



Incorporated 1787

Conservation Commission

INLAND WETLANDS AND WATERCOURSES APPLICATION

This Application is for a five-year permit to conduct a regulated activity or activities pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Weston ("The Regulations")

PROPERTY ADDRESS: CTDOT Bridge No. 07001 - Michael's Way, Weston, CT

Assessor's Map # _____ **Block #** _____ **Lot #** _____

PROJECT DESCRIPTION (*general purpose*) Replacement of Bridge No. 07001 over West Branch Saugatuck River

with a 43-ft clear span steel superstructure supported by new abutments located just beyond the existing abutment locations.

Total Acres 0.6 acres Total Acres of Wetlands and Watercourses 0.12 acres

Acreage of Wetlands and Watercourses Altered 0.013 acres Upland Area Altered 0.5 acres

Acres Linear Feet of Stream Alteration 10 LF Total Acres Proposed Open Space 0.0 acres

OWNER(S) OF RECORD: (*Please list all owners, attach extra sheet if necessary*)

Name: Town of Weston Phone: 203-222-2618

Address: Norfield Road, Weston, CT, 06883

Email: _____

APPLICANT/AUTHORIZED AGENT:

Name: Town of Weston Public Works, Larry Roberts, Director Phone: 860-222-2662

Address: Public Works Garage, 78 Old Hyde Road, Weston, CT 06883

Email: LRoberts@westonct.gov

CONSULTANTS: (*Please provide, if applicable*)

Engineer: BL Companies, Sean Laudati, Project Manager Phone: 860-249-2200

Address: 100 Constitution Plaza, 10th Floor, Hartford CT 06103 Email: slaudati@blcompanies.com

Soil Scientist: BL Companies - Sagan Simko Phone: 717-943-1696

Address: 2601 Market Place, Suite 350, Harrisburg, PA 17110 Email: ssimko@blcompanies.com

Legal Counsel: _____ Phone: _____

Address: _____ Email: _____

Surveyor: CT Department of Transportation Phone: _____

Address: _____ Email: _____

PROPERTY INFORMATION

Property Address: Michael's Way over West Branch Saugatuck River

Existing Conditions (*Describe existing property and structures*): Bridge No. 07001 is a 40-ft wide single-span steel girder superstructure with a timber deck on concrete abutments. The roadway consists of two 11-ft travel lanes with a curb-to-curb width of 22 ft. There are 4 ft sidewalks on both sides, and no roadway shoulders present. The bridge is rated in poor condition.

Provide a detailed description and purpose of proposed activity (*attach sheet with additional information if needed*): The purpose and need of this project is to address the poor condition of the existing bridge. Deficiencies include deteriorated superstructure steel with heavy rusting, section loss up to 3/16" deep, and deformation of bearing pads with heavy rust on anchor nuts and bolts. The existing substructure exhibits hairline cracks with efflorescence along the abutments and wingwalls.

Is this property within a subdivision (*circle*): Yes or **(No)**
Square feet of proposed impervious surfaces (*roads, buildings, parking, etc.*): _____

Subject property to be affected by proposed activity contains:

- | | |
|--|---|
| <input checked="" type="checkbox"/> wetlands soils | <input type="checkbox"/> bog |
| <input type="checkbox"/> swamp | <input type="checkbox"/> lake or pond |
| <input checked="" type="checkbox"/> floodplain | <input checked="" type="checkbox"/> stream or river |
| <input type="checkbox"/> marsh | <input type="checkbox"/> other _____ |

The proposed activity will involve the following within wetlands, watercourse, and/or review area:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Alteration | <input checked="" type="checkbox"/> Construction | <input type="checkbox"/> Pollution |
| <input type="checkbox"/> Discharge to | <input type="checkbox"/> Discharge from | <input checked="" type="checkbox"/> Bridge or Culvert |
| <input checked="" type="checkbox"/> Removal of Materials | <input checked="" type="checkbox"/> Deposition of Materials | <input type="checkbox"/> Other _____ |

Amount, type, and location of materials to be removed, deposited, or stockpiled:
See the following sheet.

Description, work sequence, and duration of activities:

The existing bridge will be completely replaced with a steel superstructure deck with a slightly wider clear span. The roadway will be raised to provide a hydraulically adequate structure. The proposed bridge will rest on concrete abutments founded on micropiles for protection against scour. The bridge will be constructed in one stage with water handling cofferdams used to provide a dry work area. Traffic will be detoured.

Describe alternatives considered and why the proposal described herein was chosen:
See the submitted Hydraulic Analysis Report.

Does the proposed activity involve the installation and/or repair of an existing septic system(s) (*circle*): Yes or **(No)**

The Westport/Weston Health District Approval: _____

Town of Weston
Inland Wetlands and Watercourses Application

Michael's Way over West Branch Saugatuck River
Amount, Type and Location of Materials to be Removed, Deposited, or Stockpiled

Project wide, there will be a mix of excavation and fill. Overall, there is a net fill of 39 cubic yards within the floodplain. There is no fill within the floodway. Approximately 400 cubic yards of concrete and steel will be removed (existing bridge) and replaced with a similar amount for the new bridge. Approximately 300 CY of earth material will be removed and replaced with structural backfill, granular fill, intermediate riprap and natural channel material. Stockpiled material will be placed outside the floodplain and all excavation will occur behind water handling cofferdams.

ADJOINING MUNICIPALITIES AND NOTICE:

If any of the situations below apply, the applicant is required to give written notice of his/her application to the Inland Wetlands Agency of the adjoining municipality, on the same day that he/she submits this application. Notification must be sent by Certified Mail with Return Receipt Requested.

The property is located within 500 feet of any town boundary line; N/A

A significant portion of the traffic to the completed project will use streets within the adjoining municipality to enter or exit the site; N/A

A portion of the water drainage from the project site will flow through and significantly impact the sewage system or drainage systems within the adjoining municipality; or N/A

Water runoff from the improved site will impact streets or other municipal or private property within the adjoining municipality N/A

AQUARION WATER COMPANY

Pursuant to Section 8.4 of the Weston regulations, the Aquarion Water Company must be notified of any regulated activity proposed within its watersheds. Maps showing approximate watershed boundaries are available at the office of the Commission. If the project site lies within these boundaries, send notice, site plan, and grading and erosion control plan via certified mail, return receipt requested, within seven (7) days of submitting application to the Commission, to: N/A

George S. Logan, Director – Environmental Management
Aquarion Water Company
714 Black Rock Turnpike
Easton, CT 06612

The Commissioner of the Connecticut Department of Public Health must also be notified in the same manner in a format prescribed by that commissioner. N/A

The undersigned, as owner(s) of the property, hereby consents to necessary and proper inspections of the above mentioned property by Commissioners and agents of the Conservation Commission, Town of Weston, at reasonable times, both before and after a final decision has been issued by the Commission.

The undersigned hereby acknowledges to have read the "Application Requirements and Procedures" in completing this application.

The undersigned hereby certifies that the information provided in this application, including its supporting documentation is true and he/she is aware of the penalties provided in Section 22a-376 of the Connecticut General Statutes for knowingly providing false or misleading information.



Signature of Owner(s) of Record

8/7/2023

Date

Signature of Authorized Agent

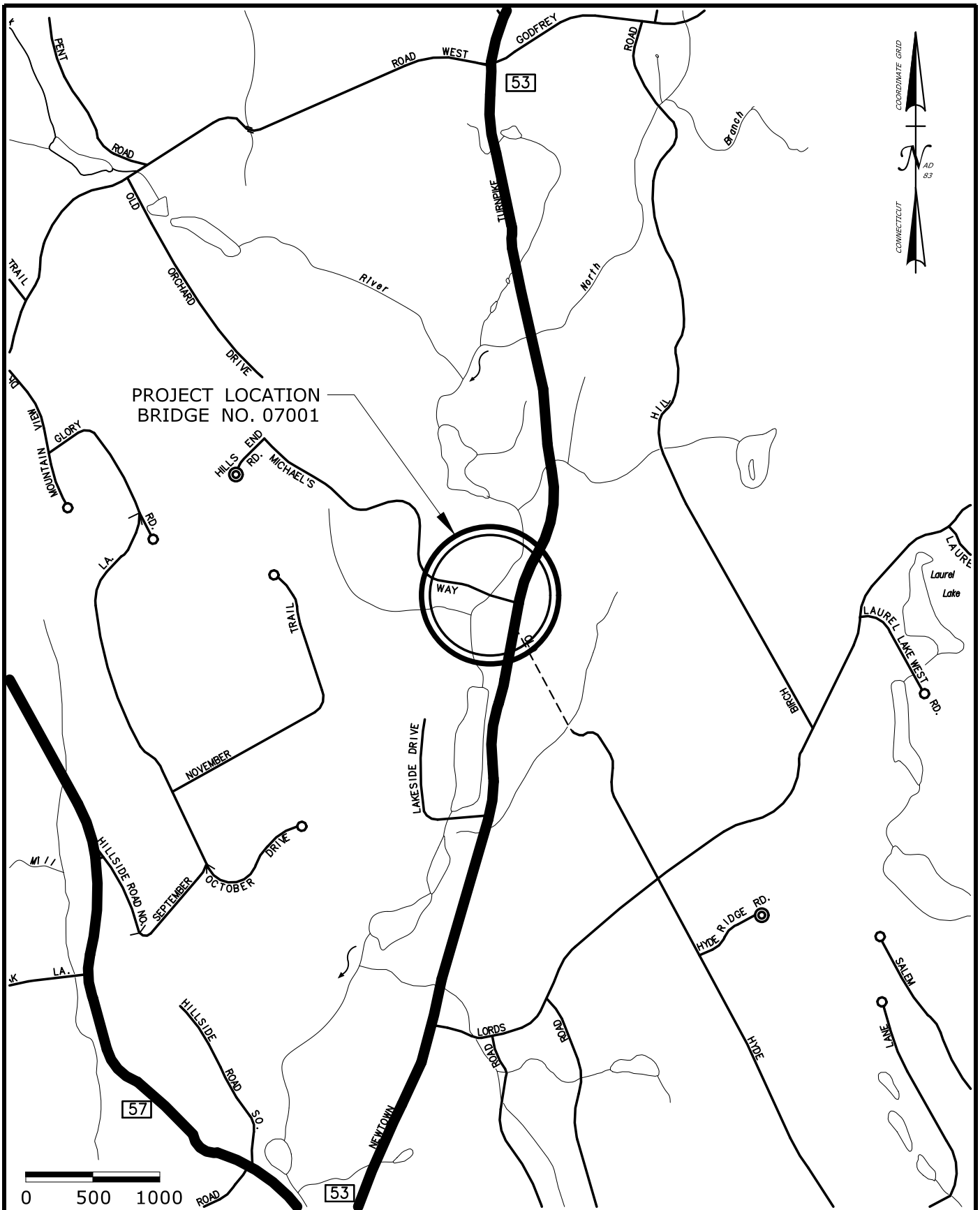
Date

FOR OFFICE USE ONLY

Administrative Approval

Initials

Date



PROJECT LOCATION
BRIDGE NO. 07001



MICHAELS WAY OVER
WEST BRANCH SAUGATUCK RIVER
WESTON, CONNECTICUT

LOCATION MAP
SCALE: 1" = 1,000'

BR. NO.: 07001
PROJ. NO.: 157-088
FIGURE NO.: 01

Project Description

The purpose and need for this project are to address the structural deficiencies of Bridge No. 07001 carrying Michaels Way over West Branch Saugatuck River.

Bridge No. 07001 was constructed in 1995. Bridge No. 07001 consists of a single-span, six rolled steel girder superstructure with a timber deck on pile supported concrete abutments. The existing bridge has an overall structure length of approximately 65 feet. The existing structure has a true clear span of approximately 40 ft measured perpendicular to the flow and a skewed clear span of 59 feet measured along the roadway. The curb-to-curb width over the bridge is 22 feet, composed of two 11-foot travel lanes. There are 4-foot sidewalks located on both sides of the roadway, and there are no shoulders present along the roadway. The bridge is on a 45-degree skew from the roadway.

Bridge No. 07001 is in poor condition (Rating = 4) primarily due to the deteriorated condition of the steel superstructure. The rolled steel girders have moderate to heavy rust throughout, and section loss up to 3/16" deep. The neoprene pad bearing devices exhibit minor deformation and bulging with heavy rust on the anchor bolts and nuts. The existing substructure is in good condition with some vertical hairline cracks with efflorescence along the abutment and wingwalls.

Michael's Way is a two-lane rural local road with no posted speed limit, so the assumed speed limit of the roadway is 25 mph. The Average Daily Traffic (ADT) is approximately 210 vehicles (2022 ADT from the 2022 Routine Inspection Report). Michael's Way has a 22-foot wide curb-to-curb width with no shoulders. The bridge is not located on a horizontal curve.

There are two stormwater drainage outfalls within the bridge site. Approximately 50 feet east of the bridge are two catch basins on either side of the road. The catch basins are connected with 15" CPP and the stormwater drainage outfall is located on the upstream northeast embankment. Approximately 160 feet west of the bridge are two additional catch basins. These catch basins are connected with 15" CPP and the stormwater drainage outfall is located on the downstream southwest embankment.

Multiple utility conduits cross the bridge, including a 2.5" diameter gas conduit and four 5" diameter telecommunications/electric conduits.

The proposed alternative consists of replacing the structure with a single span steel superstructure with an approximately 43-foot clear span measured perpendicular to the flow, and a skewed clear span of 59 feet measured along the roadway. The proposed bridge will be comprised of steel beams, an 8.5-inch concrete deck with membrane waterproofing, and 3-inches of asphalt. The length of the proposed structure will match the existing structure of 44 ft. The vertical alignment will slightly increase from existing, and the horizontal alignment will not be changed. The low chord will be raised to 221.21 ft. The proposed bridge is hydraulically adequate with 4.33 ft of freeboard to the roadway low point and 1.12 ft of underclearance to the low chord during the 100-year design storm.

