



**APPLICATION FOR WATER QUALITY  
CERTIFICATION**  
Water Division  
Water Quality Certification Program



**RSA:** 485-A:12

Date of Request \_\_\_\_\_

Date Request Received by NHDES \_\_\_\_\_

**I. Applicant Information**

Principal Place of Business of the Applicant New Hampshire Department of Transportation	
Mailing Address [Street, PO Box, RR, etc.] J.O. Morton Building, P.O. Box 483   7 Hazen Drive	
City/Town and Zip Code Concord, NH 03302-0483	
Telephone No. (603) 271-3734	Email Address Donald.Lyford@dot.nh.gov
Name and Title of Signatory Official Responsible for the Activity for which Certification is Sought (e.g., President, Administrator)  Donald Lyford, P.E. Project Manager	

**II. Project Information**

Name of Project Reconstruction of N.H. 12, Walpole-Charlestown X-A000(487), 14747
Name of Town and County that contains the Project Walpole, Chesire County and Charlestown, Sullivan County
Name of Receiving Waterbody and Drainage Basin Connecticut River
Summary of Activity (e.g., construction, operation, or other practice or action) Reconstruction of approximately 2.75 miles of N.H. Route 12 in the Towns of Walpole and Charlestown.

**III. Additional Submittal Information**

**PLEASE SUBMIT AS MUCH INFORMATION AS POSSIBLE IN ELECTRONIC FORMAT**

phone (603) 271-2457  
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PO Box 95, Concord, NH 03302-0095  
www.des.nh.gov

**Please provide an individual response to each bullet, below. If applicable information is contained in the application materials, please provide a reference to the specific section in the application materials that will represent the response to the individual bullets below.**

- Type of activity (e.g., construction, operation, other action such as water withdrawal) and the start and end dates of the activity.
- The characteristics of the activity: Whether the activity is associated with a discharge and/or water withdrawal and whether the discharge and/or withdrawal is proposed or occurring.
- The characteristics of the discharge and/or withdrawal
  - Flow rate (cfs)
  - Potential chemical, physical, biological constituents
  - Frequency (e.g., daily, hourly,)
  - Duration
  - Temperature (Celsius)
  - Latitude and longitude (dd:mm:ss)
- The existing and designated use(s) that are potentially affected by the proposed activities. (Designated Uses are listed in the NHDES Consolidated Assessment and Listing Methodology).
- The provision(s) of surface water quality standards (Env-Wq 1700) that are applicable to the designated uses affected by the proposed activities.
- A pollutant loading analysis to show the difference between predevelopment and post-development pollutant loads for a typical year. The objective of the loading analysis is to show post-development pollutant loads do not exceed pre-development pollutant loads. Loading analysis guidance and a simple spreadsheet model will be provided by NHDES. The loading analysis will be used to determine appropriate stormwater management measures, which must be effectively designed, installed, and maintained to ensure compliance with surface water quality standards.
- A description of any other aspect of associated with construction and operation of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.
- An original or color copy/reproduction of a United States Geological Survey Quadrangle Map that clearly shows the location of the activity and all potential discharge points.
- A copy of the final complete federal permit application or federal license application, including the federal permit, license, or project number.
- A copy of the NHDES wetlands permit (RSA 482-A:3), if necessary.
- A copy of the NHDES alteration of terrain permit (RSA 485-A:17), if necessary.
- The name(s) and address(es) of adjoining riparian or littoral abutters.
- A plan showing the proposed activities to scale including:
  - The location(s) and boundaries of the activities;
  - The location(s), dimension(s), and type(s) of any existing and/or proposed structures; and
  - The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.
- For projects that involve a new surface water withdrawal, provide the following:

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- a copy of the water conservation plan (WCP) submitted to the NHDES Water Conservation Program and the status of NHDES approval, or
- a copy of a waiver approved by the NHDES Water Conservation Program that waives the requirement to submit a WCP prior to or in conjunction with the application for water quality certification.

