



March 29, 2023

Ms. Stefanie Tetreault NHDES Wetlands Bureau 29 Hazen Drive, P.O. Box 95 Concord, NH 03302-0095

SUBJECT: NHDES File No. 2020-02959

Application Amendment

City of Portsmouth Little Bay Water Line Replacement

Dear Stefanie,

On behalf of the City of Portsmouth (the City), we have prepared an application amendment request to the Standard Dredge and Fill permit application previously submitted to the Wetlands Bureau with File Number 2020-02959. This amendment request is necessary as a result of changes to the project since the last permitting submittal made on behalf of the City.

Revised Construction Access

An amendment request was submitted to the Wetlands Bureau in November 2022 related to a revised construction access drive through the Town of Durham's Wagon Hill Farm. That route anticipated using the existing Wagon Hill driveway off Piscataqua Road (Route 4). After additional consultation with the Town of Durham and after receiving input from the Town of Durham's Land Stewardship Committee, a revised access route through Wagon Hill is proposed.

The revised route proposes to construct a temporary stabilized access drive through the northeast corner of Wagon Hill Farm. The access drive will provide a separate access from Route 4 for construction equipment and personnel. The revised route is proposed to address the Town of Durham's concerns for the safety of the public using Wagon Hill Farm during the construction of the water main project. The revised access route will entirely separate the construction traffic from the public accessing Wagon Hill Farm by providing a dedicated access route for construction equipment. Trails in the southern portion of the access route will be closed while the temporary access drive is in place.

The revised route will require temporary impacts to freshwater wetlands. Certified wetland scientist Marc Jacobs delineated wetlands along the proposed access route in February 2023. The wetlands were classified as palustrine emergent. Please refer to attached wetland classification report. The proposed access route was selected to minimize impacts to wetlands and existing topography. Timber mats are proposed where the access drive crosses wetlands. The southern crossing will also have two 12-inch temporary culverts installed to allow for the flow of surface water. Please refer to attached Wetland Impact Plan.

The Town of Durham is planning a trail improvement project at Wagon Hill to the west of the proposed access road. The Town has requested their contractor be able to access their project using the temporary construction access drive. That project is scheduled to go to construction this summer. Because the Town's project is scheduled to start construction earlier than the water main project, the construction access drive may be constructed in advance of the start of construction of the proposed water main replacement project.

The revised access drive plan shows temporary construction staging areas on the Wagon Hill property near the entrance from Route 4. The staging areas will be used to temporarily store equipment and materials during construction. The construction staging area previously proposed, further south in Wagon Hill, near the water line easement has been reduced. This area will be used as a turnaround for the water line project and also by the Town of Durham to access the trail improvement project.

Upon completion of the project, all construction materials will be removed, and the area restored to a grass field.

Given the temporary nature of the construction access road and limited location for the construction access road, a functional assessment for the wetlands to be impacted was not completed. A waiver is requested from Env-Wt 311.03 (b)(10).

Refer to attached Wetland Impact Plan that show the revised proposed wetland impacts.

Revised Wetland Impacts

The revised construction access drive requires an additional 1,730 sq ft of temporary impacts to wetlands. Please find attached a check for the application fee of \$692.00 for these additional proposed impacts. The following is a summary of all proposed temporary impact areas for the entire project including the revised construction access drive location.

Proposed Temporary Wetland Impacts

Activity	Wetlands (sq ft)	Tidal Waters (sq ft)	Tidal Marsh (sq ft)	Tidal Buffer Zone (sq ft)
Trench excavation and construction access - Durham		25,470	2,120	17,465
Trench excavation and construction access - Newington		21,280		9,130
Temporary Access Drive (Wagon Hill)	2,995			
Total	2,995	46,750	2,120	26,595

Numbers in *italics* were revised since last permit submittal.



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The total quantity of proposed temporary impacts is 78,460 sq ft. There are no proposed changes to the permanent impact area quantities.

Easements

The City is working with the Town of Durham to establish an access agreement that will authorize the City to access the water main project through Wagon Hill during construction. The agreement will be forwarded to the Wetlands Bureau once it has been executed which is expected in the near future.

As noted in the previous application amendment, the City has started an eminent domain proceeding to obtain temporary and permanent easements over the 180 Piscataqua property. While the goal to come to a mutual agreement with the property owners of 180 Piscataqua Road regarding the proposed temporary and permanent easements, the eminent domain statutory timeframe will result in the City obtaining title of the easements on March 28, 2023. A copy of the executed easement will be forwarded to the Wetlands Bureau once it has been executed.

