



Connecticut Department of Energy and Environmental Protection License*

Section 401 Water Quality Certification Non-Consumptive Water Diversion Permit

Licensee(s): City of Meriden

Licensee Address(s): 142 East Main Street
Meriden, CT 06450

License Number(s): 202505080-WQC, 202505082-DIV

Municipality: Meriden

Project Description: Harbor Brook Flood Control and Linear Trail Master Plan

Project Address/Location: Harbor Brook through Meriden CT

Waters: Harbor Brook, Sodom Brook, Jordan Brook and Clark Brook

Authorizing CT Statute(s) and/or Federal Law: Section 401 CWA (33 USC 1341); CGS Section 22a-365 to 379

Applicable Regulations of CT State Agencies: 22a-426-1 to 9, 22a-372-1, 22a-377(b)-1, (c)-1, (c)-2

Agency Contact: Land & Water Resources Division,
Bureau of Water Protection & Land Reuse, 860-424-3019

License Expiration: Ten (10) years from the date of issuance of this license.

Project Site Plan Set: 65 Sheets of plans Titled “*Harbor Brook Flood Control & Linear Trail Project, Hanover Pond to Baldwin Pond, Meriden, Connecticut*”, dated February 2011, last revised April 18, 2012, prepared by Milone and MacBroom.

License Enclosures: LWRD Compliance Certification Form; LWRD General Conditions; Site Plan Set; LWRD Work Commencement Form

*Connecticut’s Uniform Administrative Procedure Act defines License to include, “*the whole or part of any agency permit, certificate, approval, registration, charter or similar form of permission required by law . . .*”

Authorized Activities:

The Licensee is hereby authorized to conduct the following work as described in application # 202505080 and as depicted on any site plan sheets / sets cited herein:

1. Excavate and discharge excavated and fill materials to construct the remaining portions of the Master Plan and operate a Flood Control and Linear Trail project to create compensatory flood storage consistent with the one percent chance flood event to reduce flooding within the downtown City of Meriden, while ensuring there is no increase in peak flood flow downstream of Hanover Pond in Meriden, Connecticut. Approximately 6.99 acres of waterway and wetland impacts, of which 6.14 acres of impact are below ordinary high-water mark of Harbor Brook, Clark Brook, Jordan Brook and Sodom Brook, and 0.85 acres of associated wetlands will be affected by the discharge of fill. Approximately 46 acres of open space and forested wetland preservation will be included as mitigation for the entirety of the project per the previous authorizations DIV-201101871, WQC 201101872.

Failure to comply with the terms and conditions of this license shall subject the Licensee and / or the Licensee's contractor(s) to enforcement actions and penalties as provided by law.

This license is subject to the following Terms and Conditions:

1. **License Enclosure(s) and Conditions.** The Licensee shall comply with all applicable terms and conditions as may be stipulated within the License Enclosure(s) listed above.
2. **Phasing of Projects.** All construction shall occur in accordance with the approved phasing schedule as shown on plans entitled, "Harbor Brook Flood Control and Linear Trail, Hanover Pond to Baldwins Pond, Meriden CT" sheet PH-1 and PH-2, dated February 2011 and revised April 18, 2012, unless otherwise authorized in writing by DEEP.
 - a. The permittee shall design and construct transition areas between project elements built under different phases. Such transition areas and final grading shall be submitted to DEEP for approval under Special Condition 3.
 - b. The permittee shall submit any requests for modification of the phasing schedule to the Commissioner in writing and state with specificity the reasons thereof and provide any further information as may be requested to support such request. In making his decision to modify the phasing schedule, the Commissioner shall consider all relevant facts and circumstances including, but not limited to, the extent of work completed to date, the permittee's compliance with the terms, and conditions of this permit and any change in environmental conditions or other information since the permit was issued.
3. **Review and Approval of Final Design.** All activities and phases of development authorized under the Harbor Brook Master Plan require the written approval of the Commissioner of DEEP prior to undertaking the activity. The permittee shall provide the following plans and documentation to the department for review and approval at least 45 calendar days prior to construction:
 - a. Electronic PDF depicting the following information as appropriate;
 - i. Signature and seal of a professional engineer licensed in the state of Connecticut;
 - ii. Existing and proposed grading;