[Pursuant to Env-Wq 2101, and unless a waiver is applied for and granted by NHDES, all applicants for water quality certification are required to submit a water conservation plan (WCP) for projects that involve a new withdrawal from a surface water prior to or in conjunction with this application. Contact the NHDES Water Conservation Program for guidance related to drafting a WCP and the review and approval process. Information regarding the WCP, including contact information, may be found at

[http://des.nh.gov/organization/divisions/water/dwgb/water\\_conservation/index.htm](http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/index.htm)

- If the project is located within ¼ (one quarter) mile of a designated river, as defined under RSA 483 (the Rivers Management and Protection Act), provide documentation showing that the Local River Management Advisory Committee (LAC) has been provided with a copy of this complete application. A list and map of the designated rivers, as well as contact information, may be found at <http://des.nh.gov/organization/divisions/water/wmb/rivers/desigriv.htm>

**Signature – MUST BE SIGNED AND DATED BY APPLICANT**

***To the best of my knowledge, the data and information described above, which I have submitted to the New Hampshire Department of Environmental Services, is true and correct. I understand that an approval of the requested water quality certification based upon incorrect data may be subject to revocation of the certification. I have complied with all local regulations or ordinances relative to the proposed activity and have obtained or will obtain, prior to the commencement of any work, all other approvals that may be required.***

Signed: David D. Hyatt

Date: June 28, 2017

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**New Hampshire Department of Environmental Services**  
**APPLICATION FOR WATER QUALITY CERTIFICATION**  
**Applicant: New Hampshire Department of Transportation**  
**Project: NHDOT Walpole-Charlestown 14747**

**III. Additional Submittal Information**

The sections below provide information for each bullet listed on pages 2 and 3 of the Application for Water Quality Certification.

**A. Type of Activity**

The project will reconstruct approximately 2.75 miles of N.H. Route 12 located between the Connecticut River to the west and the New England Central Railroad (NECR) to the east. The project begins at the intersection of Church Street (N.H. Route 12) with Main Street on the north side of North Walpole Village. The project ends at the intersection of N.H. Route 12 and N.H. Route 12A in South Charlestown just north of the N.H. Route 12A overpass bridge.

The existing roadway has a paved width of 22 to 24 feet with minimal gravel shoulders. The proposed roadway will have 2 – 11 foot travel lanes with 4 to 5 foot paved shoulders, for a paved width of 30 to 32 feet. The proposed pavement widening will increase the impervious area by approximately 2.3 acres.

Construction of the roadway improvements is scheduled to begin in January 2018 and anticipated to end on August 28, 2020.

**B. Characteristics of the Activity**

The proposed roadway improvements will construct five infiltration trench BMPs underneath and along the shoulders of the roadway to collect and treat stormwater runoff from the roadway surface. The stormwater runoff will discharge through the bottom of the BMPs. Each BMP will treat the first flush (1-year design storm), and is designed to hold the runoff from the 50-year design storm without impacting the roadway pavement structure. Periodic maintenance and inspection of the BMPs will be performed to maintain operation of the infiltration system.

**C. Characteristics of the Discharge**

Stormwater discharge typically contains the following pollutants: Total Suspended Solids (TSS); Total Nitrogen (TN); and Total Phosphorus (TP). Discharge flow rates will vary based on the severity of the rainfall from the storm event. Frequency of the discharge as well as duration are also dependent on the specific storm event that occurs.

## **Water Quality Certification Application**

New Hampshire Department of Transportation Walpole-Charlestown 14747

### III. Additional Submittal Information

#### **D. Designated Uses and Water Quality Standards**

The Designated Uses that are potentially affected by the proposed activity include the designated uses for New Hampshire Surface Waters, except for tidal surface waters: Aquatic Life, Fish Consumption, Drinking Water Supply After Adequate Treatment, Primary Contact Recreation, Secondary Contact Recreation and Wildlife.

#### **E. Provision(s) of Surface Water Quality Standards**

Part Env-Wq 1708 Antidegradation of the Surface Water Quality Standards (Env-Wq 1700) is applicable to the designated uses potentially affected by the proposed activity.

