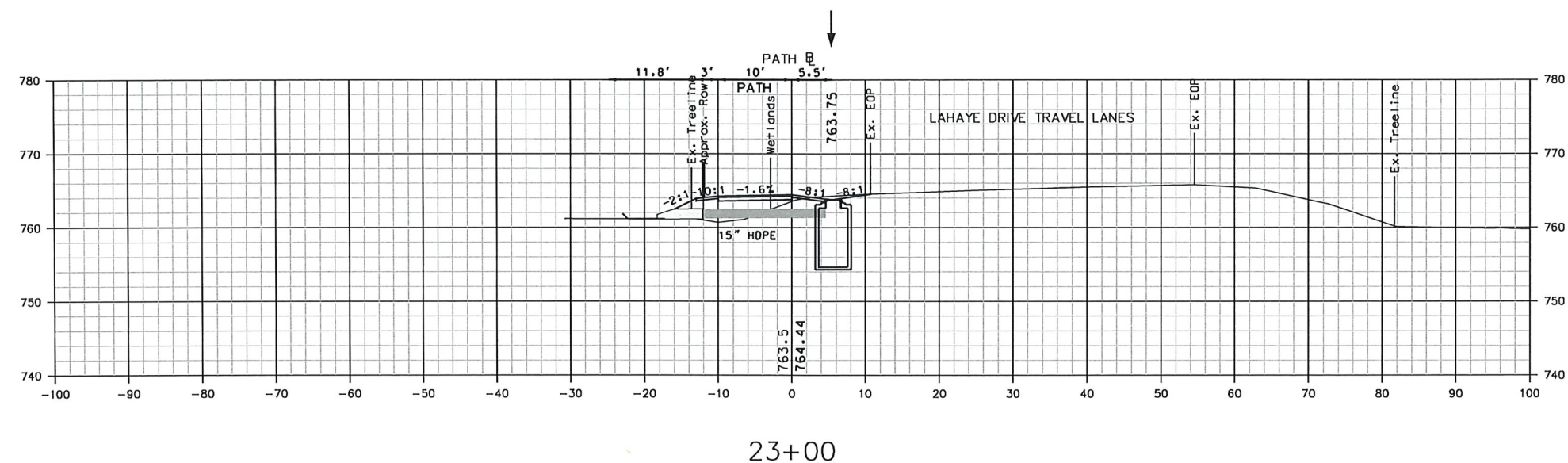
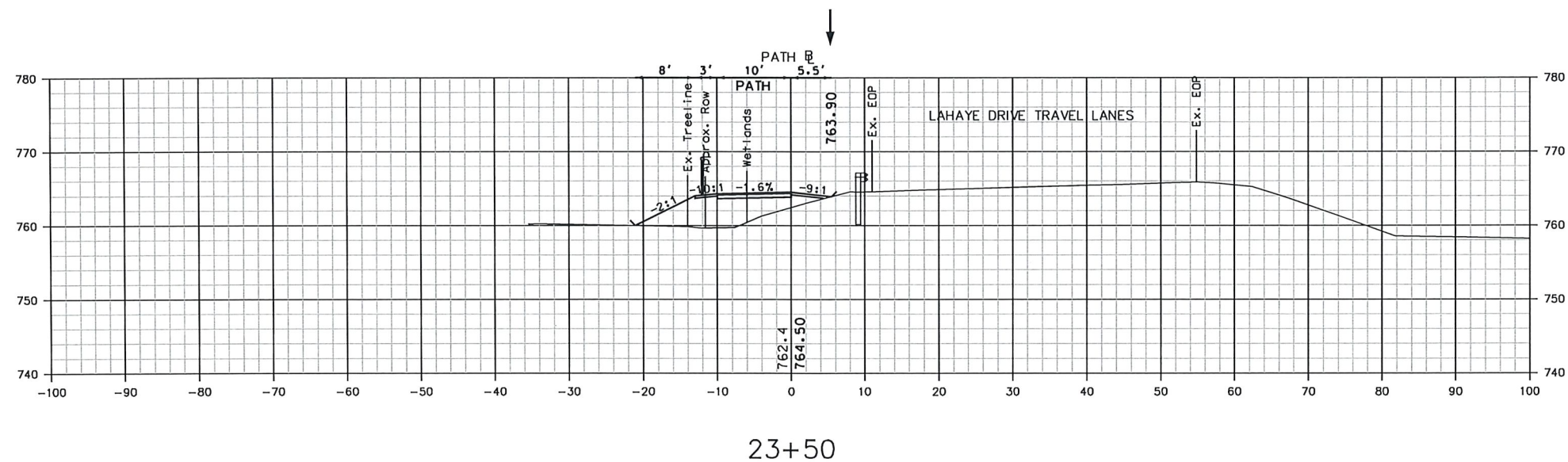
22+00

NOT FOR CONSTRUCTION

LAHAYE DRIVE

DuBois & King			
SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	14	27

SDR PROCESSED		DATE	REVISIONS AFTER PROPOSAL			
NEW DESIGN	GMC	6/30/2021	NUMBER	DATE	STATION	DESCRIPTION
SHEET CHECKED	JCH	6/30/2021				
AS-BUILT DETAILS						



SCALE:
1" = 10' HORIZ.
1" = 10' VERT.

LAHAYE DRIVE

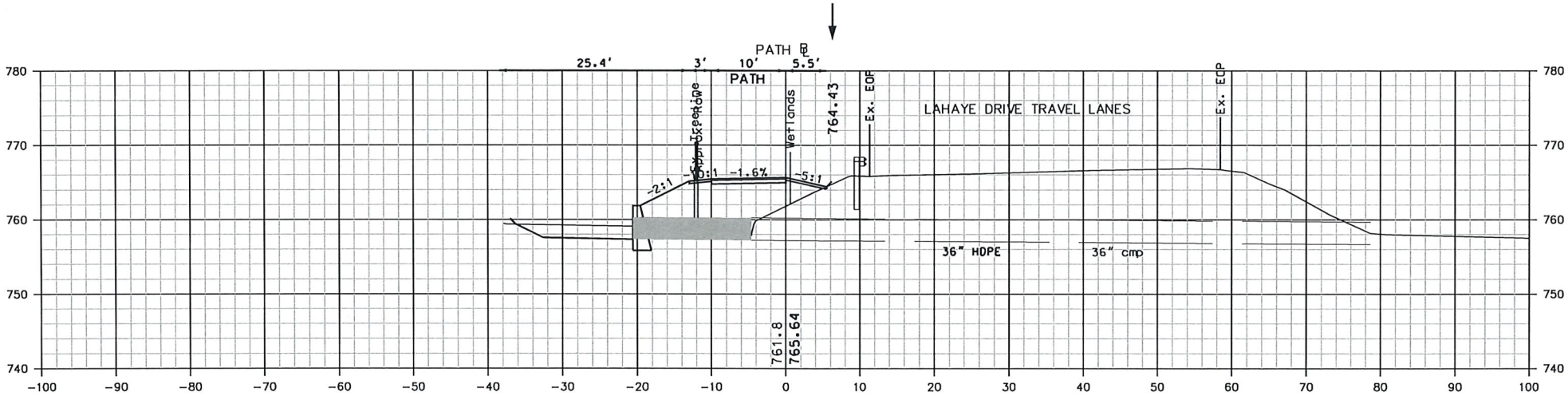
**DuBois
& King**

		SHEET TOTALS	
COMMON EXCAV. _____	C.Y. _____	ROCK EXCAV. _____	C.Y. _____
FILL _____	C.Y. _____	MUCK EXCAV. _____	C.Y. _____
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEET
41366xs	41366	15	27

