

# **Water Quality Procedures for Efficient Permitting with NHDES**

**June 2, 2023**

**Kevin Nyhan  
Administrator  
Bureau of Environment**

# ENV 1: Environmental Policy

Env 1-1 Disposition of Historic Bridges

ENV 1-2 Env. Doc. for State Projects

ENV 1-3 LCHIP Coord.

ENV 1-4 CLS Program Coord.

ENV 1-5 LWCF Coord.

ENV 1-6 GASB-49

ENV 1-7 Cult. Res. MOAs

ENV 1-8 Env. Permit Delegation

Env 1-9 Alteration of Terrain

ENV 1-10 NHF&G Coord.

ENV 1-11 Environmental Commitments

ENV 1-12 USCG Coord.

ENV 1-13 CZMA Coord.

**ENV 1-14 Mixing Zones (DRAFT)**

**ENV 1-15 Stream Diversions (DRAFT)**

**ENV 1-16 EC Plans (DRAFT)**

# Water Quality

*“We routinely work together through permitting programs, regulatory reforms, quality improvement initiatives...”*

*“Just as NHDOT is one member of every project team, alongside designers, engineering firms, support service providers, contractors, and maintenance professionals, NHDES is an integral part of that team as well.”*



William Cass, P.E.  
Commissioner

THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION



David Rodrigue, P.E.  
Assistant Commissioner  
Andre Briere, Colonel, USAF (RET)  
Deputy Commissioner

May 24, 2023

Happy spring!

As we begin a new construction season here in New Hampshire, with many new faces in new roles throughout all levels of NHDOT and within our partner agencies, I would like to take the opportunity to discuss an item of mutual importance: water quality. Clean water is everybody's responsibility, and this is no different with the delivery of transportation construction projects. The summer of 2023 is predicted to have a return of an El Nino weather pattern throughout much of the country. For New Hampshire this likely means higher seasonal temperatures, and normal to higher-than-normal seasonal precipitation. We saw the effects of high precipitation in the last few months, with rivers and streams swelling and overtopping banks, causing damage to private and public infrastructure. The warmer/drier summer may mean that even seasonally typical precipitation could result in increased runoff, and opportunities for construction-related sediment and turbidity to unnecessarily impact our surface waters and wetlands.

Fortunately for us, New Hampshire is home to numerous construction contractors who are very well versed in managing construction sites and the many potential issues that arise, including those relating to water quality. We also have environmental monitoring partners who are intimately familiar with state and federal regulations, and who regularly monitor these construction sites, working as part of the contracting team to ensure that water quality is maintained during and after construction. In addition, we also have dedicated environmental public servants here at NHDOT, as well as at our sister agency in the Department of Environmental Services (NHDES) who oversee, assist in monitoring, and are a resource to ensure effective water quality management.

The missions of NHDOT and NHDES may be different, but the goals and desired outcomes are the same. NHDES is "Helping to sustain a high quality of life for all citizens by protecting and restoring the environment and public health in New Hampshire." NHDOT is engaged in "Transportation excellence, enhancing the quality of life in New Hampshire." Central to each mission is sustaining and enhancing the quality of life for all of the citizens and visitors of the State. We do this through the strong and unique partnership of our agencies. We routinely work together through permitting programs, regulatory reforms, quality improvement initiatives, and compliance activities to name a few. We are truly partners and try to approach each challenge and opportunity in a unified way.

Just as NHDOT is one member of every project team, alongside designers, engineering firms, support service providers, contractors, subcontractors, and maintenance professionals, NHDES is an integral part of that team as well. Working together, transportation project development and construction is enhanced, water quality is maintained, and no challenge is insurmountable.

We look forward to a safe, effective, and efficient construction season, and as always, I am proud to be NHDOT.