Initial coordination has been made with the CT DEEP Fisheries Division. Initial recommendations from Fisheries are to provide unrestricted upstream fish passage at this location. It was also recommended that proper erosion and sedimentation control measures be installed and maintained throughout the duration of this project and special care be exercised to not increase the turbidity levels during construction. As a best management practice, it was recommended that any unconfined instream work within the West Branch Saugatuck River be restricted to the period between June 1 to September 30, inclusive.

The proposed structure will be installed in the dry, and flow around the abutments will be diverted with temporary water handling cofferdams. Temporary water handling cofferdams consisting of sandbags, will be utilized along each abutment to elevation 217.55 ft.

The estimated construction duration for the structure replacement is once construction season, approximately 6 months. In accordance with the ConnDOT Drainage Manual (Section 6.15), the 2-year storm frequency will be used for the temporary condition.

During construction, the proposed replacement will be completed in the dry. Temporary water handling devices include cofferdams around each abutment. A minimum 20-foot channel will be maintained.



An Employee-Owned Company

**WETLAND IDENTIFICATION AND DELINEATION REPORT
Rehabilitation/Replacement of
Bridge No. 07001
Michaels Way over
West Branch of the Saugatuck River**

State Project No. 157-088

Prepared for

**CT Department of Transportation
2800 Berlin Turnpike
Newington, Connecticut 06111-7546**

Prepared by

**BL Companies, Inc.
100 Constitution Plaza
10th Floor
Hartford, CT 06103**

**May, 2020
Revised: June, 2020**

Wetland Identification and Delineation Report

Rehabilitation/Replacement of Bridge No. 07001 Michaels Way over West Branch of the Saugatuck River

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I. INTRODUCTION

BL Companies, Inc. (BL) conducted a site investigation to delineate state and federal wetlands (i.e. Waters of the United States) within the Project Area. The Project Area is located in the County of Fairfield, Connecticut (**Figure 1, below, and Appendix A**). The coordinates for the approximate center of this project are North 41.22468/West 73.38370. The wetland delineation followed the project location map created by BL. The Project Area consists of an irregularly shaped polygon centering on the Michaels Way Bridge crossing of the West Branch of the Saugatuck River.

The Project Area lies within the Saugatuck River-Aspetuck River (011000060103) drainage basin. The Project Area does not fall within a public water supply or Aquifer Protection Area (APA). No portions of the Project Area fall within the Coastal Area Management (CAM) zone. Several inland resources were identified on the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) mapping. Preliminary review of soil mapping provided by the Natural Resource Conservation Service identified areas of hydric, poorly drained, or very poorly drained soils. Federal Emergency Management Agency (FEMA) mapping indicates that floodplain and floodway are present throughout the Project Area. NWI, Soils, FEMA, and Resource mapping is provided in **Appendix B**.

The purpose of this report is to document and describe state and federal jurisdictional wetlands, i.e., Waters of the United States.



**Figure 1 – Project Area Location Map near Weston, CT
(Fairfield County)**

II. METHODS

This investigation involved a wetland/watercourse delineation that was completed by a Professional Wetland Scientist (PWS) and a Certified Professional Soil Scientist (CPSS) and conducted in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) Soil Survey Manual (1993). The soil classification system of the National Cooperative Soil Survey was used in this investigation to identify the soil map units present on the Project Area.

Vegetation, soils, and hydrology were observed and documented during the site investigation in accordance with state and federal delineation methodologies. Soil types were identified by observing soil morphology (soil texture, color, structure, etc.). To observe the morphology of the soils, hand borings were completed. Where wetland and/or watercourses were determined to be present, their boundaries were identified with flags, which were hung from vegetation, or small stakes if in fields or grass communities. These flags are labeled "Wetland Delineation" and generally spaced approximately 50 feet apart. It is important to note that flagged wetland / watercourse boundaries are subject to verification by local, state, and/or federal regulatory agencies.

III. REGULATORY INFORMATION

Wetlands and watercourses are regulated by both state, municipal and federal laws and regulations, each with different definitions and regulatory requirements. Accordingly, the State and municipalities may regulate wetland and waters that fall outside of federal jurisdiction; however, where federal jurisdiction exists, concurrent jurisdiction is almost always present.

State/Municipal Jurisdiction

Inland wetland determinations are based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land. Watercourses are defined as “rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof.” Intermittent watercourse determinations are made based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus, (2) the presence of standing or flowing water for a duration longer than a particular storm incident, and (3) the presence of hydrophytic vegetation. (See Inland Wetlands and Watercourses Act §22a-38 CGS.) Municipalities may impose additional regulations on inland wetlands and watercourses, but have no jurisdiction over state-regulated tidal wetlands.

Federal Jurisdiction

Jurisdictional wetlands at the Federal level consist of “waters of the United States”, which includes lakes, rivers and streams, as well as vegetated wetlands (See 33 CFR 328.8). The on-site waters and wetlands, regulated by the U.S. Army Corps of Engineers (ACOE), were delineated in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Northcentral and Northeast Region (Version 2.0)* (January 2012). This *Manual* requires there to be dominant hydrophytic vegetation, hydric soils, and hydrological conditions present in determining wetland areas.

IV. FUNCTIONS AND VALUES

Biophysical elements such as a wetland's landscape position, size, geology, hydrology, substrate, and vegetation determine the wetland functions and to what capacity they are performed. Due to the differing biophysical characteristics between on-site wetlands, the functions the wetlands provide and the capacity to perform those functions vary. To better understand these differences, a description of the assessed wetland functional values was completed based on the United States Army Corps of Engineers (ACOE) Highway Methodology Workbook (1993) and its supplement workbook. This method requires a description of each of the wetland communities as well as indicating the functions they provide. The ACOE workbook includes the following thirteen (13) functions and values that have been recognized as functions wetlands can provide:

- Groundwater Recharge/Discharge,
- Flood flow Alteration,
- Fish and Shellfish Habitat,
- Sediment/Toxicant Retention,
- Nutrient Removal/Retention/Transformation,
- Production Export,
- Sediment/Shoreline Stabilization,
- Wildlife Habitat,
- Recreation,

- Education/Scientific Value,
- Uniqueness/Heritage,
- Visual Quality/Aesthetics, and
- Threatened and Endangered Species Habitat.

V. SITE INVESTIGATION

The Project Area was investigated on April 22, 2020, under sunny conditions. As field work was conducted early in the growing season, some vegetation specimens, particularly herbaceous species, were difficult to identify. Dates during which field investigations were conducted are noted on data forms in Appendix E.

The field investigations were conducted within the area of the Michaels Way bridge crossing of the West Branch of the Saugatuck River. As such, this historic land use and both past and present anthropogenic actions have affected the ecology of areas within the road right-of-way.

Areas identified as jurisdictional features at the federal, state and municipal levels during the field investigations included:

Identifier	USFWS NWI Classification or Stream Designation	USDA WSS Soils Map Unit	Notes
Wetland A	PFO	103 – Rippowam fine sandy loam	Connected to Stream 1.
Stream 1	R5UBH	Not applicable	Not applicable
Wetland B	PFO	21A – Ninigret and Tisbury soils, 0 to 5 percent slopes	Connected to Stream 1.

Data on the current plant communities, soils, and hydrology were documented to support the wetland delineation using Army Corps Wetland Determination Data Forms. Some of the common plant species observed in the study area are listed in **Table 1**. Descriptions of the delineated wetland resources are provided in Section VI. The delineated wetlands and watercourses and location of the data points are identified on the wetland mapping located in **Appendix C**. Delineated coastal resources are included with the mapping provided in **Appendix C**. Photographs of the identified wetland resources, taken to provide visual documentation of the area, are located in **Appendix D**, and data sheets are located in **Appendix E**.

Table 1: Common Plants in the Study Area and the Wetland Indicator Status

Common Name	Scientific Name	Indicator Status
Tree Stratum		
Pin oak	<i>Quercus palustris</i>	FACW
Green ash	<i>Fraxinus pennsylvanica</i>	FACW
Red maple	<i>Acer rubrum</i>	FAC
Eastern hemlock	<i>Tsuga canadensis</i>	FACU
Shagbark hickory	<i>Carya ovata</i>	FACU
Sapling, Shrub and Vine Stratum		
Northern spicebush	<i>Lindera benzoin</i>	FAC
Japanese barberry	<i>Berberis thunbergii</i>	FACU
Herb Stratum		
Skunk cabbage	<i>Symplocarpus foetidus</i>	OBL
Garlic mustard	<i>Alliaria petiolata</i>	FACU

Source: Lichvar, R.W. 2012 *The National Wetland Plant List; 2016 wetland ratings, Phytoneuron 2013-49; 1-241.*
http://wetland_plants.usace.army.mil/

Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers.

VI. RESOURCE DESCRIPTIONS

Wetland A: USFWS Classification: PFO

Wetland A is classified as a palustrine forested (PFO) wetland. This wetland lies northeast of the Michaels Way bridge crossing of the West Branch of the Saugatuck River. Wetland A was delineated with sequentially numbered flags 1 through 6 and is open ended to the north. Wetland A is part of a larger wetland to the north.

The wetland soil series identified through available mapping is 103 – Rippowam fine sandy loam. This soil series consists primarily of areas that are located within floodplains of streams.

This wetland provides the following functions and values: groundwater recharge/discharge, sediment/toxicant retention, nutrient removal, product export.

This area is designated as "Zone AE" in the Flood Insurance Rate Map for Fairfield County, Connecticut, effective June 18, 2010. Please refer to **Appendix B** for FEMA Map.

Wetland B: USFWS Classification: PFO

Wetland B is classified as a palustrine forested (PFO) wetland. This wetland lies southwest of the Michaels Way bridge crossing of the West Branch of the Saugatuck River. Wetland B was delineated with sequentially numbered flags 1 through 5 and is completely located within the Project Area.

The wetland soil series identified through available mapping is 21A – Ninigret and Tisbury soils, 0 to 5 percent slopes. This soil series consists primarily of areas that are located within floodplains of streams.

This wetland provides the following functions and values: groundwater recharge/discharge, sediment/toxicant retention, nutrient removal, product export.

This area is designated as “Zone AE” in the Flood Insurance Rate Map for Fairfield County, Connecticut, effective June 18, 2010. Please refer to **Appendix B** for FEMA Map.

Stream 1: USFWS Classification R5UBH

Stream 1 is identified on NWI mapping and is classified as a riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) watercourse. Stream 1 flows beneath the Michaels Way bridge from the north to the south. Wetland A and Wetland B are located immediately adjacent to Stream 1. The watercourse is approximately 20 feet wide with a cobble, gravel, sand, and silt substrate. Riffles and deep pools were noted throughout, and water depth varied from approximately 4 inches to 24 inches deep.

This area is designated as “Zone AE” in the Flood Insurance Rate Map for New Haven County, Connecticut, effective July 8, 2013. Please refer to **Appendix B** for FEMA FIRM Map.

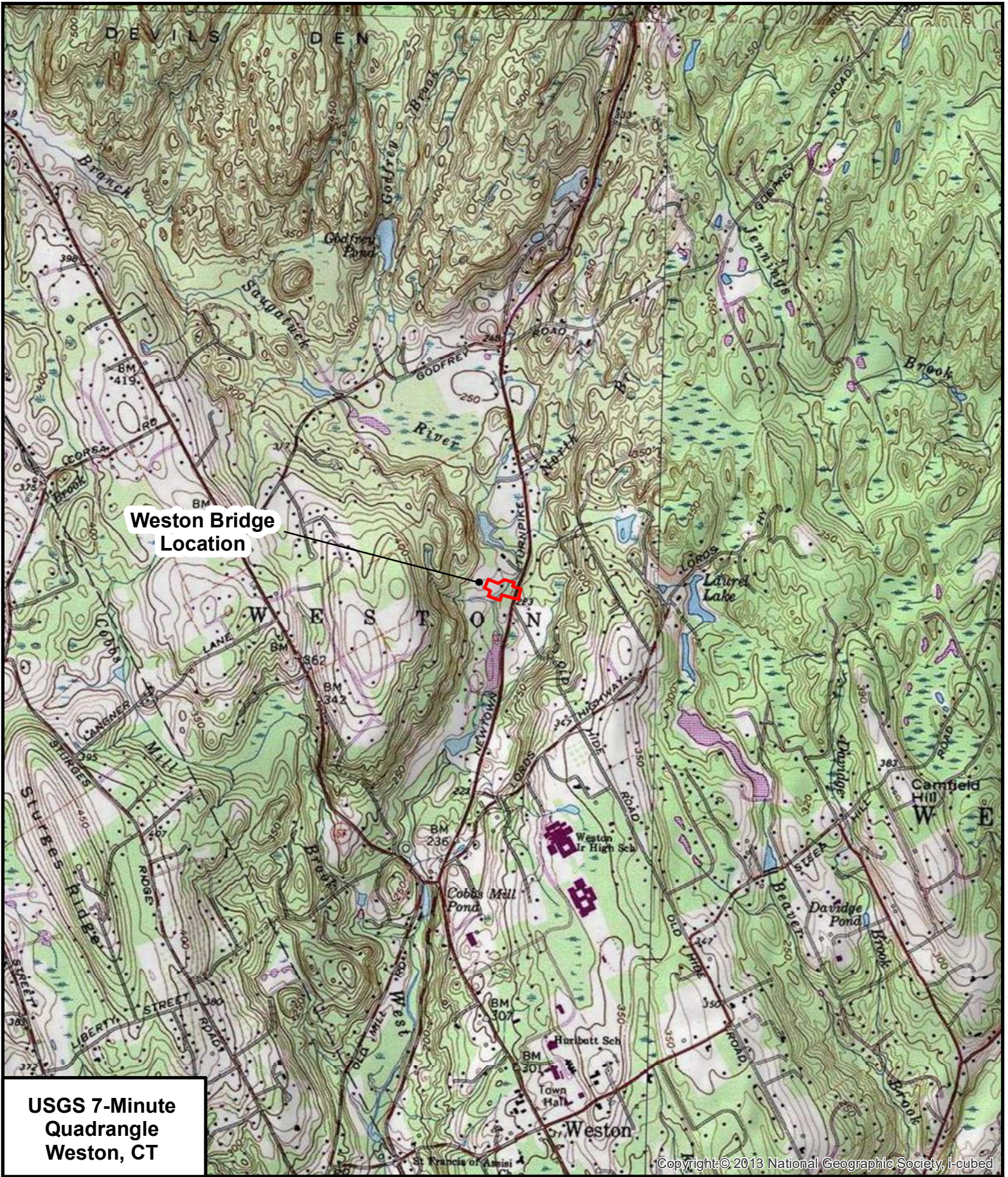
VII. SUMMARY

BL Companies identified 2 regulated and jurisdictional wetland areas and 1 watercourse within the Project Area. Poorly drained soils, hydric soils, hydrophytic vegetation, and hydrology were all observed in the wetland locations satisfying the criteria of the State and ACOE methodology for wetland delineations. The watercourse was non-tidal in nature and perennial. In addition to the descriptions within the previous sections of this report, supporting data forms and photographs are attached that document the findings of the on-site field investigations.