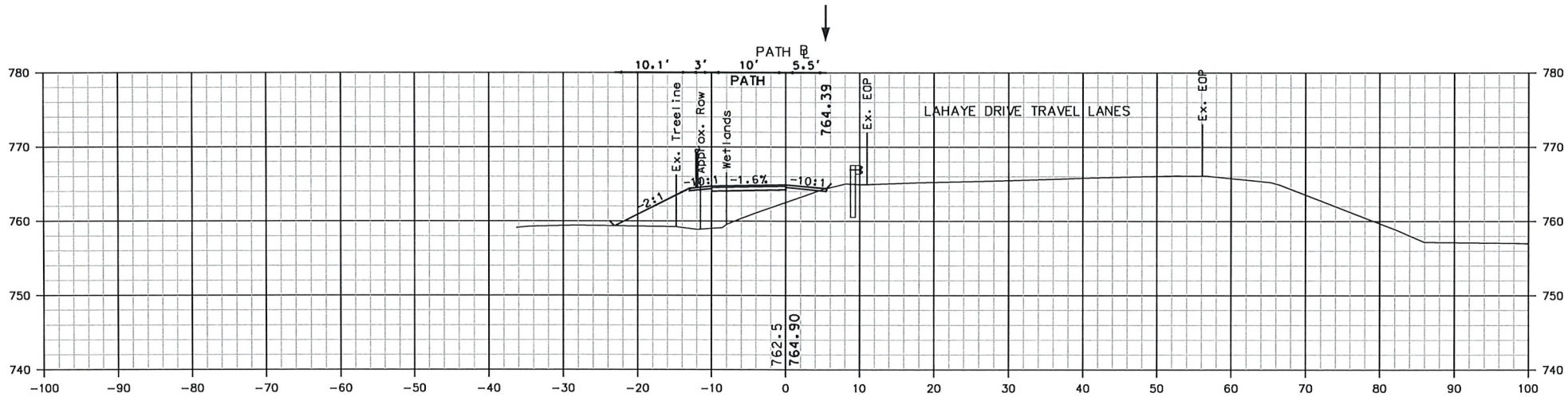
NOT FOR CONSTRUCTION

SDR PROCESSED		DATE		REVISIONS AFTER PROPOSAL	
NEW DESIGN	GMC	DATE	6/30/2021	NUMBER	STATION
SHEET CHECKED	JCH	DATE	6/30/2021	DATE	STATION
AS BUILT DETAILS		DATE			

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.



24+50



24+00

NOT FOR CONSTRUCTION

LAHAYE DRIVE

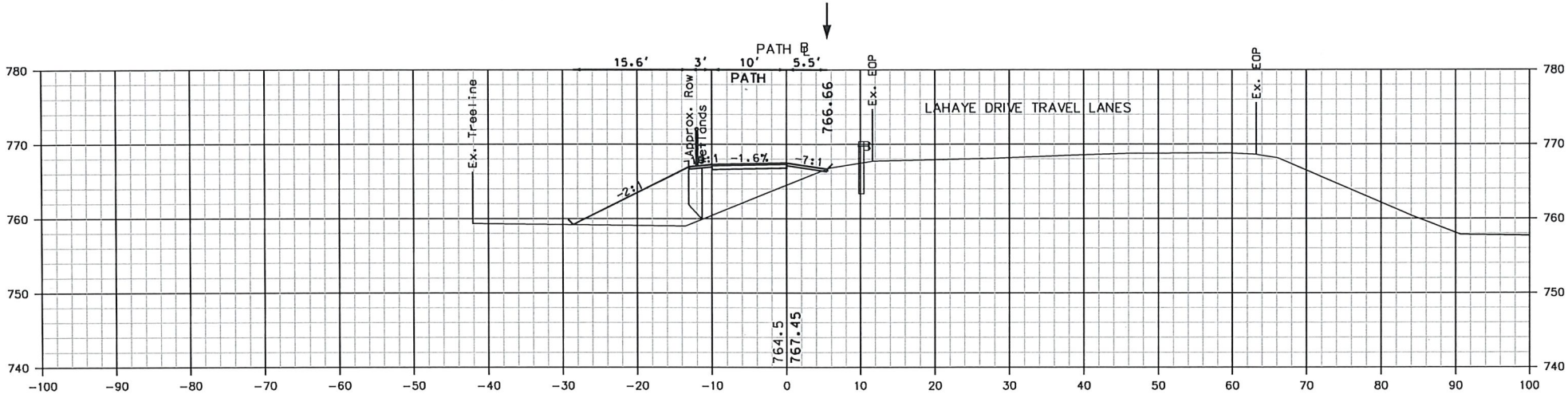
DuBois
& King

SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	16	27

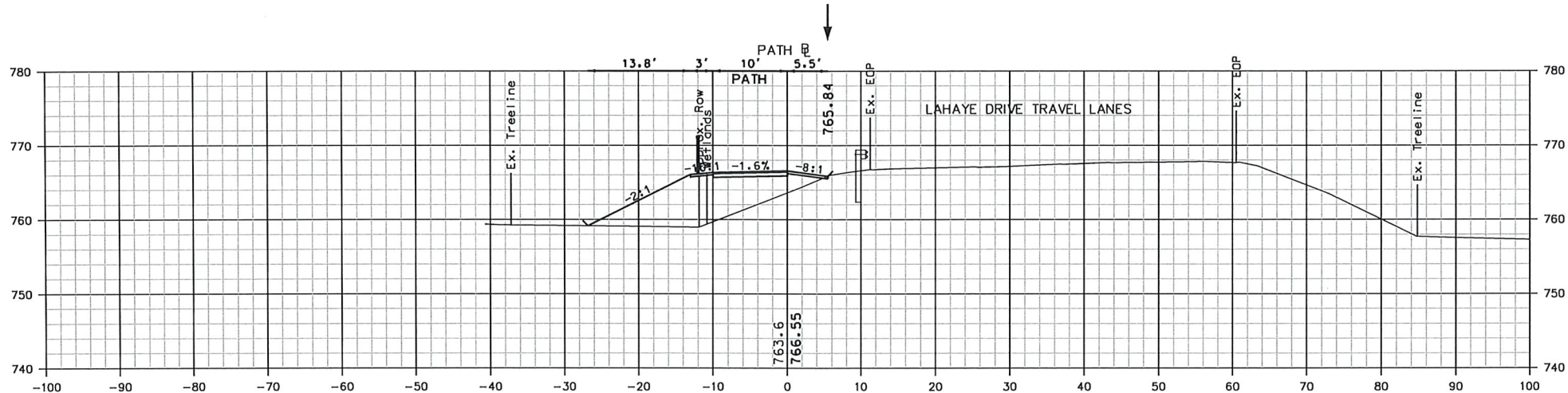
REVISIONS AFTER PROPOSAL				DESCRIPTION	
NUMBER	DATE	STATION	STATION		

SDR PROCESSED	DATE	6/30/2021
NEW DESIGN	DATE	6/30/2021
SHEET CHECKED	DATE	6/30/2021
AS BUILT DETAILS	DATE	

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.



