



The State of New Hampshire
Department of Environmental Services



Clark B. Freise, Assistant Commissioner

April 28, 2017

TOWN OF NEW LONDON
184 S PLEASANT STREET
NEW LONDON NH 03257



RE: Town Of New London - File # 2016-03228 - New London
Tax Map/Lot #: ROW

Dear Town of New London:

Attached please find Wetlands Permit # 2016-03228 to dredge and fill 144 square feet (SF) of perennial stream bed and 766 SF of perennial stream bank (impacting 153 linear feet (LF) of bed and bank) in order to replace two existing stream crossings on Lyons Brook. At each crossing, three 6 foot round closed bottom culverts will be replaced with single 19 foot x 4 foot closed bottom box culverts with stream simulation. The project includes installation of a natural boulder weir downstream of each crossing for grade control to accommodate aquatic organism passage. In addition, temporarily impact 1,407 SF of bed and 907 SF of bank (1,170 LF of bed and bank) for construction access and installation.

The decision to approve this application was based on the following findings:

1. This is a Major Project per Administrative Rule Env-Wt 303.02(p), as it proposed to replace two tier three stream crossings.
2. The need for the proposed impacts has been demonstrated by the applicant per Env-Wt 302.01.
3. The applicant has provided evidence which demonstrates that this proposal is the alternative with the least adverse impact to areas and environments under the department's jurisdiction per Env-Wt 302.03.
4. The applicant has demonstrated by plan and example that each factor listed in Env-Wt 302.04(a) Requirements for Application Evaluation, has been considered in the design of the project.
5. In accordance with RSA 482-A:8, DES finds that the requirements for a public hearing do not apply as the permitted project is not of substantial public interest, and will not have a significant impact on or adversely affect the values of the riverine resource, as identified under RSA 482-A:1.
6. In the application package received by DES on November 10, 2016, the applicant requested approval of an Alternative Design.
7. Approval of an Alternative Design was requested because the applicant is not able to meet New Hampshire Administrative Rule Env-Wt 904.04(d), which calls for tier three crossings to be a span structure or an open-bottom culvert.
8. The site is constrained vertically by the presence of underground utilities (i.e., municipal water, telephone, electric power and cable) and the need to maintain the current road surface elevation.
9. The applicant cites the prohibitive cost and spatial constraints of a compliant structure to justify the proposed Alternative Design.
10. The applicant has provided notarized Culvert Easement Deed(s) which allow for work to occur on abutting lots, outside of the road right of way, for the purpose of installing and maintaining the proposed culvert(s), wing wall(s) and grade control feature(s).

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11. The proposal is self-mitigating as the applicant has incorporated bioengineered grade control structures and geomorphic accommodation including stream simulation within the structure, in accordance with DES standards and recommendations.
12. The proposal also represents a significant improvement over existing conditions (i.e., going from three parallel culverts to one single, appropriately sized, culvert at each crossing location).
13. Each crossing has been designed to accommodate the bankfull geometry, entrenchment ratio and streambed material found in the reference reach.
14. Downstream boulder weirs will be constructed so as to maintain a minimum water depth of 2 inches.
15. The culvert will also be set at a 1.5% slope (relative to the 1.6-1.7% of the existing reach) in order to maintain minimum water depth during low flows, as well as to allow for some streambed aggradation within the culvert.
16. The crossings will also include stream bank simulation within the culverts to provide passage for aquatic-dependent organisms and to more closely emulate the channel geometry of the reference cross sections.
17. The Natural Heritage Bureau report submitted with the application package (NHB15-3583) stated that there are "no recorded occurrences for sensitive species near this project area."
18. No comments of concern were received by DES from abutters or local governing organizations.

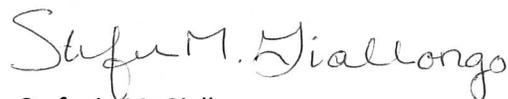
Any person aggrieved by this decision may appeal to the New Hampshire Wetlands Council (the Council) by filing an appeal that meets the requirements specified in RSA 482-A:10, RSA 21-O:14, and the rules adopted by the Council, Env-WtC 100-200. The appeal must be filed **directly with the Council within 30 days** of the date of this decision and must set forth fully **every ground** upon which it is claimed that the decision complained of is unlawful or unreasonable. Only those grounds set forth in the notice of appeal can be considered by the Council.

Information about the Council, including a link to the Council's rules, is available at <http://nhec.nh.gov/> (or more directly at <http://nhec.nh.gov/wetlands/index.htm>.) Copies of the rules also are available from the New Hampshire Department of Environmental Services (NHDES) Public Information Center at (603) 271-2975.

Your permit must be signed, and a copy must be posted in a prominent location on site during construction.

If you have any questions, please contact our office at (603) 271-2147.

Sincerely,



Stefanie M. Giallongo
NHDES Wetlands Bureau

cc: New London Conservation Commission
New London Municipal Clerk



The State of New Hampshire
Department of Environmental Services



Clark B. Freise, Assistant Commissioner

WETLANDS AND NON-SITE SPECIFIC PERMIT 2016-03228

Permittee: TOWN OF NEW LONDON
184 S PLEASANT STREET
NEW LONDON NH 03257
Project Location: BROOKSIDE DRIVE, NEW LONDON
TAX MAP/LOT NO: RIGHT OF WAY
Waterbody: LYON BROOK

NOTE CONDITIONS



APPROVAL DATE: APRIL 27, 2017

EXPIRATION DATE: APRIL 27, 2022

Based upon review of the above referenced application, in accordance with RSA 482-A and RSA 485-A:17, a Wetlands Permit and Non-Site Specific Permit was issued. This permit shall not be considered valid unless signed as specified below.

PERMIT DESCRIPTION: Dredge and fill 144 square feet (SF) of perennial stream bed and 766 SF of perennial stream bank (impacting 153 linear feet (LF) of bed and bank) in order to replace two existing stream crossings on Lyons Brook. At each crossing, three 6 foot round closed bottom culverts will be replaced with single 19 foot x 4 foot closed bottom culverts with stream simulation. The project includes installation of a natural boulder weir downstream of each crossing for grade control to accommodate aquatic organism passage. In addition, temporarily impact 1,407 SF of bed and 907 SF of bank (1,170 LF of bed and bank) for construction access and installation.

THIS APPROVAL IS SUBJECT TO THE FOLLOWING PROJECT SPECIFIC CONDITIONS:

1. All work shall be in accordance with plans by CLD Consulting Engineers dated January 2016, and revised through February 20, 2017 last received by the NH Department of Environmental Services (DES) on April 13, 2017.
2. If any work associated with the project authorized by this permit will encroach on an abutter's property beyond the boundaries of the Culvert Easement(s) provided by the applicant, received by DES on November 10, 2016, then prior to starting work the permittee shall (1) obtain temporary construction easements or other written agreements from the owner of the abutting property, and (2) submit a copy of each agreement to the DES Wetlands Program.
3. All in-stream work shall be conducted during low flow conditions and in a manner that will not cause or contribute to any violations of surface water quality standards in RSA 485-A or New Hampshire Code of Administrative Rules Env-Wq 1700.
4. To prevent the introduction of invasive plant species to the site, the permittee's contractor(s) shall clean all soils and vegetation from construction equipment and matting before such equipment is moved to the site.
5. No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant, which includes all of their cultivars and varieties listed in Table 3800.1 of the New Hampshire prohibited invasive species list (Agr 3802.01).
6. Extreme precautions shall be taken within riparian areas to prevent unnecessary removal of vegetation during construction. Areas cleared of vegetation must be revegetated with like native species within three days of the completion of the disturbance.
7. No excavation shall be done in flowing water. No construction equipment shall be operated in flowing water.
8. Native material removed from the streambed during culvert installation shall be stockpiled separately and reused to emulate a natural channel bottom within the culvert, between wing walls, and beyond.

