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Civil • Structural • Survey

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November 13, 2024

Town of Montville
Inland Wetlands Commission
ATTN: Douglas K. Brush, Chair
310 Norwich-New London Tpke
Uncasville, CT 06382

Re: Town of Montville
375 Maple Avenue and Route 163
Montville, CT
Proposed Trailer Storage for Rand-Whitney LLC
CLA #7767F

Dear Mr. Brush:

On behalf of the Town of Montville and Rand-Whitney Recycling, LLC, CLA Engineers has performed a delineation and functional evaluation of the inland wetlands at the referenced site and assessed the site to provide a basis for determining the potential for impacts associated with the proposed development of these parcels. Details of the proposed development of these parcels are presented in the Stormwater Management Report.

The inland wetland boundary was delineated by J. Theroux (Joseph R. Theroux, Certified Forester / Soil Scientist) and R. Russo and M. Ahern (CLA Engineers) between November 2023 and November 2024. The wetland boundary and proposed development are shown on the plans prepared by CLA Engineers dated 12/16/24. These data were augmented with additional online information from CTDEEP, USFWS, USGS, and the Town of Montville.

Site Setting

The site is composed of two parcels totaling approximately 28 acres on the North side of Maple Avenue. Currently, the sites are largely undeveloped, with the Route 163 parcel being used for trailer storage by the Rand-Whitney company. The site is bordered to the north by Rockland Pond and Oxoboxo Brook, a tributary to the Thames River. The majority of the project area is cleared of trees. Both sites are zoned Industrial (I)

The surrounding neighborhood is zoned residential (R-45) and industrial (I) per April 2024 update of the Town of Montville Zoning Map and consists of low to medium-density single family residential lots and industrial areas, most of which are developed.

Soils

The upland soils mapped by NRCS are listed in the table below. No hydric soils are mapped on the property by NRCS. Additional descriptive details are provided in an NRCS soil report included in the Stormwater Management Report.

Table 1 - Soil Types and Properties at the Maple Ave Site

Soil Series	Parent Material	Drainage Class	Texture/Characteristics
Merrimac	Loamy glaciofluvial deposits	Somewhat excessively drained	Fine sandy loam to gravelly loamy sand; typically stratified
Hinckley	Sandy and gravelly glaciofluvial deposits	Excessively drained	Loamy sand to gravelly loamy sand

The Merrimac series consists of very deep, somewhat excessively drained soils formed in outwash. They are nearly level through very steep soils on outwash terraces and plains and other glaciofluvial landforms. The Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame terraces, and eskers.

Other units mapped on the property include Urban Land (307) and Water (W). Urban Land can have highly variable soil characteristics. “Water” as a mapping unit typically refers to established surface water bodies. In this case, the water unit is located on Rockland Pond, a 10-acre palustrine wetland.

Wetland Characteristics

Classification

The National Wetlands Inventory (NWI https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/) shows the onsite wetland as part of a 13-acre palustrine and riverine wetland group (PABHx, R3UBH). The descriptions of those classifications are provided below**.**

Classification code: PABHx

System Palustrine (P): The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt. Class Aquatic Bed (AB): Includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Water Regime Permanently Flooded (H): Water covers the substrate throughout the year in all years.

Special Modifier Excavated (x): This Modifier is used to identify wetland basins or channels that were excavated by humans.

Classification code: R3UBH
System Riverine (R): The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

Subsystem Upper Perennial (3): This Subsystem is characterized by a high gradient. There is no tidal influence, and some water flows all year, except during years of extreme drought. The substrate consists of rock, cobbles, or gravel with occasional patches of sand. The natural dissolved oxygen concentration is normally near saturation. The fauna is characteristic of running water, and there are few or no planktonic forms. The gradient is high compared with that of the Lower Perennial Subsystem, and there is very little floodplain development.
Class Unconsolidated Bottom (UB): Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%. Water Regime Permanently Flooded (H): Water covers the substrate throughout the year in all years.

CLA also identified the presence of a man-made wetland on the property which has not been mapped by NWI. We determined that wetland to be a palustrine emergent wetland (PEM2J). That description is given below.

Classification code: PEM2J
System Palustrine (P): The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

Class Emergent (EM): Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. Subclass Nonpersistent (2): In this Subclass, the areal coverage of nonpersistent emergents exceeds that of persistent emergents. Nonpersistent emergents are emergent hydrophytes whose stems and leaves are evident above the water surface, or above the soil surface if surface water is absent, only during the growing season or shortly thereafter. During the dormant season, there is no obvious sign of emergent vegetation. Water Regime Intermittently Flooded (J): The substrate is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity.

Wetland hydrology

There are two wetland areas on the project site. The first is the 13-acre watercourse and pond area comprised of Oxoboxo Brook and Rockland Pond. This wetland is a large but somewhat degraded open water ecosystem. Oxoboxo Brook flows eventually into the Thames River, a major watercourse connected with the Long Island Sound (Atlantic Ocean). No work is proposed within this wetland, but a portion of the development area coincides with the wetland's 50-foot upland review area.