25+50



25+00

NOT FOR CONSTRUCTION

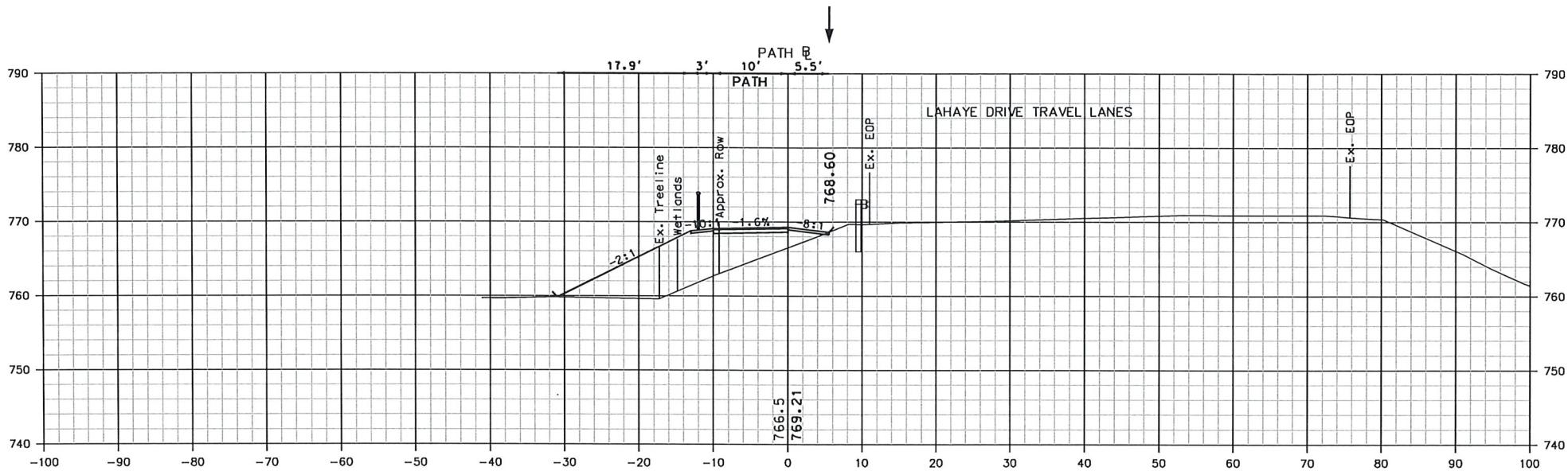


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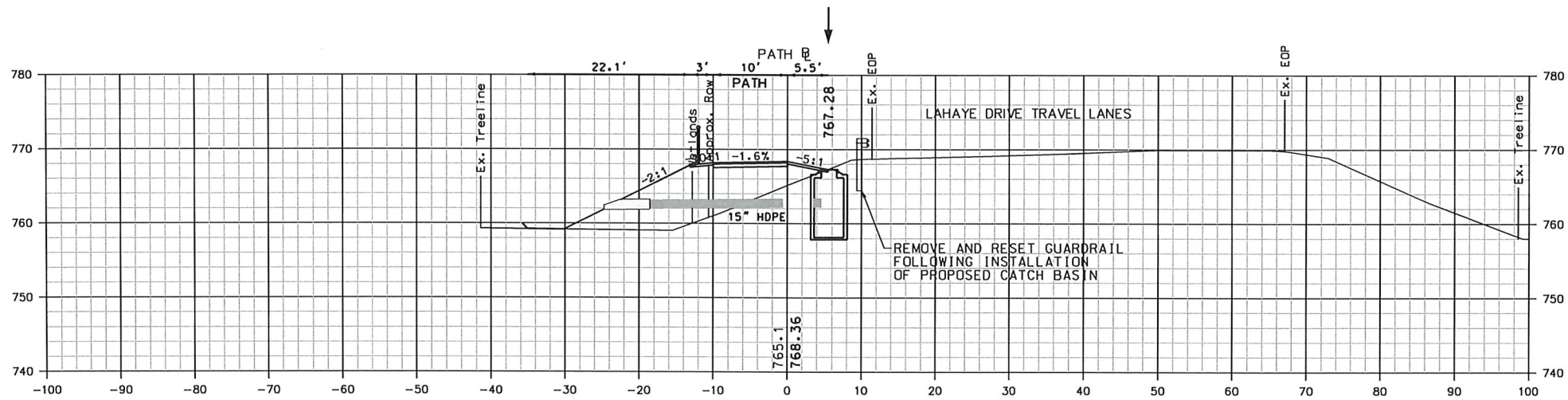
SHEET TOTALS					
COMMON EXCAV.	—	C.Y.	ROCK EXCAV.	—	C.Y.
FILL	—	C.Y.	MUCK EXCAV.	—	C.Y.
DGN	STATE PROJECT NO.		SHEET NO.	TOTAL SHEETS	
41366xs	41366		17	27	

SDR PROCESSED		DATE		REVISIONS AFTER PROPOSAL	
NEW DESIGN	GMC	DATE	6/30/2021	STATION	DESCRIPTION
SHEET CHECKED	JCH	DATE	6/30/2021	STATION	
AS BUILT DETAILS		DATE			

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.



26+50



26+00

NOT FOR CONSTRUCTION

LAHAYE DRIVE

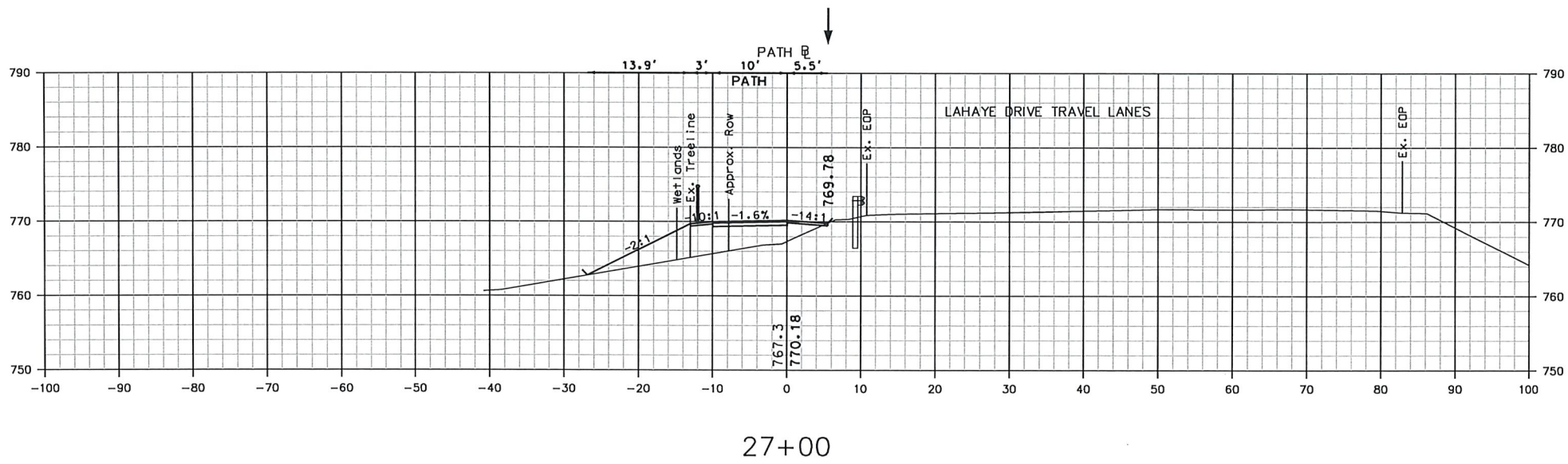
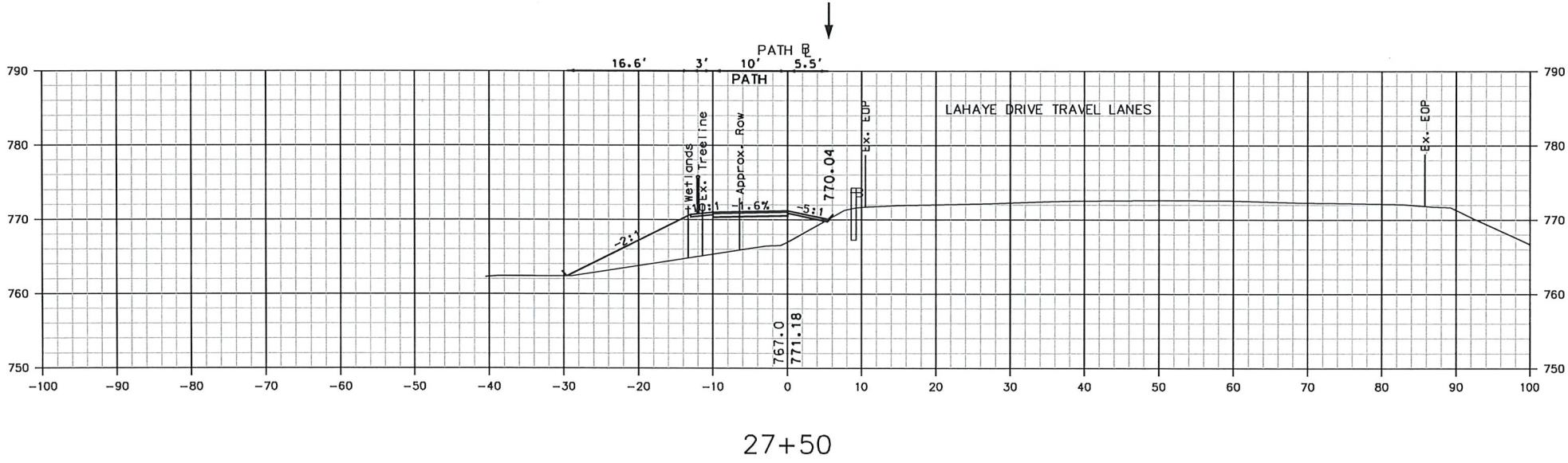


SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	18	27

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDP PROCESSED	DATE	DATE	DATE
NEW DESIGN	GMC	6/30/2021	
SHEET CHECKED	JCH	6/30/2021	
AS BUILT DETAILS	DATE		

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.

