



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

September 02, 2021

NH DEPARTMENT OF TRANSPORTATION
C/O JENNIFER RECZEK PE
7 HAZEN DRIVE
CONCORD NH 03301

Re: Approved Standard Dredge and Fill Wetlands Permit Application – Required Payment to Aquatic Resource Mitigation Fund (RSA 482-A)
NHDES File Number: 2021-02173
Subject Property: Route 101, Bedford, Bridge No. 090/065

Dear Applicant:

On September 02, 2021, the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau approved the above-referenced Standard Dredge and Fill Wetlands Permit Application to Dredge and fill a total of 10,630 square feet (sf) of palustrine wetlands, intermittent stream, perennial stream bed, and banks (342 linear feet) for the replacement of the existing twin 60-inch RCP culverts (Bridge No. 090/065) with a 50.5 foot clear span, precast concrete, butted box-beam bridge along NH Route 101 over Pulpit Brook in Bedford, NH (NHDOT Project 19692C). Impacts include 6,562 square feet of permanent wetland/bank impacts for construction of wingwalls with temporary traffic diversion, 2,186 sf of permanent impact to the streambed, and 1,882 sf (94 lf) of temporary impacts associated with resetting two culvert sections on an intermittent stream and traffic diversions. Compensatory mitigation consists of a one-time payment of \$33,280 into the Aquatic Resource Mitigation (ARM) Fund, within the Merrimack River Watershed account.

This approval is contingent on the following conditions being met:

1. In accordance with Env-Wt 307.16, all work shall be done in accordance with the plans, construction sequence and restoration sequence for State of New Hampshire Department of Transportation, NH Project No. 13692C, NH Route 101 Over Pulpit Brook (Bridge No. 090/065, Town of Bedford, NH with wetland impact plans dated June 11, 2021 as received by NHDES on June 30, 2021.
2. In accordance with Env-Wt 527.05(a) In addition to complying with all applicable conditions in Env-Wt 307, the permit shall be contingent on review and approval by the department of final stream diversion and erosion control plans that detail the timing and method of stream flow diversion during construction and show temporary siltation, erosion, and turbidity control measures to be implemented.
3. In accordance with Env-Wt 314.03, (a) The permittee shall notify the department in writing at least one week prior to commencing any work under the permit.
4. In accordance with Env-Wt 307.07, all development activities associated with any project shall be conducted in compliance with applicable requirements of RSA 483-B and Env-Wq 1400 during and after construction.
5. In accordance with Env-Wt 307.03(a), no activity shall be conducted in such a way as to cause or contribute to any violation of surface water quality standards specified in RSA 485-A:8 or Env-Wq 1700; ambient groundwater quality standards established under RSA 485-C; limitations on activities in a sanitary protective area established under Env-Dw 302.10 or Env-Dw 305.10; or any provision of RSA 485-A, Env-Wq 1000, RSA 483-B, or Env-Wq 1400 that protects water quality.
6. In accordance with Env-Wt 904.02(a)(1), in-stream work shall be done only during low flow or dry conditions, in non-tidal areas.
7. All work shall be conducted and maintained in such a way as to protect water quality as required by Rule Env-Wt 307.03(a) through (h).