The second wetland area on the project site is a small (<1ac) man-made channelized wetland in the northeast corner of 375 Maple Avenue. The channel formed as a result of the discharge of stormwater over time by the Town of Montville's 30" storm pipe (identified on plans). This wetland appears to have existed for fewer than 50 years based on available online mapping from CTECO (although the pipe itself appears to be older than 50 years) and is not associated with any watercourse. CLA believes it to have a small impact on groundwater recharge.

Factors important to functional assessment

The following observations are important to the functional assessment and are listed here to provide context to the later discussion of functions and values.

1. Connecticut protected species are not known to be present on the site per the June 2024 update of the CTDEEP NDDB.
2. The proposed development is within the upland review zone of Rockland Pond and Oxoboxo Brook and within the wetland boundary of the man-made stream channel.
3. The local zoning is residential and industrial (R-45, I-100) per the Town GIS, and the surrounding parcels appear to be used for single-family residences and industrial operations.
4. The wetland has glaciofluvial soils around its edges per available online mapping. Detailed soil mapping from the U.S. Web Soil Survey is included within Appendix A.
5. The wetland is a part of a larger watercourse system (Oxoboxo River system).
6. The wetland is large and broad and contains a variety of habitat types, but the water quality is suboptimal.
7. Fish populations are known to be present in Oxoboxo Brook downstream of the project site. Detailed species lists are provided in Appendix B.
8. Rockland Pond and Oxoboxo Brook hold historical significance for their use by Mohegan tribesmen and mill workers in the mid-19th century per Montville Plan of Conservation and Development (2010).

Principal functions

The functional assessment was conducted using the USCAE Highway Methodology (https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement6Apr2015.pdf). The assessment is included as Appendix C and it revealed that the small, man-made wetland has the following principal function:

1. **Groundwater recharge and discharge**: this wetland shows evidence of a variable water level. While CLA believes this to be a principal function of the wetland, we do not attribute significant changes in groundwater levels to the presence or function of the wetland.

Moreover, the Oxoboxo Brook/Rockland Pond wetland area was identified to have the following principal functions:

1. **Floodflow alteration:** the wetland is able to detain large quantities of water during storm and flooding events.
2. **Fish and shellfish habitat:** According to CTECO, there is a known fish presence downstream of the project area (see Appendix B).
3. **Sediment and toxicant retention:** CLA believe that the amount of industrialization surrounding the wetland likely contributes to the presence of sediments and toxicants in the wetland.
4. **Nutrient removal:** CLA expects a significant nutrient load into the wetland due to a lack of undeveloped buffer area at the project location.
5. **Wildlife habitat:** CLA found evidence of waterfowl use of the wetland (ducks, geese) during a site visit in November 2024.

Potential for Impacts

As shown on the project plans, the following activities are planned in both the man-made wetland and the upland review zone for Oxoboxo Brook and Rockland Pond.

1. Extension of a 30" drain pipe originating from Maple Avenue towards Oxoboxo Brook without altering flow regimes. (See Stormwater Report)
2. Construction of a paved parking area and industrial driveway within and around the small man-made wetland, disturbing a total of 9,496 square feet (0.22 ac).
3. Construction of a two stormwater quality basins with sediment forebays within the 50' upland review zone for Rockland Pond and Oxoboxo Brook.
4. Provision of erosion and sedimentation controls (silt fence, hay bales) where appropriate to protect waterways during and after construction.

The proposed activities outlined above may impact the wetland's principal functions in the following ways:

1. **Groundwater recharge and discharge (small wetland channel)**: because the man-made channel is so small (less than one acre) and has existed for less than 50 years (per available online mapping) we do not anticipate this project to have a significant impact on this function. We believe the current groundwater recharge capacity of the wetland to be minimal given its age and area, and stormwater retention installations on the property will

be more than sufficient to mitigate the loss of this function. For more detailed information, see the full Stormwater Management Report.

2. **Floodflow alteration (Rockland Pond)**: since the proposed development would not affect the overall size or location of the wetland, we do not expect the proposed development to impact the wetland's floodflow alteration function.
3. **Fish and shellfish habitat (Oxoboxo Brook):** fish populations downstream of the project site should be protected from pollution. CLA believes that the installation of a water quality feature as noted on site plans will be sufficient to promote water quality and protect vital fish habitat in Oxoboxo Brook.
4. **Sediment and toxicant retention (Rockland Pond):** CLA identified this function as a principal function because of the wetland's proximity to a highly industrialized area. We believe that the erosion and sedimentation controls outlined on the plans (sediment forebay, wood chip berms, silt fence) should be sufficient to prevent additional sediments and toxicants from entering the wetland.
5. **Nutrient removal (Rockland Pond, Oxoboxo Brook)**: this function will likely be unaffected by the proposed changes because nutrient input into the wetland is anticipated to be roughly the same as before development.
6. **Wildlife habitat (Oxoboxo Brook, Rockland Pond)**: because the area of the wetland closest to the proposed development already lacks a vegetated buffer zone, we do not anticipate any changes to the wildlife habitat function as a result of the proposed development.

