Clean Water Act Compliance for Culverts in New York State

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Presentation Outline

- Recent Clean Water Act Regulatory Changes
- USACE vs State Jurisdiction in New York
- Identifying Regulated Waterways
- Discussion of NYSPGP-1 for Emergency Response & Storm Recovery
- Overview of USACE Nationwide Permit Program
  - Regional and General Conditions
- Culvert Replacement Projects
  - USACE Regional and General Conditions
  - NYSDEC WQC Conditions
- Documenting Compliance with Clean Water Act in NYS
- Questions

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Recent CWA Regulatory Changes

- **Jan 2023** 2023 Rule published – "Revised Definition of 'Waters of the United States'"
- **Mar 2023** 2023 Rule effective
- **May 2023** *Sackett* Supreme Court decision
- **Jun 2023** EPA and Army announce plans to issue a final rule amending the 2023 rule
- **Aug 2023** Final rule amending the 2023 rule: signature and announcement
- **Sept 2023** Final rule amending the 2023 rule: publication and effective date
- **Ongoing Litigation**
  - As a result of ongoing litigation on the January 2023 Rule, the agencies will implement the January 2023 Rule, as amended by the conforming rule, in 23 states, the District of Columbia, and the U.S. Territories (including NYS).
  - In the other 27 states and for certain parties, the agencies are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime and the Supreme Court's decision in Sackett until further notice.

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Clean Water Act in NYS: Joint USACE & NYSDEC Jurisdiction

- USACE
  - Section 404 of the Clean Water Act (Waters of the U.S.) (33 U.S.C. 1344)
  - Section 10 of the Rivers and Harbors Act of 1899 (Navigable Waterways) (33 U.S.C. 403)
- NYSDEC
  - Section 401 of the Clean Water Act (Water Quality Certification) (33 U.S.C. 1341) (6 NYCRR 608.9)
    - Applicable to USACE Permits
- NYS Environmental Conservation Law
  - Article 15 of the NYS ECL (Lakes, Ponds, Streams, Rivers) (6 NYCRR 608)
    - Need Protection of Waters Permit to disturb the bed or banks of any stream class C(T) or higher
  - Article 24 of the NYS ECL (State-Regulated Freshwater Wetlands) (6 NYCRR 663)
    - 12.4 acres or larger OR Unusual Local Importance (will change in 2028 to 7.4 acres or larger)

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USACE vs NYSDEC

- **USACE**
  - Waters of the U.S.
    - Traditional Navigable Waters
    - Territorial Seas
    - Interstate Waters
    - Impoundments of Jurisdictional Waters
    - Tributaries
      - Relatively Permanent, Standing, or Continuously Flowing Bodies of Water Year-Round or During Certain Times of Year
      - May Include Ditches or Canals if Flow to Jurisdictional Waters
    - Adjacent Wetlands
      - Continuous Surface Connection to Jurisdictional Waters
      - Vegetation, Soils, and Hydrology
      - Swamps, Marshes, Bogs, etc.

- **NYSDEC**
  - Stream Definition
    - Watercourse plus land immediately adjacent to and which slopes toward the bed of a watercourse and which is necessary to maintain the integrity of a watercourse.
    - Class A through D; may be (T) or (TS); based on water quality
    - Identified using the Environmental Resource Mapper
  - Wetlands Definition
    - Freshwater wetlands are lands and submerged lands, commonly called marshes, swamps, sloughs, bogs, and flats, supporting aquatic or semi-aquatic vegetation.
    - Identified using the Environmental Resource Mapper (Jurisdiction not Limited to ERM by 2025)

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Identifying Regulated Waterways

Federally Regulated Waterways – Waters of the U.S.

- National Wetlands Inventory Map (NWI Map)
  - Managed by U.S. Fish and Wildlife Service (USFWS)
  - Wetlands Mapper | U.S. Fish & Wildlife Service (fws.gov)

State Regulated Waterways

- NYS Environmental Resource Mapper (NYSERM)
  - Environmental Resource Mapper (ny.gov)

Not all regulated waterbodies are mapped!