REFERENCES

1. Brinson, M.M. 1993. *A Hydrogeomorphic Classification for Wetlands*. Tech. Rpt.WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
2. Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe, 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service. Washington, D.C. FWS/OBS-79/31.
3. Environmental Laboratory, 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. US Army Engineer Waterways Experiment Station. Vicksburg, Miss.
4. Lichvar, R.W. 2012 *The National Wetland Plant List; 2013 wetland ratings, Phytoneuron 2013-49; 1-241*. http://wetland_plants.usace.army.mil/ Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers.
5. United States Army Corps of Engineers. January 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. Ed. J.S. Wakely, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Research and Development Center.
6. United States Army Corps of Engineers. 1993. *The Highway Methodology Workbook*. US Army Corps of Engineers New England Division. 28pp. NEDEP-360-1-30.
7. United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. Internet site: <http://soils.usda.gov/technical/classification/osd/index.html>

**APPENDIX A:
Project Location Map**



Legend

 Project Location

N

0 0.175 0.35 0.7 Miles

1 inch = 2,000 feet

CTDOT
Michaels Way Bridge
Replacement







 Architecture
Engineering
Environmental
Land Surveying
Companies

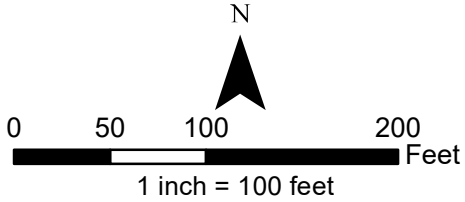
USGS Topo Map

**APPENDIX B:
Resource Map**



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- Legend**
-  Project Location
 -  Natural Diversity Area
 - Shellfish Classification**
 -  Subregional Basins
 -  Prohibited
 -  CAM Zone
 -  Aquifer Protection Area



CTDOT
Michaels Way
Bridge Replacement





Architecture
Engineering
Environmental
Land Surveying
Companies

Natural Diversity Database Map

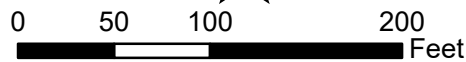


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

-  Project Location
-  NWI Area

N



1 inch = 100 feet



CTDOT
 Michaels Way
 Bridge Replacement




NWI Map




Legend

-  Project Location
-  Soil Type Boundary

N



0 40 80 160



Feet

1 inch = 81 feet

CTDOT
Michaels Way
Bridge Replacement






Architecture
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Environmental
Land Surveying

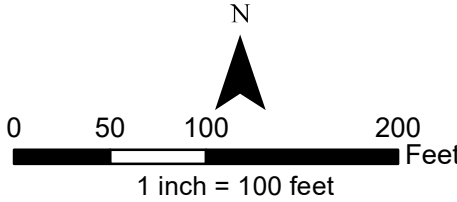
Soils Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

-  Project Location
-  Zone AE
-  Zone X



CTDOT
 Michaels Way
 Bridge Replacement



FEMA Map

APPENDIX C:
Wetland Delineation Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Sample Point
- Photo Location
- Continuous Feature
- PER
- PFO
- State

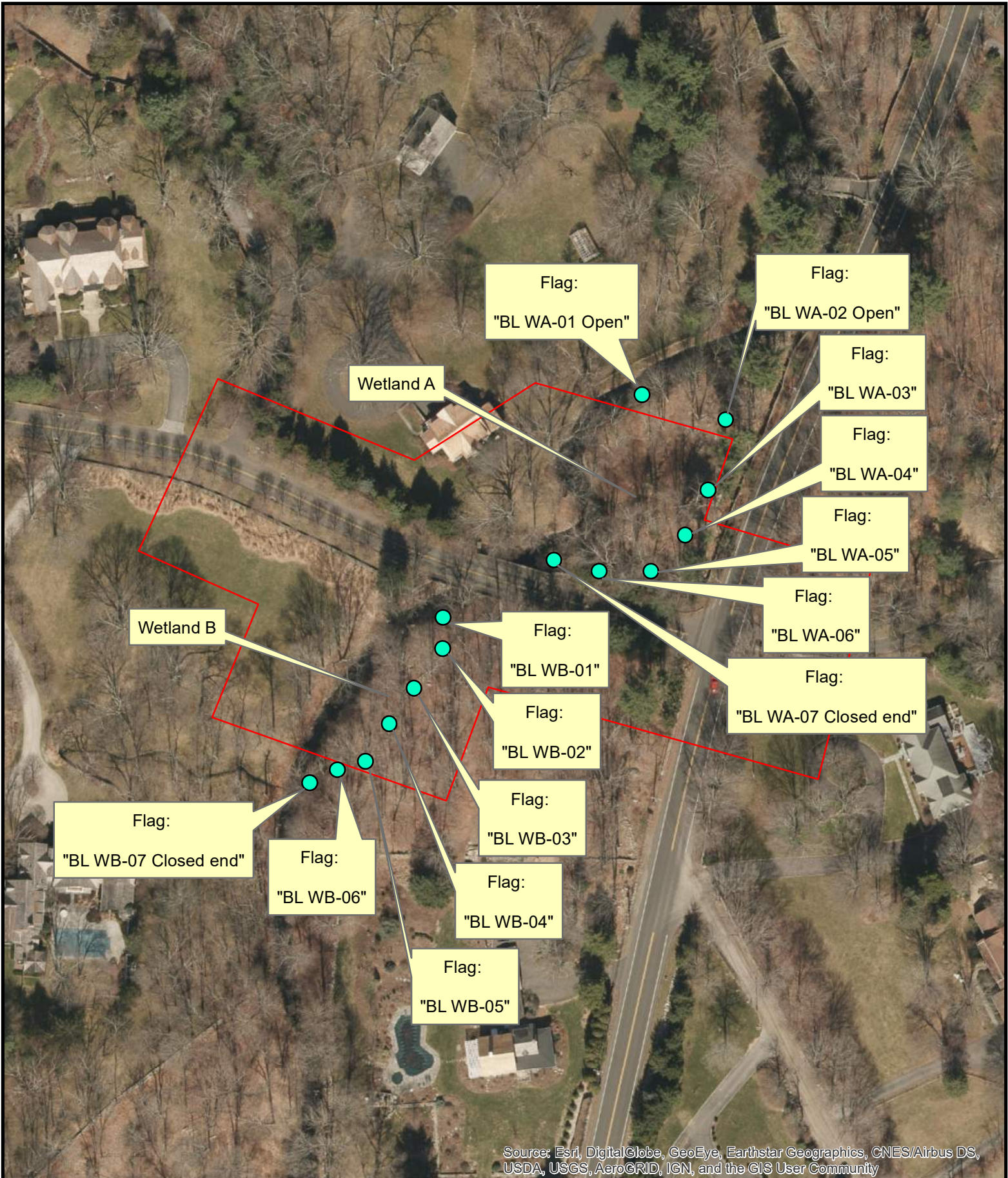
N

0 50 100 200 Feet

1 inch = 100 feet

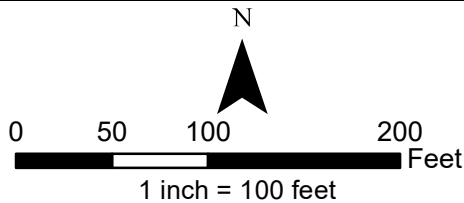
CTDOT
Michaels Way
Bridge Replacement

Wetland Delineation Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
 Project Location



CTDOT
 Rehabilitation/Replacement of
 Bridge No. 07001
 Michaels Way over
 West Branch of the Saugatuck River



Wetland Delineation Map

**APPENDIX D:
Photographic Log**



Architecture
Engineering
Environmental
Land Surveying

CTDOT
Michaels Way Bridge Replacement
Photographic Log

Photo # 1

Description

View of Stream 1 (West Branch of Saugatuck River), looking northeast from bridge.



Photo # 2

Description

View of Stream 1 (West Branch of Saugatuck River), looking southwest from bridge.





Architecture
Engineering
Environmental
Land Surveying

CTDOT
Michaels Way Bridge Replacement
Photographic Log

Photo # 3

Description

View of Wetland A
(PFO).



Photo # 4

Description

View of Wetland B
(PFO).



**APPENDIX E:
Wetland Data Sheets**

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: CTDOT Michaels Way Bridge Replacement County: Fairfield Sampling Date: 04/22/20
 Applicant/Owner: Connecticut Department of Transportation State: CT Sample Point: SP 1
 Investigator(s): S. Simko Section, Township, Range: Weston
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.22475 Long: -73.38331 Datum: NAD 83
 Soil Map Unit Name: Rippowam fine sandy loam NWI Classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:
 Wetland A is a riverine PFO wetland. Wetland A (PFO) is to the northeast of the Michaels Way bridge crossing of the West Branch of Saugatuck River.

HYDROLOGY

Wetland hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <u>X</u> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 One (1) primary indicator was present; therefore the hydrology criterion has been met.

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: SP 1

	Absolute % cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft.</u>)																		
1. <u><i>Acer rubrum</i></u>	60	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
2. <u><i>Fraxinus pennsylvanica</i></u>	40	Yes	FACW															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
100 = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)																		
1. <u><i>Lindera benzoin</i></u>	50	Yes	FAC	Prevalence Index Worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>110</u></td> <td>x 3 = <u>330</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>190</u> (A)</td> <td><u>480</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.53</u>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>110</u>	x 3 = <u>330</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>190</u> (A)	<u>480</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>30</u>	x 1 = <u>30</u>																	
FACW species <u>40</u>	x 2 = <u>80</u>																	
FAC species <u>110</u>	x 3 = <u>330</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>190</u> (A)	<u>480</u> (B)																	
2. <u><i>Berberis thunbergii</i></u>	10	No	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
60 = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)																		
1. <u><i>Symplocarpus foetidus</i></u>	30	Yes	OBL	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
30 = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. <u><i>None observed</i></u>				Definitions of Five Vegetation Strata: Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
0 = Total Cover																		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														

Remarks: (Include photo numbers here or on a separate sheet.)

The hydrophytic vegetation criterion has been met.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					Loam	
6-20	10YR 7/2	80	7.5YR 5/8	20	C	M	Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soils Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____</p>
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Remarks:

A hydric soil indicator was present; therefore the soil criterion has been met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: CTDOT Michaels Way Bridge Replacement County: Fairfield Sampling Date: 04/22/20
 Applicant/Owner: Connecticut Department of Transportation State: CT Sample Point: SP 2
 Investigator(s): S. Simko Section, Township, Range: Weston
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.22472 Long: -73.38311 Datum: NAD 83
 Soil Map Unit Name: Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
 Sample Point 2 is an Upland (UPL) sample point associated with Wetland A (PFO), located to the northeast of the Michaels Way bridge crossing of the West Branch of Saugatuck River.

HYDROLOGY

<p>Wetland hydrology Indicators:</p> <p><u> </u> Primary Indicators (minimum of one is required; check all that apply)</p> <p><u> </u> Surface Water (A1) <u> </u> True Aquatic Plants (B14) <u> </u> High Water Table (A2) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Saturation (A3) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Water Marks (B1) <u> </u> Presence of Reduced Iron (C4) <u> </u> Sediment Deposits (B2) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Drift Deposits (B3) <u> </u> Thin Muck Surface (C7) <u> </u> Algal Mat or Crust (B4) <u> </u> Other (Explain in Remarks) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13)</p>	<p><u> </u> Secondary Indicators (minimum of two required)</p> <p><u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u> </u> FAC-Neutral Test (D5)</p>
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<p>Field Observations:</p> <p>Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <u> </u> No <u>X</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary indicators were present; therefore the hydrology criterion has not been met.