#### **F. Pollutant Loading Analysis**

A pollutant loading analysis was performed for this project in accordance with NHDES's Guidance for Estimating Pre-and Post-Development Stormwater Pollutant Loads, Dated May 3, 2010. The Pollutant loading Analysis Report, included in **Appendix A**, contains the simple spreadsheet model provided by NHDES.

The area of study is the proposed roadway corridor for the length of the project. The roadway was divided into four separate segments for the pollutant loading analysis:

Segment 1: Segment 1 is the southern end of the project and includes BMP # 1 and #2. The BMPs for this segment are located less than 75 feet from the Connecticut River.

Segment 2: Segment 2 is the middle portion of the project along Meany's Cove and includes BMP #3. The BMP is located more than 75 feet from the Connecticut River.

Segment 3: Segment 3 is most of the northern portion of the project and includes BMP #4 and a portion of BMP #5. The BMPs for this segment are located less than 75 feet from the Connecticut River.

Segment 4: Segment 4 is the northernmost portion of the project and includes a section of BMP #5. The BMP is located more than 75 feet from the Connecticut River.

The roadway areas that are constructed with the infiltration trench system will significantly reduce the stormwater leaving the site and discharging into the Connecticut River since the purpose of the infiltration trench is to infiltrate the stormwater. These infiltrations systems disconnect the roadway areas from the directly contributing pollutant loads to the river. In addition, the results of the pollutant loading analysis show that the infiltration trench BMP provides the necessary pollutant reduction for the proposed highway improvements.

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New Hampshire Department of Transportation Walpole-Charlestown 14747

### III. Additional Submittal Information

A summary of the pollutant loading calculations performed using the Simple Method load reduction model is included in the following table. The calculations shown are the totals for the entire project, including all four segments.

	<b>Total Suspended Solids (TSS)</b> (lbs/yr)	<b>Total Phosphorus (TP)</b> (lbs/year)	<b>Total Nitrogen (TN)</b> (lbs/yr)
Pre-Development Loads	10707.6	24.1	226.2
Post-Development Loads (no BMP )	5665.2	12.8	119.7
Post Development Loads (with BMP)	5180.5	12.6	112.9
Total Removal	5527.1	11.5	113.3
Total % Removal	51.6%	47.9%	50.1%

#### **G. Other aspects associated with construction or operation of activity that would affect chemical composition, temperature, flow or physical aquatic habitat of the surface water.**

The construction of the roadway improvements and the impact on the Connecticut River are addressed in the NHDES Wetlands Permit Application, and the U.S. Army Corps of Engineers Permit application, attached as references to this document. In addition, the NPDES Construction General Permit (CGP) which addresses construction activities will be prepared by the Contractor prior to construction.

#### **H. USGS Map**

A copy of the USGS Map showing the project limits is included in **Appendix B**.

#### **I. Copy of Federal Permit application**

A copy of the U.S. Army Corps of Engineers Permit Application is included in **Appendix C**.

#### **J. Copy of NHDES Wetland Permit (if applicable)**

A copy of the NHDES Wetland Permit Application is included in **Appendix D**.

#### **K. Copy of NHDES Alteration of Terrain Permit (RSA 485-A:17)**

The NHDES Alteration of Terrain Permit is not required for this project.

#### **L. Names and Addresses of adjoining riparian or littoral abutters.**

A copy of the Abutter's List is included in **Appendix E**. The listed abutters are New Hampshire abutters along the N.H. Route 12 project length.

**Water Quality Certification Application**

New Hampshire Department of Transportation Walpole-Charlestown 14747

III. Additional Submittal Information

**M. Plans to scale showing proposed activity**

A copy of the project General Plans is included in the Pollutant Loading Analysis Report (**Appendix A**).

**N. Projects with a new surface water withdrawal**

This project does not have a new surface water withdrawal.

**O. Documentation that the Local River Management Advisory Committee (LAC) has been provided a copy of this complete application.**

A copy of the cover letter to the following Local River Management Advisory Committees are included in **Appendix F**:

Connecticut River Upper Valley Local Advisory Subcommittee (Walpole)

Connecticut River Mt. Ascutney Local Advisory Subcommittee (Charlestown)