Summary

If proper erosion and sedimentation controls are installed according to the site plans, we do not anticipate the proposed development will have any impact on the functionality of the onsite wetlands as described above.

Sincerely,

Molly K. Ahern, MESM
Soil Scientist, CLA Engineers
Norwich, CT

Appendix A: Fish Surveys

Adapted from CTECO DEEP Community Fisheries Data

Samples collected downstream of the property in Oxoboxo Brook

Sample Year	2013
Sample ID	147222013
American Eel	5
Bluegill Sunfish	5
Fallfish	9
Largemouth Bass	1
Sample Year	2007
Sample ID	147222007
American Eel	9
Bluegill Sunfish	3
Blacknose Dace	2
Fallfish	21
Largemouth Bass	3
White Sucker	1
Sample Year	2001
Sample ID	147222001
American Eel	12
Bluegill Sunfish	1
Brown Trout (stocked)	1
Chain Pickerel	1
Fallfish	172
White Catfish	1
White Sucker	9
Yellow Perch	1

Appendix B: Army Corps Wetland Assessment Sheets

Wetland Function-Value Evaluation Form

Total area of wetland ~13ac Human made? no Is wetland part of a wildlife corridor? yes or a "habitat island"? no

Adjacent land use industrial, residential Distance to nearest roadway or other development 0'

Dominant wetland systems present PABHx, R3UBH Contiguous undeveloped buffer zone present ~30%

Is the wetland a separate hydraulic system? no If not, where does the wetland lie in the drainage basin? middle

How many tributaries contribute to the wetland? 2 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 7767F Rockland Pond, Oxoboxo Brook

Latitude 41.455 Longitude -72,141

Prepared by: MKA Date 11/13/24

Wetland Impact:
Type R3UBH Area <1ac

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y____ N ✓

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	1,2,3,4,5,7,15	N	Low water quality in WL
Floodflow Alteration	Y	1,4,7,8,10,12,13	Y	WL able to detain water in storm events
Fish and Shellfish Habitat	Y	1,2,3,4,5,6,7,12	Y	Fish presence downstream per CT ECO
Sediment/Toxicant Retention	Y	1,2,3,5,8,9,10,13	Y	Industrialized area
Nutrient Removal	Y	1,2,3,4,5,9,14	Y	Likely high nutrient load
Production Export	Y	4,6,7	N	Likely not principal function
Sediment/Shoreline Stabilization	Y	2,3,4,7,11,15	N	No evidence of erosion/siltation
Wildlife Habitat	Y	6,7,8,9,12,16,17,21	Y	Evidence of waterfowl use (ducks/geese visible)
Recreation	Y	2,5,7,12	N	No WL access from this site (other areas OK)
Educational/Scientific Value	Y	3,5,11,12,13	N	No public access from this site
Uniqueness/Heritage	Y	1,2,3,8,12,13,14,17	N	Historical uses by Mohegan + settlers (mills)
Visual Quality/Aesthetics	Y	1,2,6,8,9,12	N	Difficult to access by public routes
ES Endangered Species Habitat	N		N	Not cited by CT NDDB
Other	/	/	/	/

* Refer to backup list of numbered considerations.

Notes:

Wetland Function-Value Evaluation Form

Total area of wetland <1ac Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? no

Adjacent land use industrial, residential Distance to nearest roadway or other development 0'→ paved drive

Dominant wetland systems present ~~PEM2J~~ PEM2J Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? yes If not, where does the wetland lie in the drainage basin? ✓

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. 7767F Channel

Latitude 41.453 Longitude -72.139

Prepared by: MKA Date 11/13/24

Wetland Impact:
Type ~~PEM2J~~ PEM2J Area <1ac

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y____ N ✓

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	7,4,5,8,15	✓	Clear evidence of GW recharge, little flow
Floodflow Alteration	N			WL very small relative to watershed
Fish and Shellfish Habitat	N			Unsuitable for fish
Sediment/Toxicant Retention	Y	1,2,3,7		No watercourse, very young WL
Nutrient Removal	N			Little vegetation, small WL area
Production Export	N			No evidence of production
Sediment/Shoreline Stabilization	N			Flat area w/ no need for stabilization
Wildlife Habitat	N			No neighboring ~~habitat~~ wildlife habitat
Recreation	N			Private land
Educational/Scientific Value	N			Private land
Uniqueness/Heritage	N			Private land
Visual Quality/Aesthetics	N			Not visually significant
ES Endangered Species Habitat	N			Not NDDB recognized conservation area
Other	✓			✓

* Refer to backup list of numbered considerations.

Notes: