



October 19, 2016

Tina Heath
District Wetlands Ecologist
Watershed Management Division
1 National Life Drive, Main 2
Montpelier VT 05620-3522

RE: Brennan Woods, Barrett Lane, Williston
Individual Wetland Permit application

Dear Tina:

On behalf of the applicant, the Brennan Woods Homeowners Association, we are submitting an Individual Wetland Permit application to allow the construction of an access drive for an existing stormwater system. On July 28, 2016, you met with James Sherrard from the Town of Williston and Andy Rowe from our office to discuss the proposed impact.

The applicant proposes to install a driveway to allow maintenance of an existing overflow pipe from a stormwater system that serves the Brennan Woods neighborhood. To maximize permeability and vegetative cover, the gravel driveway will be covered with 4 inches of topsoil and seeded. The proposed buffer impact is 2,090 sq ft. No wetland impacts are proposed.

Enclosed are the application, check for the application fee, supporting documentation, and the project plans. If you have any questions or need additional information, please don't hesitate to contact me.

Sincerely,

Brian Tremback
Certified Professional Soil Scientist
Licensed Designer, Class B
Wetland Scientist
brian@LDengineering.com

cc: Lisa Roy

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Vermont Wetlands Program Permit Application Database Form

Under Sections 8 and 9
of the Vermont Wetland Rules



Application Submittal Instructions
<ul style="list-style-type: none"> ■ If submitting via US post, include a check in the correct fee amount made payable to the “State of Vermont,” and a CD for applications that contain large files (1 MB or greater). <div style="margin-left: 40px;"> Mail to: Vermont Wetlands Program Watershed Management Division One National Life Drive, Main 2 Montpelier, VT 05620-3522 </div> ■ Applications can also be submitted via email to the following address: anr.wsmdwetlands@vermont.gov <ul style="list-style-type: none"> ■ If submitting via email, please mail a check in the correct fee amount, made payable to the “State of Vermont,” and a copy of the Vermont Wetlands Program Application Database Form (this page) to the address provided above. <i>It is not necessary to mail in a copy of the complete application.</i>

Applicant Name: The Brennan Woods Homeowners Association, Inc.	Application Preparer Name: Brian Tremback
Town where project is located: Williston	County: Chittenden
Span#: Open space / common land parcel (no SPAN)	Vermont Wetlands Project (VWP)# if Known:
Project Location Description: Barrett Lane <i>911 street address or direction from nearest intersection</i>	
Brief Project Summary: Construction of a gravel drive with vegetated surface to provide access to an existing stormwater outfall pipe.	
Application Type: <input type="checkbox"/> Individual Permit (multiple wetlands) <input type="checkbox"/> After the Fact Permit <input type="checkbox"/> Wetland Determination <input checked="" type="checkbox"/> Individual Permit (single wetland) <input type="checkbox"/> General Permit Coverage Authorization <input type="checkbox"/> Permit Amendment: VWP Project # _____	
Existing Land Use Type(s): <i>(Check all that apply)</i> <input type="checkbox"/> Residential (single family) <input checked="" type="checkbox"/> Residential (subdivision) <input checked="" type="checkbox"/> Undeveloped <input type="checkbox"/> Agriculture <input type="checkbox"/> Transportation <input type="checkbox"/> Forestry <input type="checkbox"/> Parks/Rec/Trail <input type="checkbox"/> Institutional <input type="checkbox"/> Industrial/Commercial	
Proposed Land Use Type(s): <i>(Check all that apply)</i> <input type="checkbox"/> Residential (single family) <input type="checkbox"/> Residential (subdivision) <input checked="" type="checkbox"/> Undeveloped <input type="checkbox"/> Agriculture <input type="checkbox"/> Transportation <input type="checkbox"/> Forestry <input type="checkbox"/> Parks/Rec/Trail <input type="checkbox"/> Institutional <input type="checkbox"/> Industrial/Commercial	
Proposed Impact Type(s): <i>(Check all that apply)</i> <input type="checkbox"/> Buildings <input type="checkbox"/> Utilities <input type="checkbox"/> Parking <input type="checkbox"/> Septic/Well <input type="checkbox"/> Stormwater <input type="checkbox"/> Driveway <input type="checkbox"/> Park/Path <input type="checkbox"/> Agriculture <input type="checkbox"/> Pond <input type="checkbox"/> Lawn <input type="checkbox"/> Dry Hydrant <input type="checkbox"/> Beaver Dam Alteration <input type="checkbox"/> Silviculture <input type="checkbox"/> Road <input type="checkbox"/> Aesthetics <input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Other: Access drive _____	
Wetland and Buffer Impact Type: <i>(Check all that apply)</i> <input type="checkbox"/> Dredge <input type="checkbox"/> Drain <input checked="" type="checkbox"/> Cut Vegetation <input type="checkbox"/> Stormwater <input type="checkbox"/> Trench/Fill <input checked="" type="checkbox"/> Other: Construct access drive _____	
Wetland Delineation Date(s): September 2014	

Wetland Improvements	Buffer Zone Improvements	Reason for Improvements
Restoration: s.f.	Restoration: s.f.	<input type="checkbox"/> Correction of Violation <input type="checkbox"/> To offset permit impacts <input type="checkbox"/> Voluntary
Creation: s.f.	Creation: s.f.	
Enhancement: s.f.	Enhancement: s.f.	
Conservation: s.f.	Conservation: s.f.	