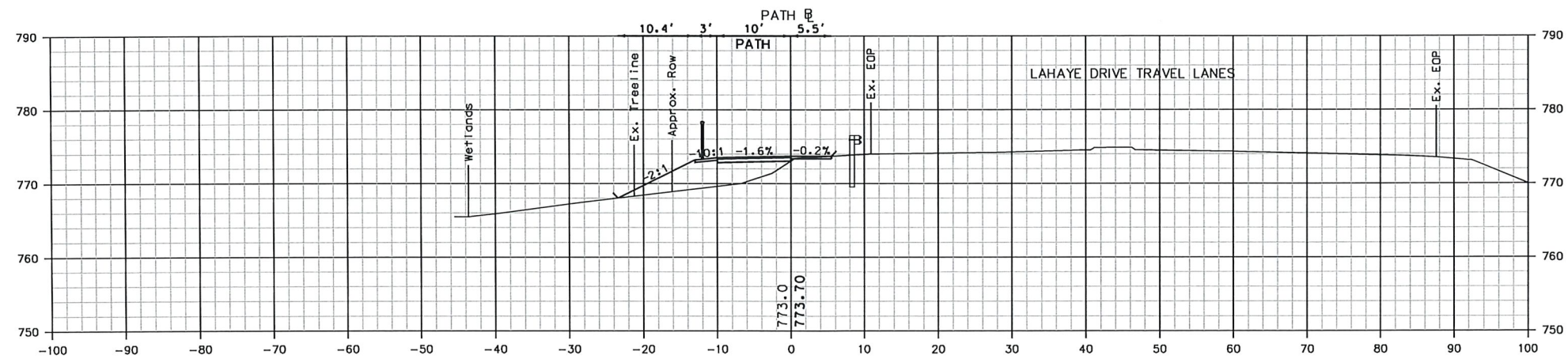
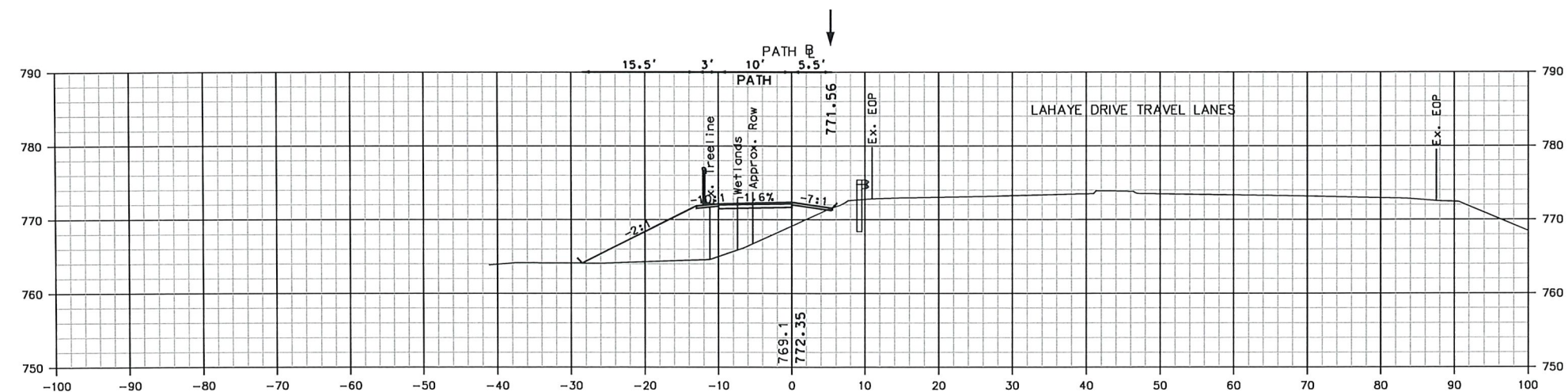


NOT FOR CONSTRUCTION

LAHAYE DRIVE



SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366XS	41366	19	27

[illegible] $28+50$ 

28+00

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.

NOT FOR CONSTRUCTION

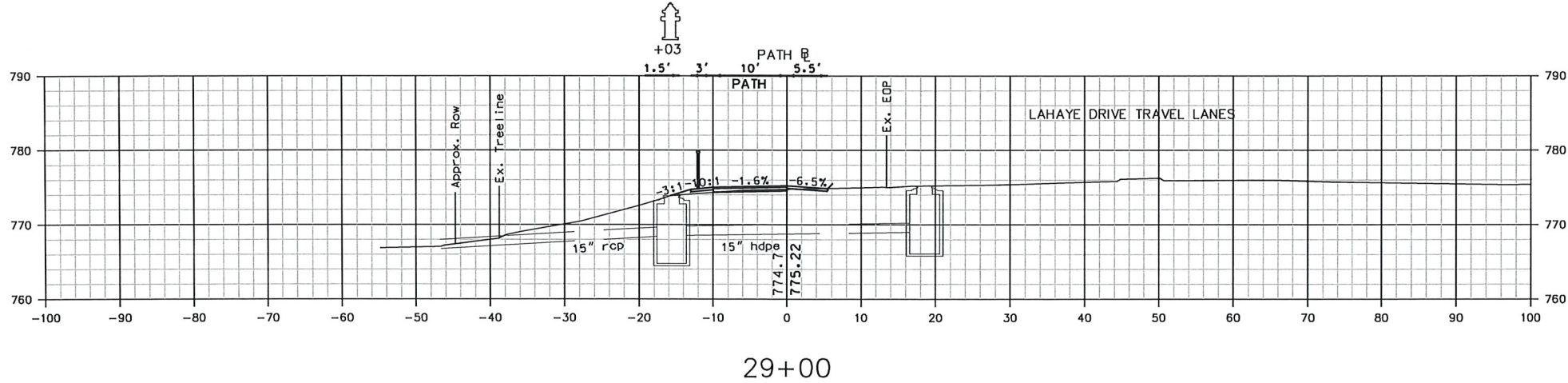
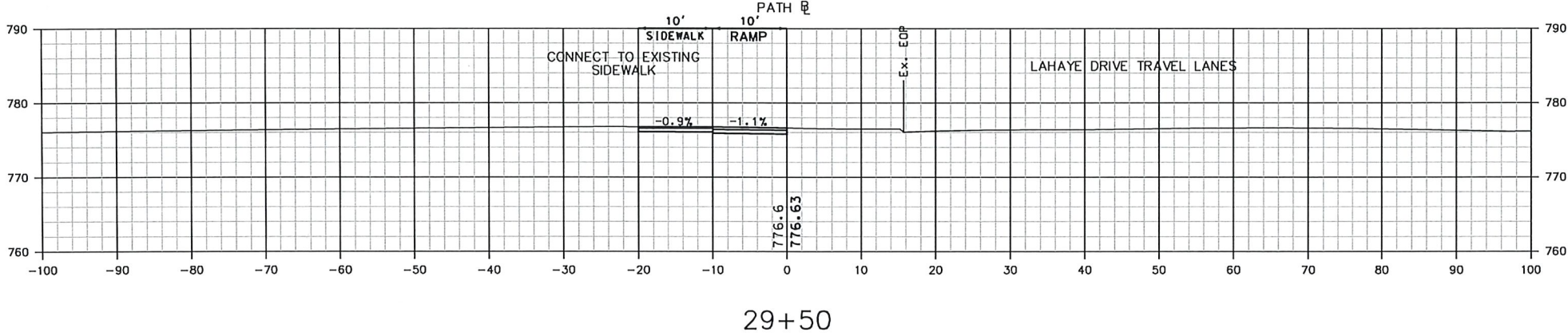
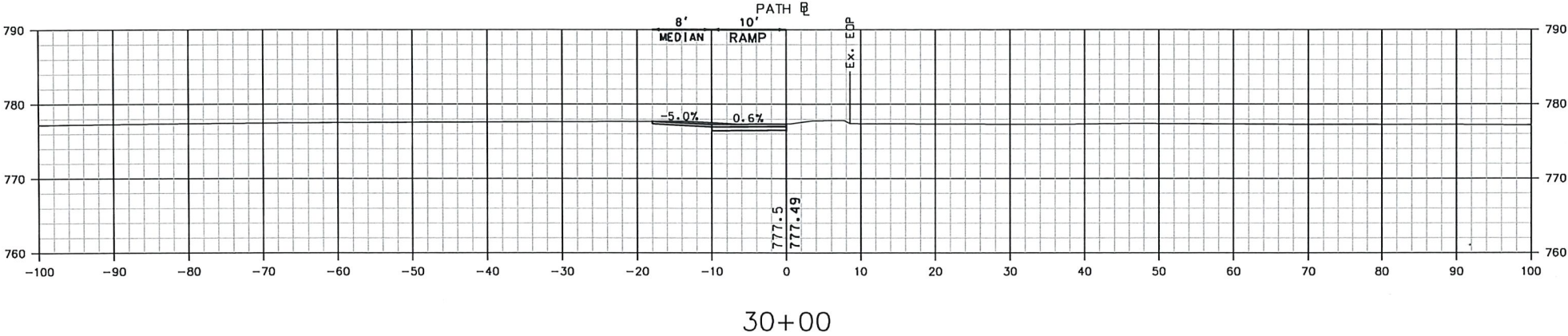
LAHAYE DRIVE



SHEET TOTALS			
COMMON EXCAV. _____ C. Y.	ROCK EXCAV. _____ C. Y.		
FILL _____ C. Y.	MUCK EXCAV. _____ C. Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	20	27

SDR PROCESSED		DATE		REVISIONS AFTER PROPOSAL	
NEW DESIGN	GMC	DATE	6/30/2021	STATION	DESCRIPTION
SHEET CHECKED	JCH	DATE	6/30/2021	DATE	
AS BUILT DETAILS		DATE		NUMBER	

SCALE:
1" = 10' HORIZ.
1" = 10' VERT.