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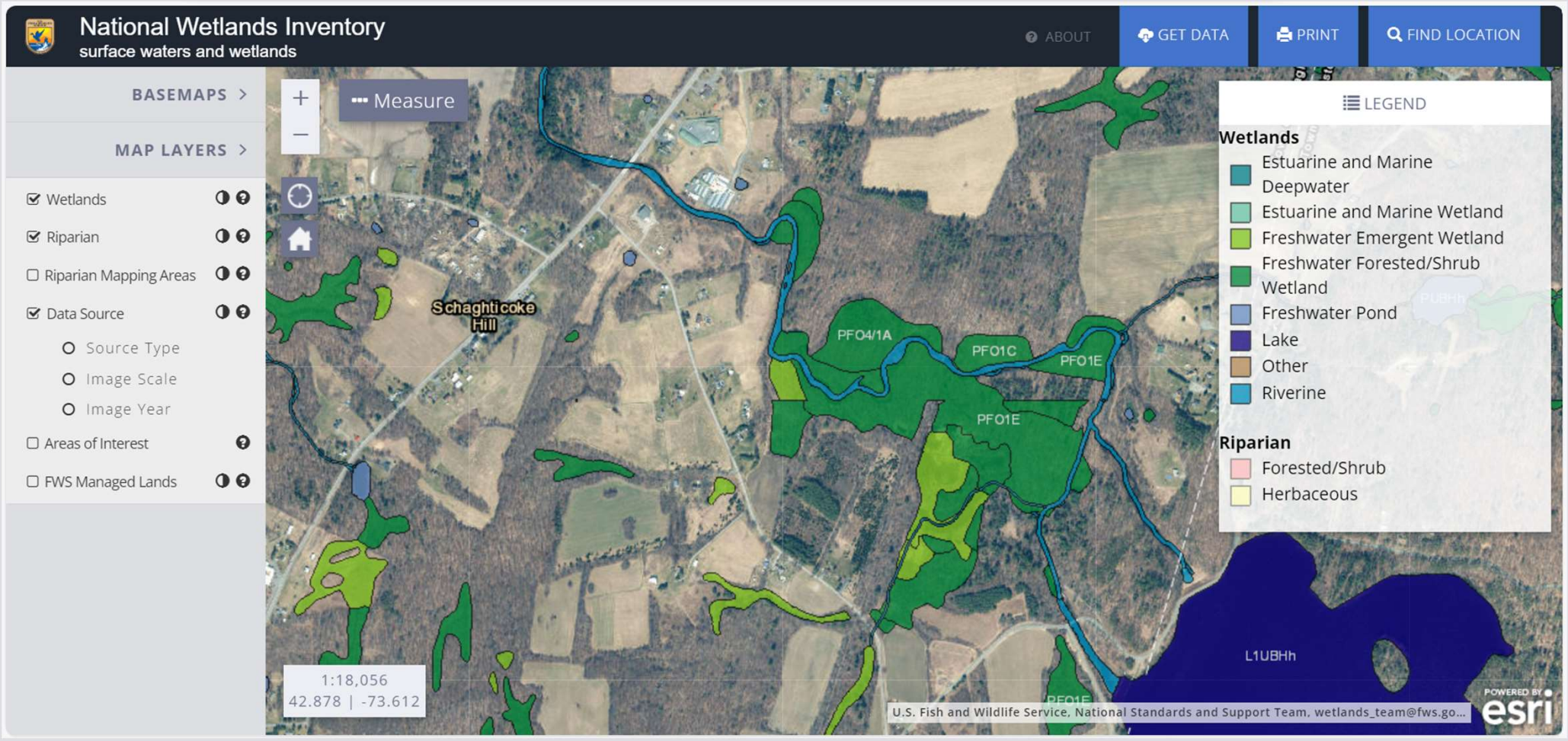
NWI Map Example