- iii. Existing and proposed wetland limits;
 - iv. Limits of fill;
 - v. Existing and proposed floodplain limits by elevation and boundary;
 - vi. Temporary grading as may be required to allow for transition between phases;
 - vii. Planting and site restoration details;
 - viii. Structural details;
 - ix. Stream profile;
 - x. Low flow channel dimensions and details;
 - xi. Scour countermeasures;
 - xii. Boring logs or other subsurface information suitable to support design;
 - xiii. Soil sampling records regarding soil and sediment quality;
 - xiv. Construction staging and laydown plans and details;
 - xv. Cross sections;
 - xvi. A plan sheet showing in graphic format the differences, if any, between the proposed design and the Master Plan;
 - xvii. Water handling plan and details;
 - xviii. Fisheries enhancements and instream habitat structures;
 - xix. Stormwater system improvements and stormwater quality structures; and
 - xx. Sediment and erosion controls.
- b. Computations and plans for stormwater drainage systems impacted by the project, including outlet protection and water quality components.
 - c. Flood Contingency plan for both construction and post construction
 - d. Hydraulic report providing HEC-RAS model input and output files. The hydraulic report must be detailed enough to document consistency with the Master Plan and with NFIP and State of Connecticut Flood Management Act as appropriate. The hydraulic report and model shall include other hydraulic information and supportive data as necessary including but not limited to the following:
 - i. Cross sections throughout the project where changes occur in discharge, slope, shape, and roughness; location at bridges, culverts or other control structures; and
 - ii. Existing geometry reflecting current conditions and proposed geometry reflecting final design hydraulic structures and controls.
 - e. Data summary sheet detailing how the proposed work compares to the Master Plan and which cross sections are affected.
 - f. A demonstration of compliance with FEMA National Flood Insurance Program (NFIP) standards.
 - g. Any other information as may be requested by the Commissioner.
4. **Project Coordinator.** The City shall hire a professional engineer licensed in the State of Connecticut to serve as an owner's representative or "Project Coordinator" in regards to permit compliance, phase implementation, and communication with DEEP. Such engineer shall coordinate a single comprehensive hydraulic model for each construction phase which shall be further updated to show post construction conditions and LOMR approval. The "Project Coordinator" shall coordinate all individual projects for review and approval by DEEP and provide documentation affirming the consistency of the design plans with the Master Plan.

5. **Flood Management Certificate Requirement.** Whenever any state or federal money is used to fund any phase or project associated with the Harbor Brook Flood Control project, a Flood Management Certification (FMC) approval shall be obtained from the Commissioner of DEEP. The certification shall demonstrate compliance with the requirements of Section 25-68d(b) of the Connecticut General Statutes (CGS) and Section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA).
 - a. The City of Meriden shall not commence any work authorized under this permit until the funding state agency as applicable receives a Flood Management Certification approval or an exemption from such approval from DEEP.
 - b. Any Flood Management Certificate shall be submitted at least 90 days before anticipated project initiation.
 - c. A Flood Management Certificate application must be submitted to DEEP for review and approval regardless of any interagency agreements to the contrary.
6. **FEMA Map Revisions.** As each phase of the Harbor Brook Flood Control Project as approved pursuant to Special Condition #2 are undertaken, the City of Meriden shall submit a LOMR request to the Federal Emergency Management Agency (FEMA) within 30 days of completion of construction or within 30 days of suspension or discontinuation of construction for a period of 12 calendar months, whichever is shorter. Such LOMR request shall document post construction floodplain modifications. The LOMR must be consistent with this subject authorization and any subsequently revised and DEEP approved plans. Following completion of project implementation, the final LOMR shall request implementation of a floodway for the length of Harbor Brook from Hanover Pond to Baldwins Pond Dam.
7. **FEMA Approval for Water Surface Increases.** The permittee shall receive approval from FEMA for a CLOMR as may be required for any increase in water surface elevation of more than one foot. The CLOMR must be consistent with the plans and application materials noted herein. The permittee shall copy DEEP on all FEMA correspondence.
8. **Columbus Avenue Bridge.** The Columbus Avenue Bridge and overflow culvert are being constructed pursuant to DOT Project No. 79-212. As part of the DOT Project No. 79-212 the overflow culvert is being plated. Pursuant to the master plan, the plate at the overflow culvert is to be removed, a multi-use linear trail constructed throughout the segment, and significant channel regrading to create floodplain conveyance, thalweg, and side bank slopes. Prior to removing the plates or regarding the floodplain or channel, the permittee shall submit final design plans for approval in accordance with Special Condition #3.
9. **Remove, Elevate or Floodproof Structures within Floodplain.** All residential building/structures within the effective FEMA 100-year floodplain as approved by FEMA must be removed, elevated or floodproofed to the maximum extent practicable. Any home elevation shall elevate the finished first floor one foot above the 100-year flood elevation. Residential floodproofing must be in accordance with Section 110-19 B. (dry flood-proofing) or Section 110-19 C. (wet flood-proofing) of the City of Meriden's Floodplain Management Ordinance (Chapter 110). The permittee shall make all reasonable efforts to obtain homeowner permission and undertake floodproofing or elevation within nine (9) years of completing the "Conditions Precedent" imposed by the previous authorization DIV-201101871, WQC 201101872. The permittee shall notify DEEP when agreement with property owners to floodproof cannot be reached and document all efforts to achieve floodproofing, elevation or removal of the structures from the floodplain. If the permittee assumes ownership of any such structure within the duration of this permit, the permittee