The City is planning for construction of this critical drinking water infrastructure project in Winter 2023/2024. In order to achieve this schedule, we are requesting that the public hearing related to wetland impacts required for this project be scheduled as soon as possible.

We appreciate your continued assistance with this project. Should you need any additional information to complete your review of the permit application please contact me by email or phone (603.570.7126).

Sincerely,

WRIGHT-PIERCE

Britt Eckstrom, PE Project Engineer

britt.eckstrom@wright-pierce.com

Belli Galsman

Enclosures:

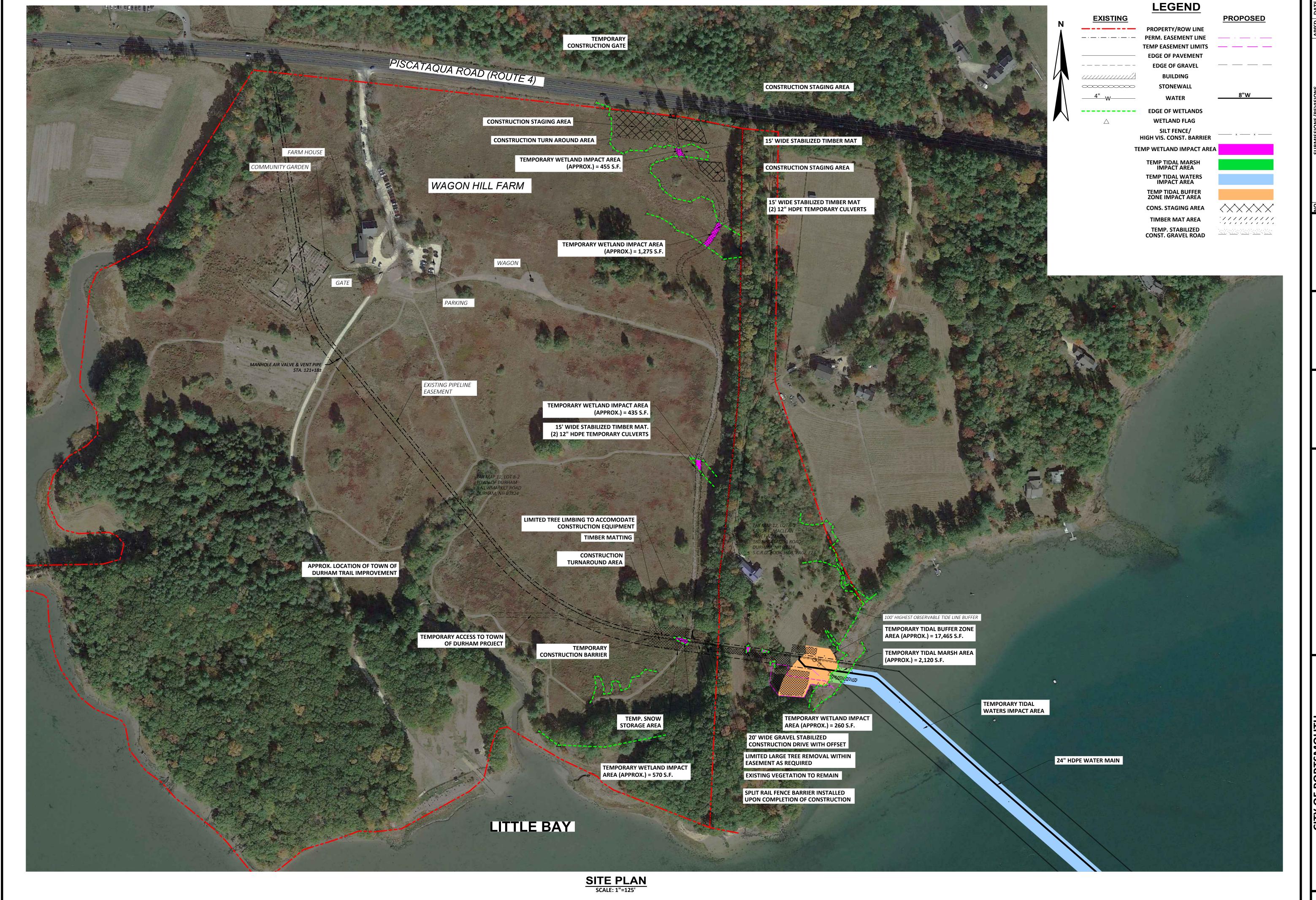
Attachment A – Revised Wetland Impact plan Attachment B – Wetland Delineation Report