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: SP 2

	Absolute % cover	Dominant Species?	Indicator Status																									
Tree Stratum (Plot size: <u>30 ft.</u>)																												
1. <u><i>Tsuga canadensis</i></u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																								
2. <u><i>Carya ovata</i></u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																									
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
<u>100</u> = Total Cover																												
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)																												
1. <u><i>Berberis thunbergii</i></u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	Prevalence Index Worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align:center;">Total % Cover of:</td> <td style="width:25%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align:center;">x 1 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td style="text-align:center;">x 2 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td style="text-align:center;">x 3 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACU species <u>210</u></td> <td style="text-align:center;">x 4 =</td> <td style="text-align:center;"><u>840</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align:center;">x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals: <u>210</u> (A)</td> <td></td> <td style="text-align:center;"><u>840</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align:center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 =	<u>0</u>	FACW species <u>0</u>	x 2 =	<u>0</u>	FAC species <u>0</u>	x 3 =	<u>0</u>	FACU species <u>210</u>	x 4 =	<u>840</u>	UPL species <u>0</u>	x 5 =	<u>0</u>	Column Totals: <u>210</u> (A)		<u>840</u> (B)	Prevalence Index = B/A = <u>4.00</u>		
	Total % Cover of:	Multiply by:																										
OBL species <u>0</u>	x 1 =	<u>0</u>																										
FACW species <u>0</u>	x 2 =	<u>0</u>																										
FAC species <u>0</u>	x 3 =	<u>0</u>																										
FACU species <u>210</u>	x 4 =	<u>840</u>																										
UPL species <u>0</u>	x 5 =	<u>0</u>																										
Column Totals: <u>210</u> (A)		<u>840</u> (B)																										
Prevalence Index = B/A = <u>4.00</u>																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
<u>50</u> = Total Cover																												
Herb Stratum (Plot size: <u>5 ft.</u>)																												
1. <u><i>Alliaria petiolata</i></u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																								
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
10. _____																												
11. _____																												
12. _____																												
<u>30</u> = Total Cover																												
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																												
1. <u><i>Celastrus orbiculatus</i></u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Definitions of Five Vegetation Strata: Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height.																								
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
<u>30</u> = Total Cover																												
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																								

Remarks: (Include photo numbers here or on a separate sheet.)

The hydrophytic vegetation criterion has not been met.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					Loam	
6-20	10YR 5/3	100					Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soils Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No X _____</p>
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Remarks:

A hydric soil indicator was not present; therefore the soils criterion has not been met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: CTDOT Michaels Way Bridge Replacement County: Fairfield Sampling Date: 04/22/20
 Applicant/Owner: Connecticut Department of Transportation State: CT Sample Point: SP 3
 Investigator(s): S. Simko Section, Township, Range: Weston
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.22448 Long: -73.38394 Datum: NAD 83
 Soil Map Unit Name: Ninigret and Tisbury soils, 0 to 5 percent slopes NWI Classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:
 Wetland B is a riverine PFO wetland. Wetland B (PFO) is to the southwest of the Michaels Way bridge crossing of the West Branch of Saugatuck River.

HYDROLOGY

Wetland hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <u>X</u> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 One (1) primary indicator was present; therefore the hydrology criterion has been met.

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: SP 3

	Absolute % cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30 ft.</u>)																				
1. <u><i>Acer rubrum</i></u>	60	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
2. <u><i>Fraxinus pennsylvanica</i></u>	40	Yes	FACW																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
100 = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)																				
1. <u><i>Lindera benzoin</i></u>	50	Yes	FAC	Prevalence Index Worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>110</u></td> <td>x 3 = <u>330</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>190</u> (A)</td> <td><u>480</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.53</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>110</u>	x 3 = <u>330</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>190</u> (A)	<u>480</u> (B)	Prevalence Index = B/A = <u>2.53</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>30</u>	x 1 = <u>30</u>																			
FACW species <u>40</u>	x 2 = <u>80</u>																			
FAC species <u>110</u>	x 3 = <u>330</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>190</u> (A)	<u>480</u> (B)																			
Prevalence Index = B/A = <u>2.53</u>																				
2. <u><i>Berberis thunbergii</i></u>	10	No	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
60 = Total Cover																				
Herb Stratum (Plot size: <u>5 ft.</u>)																				
1. <u><i>Symplocarpus foetidus</i></u>	30	Yes	OBL	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
30 = Total Cover																				
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																				
1. <u><i>None observed</i></u>				Definitions of Five Vegetation Strata: Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
0 = Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

The hydrophytic vegetation criterion has been met.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					Loam	
4-20	10YR 5/2	80	10YR 5/6	20	C	M	Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soils Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	---	--

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____</p>
--	--

Remarks:

A hydric soil indicator was present; therefore the soil criterion has been met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: CTDOT Michaels Way Bridge Replacement County: Fairfield Sampling Date: 04/22/20
 Applicant/Owner: Connecticut Department of Transportation State: CT Sample Point: SP 4
 Investigator(s): S. Simko Section, Township, Range: Weston
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.22442 Long: -73.38389 Datum: NAD 83
 Soil Map Unit Name: Ninigret and Tisbury soils, 0 to 5 percent slopes NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
 Sample Point 4 is an Upland (UPL) sample point associated with Wetland B (PFO), located to the southwest of the Michaels Way bridge crossing of the West Branch of Saugatuck River.

HYDROLOGY

Wetland hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Drainage Patterns (B10)
<u> </u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Water Marks (B1)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Sediment Deposits (B2)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Crayfish Burrows (C8)
<u> </u> Drift Deposits (B3)	<u> </u> Thin Muck Surface (C7)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Other (Explain in Remarks)	<u> </u> Stunted or Stressed Plants (D1)
<u> </u> Iron Deposits (B5)		<u> </u> Geomorphic Position (D2)
<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)		<u> </u> Microtopographic Relief (D4)
<u> </u> Aquatic Fauna (B13)		<u> </u> FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No primary or secondary indicators were present; therefore the hydrology criterion has not been met.

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: SP 4

	Absolute % cover	Dominant Species?	Indicator Status																									
Tree Stratum (Plot size: <u>30 ft.</u>)																												
1. <u><i>Tsuga canadensis</i></u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																								
2. <u><i>Carya ovata</i></u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																									
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
<u>100</u> = Total Cover																												
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)																												
1. <u><i>Berberis thunbergii</i></u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	Prevalence Index Worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align:center;">Total % Cover of:</td> <td style="width:25%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align:center;">x 1 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td style="text-align:center;">x 2 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td style="text-align:center;">x 3 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACU species <u>210</u></td> <td style="text-align:center;">x 4 =</td> <td style="text-align:center;"><u>840</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align:center;">x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals: <u>210</u> (A)</td> <td></td> <td style="text-align:center;"><u>840</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align:center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 =	<u>0</u>	FACW species <u>0</u>	x 2 =	<u>0</u>	FAC species <u>0</u>	x 3 =	<u>0</u>	FACU species <u>210</u>	x 4 =	<u>840</u>	UPL species <u>0</u>	x 5 =	<u>0</u>	Column Totals: <u>210</u> (A)		<u>840</u> (B)	Prevalence Index = B/A = <u>4.00</u>		
	Total % Cover of:	Multiply by:																										
OBL species <u>0</u>	x 1 =	<u>0</u>																										
FACW species <u>0</u>	x 2 =	<u>0</u>																										
FAC species <u>0</u>	x 3 =	<u>0</u>																										
FACU species <u>210</u>	x 4 =	<u>840</u>																										
UPL species <u>0</u>	x 5 =	<u>0</u>																										
Column Totals: <u>210</u> (A)		<u>840</u> (B)																										
Prevalence Index = B/A = <u>4.00</u>																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
<u>50</u> = Total Cover																												
Herb Stratum (Plot size: <u>5 ft.</u>)																												
1. <u><i>Alliaria petiolata</i></u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
10. _____																												
11. _____																												
<u>30</u> = Total Cover																												
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																												
1. <u><i>Celastrus orbiculatus</i></u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Definitions of Five Vegetation Strata: Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height.																								
2. _____																												
3. _____																												
4. _____																												
5. _____																												
<u>30</u> = Total Cover																												
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																								

Remarks: (Include photo numbers here or on a separate sheet.)

The hydrophytic vegetation criterion has not been met.

SOIL

Sampling Point: **SP 4**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					Loam	
6-20	10YR 5/3	100					Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)		

Restrictive Layer (if observed):		Hydric Soil Present? Yes _____ No X _____
Type: _____	Depth (inches): _____	

Remarks:

A hydric soil indicator was not present; therefore the soils criterion has not been met.

**ADJACENET PROPERTY OWNERS
STATE PROJECT NO. 0157-0088
MICAHELS WAY OVER
WEST BRANCH SAUGATUCK RIVER
BRIDGE NO. 07001
TOWN OF WESTON**

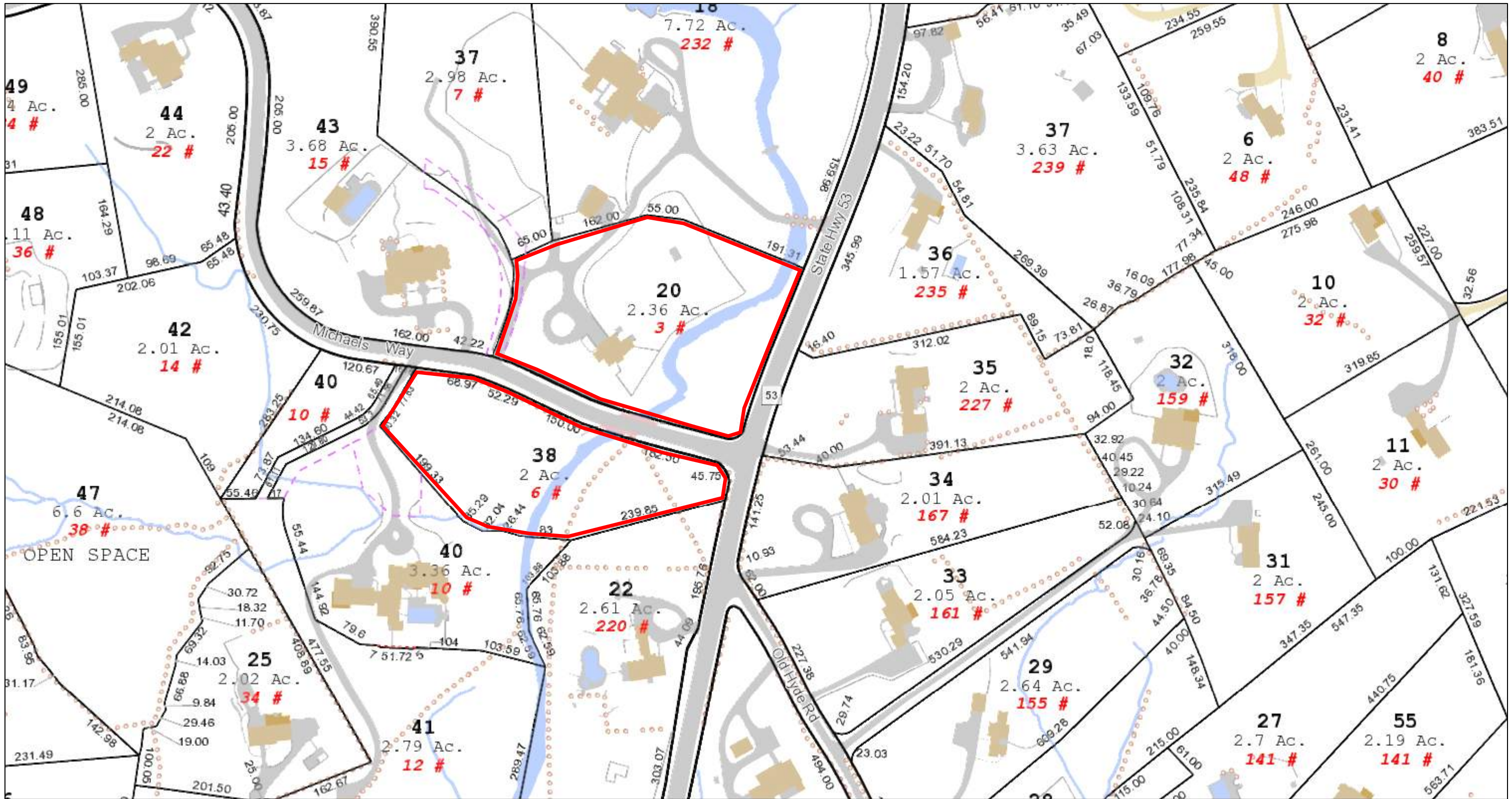
Adjacent Property Owners:

1. Owner: Anne Michelle Vendley
Property Location: 3 Michaels Way

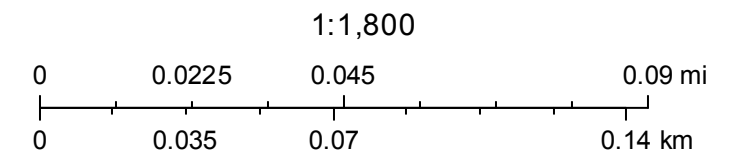
Owner Mailing Address: 232 Newtown Turnpike
Weston, CT 06883
2. Owner: Steven H. & Meryl A. Sitver
Property Location: 6 Michaels Way

Owner Mailing Address: 10 Michaels Way
Weston, CT 06883

Town of Weston, CT






January 13, 2023



Natural Diversity Data Base Areas

WESTON, CT

December 2022

-  State and Federal Listed Species
-  Critical Habitat
-  Town Boundary

NOTE: This map shows known locations of State and Federal Listed Species and Critical Habitats. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a variety of data sources. Exact locations of species have been buffered to produce the generalized locations.

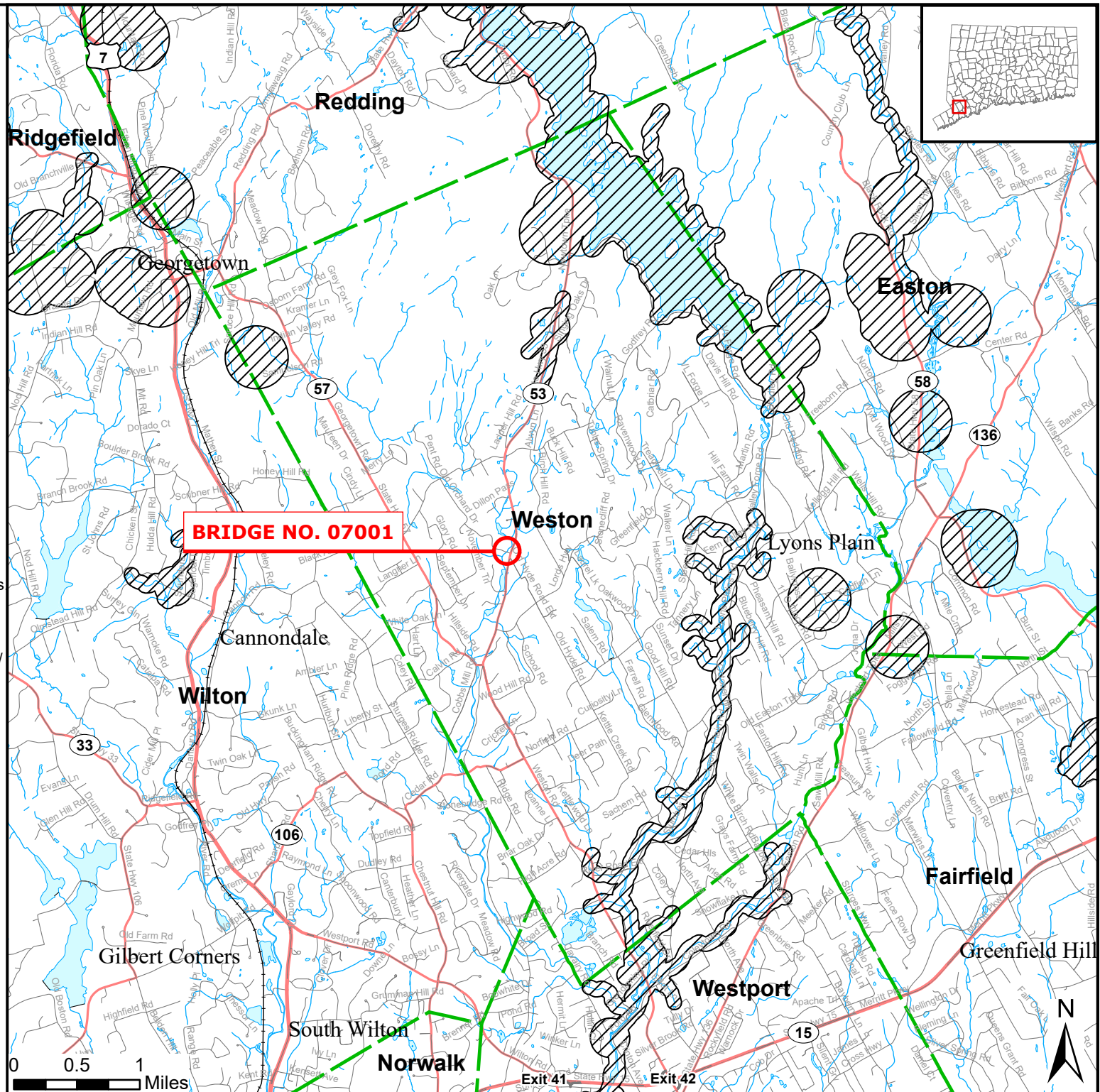
This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a hatched area there may be a potential conflict with a listed species. For more information, use DEEP ezFile <https://filings.deep.ct.gov/DEEPPortal/> to submit a Request for Natural Diversity Data Base State Listed Species Review or Site Assessment. More detailed instructions are provided along with the request form on our website. <https://portal.ct.gov/deep-nddbrequest>

Use the CTECO Interactive Map Viewers at <http://cteco.uconn.edu> to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St, Hartford, CT 06106
email: deep.nddbrequest@ct.gov
Phone: (860) 424-3011



Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division





Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete and mail this form in accordance with the instructions.
If completing by hand - please print and use the [pdf version](#).
Incomplete or incomprehensible forms will be mailed back to the municipal inland wetlands agency.

PART I: Must Be Completed By The Inland Wetlands Agency

- DATE ACTION WAS TAKEN: year: [Click Here for Year](#) month: [Click Here for Month](#)
- CHOOSE ACTION TAKEN (see instructions for code): [Click Here to Choose a Code](#)
- WAS A PUBLIC HEARING HELD (check one)? yes no
- NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:
(type name) _____ (signature) _____

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

- TOWN IN WHICH THE ACTIVITY IS OCCURRING (type name): Weston
does this project cross municipal boundaries (check one)? yes no
if yes, list the other town(s) in which the activity is occurring (type name(s)): _____, _____
- LOCATION (click on hyperlinks for information): [USGS quad map name](#): Weston or [quad number](#): 108
[subregional drainage basin number](#): 7203
- NAME OF APPLICANT, VIOLATOR OR PETITIONER (type name): Town of Weston Public Works
- NAME & ADDRESS OF ACTIVITY / PROJECT SITE (type information): Michael's Way over West Branch Saugatuck River
briefly describe the action/project/activity (check and type information): temporary permanent description: _____
Replacement of CTDOT Bridge No. 07001 to address the poor condition and hydraulic inadequacy of the existing structure.
- ACTIVITY PURPOSE CODE (see instructions for code): E
- ACTIVITY TYPE CODE(S) (see instructions for codes): 5, 9, 12, 14
- WETLAND / WATERCOURSE AREA ALTERED (see instructions for explanation, type acres or linear feet as indicated):
wetlands: 0.01 acres open water body: _____ acres stream: 10 linear feet
- UPLAND AREA ALTERED (type acres as indicated): 0.37 acres
- AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (type acres as indicated): 0.00 acres

DATE RECEIVED:

PART III: To Be Completed By The DEEP

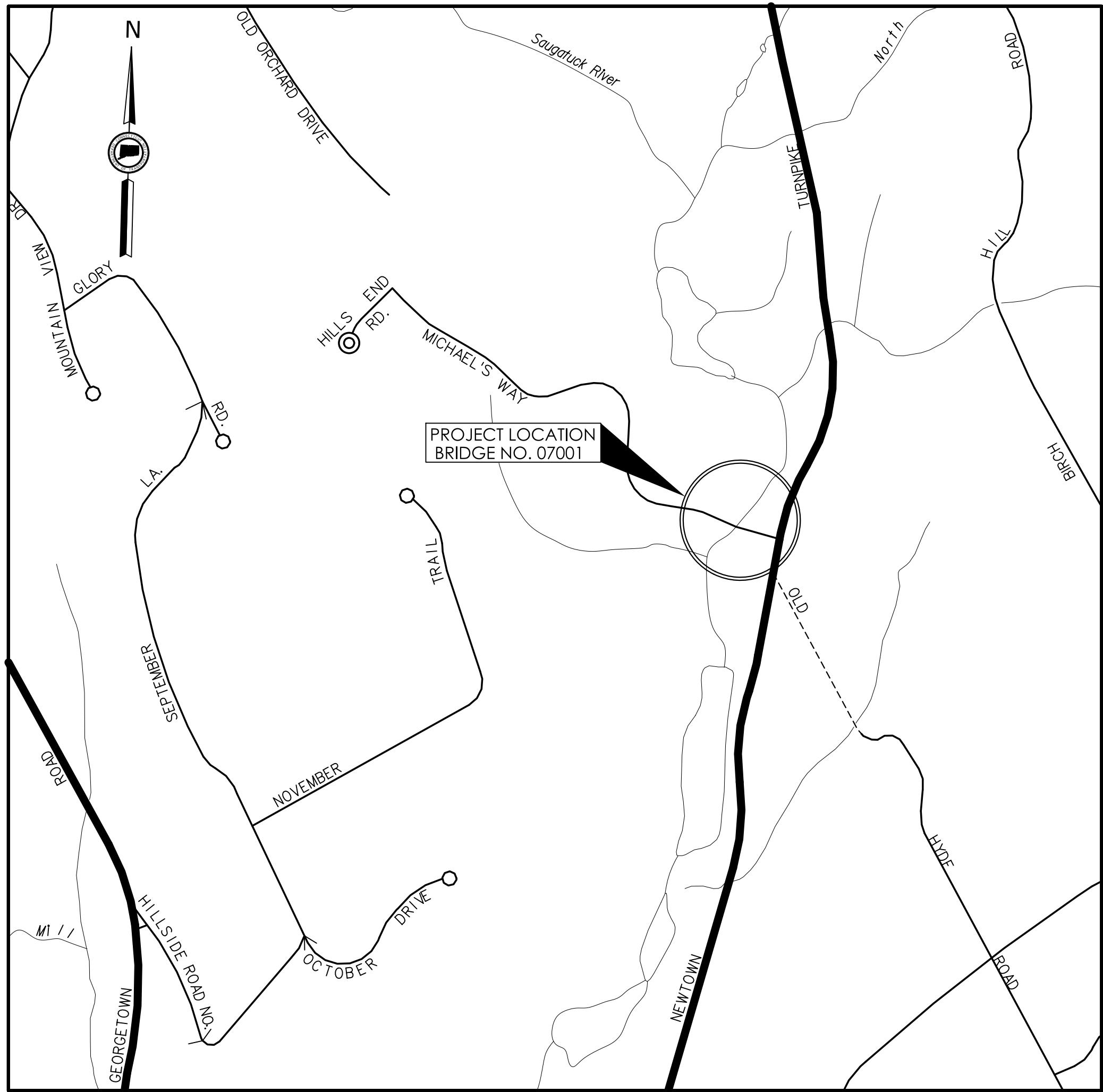
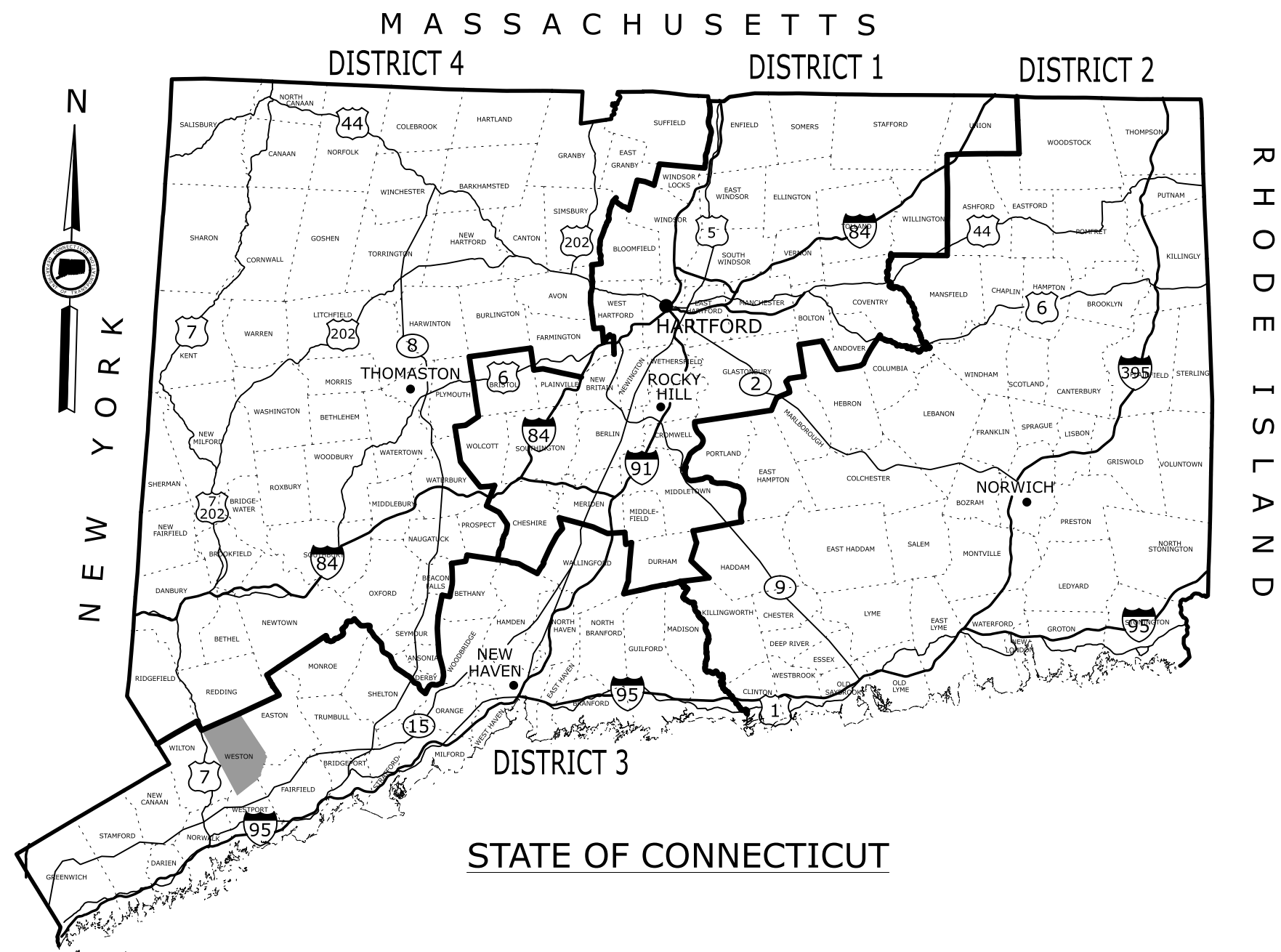
DATE RETURNED TO DEEP:

FORM COMPLETED: YES NO

FORM CORRECTED / COMPLETED: YES NO

ENVIRONMENTAL PERMIT PLANS STATE PROJECT NO. 0157-0088

REPLACEMENT OF BRIDGE NO. 07001 MICHAEL'S WAY OVER WEST BRANCH SAUGATUCK RIVER Town of WESTON, CT



LOCATION PLAN
NOT TO SCALE

GENERAL NOTES

1. THESE PLANS ARE NOT FOR CONSTRUCTION AND ARE INTENDED ONLY FOR ENVIRONMENTAL PERMITTING PURPOSES. THESE PLANS HOLD AUTHORITY FOR ALL ACTIVITIES CONCERNING THE REGULATED AREA. FOR DETAILED PLANIMETRIC INFORMATION AND PAYMENT REFER TO THE APPLICABLE CONTRACT DOCUMENTS.
2. FOR A DESCRIPTION OF THE WATERCOURSES, WETLAND AND WETLAND SOILS SEE RELEVANT SECTIONS OF THE PERMIT APPLICATION.
3. ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH THE DEPARTMENT'S STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION, FORM 818, SECTION 1.10 AND WILL ALSO FOLLOW BEST MANAGEMENT PRACTICES (BMPs) AND SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE 2002 EROSION & SEDIMENTATION CONTROL GUIDELINES AND THE 2004 STORMWATER QUALITY MANUAL.
4. FEDERAL AID PROJECT NO. 6157(006)
5. CONSTRUCTION SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION, FORM 818, DATED 2020; SUPPLEMENTAL SPECIFICATIONS, DATED JULY 2021; AND SPECIAL PROVISIONS
6. 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983. VERTICAL DATUM NAVD OF 1988.