shall remove the structure from the floodplain. On or before January 30th of each calendar year for the duration of the permit, an annual report of all such efforts shall be submitted to the Commissioner, describing efforts made and progress achieved in floodproofing, elevating or eliminating all residential structures from the effective FEMA floodplain.

- 10. Substantial Improvements to Structures in a Floodplain.** Substantial improvements to residential or non-residential structures located within the Harbor Brook 1% annual chance floodplain as defined on the City's adopted Flood Insurance Rate Maps must be in accordance with the requirements outlined in the City of Meriden's Floodplain Management Ordinance (Chapter 110). The definition for "substantial improvement" is included in Section 110-5 of the Ordinance.
- 11. New Structures in Floodplain.** Any subsequent construction of structures within the effective mapped FEMA floodplain as may be revised by a LOMR shall be fully in compliance with all FEMA NFIP criteria and requirements.
- 12. Modifications to Hub Site.** The flood storage area constructed at the Hub Site in accordance with "Conditions Precedent" imposed under the previous authorization DIV-201101871, WQC 201101872, shall be continuously and permanently maintained. The City may make changes as necessary to site grading, site features or developable pads along Pratt and State Streets provided that any changes to grading, additional fill, discharges or structures below elevation 130 based on the National Geodetic Vertical Datum of 1929 be compensated for at a minimum of 1 to 1 ratio of compensatory flood storage volume. Any such modifications to the HUB site and associated compensatory flood storage volume shall be reported to DEEP on or before January 30 of each year and shown on a revised plan grading sheet sealed by a Connecticut licensed land surveyor, the City and the Project Coordinator.
- 13. Soil Erosion and Sediment Control.** All construction work shall incorporate best management practices to minimize soil erosion and sedimentation and conform to the "Connecticut Guidelines for Soil Erosion and Sediment Control", as amended.
- 14. Engineering Design Criteria.** All activities authorized herein shall be designed in conformance with the following:
 - a. The permittee shall to the extent practicable design and construct all stormwater drainage systems impacted by this project in accordance with the 2004 Connecticut Stormwater Quality Manual, as amended.
 - b. The permittee shall design all culvert, bridges, channels, stormwater drainage systems and outlets, and fisheries habitat enhancement features in accordance with CONNDOT Drainage Manual, as amended.
 - c. All instream fisheries features and bank stabilization measures shall be designed in accordance with CONNDOT Drainage Manual, as amended. The flood control and hydraulic improvements shall take precedence over fisheries instream or bank stabilization measures.
 - d. All temporary structures, cofferdams, and fill shall not impede the movement of flood flows and shall be removed at the completion of their use. The design of such temporary structure, cofferdams and fill shall be based on Appendix F of the CONNDOT Drainage Manual.
 - e. All culverts, bridges, channels and stormwater facilities must be designed in compliance with the requirements of Section 25-68d(b) of the Connecticut General Statutes (CGS) and Section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA).

- f. A low flow channel shall be constructed throughout the Harbor Brook Flood Control project area and shall be designed as a sinuous thalweg providing a minimum of nine inches of water depth during median August flows. The amount of sinuosity may vary based on field conditions.
- g. Each phase of the Harbor Brook Flood Control project shall demonstrate a smooth transition between prior and subsequent phases with regard to channel hydraulics and grading. Such transition shall extend upstream and downstream as necessary and as directed by DEEP to match the grades.
- h. Hydraulic models shall conform to the DEEP Inland Water Resources Division "Hydraulic Guidance Document."

15. Flood Contingency Plan.

- a. The permittee shall conduct work within or adjacent to watercourses during periods of low flow, whenever possible. The permittee shall comply with the Flood Contingency Plan prepared by Milone and MacBroom included in the application as Attachment I. Such plan shall be revised for each phase of construction and be kept on site at all times during construction. The permittee shall assure contractor compliance and adherence with the Flood Contingency Plan. The phase specific flood contingency plan shall address water handling and establish requirements for removal of equipment and materials from the floodplain and securing the work site during periods when flood warnings have been issued or are anticipated for predicted major storm. The flood contingency plan shall also establish procedure for monitoring stream flow and predicted storm events, and establish triggers for initiating actions under the plan.
- b. The permittee shall abide by the post construction flood contingency plan within the "Operations & Maintenance Plan" developed by Milone & MacBroom, dated June 1, 2016 with revisions up to February 10, 2017. Said Operations & Maintenance Plan shall be updated as necessary.

16. Posting of Areas Subject to Flooding.

- a. The permittee shall post the Columbus Avenue high overflow culvert as subject to flooding prior to removal of the plate restrictions from the bridge and the trail segment being opened for use.
- b. Within 30 days of the Harbor Brook channel daylighting through the Hub, the permittee shall post the Downtown Hub Area as subject to flooding and make provisions to close the park when the area may be subject to flooding. Incidental items placed in the park (picnic tables, benches, trash receptacles) shall be firmly anchored to prevent them from floating away or remove items from the floodplain in the event of flooding.
- c. Such signs shall be inspected quarterly and repaired or replaced as necessary.

17. Endangered Species Protection Plan. The permittee shall implement the Box Turtle Management Plan, Section 4.0 of the Mitigation Report entitled, "Mitigation Report, 401 Water Quality Certification Permit and Diversion Permit applications for Harbor Brook Flood Control and Linear Project, Meriden, Connecticut" dated February 2011, revised March 2, 2012, and April 18, 2012, prepared by Milone and MacBroom, Inc. and shown on the plan sheet H-3 entitled, "Turtle Habitat Management Plan, Harbor Brook Flood Control Project & Linear Trail Project, Meriden, Connecticut, dated February 2011, and revised through April 18, 2012.

18. Wood Turtle Protections. The Licensee shall ensure that no work is conducted along the instream or streambank between November 1 and March 31, inclusive, unless otherwise authorized through the submittal of any future NDDDB applications where the following information has been included and subsequently reviewed and approved by the CTDEEP Division of Wildlife, NDDDB Program;

- a. Consultation with a qualified herpetologist to assess your work impact zone for the potential to impact overwintering wood turtle.
- b. A protection plan that will minimize impacts to wood turtles.
- c. Biologist's qualifications.

19. Additional NDDDB Protections. The Licensee shall ensure the following protections are in place for all construction activities that will occur between April 1 and October 31, inclusively.

- a. Exclusionary practices shall be utilized to prevent any turtle access into construction areas. These measures shall be installed at the limits of disturbance as shown on the plans or otherwise be specifically designated by a qualified herpetologist.
- b. Exclusionary fencing shall be at least 20 inches tall and be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animals pass through.
- c. Prior to construction, all turtles occurring within the fencing work area will be relocated to suitable habitat outside disturbance area. This should be performed by a qualified professional familiar with habitat requirements and behavior of the species.
- d. The Contractor must search the work area each morning prior to any work being done.
- e. All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of a listed species.
- f. Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and close any access points. These animals are protected by law and no turtles should be relocated to any area away from (i.e. not adjacent to) the subject site.
- g. In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable enough to allow for reptile and amphibian passage to resume.

20. Invasive Plant Monitoring and Control. The permittee shall commence the removal of invasive plant species as specified in Table 1-1 of Appendix A, of the Invasive Plant Species Monitoring and Control Plan within the Mitigation Report entitled, "Mitigation Report, 401 Water Quality Certification Permit and Diversion Permit applications for Harbor Brook Flood Control and Linear Project, Meriden, Connecticut", dated February 2011, revised March 2, 2012 and April 18, 2012, prepared by Milone and MacBroom Inc. within 2 years of the completion of each phase of the project. Monitoring and removal of invasive plant vegetation shall continue for a 5 year period thereafter.

21. Falcon Park Wetland Mitigation and Storage Basin.

- a. The permittee shall monitor and periodically remove accumulated sediments from within the Falcon Park flood storage basin. Such evaluation and maintenance shall occur annually and after all flood events with a 10% annual chance of recurring.

The permittee shall retain records documenting all monitoring, sediment removal or sediment control activities. Such record shall be submitted to DEEP at the Commissioner's request.