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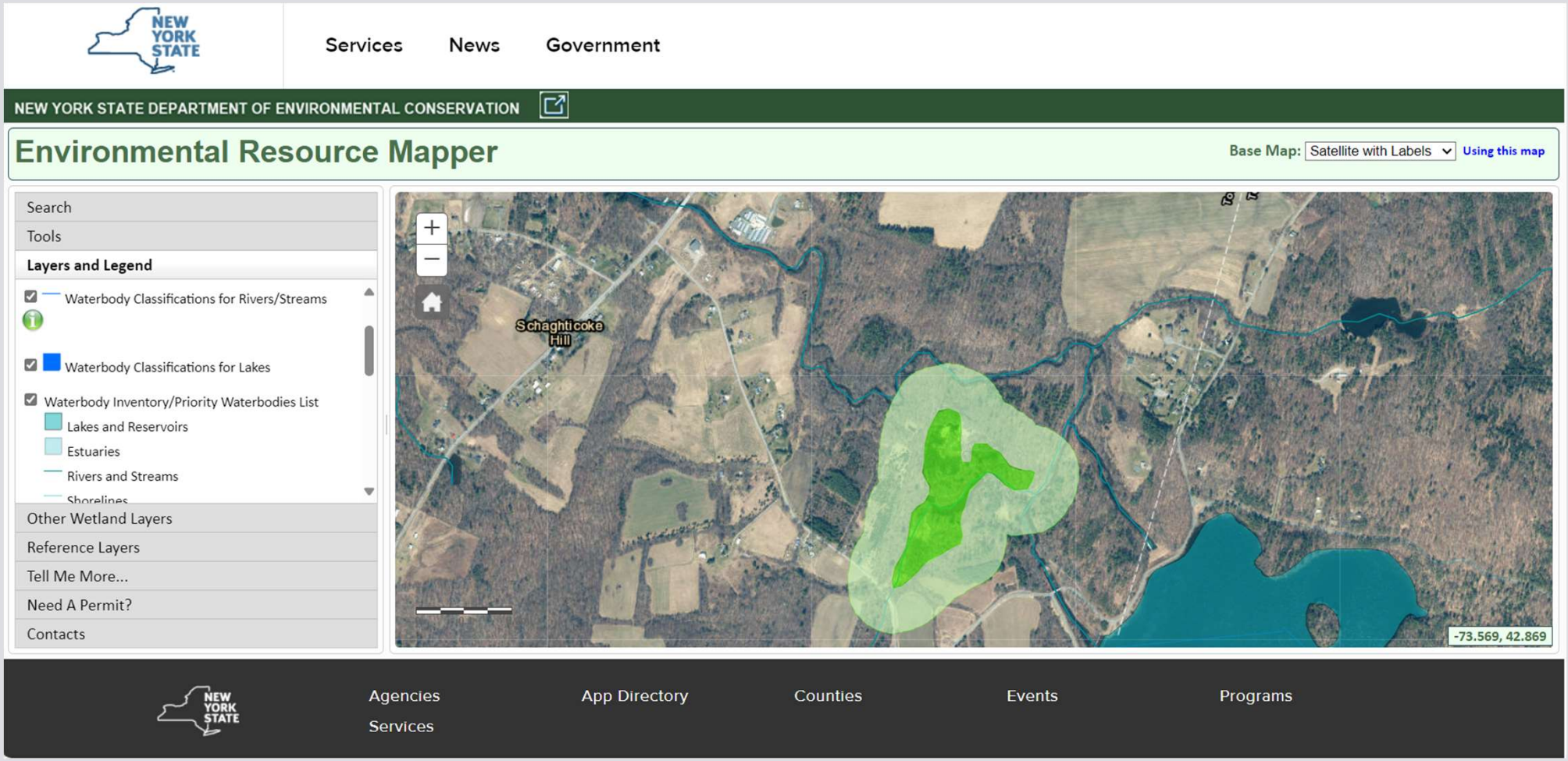
NYSDEC Environmental Resource Mapper Example



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NYS Programmatic General Permit (NYSPGP-1)

- Only for Emergency Response and Storm Recovery Activities
- New York State Programmatic General Permit (NYSPGP-1) - NYSDEC
- Effective December 21, 2023
- Applicable to 13 types of impacts
- Applies to all of NYS except:
  - Tribal/Native Nation lands
  - NYSDEC Region 1 (Long Island) and NYSDEC Region 2 (New York City)
  - Within NYSDEC Region 3, all Coastal Erosion Hazard Areas and all tidal wetlands including those located along the Hudson River south of the Tappan Zee Bridge
- Automatically activated on the date of a Federal and/or New York State Emergency
- Requires Pre-Construction Notification based on categories of work (A-C). Requires Post Construction Compliance Form w/in 30 days of completion.

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NYS Programmatic General Permit (NYSPGP-1)

Excerpt from NYSPGP-1

General Activity Description	Category A Activity Can Commence 5 Business Days after Joint Agency Authorization Form Submitted to NYSDEC	Category B Activity Must be Verified by NYSDEC *OR* USACE	Category C Prior Authorization Required from NYSDEC *AND* USACE
1 Culverts & Bridges	In-place repair (not replacement or resetting) of previously authorized existing culverts and bridges conveying streams.	Replacement and/or re-setting of previously authorized existing culverts and bridges conveying streams in accordance with **Activity Detail 1.**	Repair or replacement of culverts and bridges that do not otherwise qualify for activities A1 or B1.
2 Vertical Stabilization Structures	In-place repair (not replacement) of previously authorized vertical stabilization structures.	Replacement of previously authorized vertical stabilization structures in accordance with **Activity Detail 2.**	Repair or replacement or of vertical stabilization structures that do not otherwise qualify for activities A2 or B2. New vertical stabilization structures to protect public infrastructure in non-tidal streams/rivers where site conditions preclude practicable use of other stabilization structures.