LIST OF DRAWINGS

DRAWING NO.	DRAWING TITLE
PMT-01	TITLE SHEET
PMT-02	GENERAL PLAN
PMT-03	ENVIRONMENTAL IMPACTS PLAN - WETLANDS
PMT-04	ENVIRONMENTAL IMPACTS PLAN - FLOODPLAINS
PMT-05	TYPICAL SECTIONS AND ELEVATION
PMT-06	WATER HANDLING PLAN
PMT-07	PERMIT PLANTING PLAN

DESIGNED BY:
McFARLAND JOHNSON

ENVIRONMENTAL PERMIT PLANS
DATED: 7/11/2023

DESIGNER/DRAFTER: SB/MAD CHECKED BY: EWM

LASTED SAVED BY: gmccarthy FILE NAME: M:\DDE\Worksets\CTDOT\0157-0088\Highways\Contract_Plans\Environmental Permit Plans\HW_CP_0157_0088_EPP_PMT01.dgn
PLOTTED DATE: 7/12/2023

SIGNATURE/
BLOCK:

McFARLAND JOHNSON
53 REGIONAL DRIVE
TOWNSEND, MA 01469

TOWN OF
WESTON, CT.

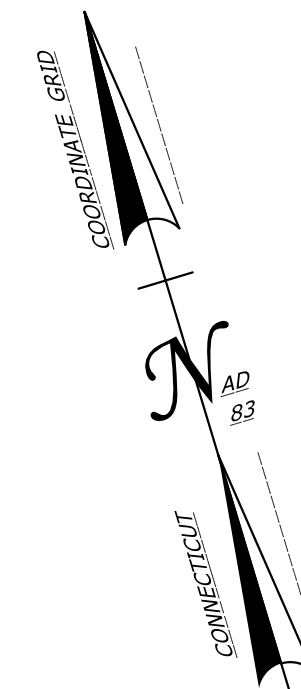
PROJECT NUMBER: 0157-0088
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 07001 MICHAEL'S WAY OVER WEST BRANCH SAUGATUCK RIVER
TOWN(S): WESTON
DRAWING TITLE: TITLE SHEET

DRAWING NO.
PMT-01
SHEET NO.

N/F
7 MICHAELS WAY
LLC

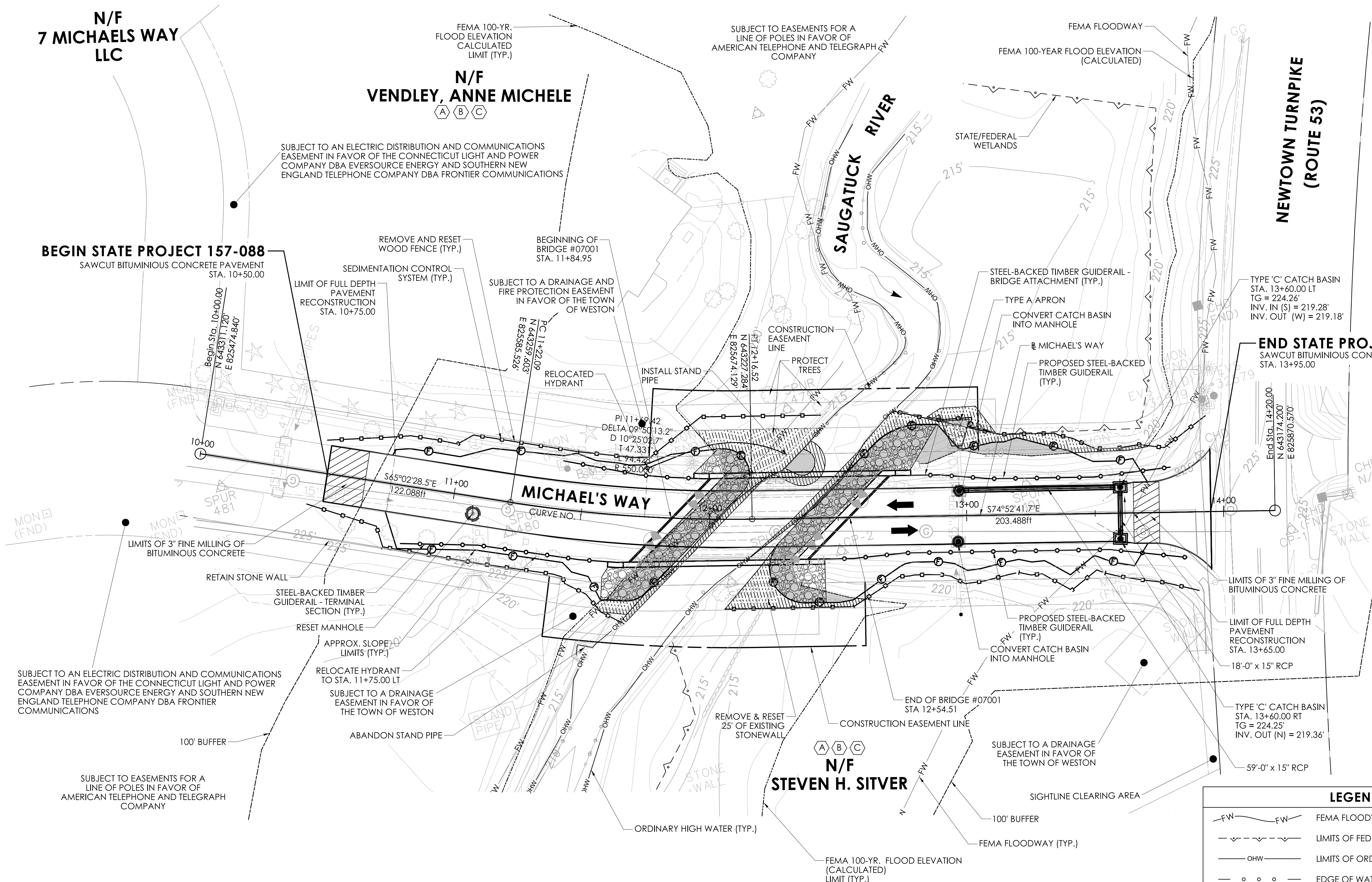
N/F
VENDLEY, ANNE MICHELE
A B C

NEWTOWN TURNPIKE
(ROUTE 53)



BEGIN STATE PROJECT 157-088
SAWCUT BITUMINOUS CONCRETE PAVEMENT
STA. 10+50.00

END STATE PROJECT 157-088
SAWCUT BITUMINOUS CONCRETE PAVEMENT
STA. 13+95.00



SUBJECT TO AN ELECTRIC DISTRIBUTION AND COMMUNICATIONS EASEMENT IN FAVOR OF THE CONNECTICUT LIGHT AND POWER COMPANY DBA EVERSOURCE ENERGY AND SOUTHERN NEW ENGLAND TELEPHONE COMPANY DBA FRONTIER COMMUNICATIONS

SUBJECT TO AN ELECTRIC DISTRIBUTION AND COMMUNICATIONS EASEMENT IN FAVOR OF THE CONNECTICUT LIGHT AND POWER COMPANY DBA EVERSOURCE ENERGY AND SOUTHERN NEW ENGLAND TELEPHONE COMPANY DBA FRONTIER COMMUNICATIONS

SUBJECT TO EASEMENTS FOR A LINE OF POLES IN FAVOR OF AMERICAN TELEPHONE AND TELEGRAPH COMPANY

FEMA FLOODWAY
FEMA 100-YEAR FLOOD ELEVATION (CALCULATED)

BEGINNING OF BRIDGE #07001
STA. 11+84.95

SUBJECT TO A DRAINAGE AND FIRE PROTECTION EASEMENT IN FAVOR OF THE TOWN OF WESTON

STEEL-BACKED TIMBER GUIDERAIL - BRIDGE ATTACHMENT (TYP.)

CONVERT CATCH BASIN INTO MANHOLE

PROPOSED STEEL-BACKED TIMBER GUIDERAIL (TYP.)

TYPE 'C' CATCH BASIN
STA. 13+60.00 LT
TG = 224.26'
INV. IN (S) = 219.28'
INV. OUT (W) = 219.18'

MICHAEL'S WAY
CURVE NO. 1

N/F
STEVEN H. SITVER
A B C

LIMITS OF 3" FINE MILLING OF BITUMINOUS CONCRETE

LIMIT OF FULL DEPTH PAVEMENT RECONSTRUCTION
STA. 13+65.00

18'-0" x 15" RCP

TYPE 'C' CATCH BASIN
STA. 13+60.00 RT
TG = 224.25'
INV. OUT (N) = 219.36'

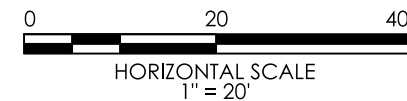
59'-0" x 15" RCP

LEGEND	
	FEMA FLOODWAY
	LIMITS OF FEDERAL AND STATE WETLANDS
	LIMITS OF ORDINARY HIGH WATER
	EDGE OF WATER
	SEDIMENTATION CONTROL SYSTEM
	FEMA 100-YR. FLOOD ELEVATION (CALCULATED) LIMIT
	INTERMEDIATE RIPRAP SLOPE PROTECTION

NOTES

1. SEDIMENTATION CONTROL SYSTEM TO BE PLACED AT CATCH BASIN(S) AS NEEDED OR AS DIRECTED BY THE ENGINEER
2. PLACE 1'-0" OF NATURAL STREAMBED MATERIAL OVER RIPRAP WITHIN THE OHW LIMITS

ENVIRONMENTAL PERMIT PLANS
DATED: 7/11/2023



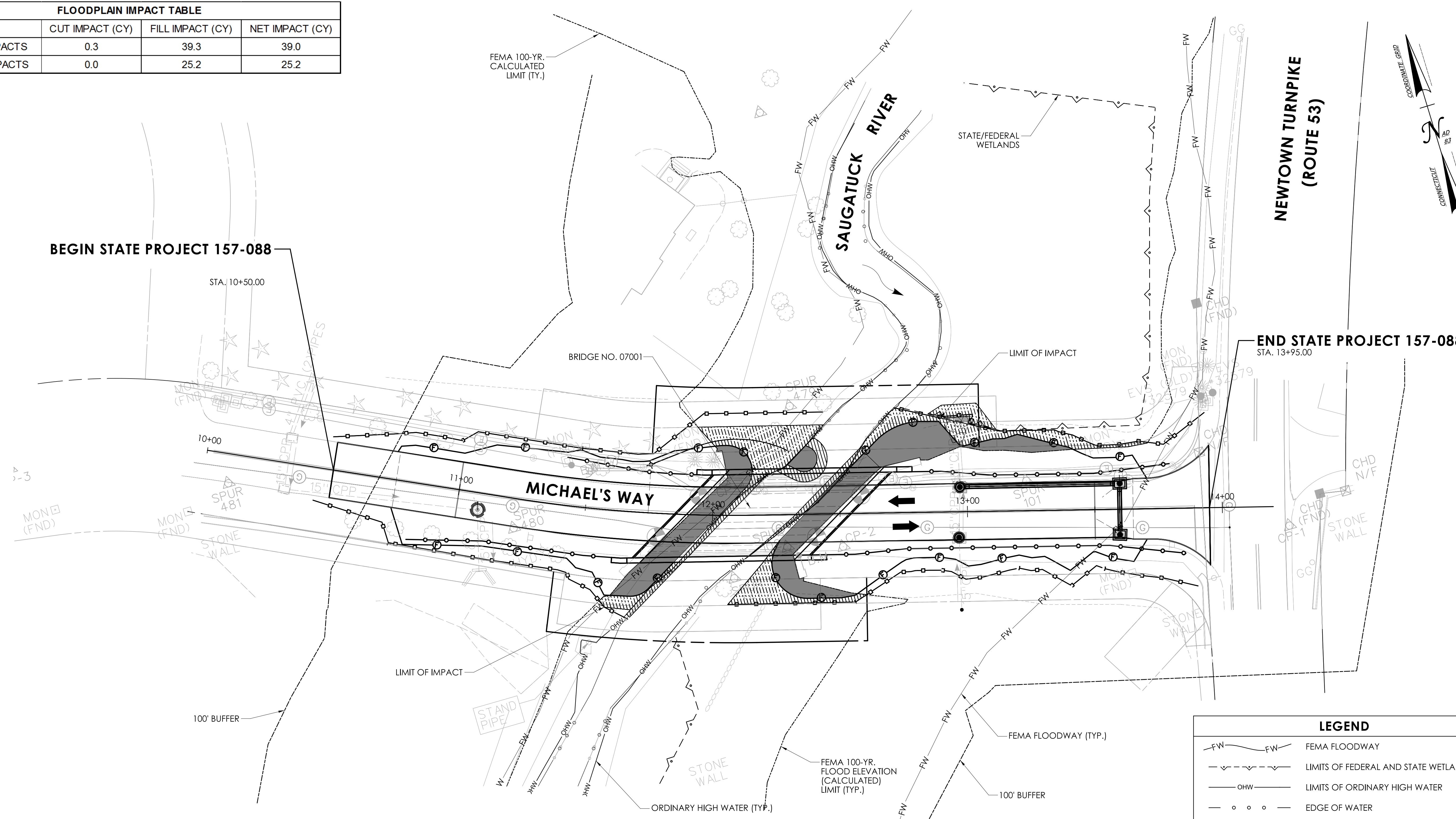
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TOWN OF WESTON, CT.

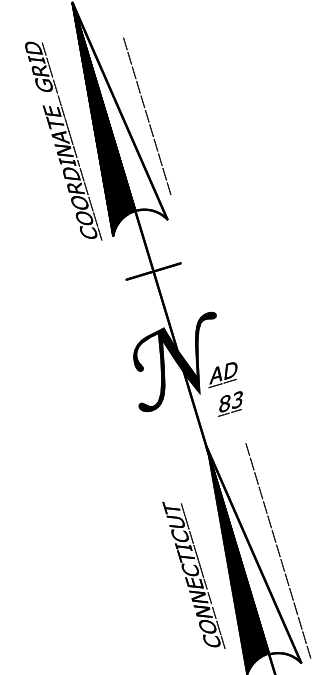
PROJECT NUMBER: 0157-0088
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 07001 MICHAEL'S WAY OVER WEST BRANCH SAUGATUCK RIVER
TOWN(S): WESTON
DRAWING TITLE: GENERAL PLAN

DRAWING NO.
PMT-02
SHEET NO.

FLOODPLAIN IMPACT TABLE			
	CUT IMPACT (CY)	FILL IMPACT (CY)	NET IMPACT (CY)
PERMANENT IMPACTS	0.3	39.3	39.0
TEMPORARY IMPACTS	0.0	25.2	25.2



NEWTOWN TURNPIKE
(ROUTE 53)



END STATE PROJECT 157-088
STA. 13+95.00

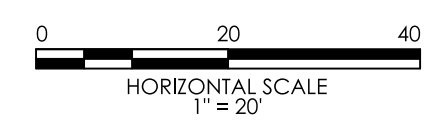
BEGIN STATE PROJECT 157-088
STA. 10+50.00

LEGEND	
	FEMA FLOODWAY
	LIMITS OF FEDERAL AND STATE WETLANDS
	LIMITS OF ORDINARY HIGH WATER
	EDGE OF WATER
	SEDIMENTATION CONTROL SYSTEM
	FEMA 100-YR. FLOOD ELEVATION (CALCULATED) LIMIT
	PERMANENT FLOODPLAIN IMPACTS
	TEMPORARY FLOODPLAIN IMPACTS
	INTERMEDIATE RIPRAP SLOPE PROTECTION

- NOTES**
1. SEDIMENTATION CONTROL SYSTEM TO BE PLACED AT CATCH BASIN(S) AS NEEDED OR AS DIRECTED BY THE ENGINEER
 2. THE ENTIRE PROJECT AREA IS WITHIN THE 100 YEAR FLOODPLAIN

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 7/11/2023

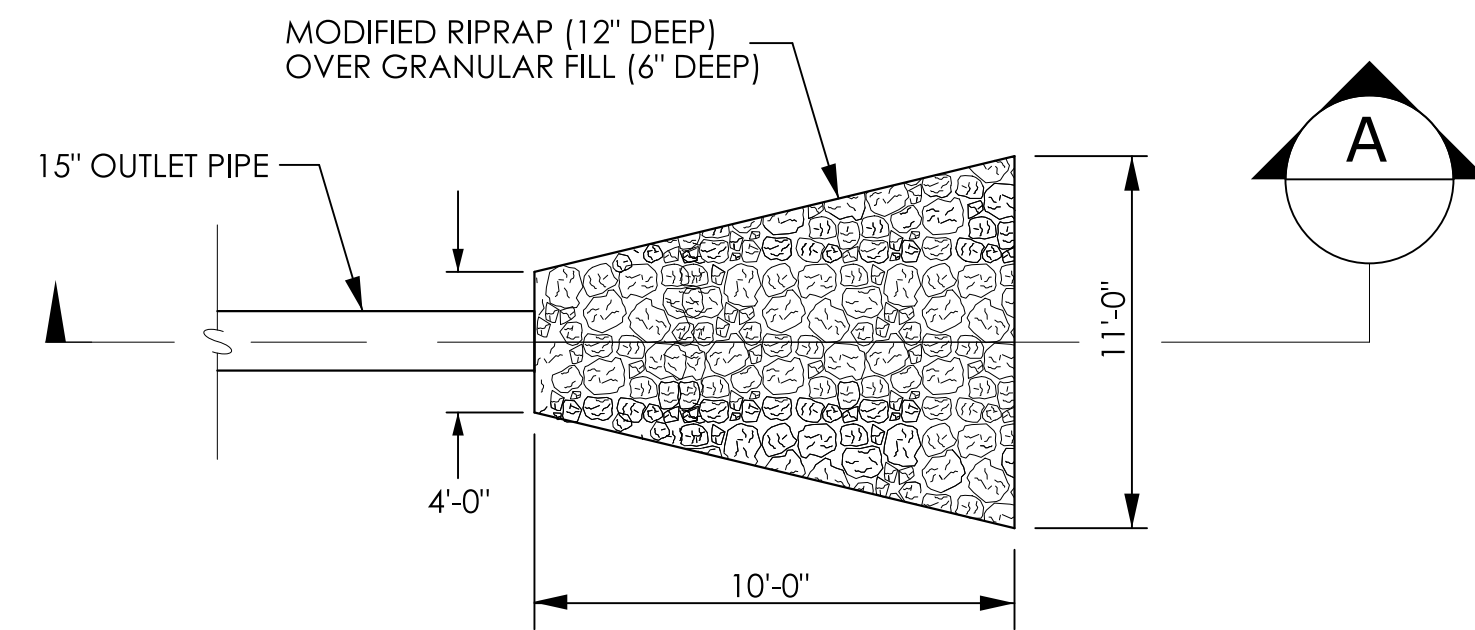


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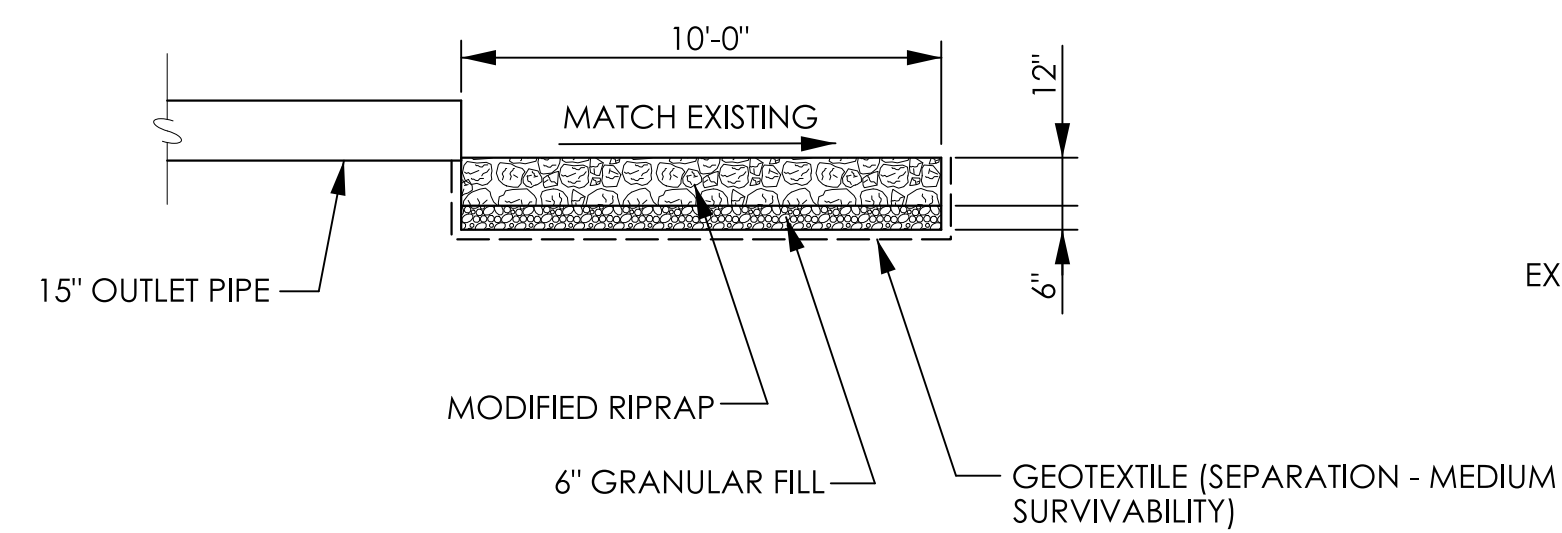
TOWN OF
WESTON, CT.

PROJECT NUMBER: 0157-0088
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 07001 MICHAEL'S WAY OVER WEST BRANCH SAUGATUCK RIVER
TOWN(S): WESTON
DRAWING TITLE: ENVIRONMENTAL IMPACTS PLAN - FLOOD PLAIN

DRAWING NO.
PMT-04
SHEET NO.

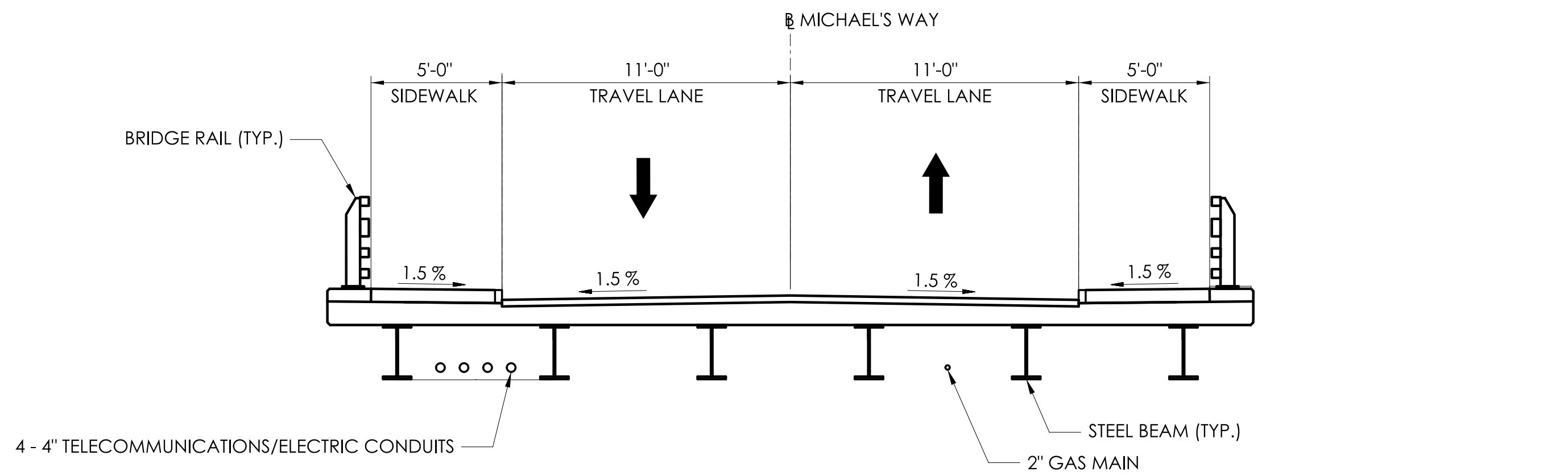


PLAN



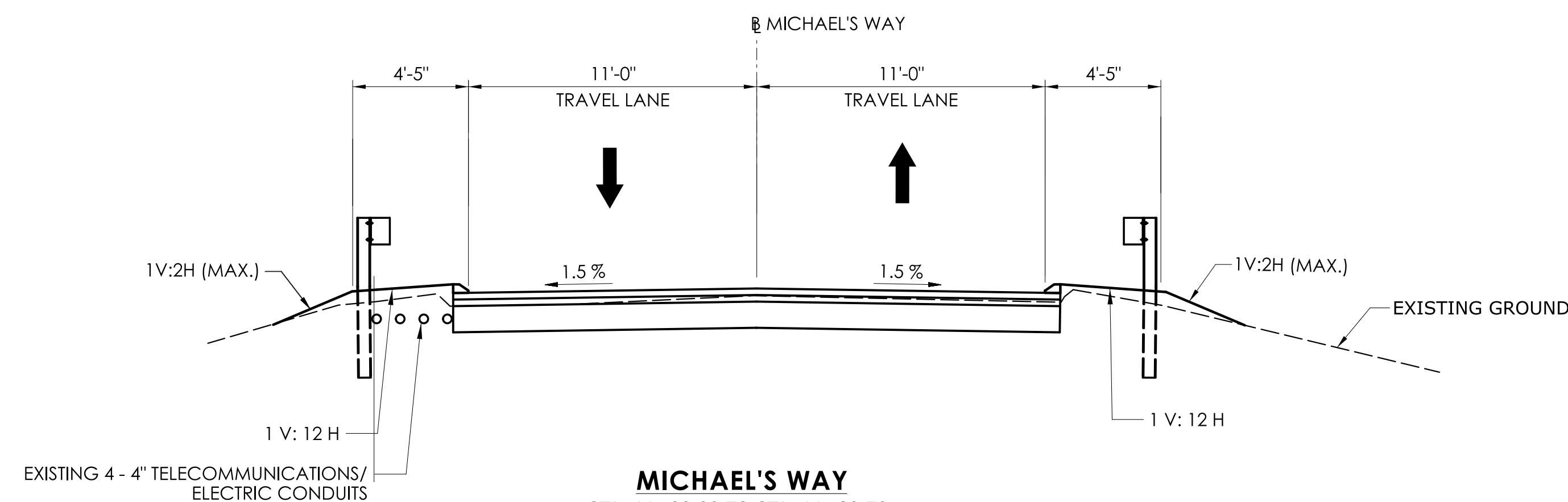
SECTION A

TYPE A APRON
NOT TO SCALE



BRIDGE NO. 07001 ON MICHAEL'S WAY

STA. 11+89.70 ± TO STA. 12+47.65 ±



MICHAEL'S WAY

STA. 11+00.00 TO STA. 11+89.70 ±
STA. 12+47.65 ± TO STA. 13+50.00

ELEVATION
SCALE 1"=10'