Cc: Brian Goetz, City of Portsmouth

Town of Durham Conservation Commission

Town of Newington Conservation Commission





DRAWING

FIGURE 1



Via email to britt.eckstrom@wright-pierce.com

February 24, 2023

Ms. Britt Eckstrom, P.E. Wright-Pierce 230 Commerce Way, Suite 302 Portsmouth, N.H. 03801

RE: Wagon Hill Farm

Piscataqua Road (NH Route 4)

Durham, NH WP #14202A

Dear Ms. Eckstrom,

The following remarks summarize our observations made during the delineation of jurisdictional wetlands and other resources at the above-referenced location. A site inspection was conducted on February 16, 2023 to identify and delineate jurisdictional wetlands within the area-of-interest (AOI) according to the New Hampshire Department of Environmental Services (NHDES) – Code of Administrative Rules - Section Env-Wt 100 - 900. Two images are appended to the back of this document.

The AOI that is the subject of this report is identified with a dashed yellow poly line in Figure 1 below, which utilizes a May 2018 Google Earth© aerial image as a base. The jurisdictional resources which were delineated are depicted on the undated existing conditions drawing prepared by your office, which is appended to the back of this report. Various portions of the adjacent Maclean/Mackie property at 180 Piscataqua Road were delineated on two previous occasions. The initial delineation of the Maclean/Mackie property is described in our report dated September 19, 2019. A subsequent site visit was conducted to delineate a third AOI on the Maclean/Mackie property as well as a limited AOI at Wagon Hill Farm on July 8, 2022 and a report dated October 28, 2022 describes those investigations. This report is intended to supplement but not replace those reports.

General Site Conditions

The Wagon Hill Farm AOI involves rolling topography. The highest elevations and tops of knolls generally embody loamy glacial till parent materials and shallow bedrock may also be encountered. The upland side slopes and low lying areas generally involve loamy soils derived from till as well as marine silt and clay parent materials. These silts and clays are slowly permeable and infiltration is therefore limited, with high rates of runoff as a result. Both soil parent materials are susceptible to erosion and sedimentation, especially the silt and clay soils, and especially during construction when soils are exposed and unvegetated and therefore could easily result in secondary or indirect impacts to other nearby jurisdictional resources located outside the AOI.

FIGURE 1



The conditions of wetlands within the AOI are significantly altered and thus challenging. alterations such as tree clearing, stump removal and subsequent plowing or grazing are historic but result in lasting influence on wetland criteria. Historic alterations such as burning or relatively recent alterations such as mowing of fields are apparent and also affect vegetation communities. Still, most field areas on Wagon Hill Farm were densely vegetated with herbaceous plants during site investigations. However, adding to the challenges of delineating wetlands within the AOI on this site were seasonal conditions. Most herbaceous vegetation species have died back for the winter, although we were able to make a positive identification of several species with a reasonably high level of confidence using observations of persistent remains. Vegetation species along the tree line are less altered owing to the passage of time and were utilized to assist in deciphering the location of the wetland-upland boundary but, given the configuration of wetlands and local topography, were of limited value in terms of their geographic extent. Snow was not present but frost was encountered approximately fifty (50) percent of the time when attempting to observe subsurface soil conditions. However, we were ultimately able to obtain subsurface observations of soils where needed. Ruts, presumably created by mowing equipment, were apparent in two locations within or immediately adjacent to the AOI. It does not appear that those ruts have a significant or adverse impact on wetland hydrology, partly owing to the sources of hydrology that sustain this wetland, which include, in decreasing order of significance, groundwater, sheet flow (from adjacent uplands - both of which are influenced by the slowly permeable soils) and direct precipitation.

Due to the historic and recent site alterations as well as seasonal conditions during site investigations, hydric soil observations were relied upon heavily for delineation of wetland-upland boundaries. Similarly, the delineation used best professional judgement as well as accepted criteria for altered sites (Section F of the Federal Wetland Manual.) While the wetland-upland boundary has not been created by filling, it could be considered man-made by virtue of historic and recent alterations of the vegetation community and, to a lesser degree, the soil profile.

¹Ruts are generally considered dredging by NHDES and dredging activities are subject to permitting.

Methodology

Jurisdictional wetlands and other resources were identified and jurisdictional wetland-upland boundaries within the AOI were delineated on-the-ground. Solid pink color stake flags were temporarily placed in the field and were immediately surveyed by your office, based upon my instruction, using global positioning system (GPS) technology. The flags were then removed, as per your (and the Town of Durham's) wishes. Each observation point that was surveyed along the delineated wetland-upland boundary was given a unique letter and/or number, which is depicted on the attached plan. The flag sequences used are as follows: MJ7-1 to MJ7-37 and MJ8-1 to MJ8-9. A brief description of the wetland/resource area, as identified by the flag series used in the field, is provided below.