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NYSPGP-1 Activity Detail 1 Culverts & Bridges

NEW YORK STATE

Department of Environmental Conservation

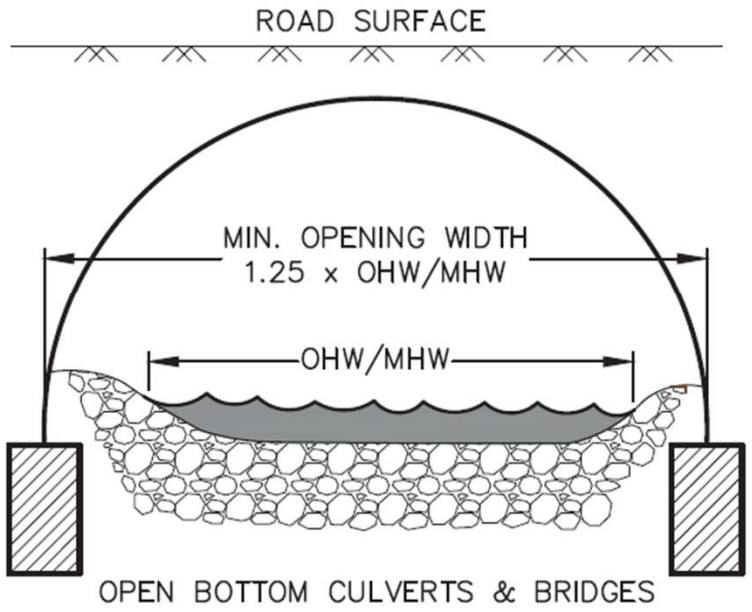
STATE PROGRAMMATIC GENERAL PERMIT (SPGP)–1
FOR EMERGENCY RESPONSE AND STORM RECOVERY ACTIVITIES IN
REGULATED WATERS IN NEW YORK STATE
EXCLUDING NYSDEC REGIONS 1, 2 AND PORTIONS OF REGION 3

US Army Corps of Engineers

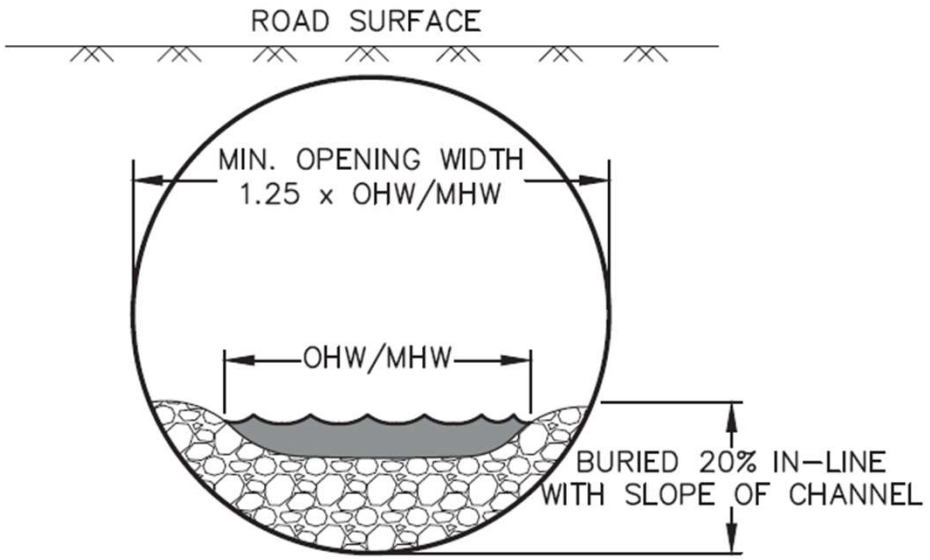
ACTIVITY DETAIL 1 – CULVERTS & BRIDGES

CROSS SECTION VIEW

N.T.S.



OPEN BOTTOM CULVERTS & BRIDGES



CLOSED BOTTOM CULVERTS

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Pre- and Post-Construction Notification Requirements

- **Pre-Construction Requirements**
  - **Category A**
    - Applicant must submit application to NYSDEC Regional Office prior to commencement
    - NYSDEC may provide written authorization of the NYSPGP-1 including special conditions.
    - If the NYSDEC does not reply to the applicant within (5) business days of receipt of the complete permit application, the applicant may proceed to commence work in accordance with terms and conditions of NYSPGP-1 without further written authorization.
  - **Category B**
    - Applicant must submit application to NYSDEC Regional Office prior to commencement
    - USACE written verification is not required for Category B, but may be provided, for work over which the USACE has authority. In instances where the applicant has received written verification from the USACE, a separate verification from the NYSDEC is not required.
    - In no event may the applicant commence Category B activities without prior verification of the NYSPGP-1 by either the NYSDEC or USACE.