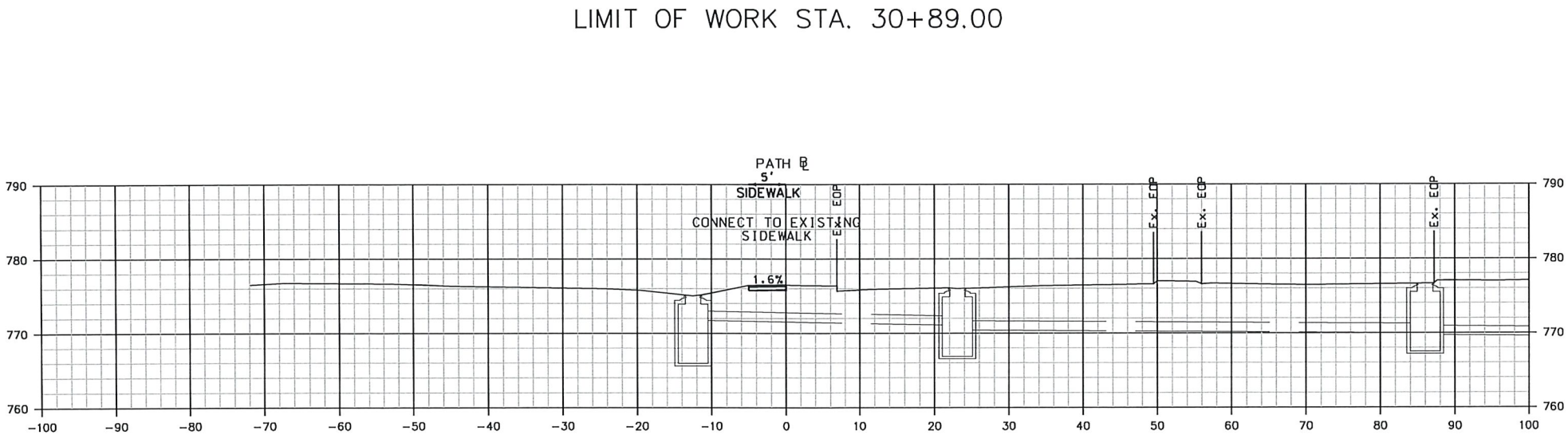
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LAHAYE DRIVE

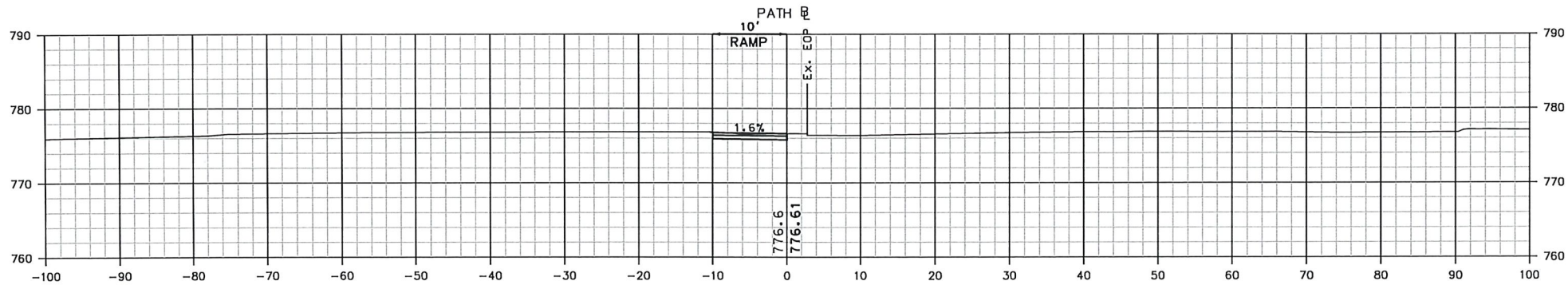
DuBois
& King

SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	21	27

SDR PROCESSED		DATE		REVISIONS AFTER PROPOSAL	
NEW DESIGN	GMC	DATE	6/30/2021	NUMBER	STATION
SHEET CHECKED	JCH	DATE	6/30/2021	DATE	STATION
AS BUILT DETAILS		DATE		DESCRIPTION	



30+89

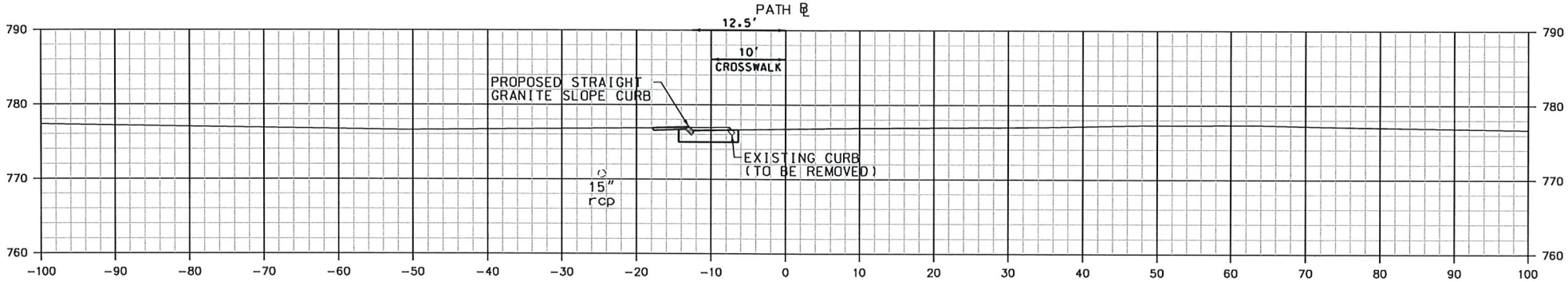


30+50

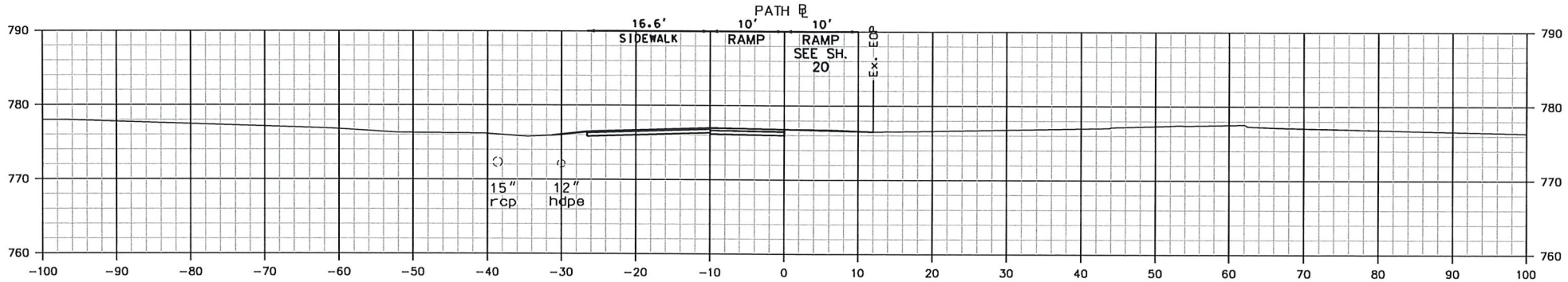
LAHAYE DRIVE

SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	22	27

SDR PROCESSED				REVISIONS AFTER PROPOSAL			
NEW DESIGN	GMC	DATE	6/30/2021	NUMBER	DATE	STATION	DESCRIPTION
SHEET CHECKED	JCH	DATE	6/30/2021				
AS BUILT DETAILS							
		DATE					