Flag series MJ7 and MJ8

Flag series MJ7 and MJ8 identify either side of a wetland that possesses a substrate comprised of poorly drained hydric soils. The dominant soils most closely resemble Scitico series soils. Primary signs of wetland hydrology included surface water, saturated soils, inundation visible on aerial imagery (see Figure 1 above), geomorphic position, a shallow aguitard and sparsely vegetated concave surfaces.² (Note that some signs of hydrology are randomly distributed or are apparent in localized areas only.) The wetland area is generally dominated by herbaceous vegetation that includes customary field grasses. We were unable to make a positive identification on dominant herbaceous plant species due to the mowing activity and seasonal conditions. However, sedges and/or rushes were also observed in mowed areas and it is our expectation that a plant community dominated by obvious hydrophytic herbaceous species would develop if the area is not mowed again for another year or more. One species of rush observed was soft rush (Juncus effusus). A portion of the wetland is dominated by a dense community of broad-leaved cattail (Typha latifolia). Cat-tail is considered an obligate wetland species. Obligate plants are the most reliable indicator species of wetland hydrology.³ We also note an extensive community of wild cranberry (Vaccinium oxycoccos) that populates wetlands along the southerly wetland-upland boundary identified by flag series MJ8. This boundary has a northern aspect and thus does not receive the insolation that the wetland-upland boundary identified by flag series MJ7 receives. Wild cranberry is also considered an obligate species. The presence of wild cranberry suggests that the fields may have been burned in the past, possibly as a vegetation management technique. Common wetland vegetation observed within the scrub-shrub community along the property line included the persistent remains of sensitive fern (Onoclea sensibilis) as well as dogwood (Cornus sp.) and winterberry (Ilex verticillata) shrubs, all of which are generally considered reliable indicators of wetland hydrology and wetlands, especially where hydric soils are also present. Other shrubs observed within wetlands in the field include willows, likely pussy willow (Salix discolor), growing as 'whips', likely due to past mowing. Pussy willow is generally considered a reliable wetland indicator species.

Wetland Classification

With the exception of a small area of palustrine scrub-shrub (PSS) wetlands along the property/tree line, all wetlands within the AOI described by this report should be classified as palustrine emergent (PEM) according to the National Wetlands Inventory and the Cowardin system.

²Observations of surface water and saturated soils outside the growing season could be considered a less reliable indicator of wetland hydrology. However, surface waters and saturated soil conditions in the AOI were generally coincident with the poorly drained hydric soil boundary. (Growing season is defined as soil temperatures above biologic zero. Biologic zero is defined as soil temperatures above 41°F.)

³There are five categories of wetland indicator species: Obligate, Facultative Wetland, Facultative, Facultative Upland and Upland. Plants rated obligate are most likely to grow in wetlands while plants rated upland are least likely to grow in wetlands. Plants rated as facultative generally grow equally in wetlands and uplands with preferences often observed on a site by site basis.)

Ms. Britt Eckstrom, P.E. Wagon Hill Farm, Durham, N.H. February 24, 2023

Invasive Species

Invasive species commonly observed in or immediately adjacent to wetlands within the AOI included shrubs such as olive (*Elaeagnus umbellata*), glossy buckthorn (*Frangula alnus*), common buckthorn (*Rhamnus cathartica*) and honeysuckle (*Lonicera* sp.). Persistent remains of purple loosestrife (*Lythrum salicaria*) specimens were also observed. Broad-leaved cat-tail is considered invasive by some sources.

Vernal Pools

Vernal pools are typically temporary or seasonal bodies of fresh water that provide essential breeding habitat for certain amphibians and invertebrates as well as important supporting habitat for numerous other species, especially reptiles such as turtles. None of the wetlands that are the subject of this report appear to constitute potential vernal pools or vernal pool habitat according to Env-Wt 104.44.

State Jurisdiction

All wetlands and banks are jurisdictional under NH RSA 482:A and the NH Code of Administrative Rules – Chapter Env-Wt 100-900. The NHDES does not require a buffer to freshwater wetlands, to the extent that any work in adjacent uplands does not cause indirect impacts such as sedimentation to areas under NHDES jurisdiction.

Bank is defined by Env-Wt 102.15 as the transitional slope immediately adjacent to the edge of a surface water body, the upper limit of which is *usually* defined by a break in slope, or for a wetland, where a line indicates a change from wetland to upland. Experience has demonstrated that the definition of bank can be subject to interpretation where practical application in the field is involved.