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Pre- and Post-Construction Notification Requirements (cont'd)

- **Pre-Construction Requirements**
  - **Category C**
    - Applicant must submit application to NYSDEC Regional Office **AND** the appropriate USACE District Office prior to commencement
    - The applicant is not authorized to commence work until it receives written affirmation from **both** NYSDEC **and** the USACE.

- **Post-Construction Requirements**
  - **Categories A through C**

Within 30 days of the completion of the work authorized by this permit, regardless of category, the permittee is required to complete and submit the Post-Construction Compliance Form contained in Appendix C to **both** the appropriate USACE District **and** NYSDEC Regional offices.

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Endangered Species Act & National Historic Preservation Act

- National Environmental Policy Act (NEPA)
  - Lead Agency is funding agency
  - FEMA is almost always Lead Agency for FEMA funded projects
- Endangered Species Act
  - FEMA is responsible for making determinations of compliance with Section 7 of the Endangered Species Act.
    - This applies to all FEMA funded projects
    - Only FEMA (not Subrecipient) can consult with U.S. Fish and Wildlife Service and/or the National Oceanic and Atmospheric Administration
- National Historic Preservation Act
  - FEMA is also responsible for making determinations of compliance with the National Historic Preservation Act.
    - This applies to all FEMA funded projects
    - Only FEMA (not Subrecipient) can consult with the State Historic Preservation Office and the Tribal Historic Preservation Offices

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USACE Nationwide Permits

- **Nationwide Permits**
  - Section 404 (e) of the Clean Water Act establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.
  - Nationwide Permits authorize activities that have minimal individual and cumulative adverse environmental effects
  - Issued Every 5 Years
    - 2021 Exception
      - March 2021 – 16 NWPs Issued
      - February 2022 – 41 Additional NWPs Issued
      - Expire March 2026 (Expect Changes)
  - Currently 59 NWPs
  - Apply to All Projects in Waters of the U.S. (With or Without FEMA Funding)
  - Some Require Pre-Construction Notification to USACE; Others Do Not (Self-Certify)
  - Examples of Authorized Activities
    - NWP 3 - Maintenance of Existing Structures
      - Culvert Replacement
    - NWP 13 – Bank Stabilization
      - Up to 500 lf

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NATIONWIDE PERMITS APPLY ONLY IF ALL REGIONAL & GENERAL CONDITIONS ARE MET

USACE General and NY Regional Conditions

- Nationwide Permit General Conditions Applicable Nationwide (1-32)
- Buffalo and New York District Regional General Conditions (A-F)
- Buffalo & New York District Permit-Specific NWP Conditions
- NYSDEC General Water Quality Conditions
- NYSDEC Permit-Specific Water Quality Conditions
- NYSDOS Permit-Specific NWP Coastal Zone Consistency Determination
- May Require Pre-Construction Notification to USACE
- Require Compliance with ESA and Section 106

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Culvert Replacement Projects

- **USACE Nationwide Permit General Conditions**
  - **2. Aquatic Life Movements.** "No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements."
  - **9. Management of Water Flows.** "To the maximum extent practicable, the pre-construction course, condition, capacity and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity and location of open waters if it benefits the aquatic environment (e.g. stream restoration or relocation activities)."

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Culvert Replacement Projects

- **USACE Buffalo and New York District General Regional Conditions**
- **G-B. Culverts.**
  - **ALL NEW OR REPLACEMENT CULVERTS IN STREAMS**, to the extent that they are regulated, shall be constructed/installed in accordance with the following, in order to ensure compliance with NWP General Condition #2 – Aquatic Life Movement and #9 – Management of Water Flows:
  - A. Size – Bank-full flows shall be accommodated through maintenance of the existing bank-full channel cross sectional dimensions within a single culvert. Bank-full width is generally considered to be the top width at the stage where a stream begins to overtop its banks and spread into the floodplain. A bottomless culvert or bridge must be used to span the stream channel where practicable. If the stream cannot be spanned, **the culvert width shall be minimum of 1.25 times the width of the stream channel at the ordinary high-water mark**, which is generally equivalent to the width of the channel during the 2-year design storm.
  - B. Depth – To maintain low flow and aquatic life movement within culverts with a bottom, the culvert invert, including end sections, must be embedded. Specifically**, the culvert must be installed with its bottom buried below the grade of the stream bed, as measured at the average low point, to a depth of a minimum of 20 percent of the culvert vertical rise (height) throughout the length of the culvert.**
  - C. The dimension, pattern, and profile of the stream above and below the stream crossing shall not be permanently modified by changing the width or depth of the stream channel.
  - D. The culvert bed slope shall remain consistent with the slope of the adjacent stream channel.
  - Note 1: Use of the requirements alone will not satisfy the need for proper engineering and design. In particular, appropriate engineering is required to ensure structures are sized and designed to provide adequate capacity (to pass various flood flows) and stability (bed, bed forms, footings and abutments, both upstream and downstream). It is the permittee's responsibility to ensure the structure is appropriately designed.
  - Note 2: This condition does not apply to temporary culverts used for construction access that are in place for less than one construction season. However, compliance with General Conditions #2 and #9 still applies.