  
William J. Cass  
Commissioner

JOHN O. MORTON BUILDING • 7 HAZEN DRIVE • P.O. BOX 483 • CONCORD, NEW HAMPSHIRE 03302-0483  
TELEPHONE: (603) 271-3734 • FAX: (603) 271-3814 • TDD: RELAY NH 1-800-735-2964 • [DOT.NH.GOV](http://DOT.NH.GOV)

# New faces/interpretations at DES

- Numerous new faces in new roles at DES
  - Phil Trowbridge – LRM Program Manager (2 yrs)
  - Ted Diers – Water Division, Assistant Director (1 yr)
  - Darlene Forst – Wetlands Bureau Administrator (1.5 yr)
  - Courtney Lockwood – LRM Legal Counsel (1 yr)
  - Erin Holmes – Watershed Mgmt. Bureau Administrator (1 yr)
- Enabled a fresh look at regulatory reforms
- Rules revisions in bite sized pieces
- Focus on statutory area of jurisdiction
- BUT... places a little more scrutiny on us

# Why more scrutiny?

- Clarifying and memorializing where:
  - Wetlands jurisdiction STOPS, and where
  - AOT jurisdiction BEGINS, and where
  - Shoreland jurisdiction BEGINS, and where
  - Watershed jurisdiction BEGINS.
- What does substantial equivalency mean...
- Federal partners reliance on implementing concepts of erosion and sediment controls...
- Having approved procedures helps!

STATE OF NEW HAMPSHIRE  
INTER-DEPARTMENT COMMUNICATION

DATE: June 1, 2023

FROM: Mark Hemmerlein  
Water Quality Program Manager

AT (OFFICE): Department of  
Transportation  
Bureau of  
Environment

SUBJECT: Updates to the Department of Transportation Alteration of Terrain Permit Exemption

TO: Mr. Ridgely Mauck  
Alteration of Terrain Bureau  
New Hampshire Department of Environmental Services  
29 Hazen Drive, PO Box 95  
Concord NH 03302-0095

The Department has reviewed the design standards and added the "Stormwater BMP Inspection and Maintenance Plan" to Section II of our Memorandum of Agreement. The following is a complete updated list:

- NHDOT "Standard Specification for Road and Bridge Construction", March 2016
- AASHTO "Highway Drainage Guidelines", 2007
- EPA "Developing your Stormwater Pollution Prevention Plan – Guide for Construction Sites", May 2007
- USDOT, "Best Management Practices for Erosion and Sediment Control" June 1995
- FHWA's "Urban Drainage Design Manual", September 2009
- NHDES "New Hampshire Stormwater Management Stormwater Manual Volumes 1, 2, & 3", December 2008
- NHDOT "Guidelines for Temporary Erosion Control and Stormwater Management" 2002
- NHDOT "Best Management Practices for Routine Roadway Maintenance Activities in New Hampshire" August 2001
- NHDOT "Construction Manual", 2016
- FHWA's "Hydraulic Design of Highway Culverts", April 2012
- ARWMA's "Manual for American Railway Engineers and Maintenance of Way Association", April 2015
- AASHTO's "Drainage Manual", 2014
- NHDOT "Salt Management Plan", June 2019
- NHDOT "Stormwater BMP Inspection and Maintenance Plan" May 2019
- NHDOT Procedure ENV 1-9 Alteration of Terrain Program Compliance
- NHDOT Procedure ENV 1-14 Turbidity Mixing Zones
- NHDOT Procedure ENV 1-16 Stream Diversions
- NHDOT Procedure ENV 1-16 Erosion Control Plans
- NHDOT ENV 1 Manual 3 Project Environmental Process Manual

The Department continues to believe these guidance documents remain relevant to the Alteration of Terrain regulations and are pertinent for inclusion in our MOA.

Cc: Urban, Matt, Jon Evans, Nylus, Kevin, Marshall, Jin, Jennifer Rezek, Dennis Herrick, Caleb Dobbin, John Corcoran, Shelly Winters, Ted Kitis



# Water Quality Procedures


- Socialize permitting requirements
- Adhere to WQ and Wetlands rules
- Set water quality expectations
- Develop consistency
- Streamline

We are treating these procedures as internal to DOT. DES will still need to make its own determinations based on the submittals received, especially under "unusual circumstances". That being said, we think the procedures are good. Knowing that DOT will be following these procedures will be helpful for our permitting decisions. Thanks for the collaboration.