Priority Resource Areas

Areas that embody bogs, sand dunes, tidal waters, tidal wetlands, undeveloped tidal buffer zone, floodplain wetlands adjacent to a tier 3 or higher watercourse, designated prime wetland or duly established prime wetland buffer zone and/or documented occurrences of protected rare species or habitat are considered Priority Resource Areas (PRA). Projects which propose impacts to jurisdictional areas that involve PRA's are automatically elevated to major project classification for permitting review purposes, with a couple of exceptions. With the possible exception of rare species, remote sensing and direct observation confirm that there are no PRA's within the AOI. We have not contacted the Natural Heritage Bureau for information regarding rare species, which we presume will take place going forward, during the permitting process for any proposed project.

Prime Wetlands

The NHDES applies applicable rules and law to all municipally designated prime wetlands (and in certain municipalities all land within 100-feet of municipally designated prime wetlands). Prime wetlands are those wetlands with higher functions and values and receive additional protection under the law. The town of Durham does not have municipally designated prime wetlands recognized by NHDES.

Local Zoning

Article XIII of the Durham Zoning Ordinance creates the Wetland Conservation Overlay District (WOCD) which defines wetlands similarly to the state and federal governments. The WOCD takes jurisdiction over all wetlands except isolated non-tidal wetlands less than 3,000 square feet (SF) (which

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are not vernal pools) or man-made wetlands such as ditches and swales, sedimentation/detention basins, agricultural/irrigation ponds or fire ponds/cisterns so long as they are currently functioning, maintained and have not been abandoned. Wetland buffers, which are also part of the WOCD, are required but vary by resource type and zone and range from 75-150 feet. Utility construction is allowed in the WOCD as a Conditional Use after a Conditional Use Permit is granted by the Durham Planning Board.

The above represents a brief summary of the applicable local zoning and state jurisdiction. We recommend that you consult this office, the Durham Planning Department or the NHDES for further guidance before proceeding with any design, permitting or construction at this location.

Certification Note

The following certification note should be inserted into any drawings that reflect the delineated wetlandupland boundary:

Jurisdictional wetlands were delineated on February 16, 2023 by Marc Jacobs, Certified Wetland Scientist number 090, according to the standards of the US Army Corps of Engineers - Wetlands Delineation Manual; the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region; and the Code of Administrative Rules, NH Department of Environmental Services - Wetlands Bureau – Env Wt 100-900. Soils were evaluated utilizing the Field Indicators for Identifying Hydric Soils in New England, Version 4, June 2020 and the Field Indicators of Hydric Soils in the United States, Version 8, 2016. The indicator status of vegetation as hydrophytic was determined according to the U.S. Army Corps of Engineers - Northcentral and Northeast 2020 Regional Wetland Plant List. Copies of site plans which have been reviewed by the wetland scientist are individually stamped, signed and dated. This note has been customized for this project.

Please contact the undersigned with any questions regarding the information above.





Image 1 – Looking southwest from near Route 4. Wagon Hill Farmhouse in the background. Note cat-tails on the left and willow 'whips' on the right. Wetland identified by flags MJ7-8± to MJ7-24± on plan in foreground.



Image 2 – Looking northeast. Route 4 on left in background. Note shallow ruts on the left and willow 'whips' in the center. Arrow points to approximate location of wetland identified by flags MJ7-8± to MJ7-24± on attached plan. (Images captured before flags were placed.) See Figure 2 below.

FIGURE 2

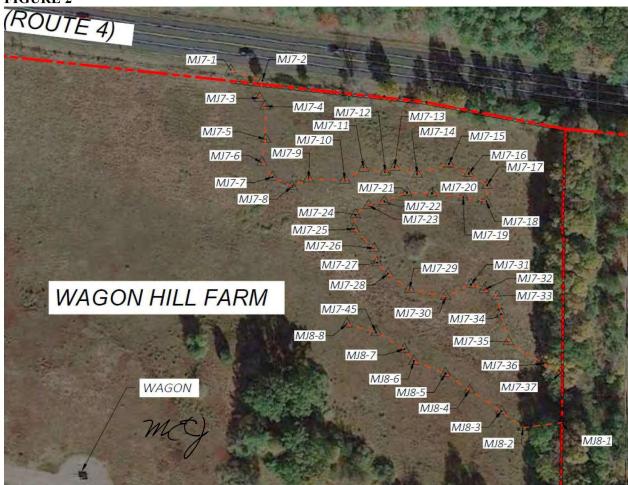




FIGURE 1