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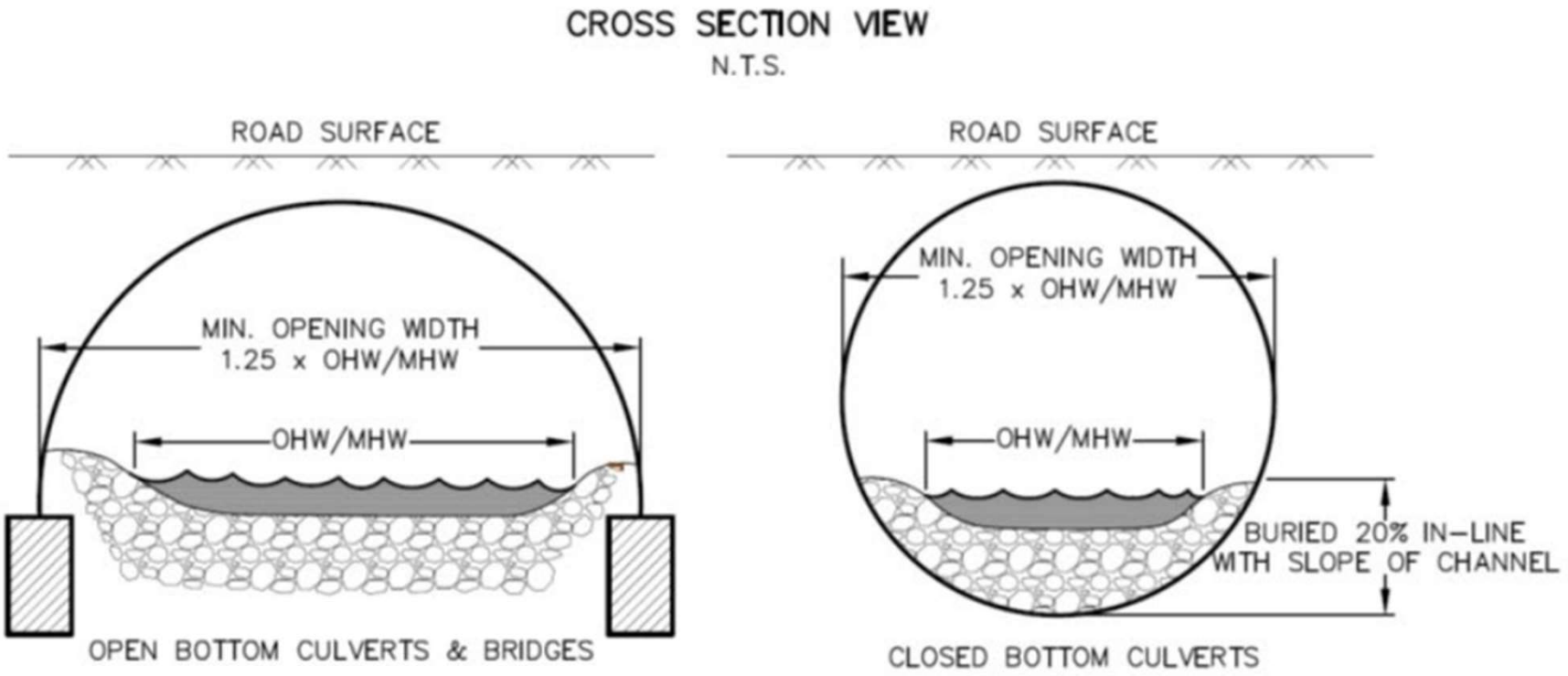
Culvert Replacement Projects



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Culvert Replacement Projects