- Reduce paperwork by "front loading" approvals
- Facilitate efficient construction
  - Save time and money in construction

# ENV 1-14 Turbidity Mixing Zones

- Establish repeatable, permittable standards that adhere to the Mixing Zone rules (Part Env-Wq 1707)
- Provide construction flexibility
- Template Mixing Zone
- Designation of Mixing Zones
- Submit with permit applications
- Designated by Watershed Management Bureau



ENV 1-14  
Turbidity Mixing Zone Procedure  
Last Updated: May 19, 2023

PROCEDURE NUMBER: ENV 1-14	PROCEDURE NAME: Turbidity Mixing Zones
ADOPTION DATE:	LAST UPDATED: May 19, 2023
PROCEDURE APPROVED BY: Chairperson, Policy & Records Workgroup	SIGNATURE:
RESPONSIBLE OFFICE: Bureau of Environment	CONTACT PERSON: Administrator, Bureau of Environment
RELATED POLICY: <a href="#">ENV 1 Environmental Policy</a>	RELATED FORMS: <a href="#">Template Turbidity Mixing Zone Designation</a>

**PURPOSE**  
The purpose of this procedure is to provide direction on the design, implementation, and monitoring of Turbidity Mixing Zones (mixing zones) necessary to ensure water quality standards for turbidity are met during construction of NHDOT projects and activities.

**SCOPE**  
This procedure shall apply to all projects funded, approved, sponsored, or led by NHDOT, when NHDOT is responsible for submitting a NH Department of Environmental Services (NHDES) Standard Dredge and Fill Wetlands Permit Application (Wetlands Permit Application). Note, however, that not all projects require a mixing zone. Mixing zones must be designated by NHDES prior to their use. In unusual circumstances, in coordination with NHDES, use of the "Template Mixing Zone" included herein may not be appropriate. In these instances, individual mixing zones shall be coordinated with NHDES.

**GENERAL PROVISIONS**  
[Env-Wt 307.03 Protection of Water Quality Required](#)  
[Env-Wq 1703.11 Turbidity](#)  
[PART Env-Wq 1707 Mixing Zones](#)  
[2022 NPDES Construction General Permit, EPA](#)

**DEFINITIONS**  
Definitions related to this procedure may be viewed on the SOS [Approved Definitions](#) page.

Lentic Waterbody – A lacustrine or still water waterbody, including a ditch, seep, pond, seasonal pool, marsh, or lake.

1 of 4

# ENV 1-14 Turbidity Mixing Zones

[INSERT PROJECT NAME, PROJECT NUMBER]  
Construction Related Turbidity Mixing Zones  
[INSERT DATE]

## TURBIDITY MIXING ZONE DESIGNATION

Turbidity in the waterbody, as needed for in-water work and construction discharges, shall be monitored and controlled as follows to meet New Hampshire Surface Water Quality Standards Env-Wq 1703.11. Such mixing zones shall meet the criteria in New Hampshire Surface Water Quality Standards Env-Wq 1707.02.

### 1. Consistency with Env-Wq 1707.02 Criteria for Approval of Mixing Zones:

The NHDES may only approve a mixing zone if it:

- Meets the criteria in Env-Wq 1703.03(c)(1);*  
Adherence to this procedure, environmental commitments made for this project, the contract documents, as applicable, and all necessary environmental permits ensures that the criteria of this rule are met. Any potential impacts shall be limited to a short duration, and low intensity. Additional detail may be found in the **Compliance Summary** section (9) below.
- Does not interfere with biological communities or populations of indigenous species;*  
Adherence to this procedure, environmental commitments made for this project, the contract documents, as applicable, and all necessary environmental permits ensures that the criteria of this rule are met. Any potential impacts shall be limited to a short duration, and low intensity. Additional detail may be found in the **Compliance Summary** section (9) below.
- Does not result in the accumulation of pollutants in the sediment or biota;*  
Adherence to this procedure, environmental commitments made for this project, the contract documents, as applicable, and all necessary environmental permits ensures that the criteria of this rule are met. Additional detail may be found in the **Compliance Summary** section (9) below.
- Allows a zone of passage for swimming and drifting organisms;*  
Adherence to this procedure, environmental commitments made for this project, the contract documents, as applicable, and all necessary environmental permits ensures that the criteria of this rule are met. Any potential impacts shall be limited to a short duration, and low intensity. Additional detail may be found in the **Compliance Summary** section (9) below.
- Does not interfere with existing and designated uses of the surface water;*  
Adherence to this procedure, environmental commitments made for this project, the contract documents, as applicable, and all necessary environmental permits ensures that the criteria of this rule are met. Additional detail may be found in the **Compliance Summary** section (9) below.
- Does not impinge upon spawning grounds or nursery areas, or both, of any indigenous aquatic species;*  
Adherence to this procedure, environmental commitments made for this project, the contract documents, as applicable, and all necessary environmental permits ensures that the criteria of this rule are met. Additional detail may be found in the **Compliance Summary** section (9) below.
- Does not result in the mortality of any plants, animals, humans, or aquatic life within the mixing zone;*