HYDRAULIC DATA	
DRAINAGE AREA	6.25 SQ. MILES
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	1,530 CFS
AVERAGE DAILY FLOW ELEVATION	212.45 FT (ESTIMATED)
UPSTREAM DESIGN WATER SURFACE ELEVATION	220.09 FT
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	217.20 FT
MAXIMUM SCOUR ELEVATION	201.00 FT
FREQUENCY	500 YEAR
DISCHARGE	1,960 CFS
WORST CASE SCOUR SUB-STRUCTURE UNIT	ABUTMENT 2

NOTE

- 1'-0" OF NATURAL STREAMBED MATERIAL SHALL BE PLACED OVER ANY RIPRAP WITHIN THE OHW LIMITS

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 7/11/2023

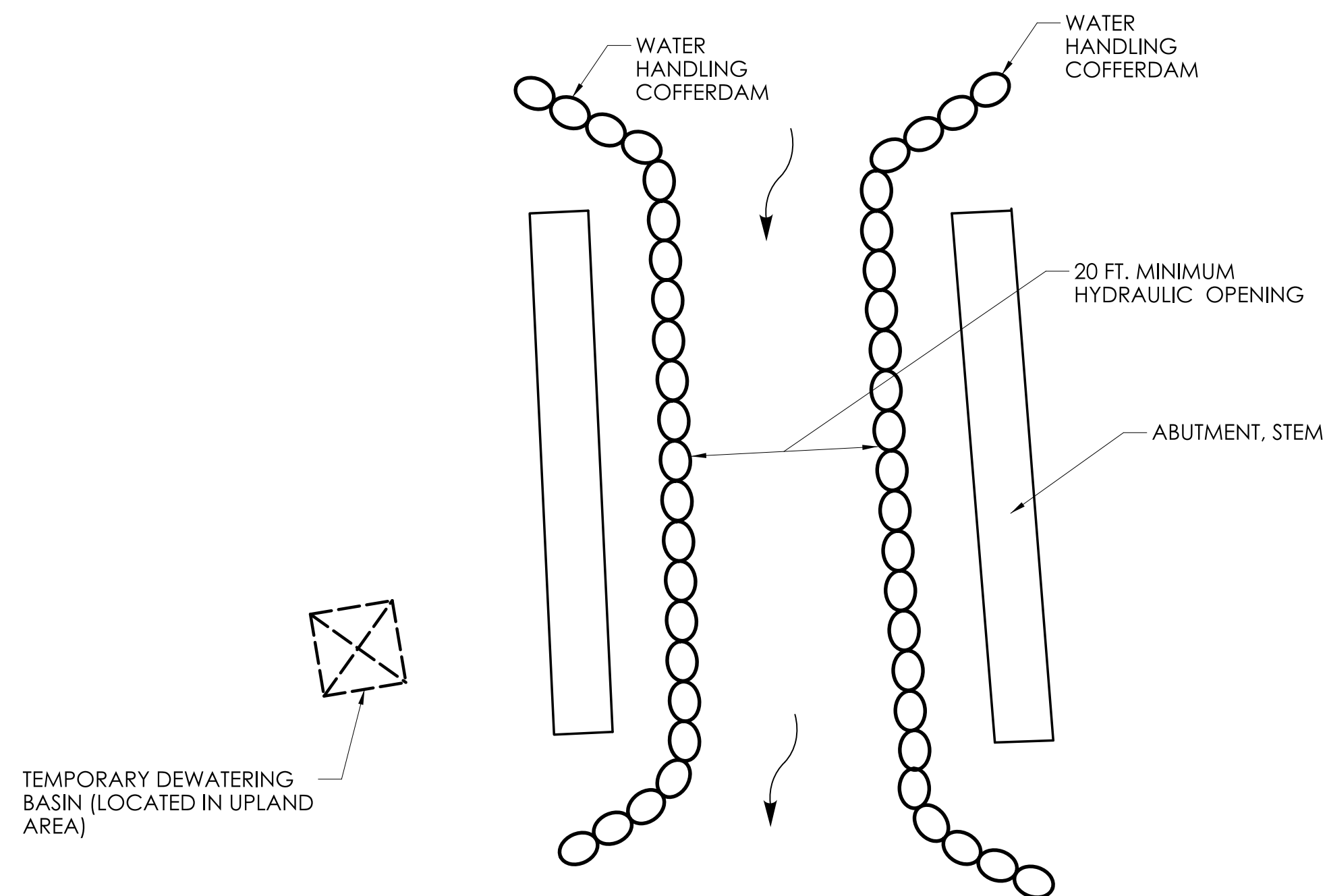
DESIGNER/DRAFTER: SB/MAD CHECKED BY: EWM

SIGNATURE/BLOCK:
MCFARLAND JOHNSON
33 REGIONAL DRIVE
TOWNSEND, MA 01469

TOWN OF WESTON, CT.

PROJECT NUMBER: 0157-0088
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 07001 MICHAEL'S WAY OVER WEST BRANCH SAUGATUCK RIVER
TOWN(S): WESTON
DRAWING TITLE: TYPICAL SECTIONS AND ELEVATION

DRAWING NO. PMT-05
SHEET NO.



HANDLING WATER AROUND ABUTMENTS
NOT TO SCALE

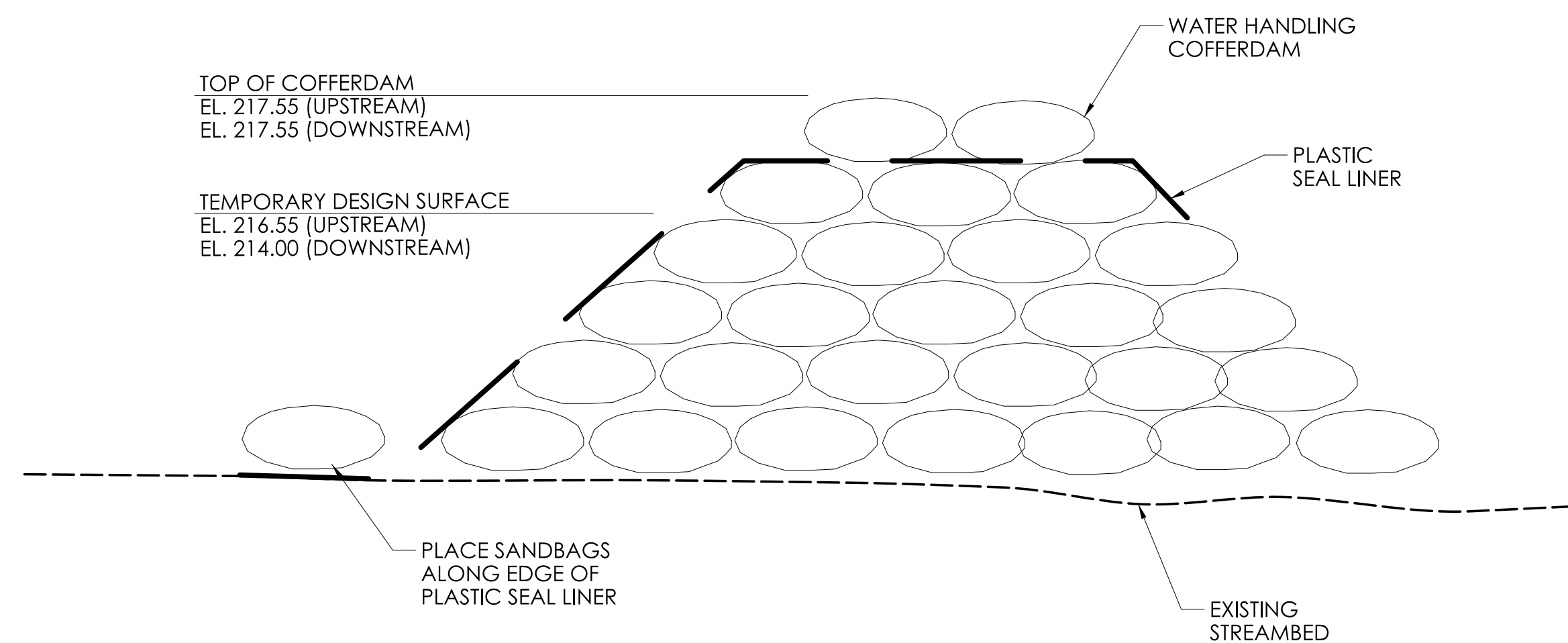
TEMPORARY HYDRAULIC SUMMARY DATA	
AVERAGE DAILY FLOW (ADF)	12.0 CFS
AVERAGE SPRING FLOW (ASF)	23.0 CFS
2 - YEAR DESIGN FREQUENCY	564 CFS
TEMPORARY DESIGN SURFACE ELEVATION (UPSTREAM)	216.55 FT
TEMPORARY DESIGN SURFACE ELEVATION (DOWNSTREAM)	214.00 FT

WATER HANDLING NOTES:

1. THE CONTRACTOR SHALL DESIGN THE TEMPORARY COFFERDAMS AND SUBMIT MEANS AND METHODS OF HANDLING WATER TO THE ENGINEER FOR APPROVAL.
2. THE COST OF THE TEMPORARY COFFERDAMS, TEMPORARY BYPASS PIPES, TEMPORARY DRAINAGE PIPES, STREAM DIVERSION STRUCTURES, PUMPS, AND ANY OTHER NECESSARY INCIDENTAL APPURTENANCES REQUIRED TO HANDLE THE WATER SHALL BE INCLUDED IN THE COST OF THE ITEM "HANDLING WATER".
3. ALL WATER PUMPED FROM WITHIN THE TEMPORARY COFFERDAMS TO BE HANDLED THROUGH THE TEMPORARY DEWATERING BASIN. THE SMALL TEMPORARY SEDIMENTATION BASIN AND PUMP(S) SHALL BE SIZED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. COST OF TEMPORARY DEWATERING BASIN SHALL BE INCLUDED IN THE COST OF ITEM "HANDLING WATER".
4. TOP OF TEMPORARY WATER HANDLING COFFERDAM SHALL BE MINIMUM EL. 217.55.
5. UNCONFINED INSTREAM WORK WITHIN THE WATERCOURSE IS RESTRICTED TO THE PERIOD FROM JUNE 1 TO SEPTEMBER 30, INCLUSIVE.

SUGGESTED SEQUENCE OF CONSTRUCTION

1. IMPLEMENT THE DETOUR (SEE DETOUR PLAN).
2. INSTALL SEDIMENTATION CONTROL SYSTEM AND CLEAR AND GRUB SITE AS REQUIRED.
3. INSTALL TEMPORARY COFFERDAMS AND WATER HANDLING.
4. INSTALL TEMPORARY UTILITY SUPPORT SYSTEM AND TRANSFER UTILITIES FROM THE EXISTING BRIDGE TO THE TEMPORARY SUPPORT STRUCTURES. NOTE UTILITIES ARE TO REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS DURING DEMOLITION NOT TO DAMAGE EXISTING UTILITIES.
5. EXCAVATE AND DEMOLISH EXISTING BRIDGE STRUCTURE, WHICH INCLUDES COMPLETE REMOVAL OF THE EXISTING SUPERSTRUCTURE, SUBSTRUCTURES, AND STEEL PILES. DEBRIS SHIELD TO BE INSTALLED.
6. CONSTRUCT DEWATERING BASINS AND DEWATER SITE AS REQUIRED.
7. INSTALL MICROPILES AND PERFORM MICROPILE TESTS AS REQUIRED.
8. CONSTRUCT PROPOSED ABUTMENT PILE CAPS AND WINGWALLS TO ELEVATIONS SHOWN.
9. ESTABLISH GRADES IN THE STREAMBED AND ALONG BANKS. NOTE THAT THE ABUTMENTS ARE NOT TO BE BACKFILLED UNTIL THE DECK CONSTRUCTION IS COMPLETE AND HAS CURED. STOCKPILE MATERIAL UNDER THE BRIDGE AS REQUIRED PRIOR TO THE SUPERSTRUCTURE INSTALLATION.
10. INSTALL STRUCTURAL STEEL PLATE GIRDERS AND DIAPHRAGMS.
11. TRANSFER UTILITIES FROM THE TEMPORARY UTILITY SUPPORT STRUCTURES TO THEIR PERMANENT LOCATIONS. REMOVE TEMPORARY UTILITY SUPPORT STRUCTURES.
12. CONSTRUCT DECK, END DIAPHRAGMS, AND WINGWALLS PER THE DECK PLACEMENT SEQUENCE PROVIDED.
13. BACKFILL ABUTMENTS AND FINALIZE GRADES IN THE STREAM BED AND ALONG BANKS. REMOVE ALL WATER HANDLING.
14. CONSTRUCT SIDEWALKS, END BARRIERS, AND APPROACH SLABS.
15. INSTALL METAL BRIDGE RAIL - FOUR RAIL.
16. REMOVE SEDIMENTATION AND CONTROL SYSTEMS UPON PERMANENT STABILIZATION.
17. FINALIZE ROADWAY ITEMS AND OPEN BRIDGE TO TRAFFIC.



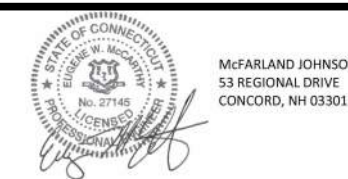
TYPICAL SECTION
WATER HANDLING COFFERDAM
NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 7/11/2023

DESIGNER/DRAFTER: SVO/RJT CHECKED BY: EWM

SIGNATURE/
BLOCK:



**TOWN OF
WESTON, CT.**

PROJECT NUMBER: 0157-0088

PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 07001 MICHAEL'S WAY OVER WEST BRANCH SAUGATUCK RIVER

TOWN(S): WESTON

DRAWING TITLE: WATER HANDLING PLAN

DRAWING NO.

PMT-06

SHEET NO.