- **NYSDEC WQC Conditions**
- To be covered under this blanket Water Quality Certification, all of the following criteria must be met for culvert installations and replacements:
  - Culvert pipes shall be designed to pass a storm event with an annual chance of 2% or less (i.e. 50-year storm event or greater) such that the water surface remains below the top of the inlet opening.
  - All culverts with closed bottoms and culvert pipes must be appropriately embedded. Round culverts must be installed so that at least 20% of the culvert's vertical height is embedded below the existing stream bed at the outlet end of the culvert.
  - Width of the structure must be a minimum of 1.25 times (1.25X) width of the Mean High-Water Channel.
  - The slope of the stream bed within or under the culvert shall remain consistent with the slope of the adjacent stream channel. For slopes greater than 3%, an open bottom culvert must be used.
  - This culvert must not be located under a roadway that provides sole access to "Critical Facilities"
  - This certification does not authorize culvert rehabilitation projects that involve slip lining, invert paving, or similar treatments.
  - This certification does authorize the rehabilitation of culverts utilizing Cure in Place Pipe Lining (CIPP) or concrete spray lining for culverts which currently meet Nationwide Permit General Condition # 2 - Aquatic Life Movements.

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Culvert Design

- **Bridges and Bottomless Arches Preferred**
- **Width**
  - **Crossing opening (whether open arch, bridge, or culvert) should be 1.25x the width of the stream channel bed. Width is measured bank to bank at the Ordinary High Water Mark, or the edges of terrestrial, rooted vegetation. Use average of three measurements**
- **Box and Pipe Culverts Must Be:**
  - **Embedded into the streambed at least 20% of the culvert height at the downstream invert**
  - **Used only on "flat" streambeds (slopes no steeper than 3%) and Installed Level**
- **Substrate**
  - **Natural substrate should be used within the crossing, and should match the upstream and downstream substrates**

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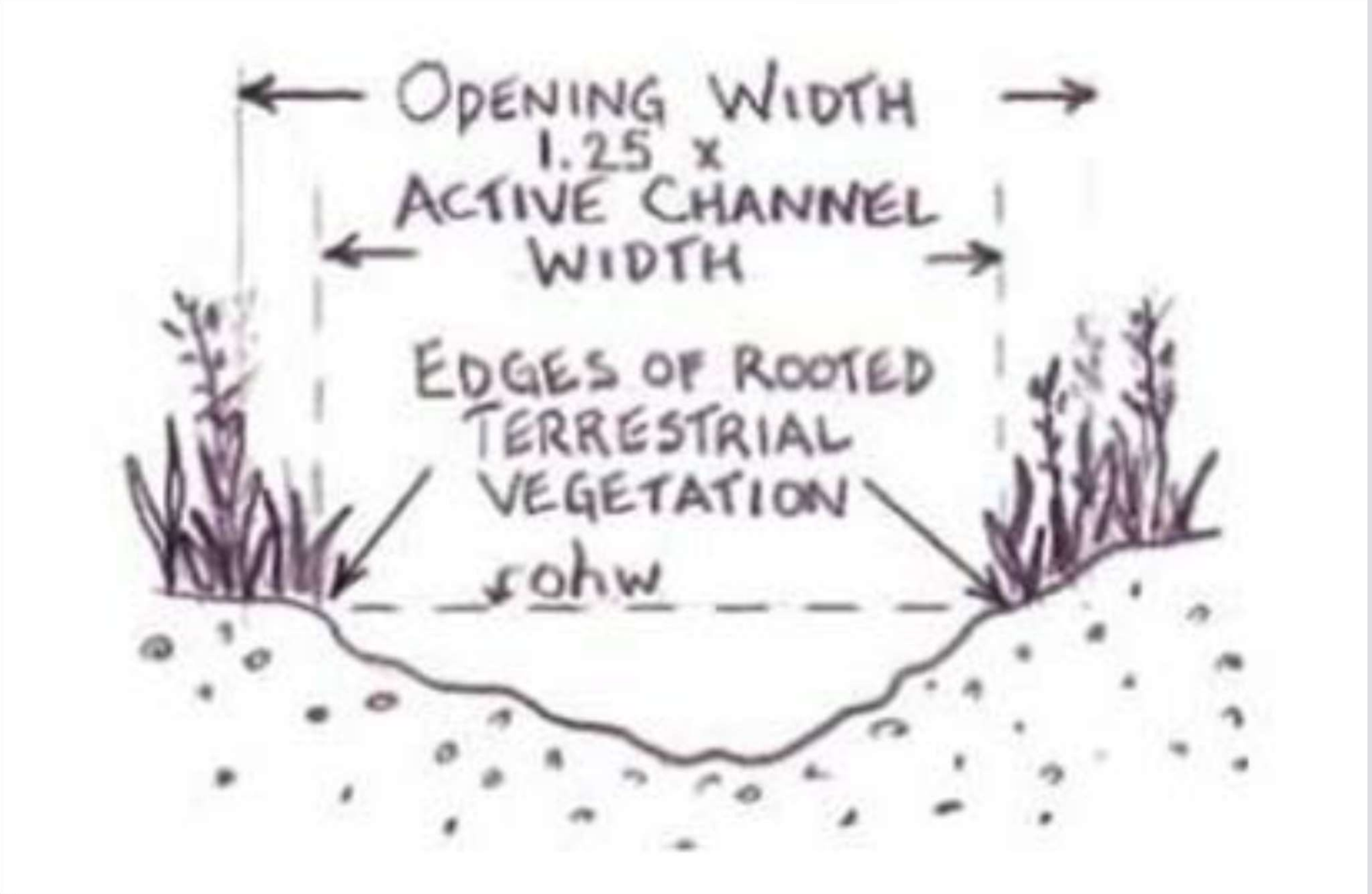
Culvert Design