Page 1 of 7

are deployed as well as prior to and on the  
retrieved, hand-held turbidity measurements

Page 4 of 7

approval of  
Page 6 of 7



- Template Turbidity Mixing Zone
- Available in all but unusual circumstances
- Demonstrates compliance with Env-Wq 1707.02 Criteria for Approval of Mixing Zones




# Env-Wt 527.05(a)

## Construction Requirements for Public Highway Projects

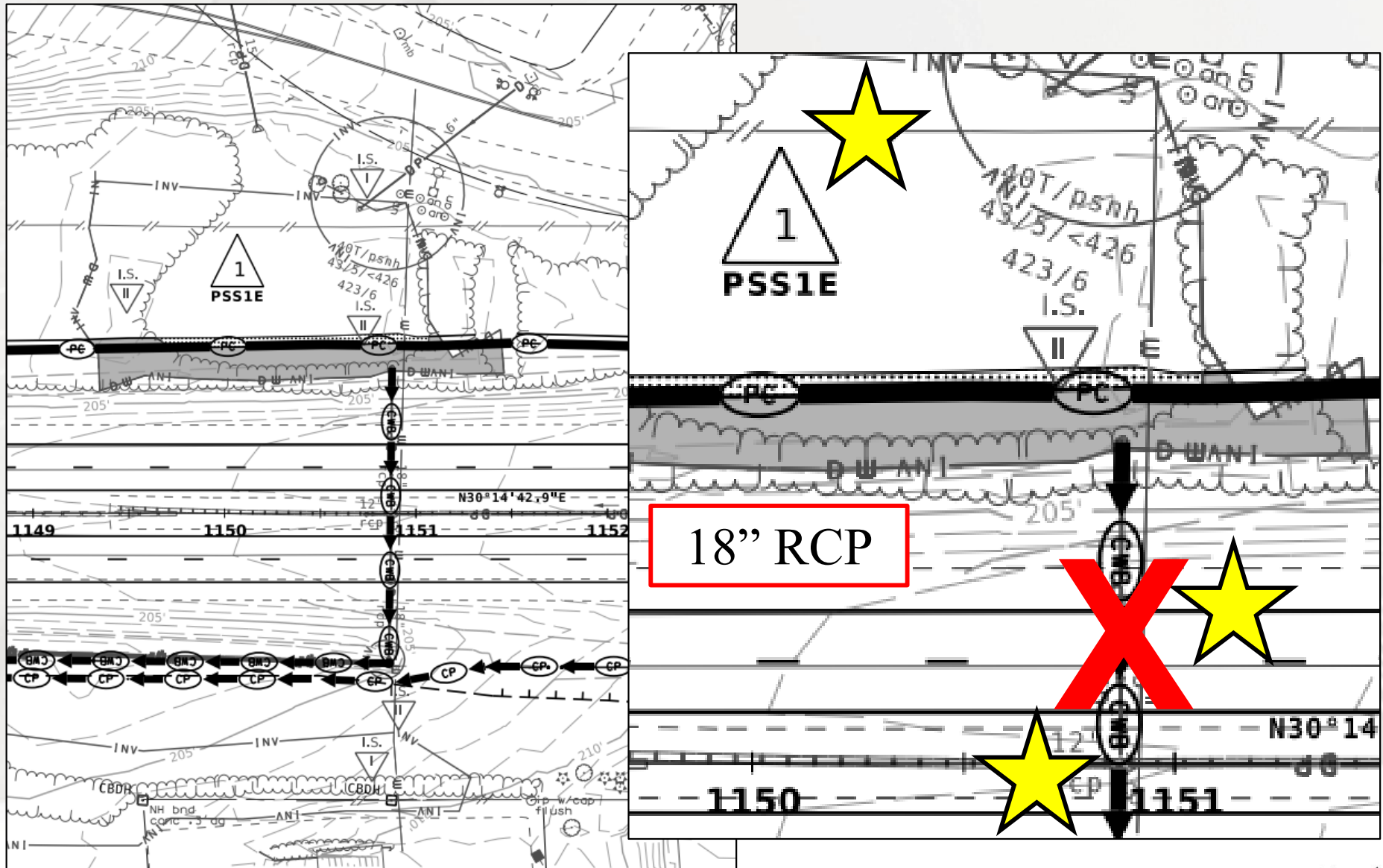
The permit shall be contingent on review and approval by the department [of Environmental Services] of **final stream diversion and erosion control plans** that detail the timing and method of stream flow diversion during construction and show temporary siltation, erosion, and turbidity control measures to be implemented;