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8. In accordance with Env-Wt 307.03(c)(3), water quality control measures shall be installed prior to start of work and in accordance with the manufacturer's recommended specifications or, if none, the applicable requirements of Env-Wq 1506 or Env-Wq 1508.
9. In accordance with Env-Wt 527.05(b), The contractor responsible for completion of the work shall use techniques described in Env-Wq 1504.06, Env-Wq 1504.16, Env-Wq 1505.02, Env-Wq 1506, and Env-Wq 1508.
10. In accordance with Env-Wt 307.11(g), authorized temporary fill other than swamp mats, construction mats, and corduroy shall be placed on geotextile fabric laid on preconstruction wetland grade.
11. In accordance with Env-Wt 307.03(c)(2), water quality control measures shall be comprised of wildlife-friendly erosion control materials if erosion control blankets are utilized; a protected species or habitat has been documented; the proposed work is in or adjacent to a priority resource area (PRA); if specifically requested by Natural Heritage Bureau of the NH DNCR (NHB) or NH Fish and Game Department (NHF&G); or any if combination of the above conditions apply.
12. In accordance with Env-Wt 307.03(c)(4), water quality control measures shall be capable of minimizing erosion; collecting sediment and suspended and floating materials; and filtering fine sediment.
13. In accordance with Env-Wt 307.03(c)(5), water quality control measures shall be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction.
14. In accordance with Env-Wt 307.03(c)(6), water quality control measures shall remain in place until all disturbed surfaces are stabilized to a condition in which soils on the site will not experience accelerated or unnatural erosion by achieving and maintaining a minimum of 85% vegetative cover using an erosion control seed mix, whether applied in a blanket or otherwise, that is certified by its manufacturer as not containing any invasive species; or placing and maintaining a minimum of 3 inches of non-erosive material such as stone.
15. In accordance with Env-Wt 307.03(d), any sediment collected by water quality control measures shall be removed with sufficient frequency to prevent the discharge of sediment; and placed in an upland location in a manner that prevents its erosion into a surface water or wetland.
16. In accordance with Env-Wt 307.03(c)(7), temporary water quality control methods shall be removed upon completion of work when compliance with Env-Wt 307.03(c)(6) is achieved.
17. In accordance with Env-Wt 307.03(h), equipment shall be staged and refueled outside of jurisdictional areas (unless allowed) and in accordance with Env-Wt 307.15.
18. In accordance with Env-Wt 307.05(e), to prevent the use of soil or seed stock containing nuisance or invasive species, the contractor responsible for work shall follow Best Management Practices for the Control of Invasive and Noxious Plant Species (Invasive Plant BMPs).
19. Restoration of all temporary impacts shall meet all of the conditions listed in Rule Env-Wt 307.12(a) through (i).
20. In accordance with Env-Wt 307.12(i), wetland areas where permanent impacts are not authorized shall be restored to their pre-impact conditions and elevation by replacing the removed soil and vegetation in their pre-construction location and elevation such that post-construction soil layering and vegetation schemes are as close as practicable to pre-construction conditions.
21. In accordance with Env-Wt 307.12(f), if any temporary impact area that is stabilized with seeding or plantings does not have at least 75% successful establishment of wetlands vegetation after 2 growing seasons, the area shall be replanted or reseeded, as applicable.
22. In accordance with Env-Wt 307.12(a), within 3 days of final grading or temporary suspension of work in an area that is in or adjacent to surface waters, all exposed soil areas shall be stabilized by seeding and mulching, if during the growing season; or mulching with tackifiers on slopes less than 3:1 or netting and pinning on slopes steeper than 3:1 if not within the growing season.
23. In accordance with Env-Wt 307.12(f), if any temporary impact area that is stabilized with seeding or plantings does not have at least 75% successful establishment of wetlands vegetation after 2 growing seasons, the area shall be replanted or reseeded, as applicable.
24. In accordance with Env-Wt 307.03(g)(1), the person in charge of construction equipment shall inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
25. In accordance with Env-Wt 307.03(g)(2), the person in charge of construction equipment shall repair any leaks prior to using the equipment in an area where such fluids could reach groundwater, surface waters, or wetlands.

26. In accordance with Env-Wt 307.03(g)(3) and (4), the person in charge of construction equipment shall maintain oil spill kits and diesel fuel spill kits, as applicable to the type(s) and amount(s) of oil and diesel fuel used, on site so as to be readily accessible at all times during construction; and train each equipment operator in the use of the spill kits.

27. In accordance with Env-Wt 307.03(e), all exposed soils and other fills shall be permanently stabilized within 3 days following final grading.

28. In accordance with Env-Wt 514.05(h), within 60 days of completion of construction, the applicant shall submit a post-construction report that has been prepared by a professional engineer, certified wetland scientist, or qualified professional, as applicable, and contains narrative, exhibits, and photographs, as necessary to report the status of the project area and restored jurisdictional area. The report should summarize any impacts to vernal pool function after completion of construction.

This approval is based on the following findings:

1. This is a Major Project per NH Administrative Rule Env-Wt Rule Env-Wt 903.01(g)(3)(b.), as the project is a repair or rehabilitation of a Tier 3 stream crossing having a 5.29 square mile contributing drainage area, and Env-Wt 408.01 as the project includes impacts to Priority Resource Areas (PRA) mapped floodplain adjacent to a tier 3 stream.
2. Bridge No. 090/065 was built in the early 1950's is currently on the NHDOT red list due to settling and separating of culvert sections, and tipping failure on the downstream headwall. The bridge consists of buried, twin 60-inch RCP culverts. The upstream headwall was reconstructed in 2011. The existing twin culverts will be replaced by with a 50.5-foot clear span bridge.
3. As defined in Env-Wt 400 and 900, the wetlands around Pulpit Brook (tier 3 stream with a mapped floodplain) are Priority Resource Areas (PRA), and the project was classified as major impact. As required in Env-Wt 527, this project is designed to improve public safety and will not divert stream flow or increase flood stages off site. As required by Env-Wt 900, stream survey, hydrologic and hydraulic analysis, narrative assessment, span structure design standards for passing the 100-year storm, stream connectivity, channel simulation, and wildlife passage have been completed.
4. Several alternative designs were evaluated to find the practicable alternative with the least impacts to wetlands and their functions. the no-build alternative, rehabilitation of the existing culverts, and replacement. The project cannot be relocated, as it involves the replacement of a red-listed bridge within an existing highway ROW. Permanent relocation of the highway and culvert would result in more significant environmental and residential impacts.
5. The applicant has addressed Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings. This proposed crossing has been designed to accommodate the 100-year storm and improve the hydraulic deficiencies that result in current road flooding at the 50-year storm. The proposed crossing provides a 22-foot channel that improves aquatic organism passage; adds 4.5-foot, level wildlife shelves on each side of the channel for wildlife; and restores streambed habitat. In addition, two 8-foot end sections of a small culvert that carries intermittent flow from Wetland 11 on the north side of Route 101 to Wetland 4 on the south side of Route 101 that have settled will be reset to preserve flow under Route 101.
6. The applicant has indicated the proposed project complies with NPDES, MS4, and Alteration of Terrain standards for surface water protection. Stormwater management practices include construction of new curbing and several grassed swales designed to collect and treat stormwater where it was not previously treated, providing a net water quality improvement in the watershed.
7. The applicant has provided a Certified mail receipt for the application submittal to the Town of Amherst.
8. The project is located within the 100-year floodplain of Pulpit Brook, as mapped by the Federal Emergency Management Agency (FEMA). The road widening will require the placement of 237 cubic yards of fill within the 100-year floodplain, and the replacement of the culverts will entail the removal of 421 cubic yards within the floodway. This equates to a net decrease of 184 cubic yards of fill within this floodplain. The replacement of the culverts and fill with an open span bridge will also reduce upstream flood issues without increasing downstream flooding, as shown in the Hydraulic Report attached to the NHDES Wetland Permit Application. The temporary fill associated with the construction traffic diversion will be removed and existing grades restored and was not included in the calculations.
9. The New Hampshire Natural Heritage Bureau NHB Datacheck results letter dated July 27, 2020 determined that although there was a NHB record present in the vicinity, it is not expected to be impacted by the proposed project. The applicant has included previous recommendations from NHFG coordination for the project for design and plans.

10. An assessment of the potential secondary impacts to vernal pools was conducted, using the USACE vernal pool evaluation method in the 2016 Mitigation Guidance. The assessment of vernal pool functional loss (USACE method) indicates that these medium value pools will not become low value as a result of the project.

11. As required by wetland rules Env-Wt 801.03, the Town of Bedford Conservation Commission Chairman and Community Planner were contacted several times for information on local mitigation project priorities that might match the impacted resource functions/types that would occur for this Project, but no responses were received. As no projects were identified by Bedford officials, a payment to the Aquatic Resource Mitigation (ARM) Fund will provide mitigation for natural resource impacts of 5,879 sf. Impacts to the bank and channel of Pulpit Brook are considered self-mitigating, as replacing undersized culverts with an open channel and natural streambed materials will restore hydraulic compatibility, geomorphic compatibility, and aquatic organism passage.

12. Compensatory mitigation consists of a one-time payment of \$33,280 into the Aquatic Resource Mitigation (ARM) Fund, within the Merrimack River Watershed account.

Pursuant to RSA 482-A:28, **this approval is contingent on receipt of a one-time in-lieu mitigation payment of \$33,280 to the NHDES Aquatic Resource Mitigation (ARM) Fund.** NHDES recommends delaying payment until after the 30-day reconsideration period ending October 2, 2021. In accordance with Env-Wt 803.11(c)(2) and Env-Wt 807.01(b), if NHDES has not received the in-lieu mitigation payment within 120 days of this letter, or by December 31, 2021, NHDES will deny the application. Please include a copy of this letter with the payment.

In accordance with RSA 482-A:10, RSA 21-O:14, and Rules Env-WtC 100-200, **any person aggrieved by this decision may file a Notice of Appeal directly with the NH Wetlands Council (Council) within 30 days of the decision date, September 02, 2021.**

Every ground claiming the decision is unlawful or unreasonable must be fully set forth in the Notice of Appeal. Only the grounds set forth in the Notice of Appeal are considered by the Council. Information about the Council, including Council Rules, is available at <https://nhec.nh.gov/wetlands/index.htm>. For appeal related issues, contact the Council Appeals Clerk at (603) 271-6072.

If you have any questions, please contact me directly at Karl.Benedict@des.nh.gov or (603) 271-4188.

Sincerely,



Karl D. Benedict
Public Works Supervisor, Wetlands Bureau
Land Resources Management, Water Division

cc: NHDOT; Jennifer Reczek, PE
Normandeau Associates, Inc.; Lee Carbonneau
Town of Bedford Municipal Clerk/Conservation Commission
ec: NHDOT; Andrew O'Sullivan, Jennifer Reczek
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