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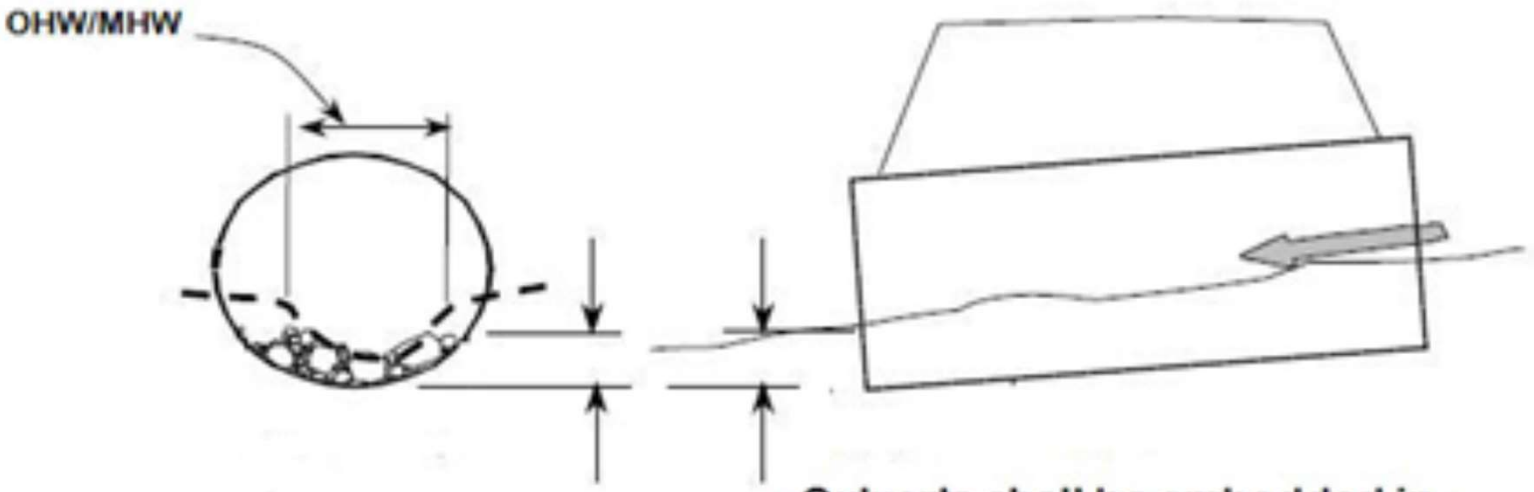
Culvert Design

The diameter of the culvert shall accommodate bankfull by either being at least 1.25 times the width of the stream at its OHW/MHW mark, or the width needed to convey a 2 year design storm.



Culverts shall be embedded in the stream bed at least 20% of total culvert height and culverts shall be installed in line with the slope of the natural channel.

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Documenting Compliance with CWA

- No Permit Required
  - Must be Confirmed with Correspondence from USACE
- NYSPGP-1
  - Must provide copies of both Pre- and Post-Construction Notification Forms
- USACE Confirmation of Nationwide Permit
  - ESA and Section 106 are FEMA's Responsibility as Lead Agency under NEPA
- Nationwide Permit Self-Certification
  - ONLY if NWP does not require PCN
  - ONLY if Project Complies with **All** Regional and General Conditions
- Regional General Permit
  - Emergency Permit/LOP
  - SWCD/USACE Agreement
- USACE Individual Permit

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Questions

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