40+57



40+00

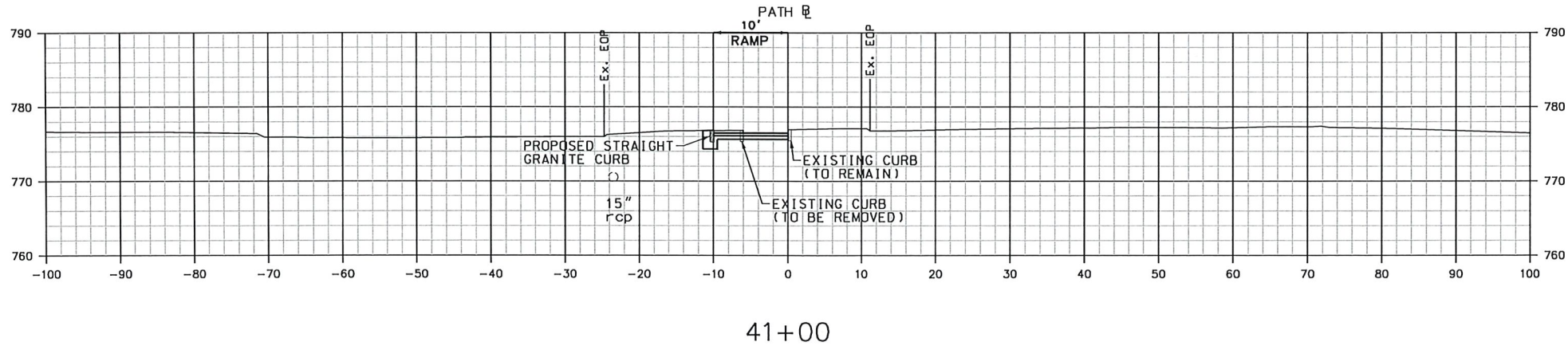
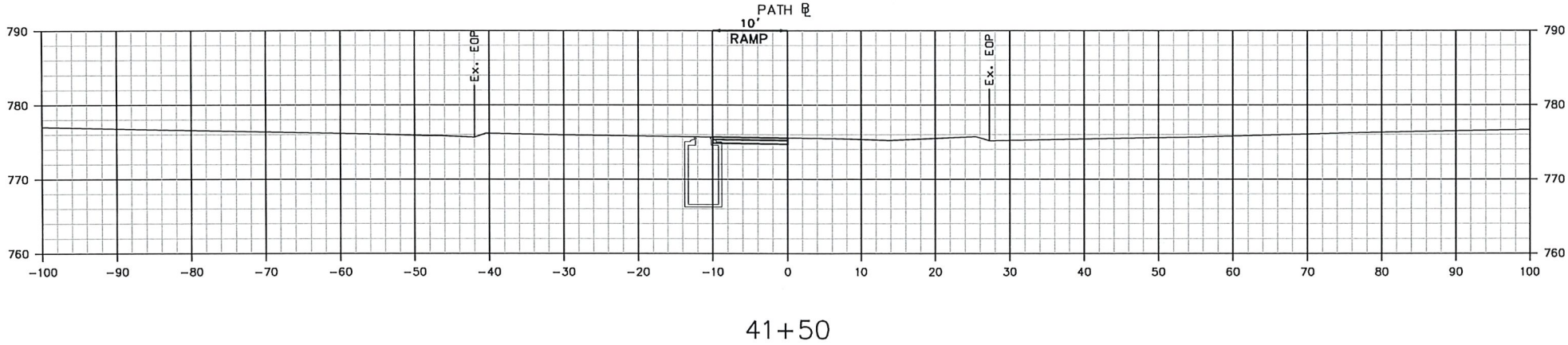
LIMIT OF WORK STA. 40+00.00

SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366XS	41366	23	27

CENTERRA PARKWAY

SDR PROCESSED		DATE		REVISIONS AFTER PROPOSAL	
NEW DESIGN	GMC	DATE	6/30/2021	STATION	DESCRIPTION
SHEET CHECKED	JCH	DATE	6/30/2021	STATION	
AS BUILT DETAILS		DATE		STATION	

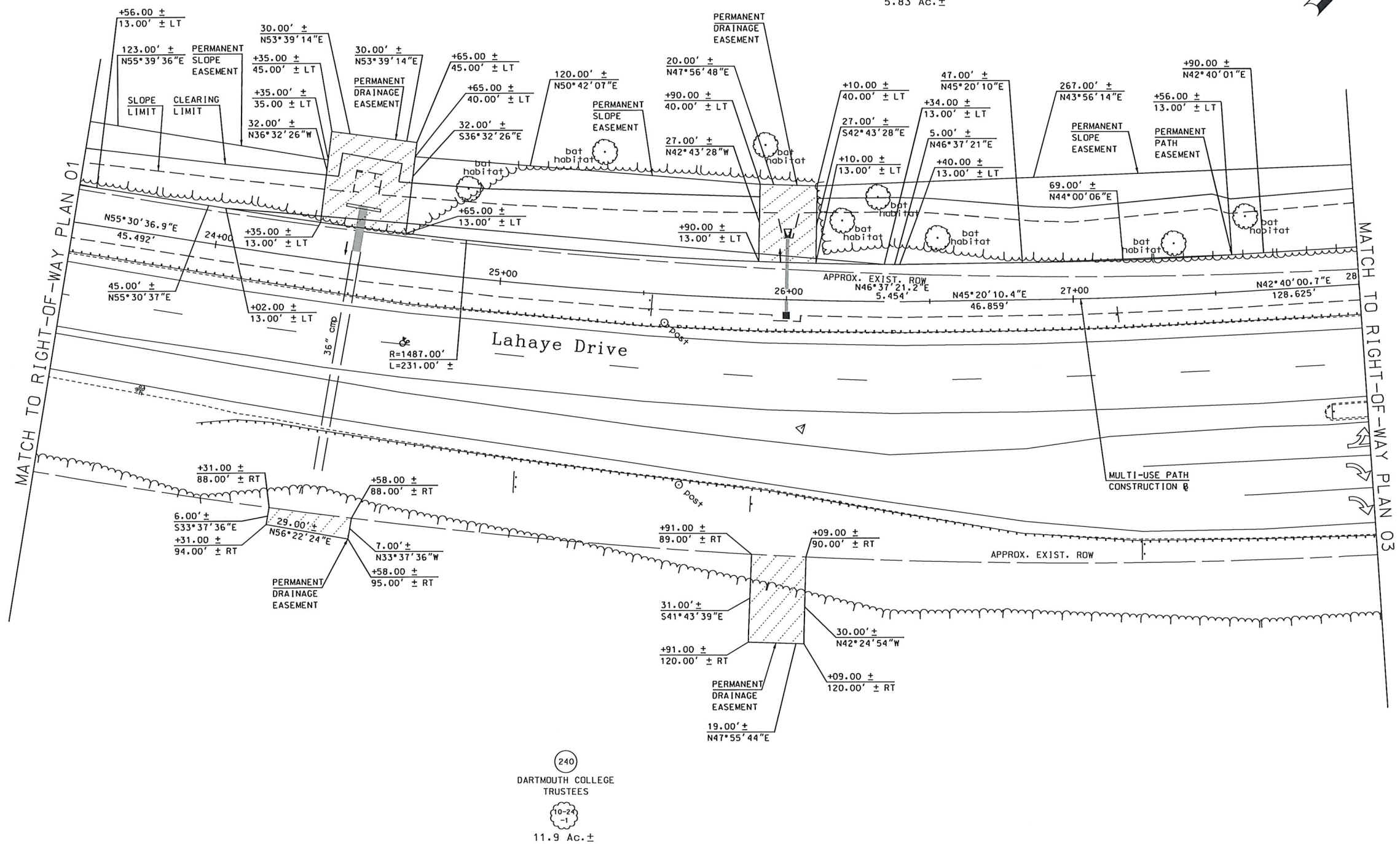
LIMIT OF WORK STA. 41+53.00



SHEET TOTALS			
COMMON EXCAV.	— C.Y.	ROCK EXCAV.	— C.Y.
FILL	— C.Y.	MUCK EXCAV.	— C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	24	27

CENTERRA PARKWAY

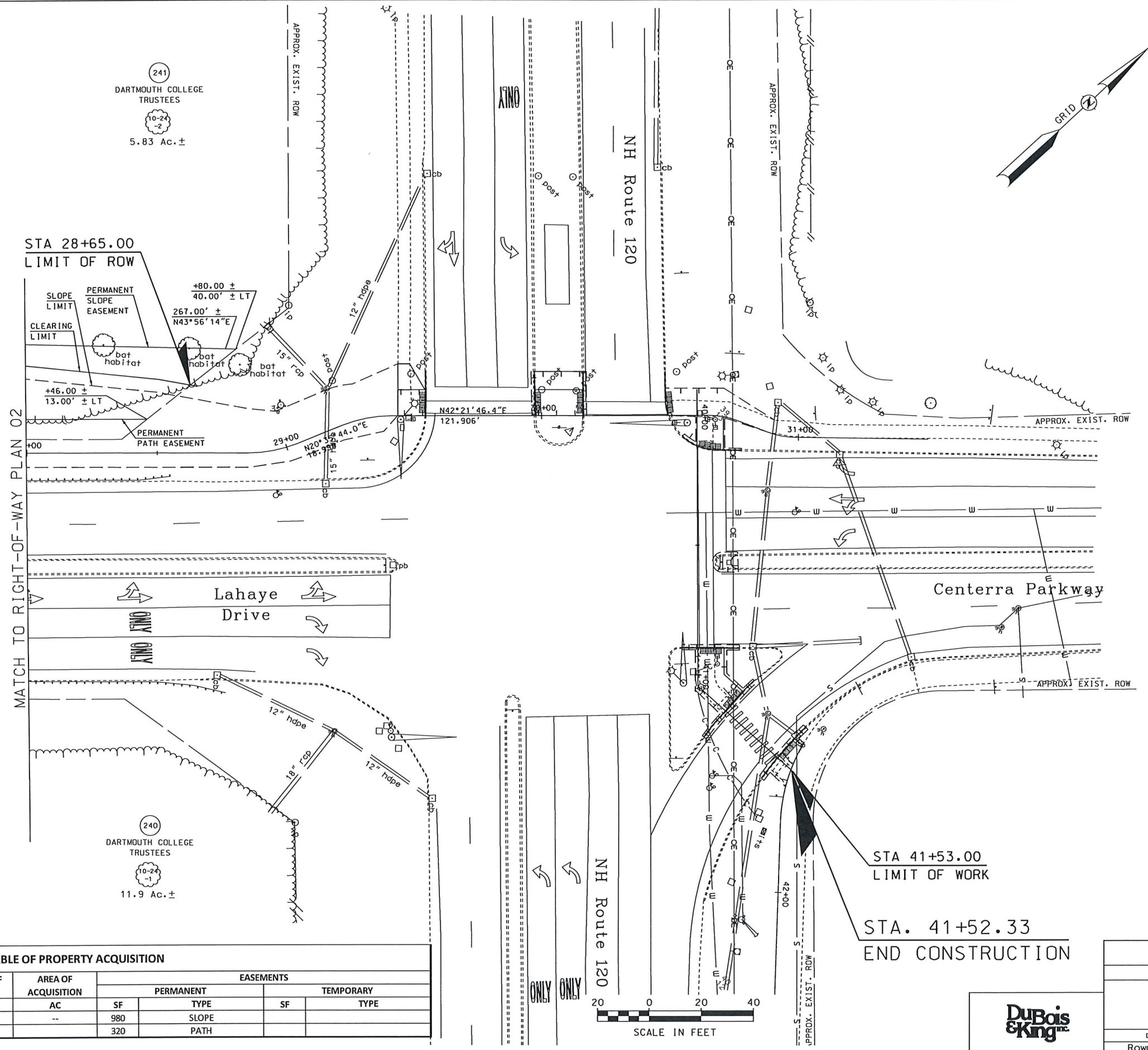
TABLE OF PROPERTY ACQUISITION							
PAR. NO.	PROPERTY OWNER	TOTAL AREA OF PARCEL	AREA OF ACQUISITION	EASEMENTS			
				PERMANENT		TEMPORARY	
		AC	AC	SF	TYPE	SF	TYPE
241	DARTMOUTH COLLEGE TRUSTEES	5.83	--	1500	DRAINAGE		
				7710	SLOPE		
				1400	PATH		
240	DARTMOUTH COLLEGE TRUSTEES	11.90	--	790	DRAINAGE		



CITY OF LEBANON, NEW HAMPSHIRE

RIGHT-OF-WAY PLAN 02

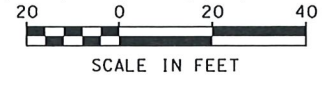
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
RowPlans	41366	26	27



MATCH TO RIGHT-OF-WAY PLAN 02

TABLE OF PROPERTY ACQUISITION

PAR. NO.	PROPERTY OWNER	TOTAL AREA OF PARCEL AC	AREA OF ACQUISITION AC	EASEMENTS			
				PERMANENT		TEMPORARY	
				SF	TYPE	SF	TYPE
241	DARTMOUTH COLLEGE TRUSTEES	5.83	--	980	SLOPE		
				320	PATH		



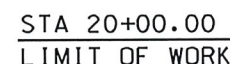
CITY OF LEBANON, NEW HAMPSHIRE

RIGHT-OF-WAY PLAN 03

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
RowPlans	41366	27	27

REVISIONS AFTER PROPOSAL

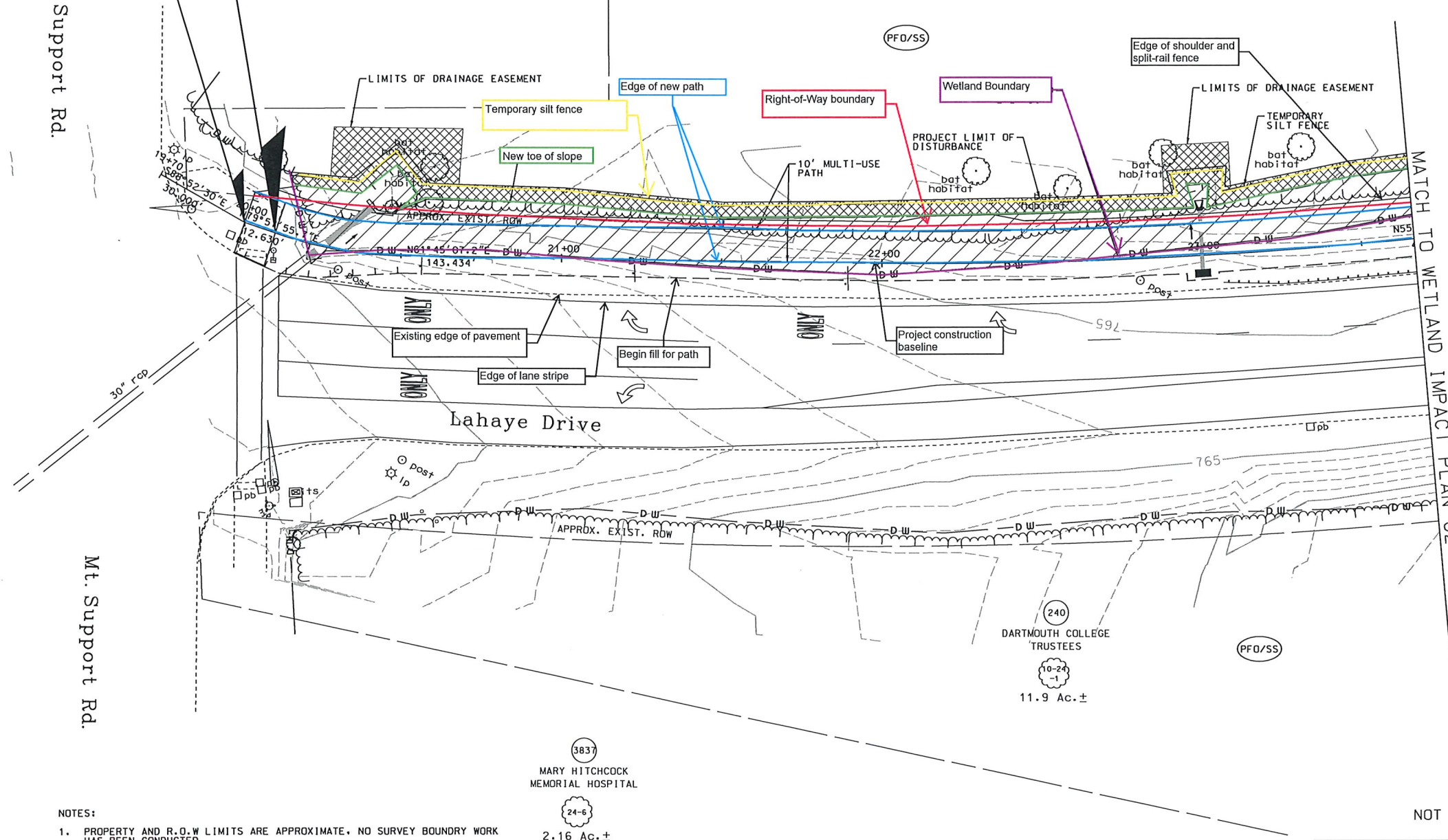
Annotated 07.27.21



Mt. Support Rd

242
MARY HITCHCOCK
MEMORIAL HOSPITAL
10-25
0.94 Ac. +

241
DARTMOUTH COLLEGE
TRUSTEES
10-24
-2
5.83 Ac. +



NOT FOR CONSTRUCTION

CITY OF LEBANON, NEW HAMPSHIRE

WETLAND IMPACTS PLAN 01

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEET
wetland impacts	41366	1	3

NOTES:

1. PROPERTY AND R.O.W LIMITS ARE APPROXIMATE. NO SURVEY BOUNDARY WORK HAS BEEN CONDUCTED.
2. WETLAND DELINEATION PERFORMED BY CHARLOTTE W. BRODIE OF DUBOIS & KING ON MAY 10, 2017.
3. SURVEY WORK PERFORMED BY DUBOIS & KING ON MARCH 15, 2018.
4. THE WETLAND IS PALUSTRINE EMERGENT (PEM) AND PALUSTRINE FORESTED/SCRUB SHRUB (PFD/SS). THE COMMON WETLAND VEGETATION INCLUDES CATTAILS, SOFT RUSH, SENSITIVE FERN, REED CANARY GRASS, PURPLE LOOSESTIFE, DARK GREEN BULRUSH, MEADOWSWEET, WILLOW, GREY BIRCH, SHADBUSH, ALDER, RED-OSIER DOGWOOD, BUCKTHORN, AND BALSAM FIR.
5. THIS PROJECT AREA IS OUTSIDE THE 100-YR. FLOODPLAIN.