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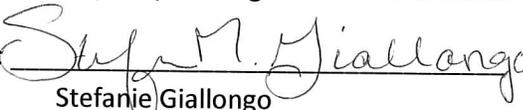
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9. Materials used to emulate a natural channel bottom must be consistent with the streambed materials identified in the reference reach, must be rounded, smooth stones similar to the natural stream substrate and shall not include angular riprap or gravel unless specifically identified on the approved plans.
10. The adjacent streambed shall not be disturbed.
11. Any fill used shall be clean sand, gravel, rock, or other suitable material.
12. Prior to commencing work on a substructure located within surface waters, the permittee or permittee's contractors shall construct a cofferdam to isolate the substructure work area from the surface waters.
13. Cofferdams shall not be installed during periods of high flow, whether due to seasonal runoff or precipitation. Once the cofferdam is fully effective, confined work can proceed without restriction.
14. Work within the stream, inclusive of work associated with installation of a cofferdam, shall be done during periods of low flow only. The permittee shall monitor local weather forecasts to avoid working during or following precipitation events.
15. Discharge from dewatering of work areas shall be to sediment basins that are: a) located in uplands; b) lined with hay bales or other acceptable sediment trapping liners; c) set back as far as possible from wetlands and surface waters, with a preferred undisturbed vegetated buffer of at least 50 feet and a minimum undisturbed vegetative buffer of 20 feet.
16. Dredged materials, whether to be stockpiled or disposed of, shall be dewatered in sedimentation basins lined with siltation and erosion controls, and located outside of areas subject to RSA 482-A jurisdiction.
17. The temporary cofferdam shall be entirely removed within 2 days after work within the cofferdam is completed and water has returned to normal clarity.
18. Proper headwalls shall be constructed within seven days of culvert installation.
19. Trees that are stabilizing slopes and banks of the stream shall not be disturbed.
20. Areas of temporary impact shall be regraded to original contours following completion of work.
21. Areas from which vegetation is cleared to gain access to the site shall be replanted with similar native species.
22. Particular attention to restoration of temporary impacts (i.e., regrading, replanting and reseeding) shall be made on impacts that occur on abutting properties, within the boundaries of the defined culvert easements.
23. Seed mix within the restoration area shall be a wetland seed mix appropriate to the area and shall be applied in accordance with manufacturers' specifications.
24. The permittee/permittee's contractor shall revegetate the disturbed area with trees, shrubs and ground covers representing the density and species diversity of the existing stand of vegetation removed for this project, exclusive of any invasive or nuisance species.
25. Within three days of final grading or temporary suspension of work in an area that is in or adjacent to wetlands or surface waters, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tackifiers on slopes less than 3:1 or netting and pinning on slopes steeper than 3:1.
26. Where construction activities occur between November 30 and May 1, all exposed soil areas shall be stabilized within 1 day of establishing the grade that is final or that otherwise will exist for more than 5 days. Stabilization shall include placing 3-inches of base course gravels, or loaming and mulching with tack or netting and pinning on slopes steeper than 3:1.
27. Appropriate siltation and erosion controls shall be in place prior to construction, shall be maintained during construction, and shall remain until the area is stabilized. Temporary controls shall be removed once the area has been stabilized.
28. Appropriate turbidity controls shall be installed prior to construction, shall be maintained during construction such that no turbidity escapes the immediate dredge area and shall remain until suspended particles have settled and water at the work site has returned to normal clarity.
29. Work shall be conducted so as to minimize turbidity and sedimentation to surface waters and wetlands.
30. All dredged and excavated material and construction-related debris shall be placed outside of the areas subject to RSA 482-A. Any spoil material deposited within 250 feet of any surface water shall comply with RSA-483-B.

- 31. The contractor responsible for completion of the work shall use techniques described in the New Hampshire Stormwater Manual, Volume 3, Erosion and Sediment Controls During Construction (December 2008).
- 32. Erosion control products shall be installed per manufacturers recommended specifications.
- 33. Construction equipment shall be inspected daily for leaking fuel, oil, and hydraulic fluid prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
- 34. The permittee's contractor shall maintain appropriate oil/diesel fuel spill kits on site that are readily accessible at all times during construction, and shall train each operator in the use of the kits.
- 35. All refueling of equipment shall occur outside of surface waters or wetlands during construction. Machinery shall be staged and refueled in upland areas only.
- 36. Faulty equipment shall be repaired immediately prior to entering areas that are subject to RSA 482-A jurisdiction.
- 37. A certified wetlands scientist or qualified professional, as applicable, shall monitor the project during construction to verify that all work is done in accordance with the approved plans and narratives, adequate siltation and erosion controls are properly implemented, and no water quality violations occur. A follow-up report including photographs of all stages of construction shall be submitted to the DES Wetlands Program within 60 days of final site stabilization.
- 38. The permittee or permittee's contractor shall properly construct, and monitor the downstream boulder weir(s), and shall take such remedial actions as may be necessary to create functioning grade control to accommodate aquatic organism passage with a minimum of 2 inches of water maintained during base flow conditions, per recommendations of New Hampshire Fish and Game Department (NHFG). Remedial measures may include changing the configuration and/or changing the elevation of the crest of the boulder weir to accommodate local hydrologic and geomorphic regimes.

GENERAL CONDITIONS THAT APPLY TO ALL NHDES WETLANDS PERMITS:

- 1. A copy of this permit shall be posted on site during construction in a prominent location visible to inspecting personnel;
- 2. This permit does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others;
- 3. The Wetlands Bureau shall be notified upon completion of work;
- 4. This permit does not relieve the applicant from the obligation to obtain other local, state or federal permits, and/or consult with other agencies as may be required (including US EPA, US Army Corps of Engineers, NH Department of Transportation, NH Division of Historical Resources (NH Department of Cultural Resources), NHDES-Alteration of Terrain, etc.);
- 5. Transfer of this permit to a new owner shall require notification to and approval by NHDES;
- 6. This project has been screened for potential impacts to **known** occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have only received cursory inventories, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species.
- 7. Review enclosed sheet for status of the US Army Corps of Engineers' federal wetlands permit.

APPROVED: 
 Stefanie Giallongo
 NHDES Wetlands Bureau

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BY SIGNING BELOW I HEREBY CERTIFY THAT I HAVE FULLY READ THIS PERMIT AND AGREE TO ABIDE BY ALL PERMIT CONDITIONS.

 OWNER'S SIGNATURE (required)

 CONTRACTOR'S SIGNATURE (required)