# ENV 1-15 Stream Diversions

- Complies with Env-Wt 527.05(a)
- Establishes repeatable standards for when DES needs individual stream diversion approval
- New terms:
  - Unimpacted Riverine Waters of the State (URS)
  - Routine Roadway Qualifying Activity (RQA)
  - Stream Diversion (SD)
- No more “Clean Water Bypass”
- Up front flexibility


	
ENV 1-15 Stream Diversions Procedure Last Updated: May 19, 2023	
PROCEDURE NUMBER: <b>ENV 1-15</b>	PROCEDURE NAME: <b>Stream Diversions</b>
ADOPTION DATE:	LAST UPDATED: May 19, 2023
PROCEDURE APPROVED BY: Chairperson, Policy & Records Workgroup	SIGNATURE:
RESPONSIBLE OFFICE: Bureau of Environment	CONTACT PERSON: Administrator, Bureau of Environment
RELATED POLICY: <a href="#">ENV 1 Environmental Policy</a>	RELATED FORMS: <a href="#">Best Management Practices for Routine Roadway Maintenance Activities in New Hampshire, 2019</a>
<b>PURPOSE</b> The purpose of this procedure is to promote water quality protection through project-level documentation, and implementation of water quality control measures for compliance with NH Wetlands regulations (RSA 482-A, and PART Env-Wt 100-900, specifically Env-Wt 527.05(a), and Env-Wt 307.03) and Clean Water Act (CWA) Section 404 regulations (collectively referred to as “Wetlands Rules”) for the protection of Surface Waters of the State ( <a href="#">RSA 485-A:2, XIV</a> ) (herein referred to as “Waters”), particularly riverine systems or streams. In some cases, these riverine waters will flow thorough active construction sites where they are likely, if not properly isolated, protected, and/or diverted, to receive construction-related sediment, and develop turbid conditions. Additional and special planning, as well as water quality control measures, may be necessary to obtain permits to make infrastructure improvements involving culverts, and closed drainage systems.	
<b>SCOPE</b> This procedure shall apply to all individuals needing to apply for New Hampshire Standard Dredge and Fill Permit/CWA Section 404 Permit (collectively referred to as “Wetlands Permit Application” and “Wetlands Permit,” respectively) as part of the development of a project funded or approved by NHDOT. This procedure applies to work in or around riverine Surface Waters of the State.	
<b>GENERAL PROVISIONS</b> <a href="#">RSA 485-A:2, XIV</a> <a href="#">PART Env-Wt 100-900</a> <a href="#">Env-Wq 1506.12(e) Sediment Control Methods: Temporary Stormwater Diversions</a> <a href="#">Env-Wt 307.03(c)</a>	
1 of 5	

# ENV 1-15 Stream Diversions



# ENV 1-16 Erosion Control Plans

- Complies with Env-Wt 527.05(a)
- Establish repeatable standards
- Merges multiple program expectations
- Design-phase approval with permit application
- Erosion Control Plan Checklist
- No (or limited) DES construction phase approvals
- Fewer RFMIs



ENV 1-16  
Erosion Control Plan Procedure  
Last Updated: May 19, 2023

PROCEDURE NUMBER: <b>ENV 1-16</b>	PROCEDURE NAME: <b>Erosion Control Plans</b>
ADOPTION DATE:	LAST UPDATED: May 19, 2023
PROCEDURE APPROVED BY: Chairperson, Policy & Records Workgroup	SIGNATURE:
RESPONSIBLE OFFICE: Bureau of Environment	CONTACT PERSON: Administrator, Bureau of Environment
RELATED POLICY: <a href="#">ENV 1 Environmental Policy</a>	RELATED FORMS: <a href="#">Erosion Control Plan Checklist</a>