3837
MARY HITCHCOCK
MEMORIAL HOSPITAL
24-6
2.16 Ac. +

240
DARTMOUTH COLLEGE
TRUSTEES
10-24
-1
11.9 Ac. ±

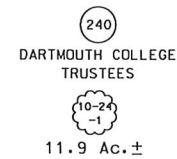
LEGEND

-  PERMANENT WETLAND IMPACT AREA
 TEMPORARY WETLAND IMPACT AREA
 FILL SLOPE
 SILT FENCE WITH SUPPORT FENCE
 DELINEATED WETLANDS
 PROJECT LIMIT OF DISTURBANCE
 WETLAND CLASSIFICATION

20 0 20 40
SCALE IN FEET

DuBoi
& King

	FORESTED WETLAND / SCRUB SHRUB (PFO/SS)	EMERGENT WETLAND (PEM)	TOTAL
PERMANENT IMPACT	10772.0	2322.0	13094.0
TEMPORARY IMPACT	4515.1	757.8	5272.9
/			PROJECT TOTAL = 18366.9



 PERMANENT WETLAND IMPACT AREA
 TEMPORARY WETLAND IMPACT AREA
 FILL SLOPE
 SILT FENCE WITH SUPPORT FENCE
 DELINEATED WETLANDS
 PROJECT LIMIT OF DISTURBANCE
 WETLAND CLASSIFICATION LIMITS
 WETLAND CLASSIFICATION

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5. THIS PROJECT AREA IS OUTSIDE THE 100-YR. FLOODPLAIN.

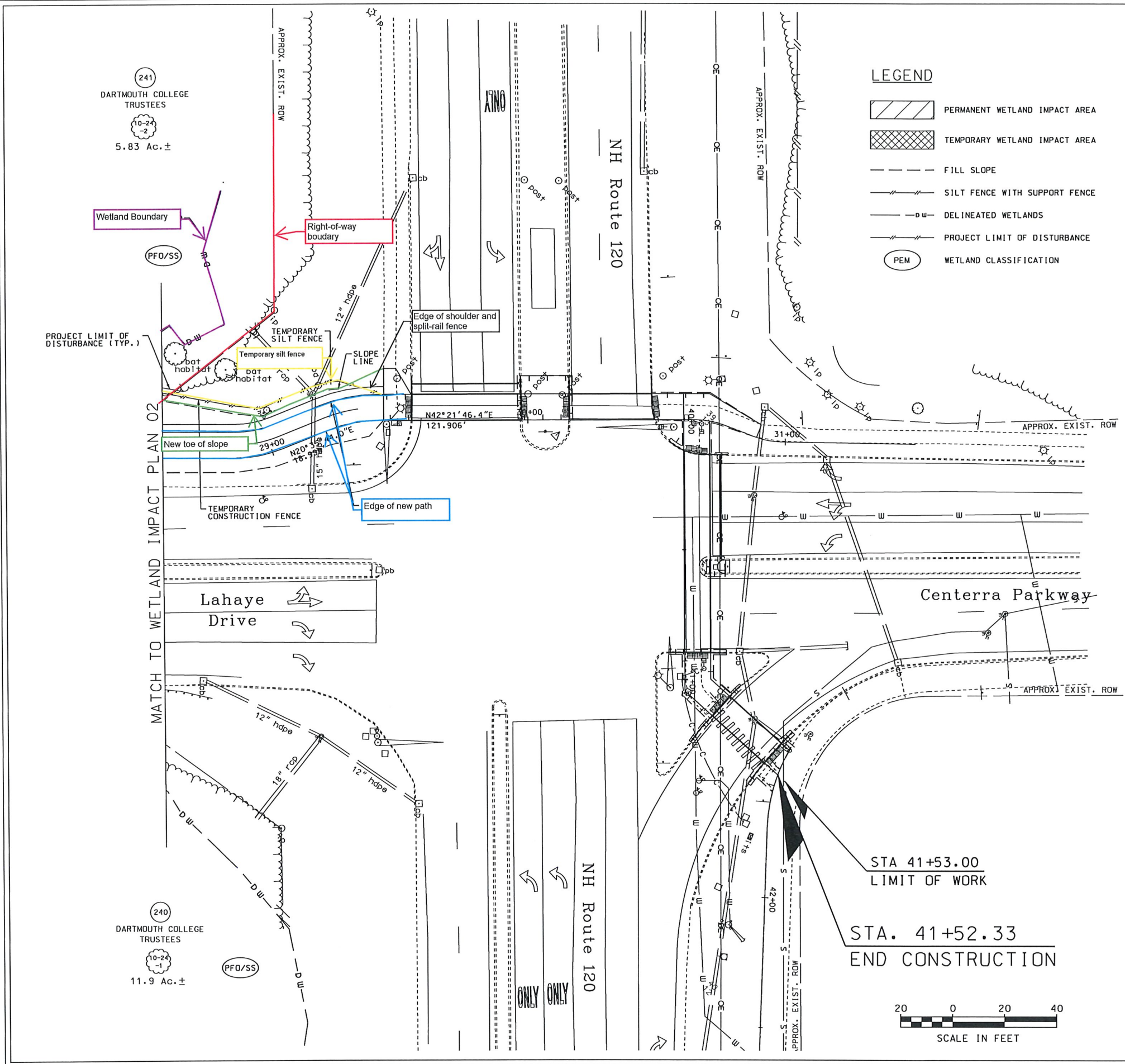
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
wetland impacts	41366	2	3

**DuBois
& King^{inc}**

ConComm Submittal for August 19, 2021 Meeting,

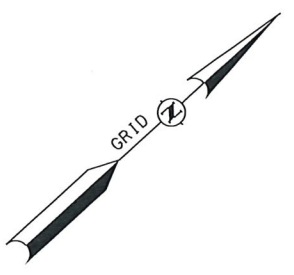
List of Exhibits

1. Wetland Impacts Plans, annotated 07.27.21
2. NHDES Wetlands Application, main file (minus full project plans, to be sent separately)
3. NHDES Wetlands Application, additional files
4. Email response from NH NHB, Jessica Bouchard,
5. Updated In-Lieu Fee Calculation, 07.26.21
6. Rare Plant Review Report, 07.08.21
7. NHDES Wetlands Pre-Application minutes, annotated, 07.27.21
8. 2021-05-13 Lebanon ConComm final meeting minutes



LEGEND

- PERMANENT WETLAND IMPACT AREA
- TEMPORARY WETLAND IMPACT AREA
- FILL SLOPE
- SILT FENCE WITH SUPPORT FENCE
- DELINEATED WETLANDS
- PROJECT LIMIT OF DISTURBANCE
- WETLAND CLASSIFICATION (PEM)



219
CP CENTERRA LAND LLC
4.20 Ac.±

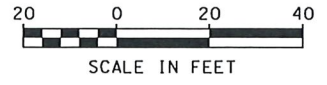
WETLAND IMPACT AREAS (SF)			
	FORESTED WETLAND / SCRUB SHRUB (PFO/SS)	EMERGENT WETLAND (PEM)	TOTAL
PERMANENT IMPACT	10772.0	2322.0	13094.0
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			PROJECT TOTAL = 18366.9

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 - THIS PROJECT AREA IS OUTSIDE THE 100-YR. FLOODPLAIN.

218
EXCHANGE AT CENTERRA LLC
9.89 Ac.±

STA 41+53.00
LIMIT OF WORK

STA. 41+52.33
END CONSTRUCTION



NOT FOR CONSTRUCTION

CITY OF LEBANON, NEW HAMPSHIRE

WETLAND IMPACTS PLAN 03

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
wetland impacts	41366	3	3