- b. The permittee shall maintain the Falcon Park flood storage basin and shall replace any wetland vegetation lost during sediment removal to a condition that meets and/or exceeds the wetland vegetation plan permitted design consistent with plan sheet PR-17, "Proposed Conditions and S&E Controls, Harbor Brook Flood Control & Linear Trail Project", dated February 2011, revised March 2, 2012, revised April 18, 2012 prepared by Milone and MacBroom.
- c. The permittee shall maintain the weir and associated structure at the Falcon Park flood storage basin in working order and provide maintenance or replacement as may be necessary. The permittee shall inspect the weir and associated structure annually and after all flood events with a 10% manual chance of recurring. The permittee shall retain records documenting all inspections, maintenance and repair activities for the Falcon Park weir and associated structure. Such records shall be submitted to DEEP at the Commissioner's request.

22. Annual Reporting. The permittee shall submit to DEEP on or before January 30 of each year, for the duration of this authorization, an Annual Report for the preceding calendar year that includes photo-documentation and an evaluation of the success of the wetland mitigation and invasive plant species measures that have been implemented for each phase of the project.

23. Land Preservation.

- a. **City Park.** The permittee shall include the City Park in the City of Meriden as mitigation preservation to be protected in perpetuity for open space and recreation. The approved preservation easement/restriction shall be recorded on the City of Meriden Land Records.
- b. **Brookside Park.** The permittee shall include Brookside Park in the City of Meriden as mitigation preservation to be protected in perpetuity for open space and recreation. In addition; existing or created wetlands areas shall be preserved and protected from development. The approved preservation easement/restriction shall be recorded on the City of Meriden Land Records.
- c. **Dog's Misery Swamp.** The permittee shall include the Dog's Misery Swamp in the City of Meriden as mitigation preservation to be protected in perpetuity. The approved preservation easement shall be recorded on the City of Meriden Land Records.

24. Fisheries Enhancements.

- a. The permittee shall construct the project consistent with the Fishery and Instream Feature Restoration Plan Summary, Table 2-6 of the mitigation report entitled, "Mitigation Report, 401 Water Quality Certification Permit and Diversion Permit applications for Harbor Brook Flood Control and Linear Project, Meriden, Connecticut" dated February 2011, revised March 2, 2012, and April 18, 2012, prepared by Milone and MacBroom, Inc. and consistent with the plan sheets H1 and H2 entitled, "Fishery and Instream Feature Restoration Plan, Harbor Brook Flood Control and Linear Trail Project, Hanover Pond to Baldwins Pond", dated February 2011, revised March 2, 2012, and April 18, 2012, prepared by Milone and MacBroom.

- b. The permittee shall meet with DEEP Inland Fisheries Division staff to develop a final instream fisheries enhancement plan for each reach of the Harbor Brook and shall submit the final instream fisheries enhancement plan sheet for each reach of the Harbor Brook to the DEEP Inland Fisheries Division and IWRD for review and approval 60 days prior to construction.
 - c. The permittee shall notify the DEEP Inland Fisheries Division two weeks prior to the placement of the instream fisheries enhancement structures and arrange for a DEEP Inland Fisheries biologist to be on site during the placement and construction of the instream fisheries enhancement structures.
- 25. Time of Year Restrictions.** Any unconfined instream activities located within the following project reaches of the City of Meriden Harbor Brook, Hanover Pond to Coe Avenue Bridge and Broad Street to Baldwins Pond Dam shall be conducted during the period of June 1 through September 30, inclusive.
- 26. Low Impact Development.** The permittee shall design the project to incorporate Low Impact Development practices to use upland buffer areas for the filtering of stormwater as an alternative to direct discharges into wetlands and waterbodies and shall incorporate the use of vegetated swales to encourage infiltration of storm water to the ground as well as to remove suspended solids, wherever feasible and practical.
- 27. Contaminated Materials Disposal.** The permittee shall perform due diligence to assess whether there is a reasonable chance that contaminated soil or dredged sediments will be excavated or dredged. Contaminated soil or sediment means treated or untreated soil or sediment affected by a known or suspected release or discharge (current or historic) and determined or reasonably expected to contain substances exceeding Residential Direct Exposure Criteria or GA Pollutant Mobility Criteria, as these terms are defined in section 22a-133k-1 of the Regulations of Connecticut State Agencies. If contaminated soil or sediments are determined or reasonably expected to be present then the permittee shall characterize the material and implement proper plans for the on-site management, or the off-site management or disposal of such material consistent with regulatory requirements. The permittee shall retain for three years from completion of dredging or excavation documentation of the management of such material. Alternatively, the permittee may propose for the Commissioner's approval that excess contaminated materials, as defined above, be reused in accordance with the applicable laws and regulations.

Issued under the authority of the Commissioner of Energy and Environmental Protection on:

Date

Emma Cimino
Deputy Commissioner
Environmental Quality Branch