**PURPOSE**  
The purpose of this procedure is to promote water quality protection through project-level documentation, and implementation of Erosion Control Plans (ECP) for compliance with NH Wetlands regulations (RSA 482-A, and PART Env-Wt 100-900, specifically Env-Wt 527.05(a), and Env-Wt 307.03 related to ECPs), as well as Clean Water Act (CWA) Section 404 regulations for the protection of water quality during construction. Providing this information at the time of application for a NH Department of Environmental Services (NHDES) Standard Dredge and Fill Wetlands Permit is optimal and will eliminate the need to have final ECPs approved by NHDES during construction. However, if construction means and methods are not known at the time of application, and additional information may be needed during construction, adherence to the procedures described below will streamline ECP approval during construction by establishing minimum expectations for ECPs

**SCOPE**  
This procedure shall apply to all individuals needing to apply for a Standard Dredge and Fill Wetlands Permit/CWA Section 404 Permit (collectively referred to as "Wetlands Permit Application" and "Wetlands Permit," respectively) as part of the development of a project funded or approved by NHDOT.

**GENERAL PROVISIONS**  
[Memorandum of Agreement Between the Department of Environmental Services and the Department of Transportation Regarding Alteration of Terrain Permits \(RSA 485-A\) \(AOT MOA\)](#)  
[Procedure ENV 1-9: Alteration of Terrain Program Compliance](#)  
[RSA 482-A](#)  
[PART Env-Wt 100-900](#)  
[PART Env-Wt 527](#)

1 of 4



# ENV 1-16 Erosion Control Plans

New Hampshire  
**DOT**  
Department of Transportation

ENV 1-16  
Erosion Control Plan Checklist  
Last Updated: May 19, 2023

Erosion Control Plan Checklist

Required Plan Information

- ☐ All existing or proposed property lines,
- ☐ Water features, including but not limited to:
  - Water flow direction,
  - Wetlands and surface waters,
- ☐ Areas to be disturbed and/or impacted,
- ☐ Proposed temporary methods for protecting water quality (Stormwater Control Methods (SCMs)), including but not limited to:
  - Temporary and permanent mulching,
  - Cofferdams,
  - Turbidity curtains,
  - Vegetation,
  - Erosion control blankets,
  - Silt fence,
  - Erosion control seed mixes,
  - Straw bales,
  - Check dams,
  - Catch basin inlet protection,
  - Temporary construction exits,
  - Sediment traps,
  - Construction dewatering,
  - Stormwater diversions,
  - Flocculants,
  - Other erosion and sediment control methods,
  - Manufactured erosion and sediment control products,
- ☐ Existing and proposed final contours at intervals not greater than 2' in all areas to be disturbed, and within 250' thereof,
- ☐ Perimeter controls,
- ☐ Dewatering basin locations and discharge locations including receiving waters,
- ☐ Turbidity control locations (cofferdams/turbidity curtains),
- ☐ North arrow,
- ☐ A legend that clearly identifies all symbols, line types, and shading used on the plans.

1 of 2

- Included in permit applications
- Basis for the SWPPP
- Included in contract documents either:
  - Completed
  - With needed items highlighted (when not available in design) for contractor preparation and submittal
- Revised “Strategies Sheet” to “Erosion Control Plan Narrative”

# Some Changes may be Needed

- Use of the Erosion Control Plan Checklist and Erosion Control Plan Notes, and Erosion Control Plan Narrative instead of the Erosion Control Strategies Sheet
- New plan notes
- New plan details and terminology
  - URS – Unimpacted Riverine Waters of the State
  - RQA – Routine Roadway Qualifying Activity
  - SD – Stream Diversion
- Anticipate some sort of training for staff

# And while I'm at it...

## Waters of the United States (WOTUS) Supreme Court Ruling

- Ma
  - Fro
  - CO
  - RS
  - wh
  - Aff
  - 
  - ACOE discharges to WOTUS
  - Plan revisions to identify ACOE v DES jurisdiction
- Held:* The CWA's use of "waters" in §1362(7) refers only to "geographic[al] features that are described in ordinary parlance as 'streams, oceans, rivers, and lakes'" and to adjacent wetlands that are "indistinguishable" from those bodies of water due to a continuous surface connection. *Rapanos v. United States*, 547 U. S. 715, 755, 742, 739 (plurality opinion). To assert jurisdiction over an adjacent wetland under the CWA, a party must establish "first, that the adjacent [body of water constitutes] . . . 'water[s] of the United States' (i.e., a relatively permanent body of water connected to traditional interstate navigable waters); and second, that the wetland has a continuous surface connection with that water, making it difficult to determine where the 'water' ends and the 'wetland' begins." *Ibid.* Pp. 6–28.
- Wetlands,