Wetland Impact Fee Calculations: <i>Round to the nearest square foot. Fees will auto-calculate.</i>		
Total Wetland Impact (minus linear clear, including ATF)	0 square feet (s.f.)	Wetland Impact Fee: (\$0.75/sf) \$ 0.00
Total Wetland Clearing (qualified linear projects only)	0 square feet (s.f.)	Wetland Clearing Fee: (\$0.25/sf) \$ 0.00
After The Fact Wetland Impact (to correct a violation)	0 square feet (s.f.)	After the Fact Wetland Fee: (0.75/sf) \$ 0.00 <i>(Required for after the fact permit applications)</i>
Total Buffer Zone Impacts and Calculations: <i>Round to the nearest square foot</i>		
Total Buffer Zone Impact	2090 square feet (s.f.)	Buffer Impact Fee: (\$0.25/sf) \$ 522.50

Additional Fees	
Agricultural Crop Conversion <i>Check here:</i> <input type="checkbox"/> <i>(Flat fee of \$200.00)</i>	\$ 0.00
Minimum Application Fee: (\$50.00) <i>Required when total impact fee is less than \$50.00</i>	\$ 0.00
Administrative Fee:	\$ 240.00

Make Checks Payable to: State of Vermont	Total Check Amount:	\$ 762.50
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**Vermont Individual Wetland
Permit Application and
Determination Petition**
Under Sections 8 and 9
of the Vermont Wetland Rules



VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
**WATERSHED
MANAGEMENT DIVISION**
WETLANDS PROGRAM

Applicant Information: <i>If the applicant is someone other than the landowner, the landowner information must be included below</i>			
Applicant Name: The Brennan Woods Homeowners' Association, Inc. c/o Lisa Roy			
Address: 726 Hanon Drive	City/Town: Williston	State: VT	Zip: 05495
Phone Number: 802-879-1117	Email Address: brennanwoods@comcast.net		
Applicant Certification: By signing this application you are certifying that all of the information contained within is true, accurate, and complete to the best of your knowledge. Original signature is required.			
Applicant Signature: <u><i>Lisa Roy</i></u>		Date: <u>10/4/16</u>	

Landowner Information: <i>Landowner must sign the application. If landowner is different from the applicant this section must be filled out</i>			
<input checked="" type="checkbox"/> Check this box if landowner is the same as the applicant			
Landowner Name:			
Address:	City/Town	State:	Zip:
Phone Number:	Email Address:		
Landowner Easement: <i>Attach copies of any easements, agreements, or other documents conveying permission, and agreement with the landowner stating who will be responsible for meeting the terms and conditions of the permit. List the attachment for this information in this section. Describe the nature of the agreement or easement in the space provided below:</i>			
Landowner Certification: By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge. Original signature is required.			
Landowner Signature: <u><i>Lisa Roy</i></u>		Date: <u>10/4/16</u>	

Application Preparer Information: <i>Consultant, engineer, or other representative that is responsible for filling out the application, if other than the applicant or landowner.</i>			
Application Preparer Name: Brian Tremback		Organization/Company: Lamoureux & Dickinson	
Address: 14 Morse Drive	City/Town: Essex	State: VT	Zip: 05452
Phone Number: 802-878-4450	Email Address: brian@LDengineering.com		
Application Preparer Certification: By signing this application you are certifying that all of the information contained within is true, accurate, and complete to the best of your knowledge. Original signature is required.			
Application Preparer Signature: <u><i>Brian Tremback</i></u>		Date: <u>10/18/2016</u>	

Handwritten signatures are also accepted

1. Location of wetland and project: <i>Location description should include the road the wetland is located on, the compass direction of the wetland in relation to the road, 911 street address if available, and any other distinguishing features.</i>	<input type="checkbox"/>
West of Barrett Lane and south of the existing gravel drive to the Brennan Woods sewer pump station.	

2. Site visit date(s) and attendees: <i>A site visit is required before the application can be called complete</i>		<input type="checkbox"/>
2.1 Date of Visit(s) with State District Wetland Ecologist	2.2. List of people present for site visit(s) including Ecologist, landowner, and representatives.	
July 28, 2015	Tina Heath, Julie Foley, James Sherrard (Town of Williston), Andy Rowe (Lamoureux & Dickinson)	

3. Wetland Classification: <i>For multiple wetlands fill out the multiple wetlands table for sections 1 and 3 through 1</i>		<input type="checkbox"/>
3.1. The wetland is a Class II wetland because : The wetland meets the presumption of significance		
3.2. Section 4.6 Presumption <i>If the wetland meets the Section 4.6 Presumption, it does so primarily because:</i>		
c. The wetland contains dense, persistent, non-woody vegetation and is adjacent to a stream, river, or open body of water.		
<Choose One>		
<Choose One>		

4. Description of the Entire Wetland: <i>Answer the following questions regarding the entire wetland, which includes all wetland areas connected to the wetland proposed for impact. Answers may be estimates based on desktop review when the wetland extends past the investigation area (parcel boundary). Specific questions about the wetland in the project area will follow. For multiple wetlands , fill out the multiple wetlands table.</i>		
4.1. Size of Complex in Acres: <i>The size of the complex can be obtained from the Wetland Inventory Map for mapped wetlands, or best estimation based on review of aerial photography or site visit. This is not the size of the of the delineated wetland on the subject property unless the entirety of the wetland is represented in the delineation.</i>		<input type="checkbox"/>
20 acres		
4.2. Vegetation Cover Types Present: <i>List all wetland types in the wetland or wetland complex and their percent cover.</i> <i>For example: 50 acres of softwood forested swamp; or 30% scrub swamp, 70% emergent wetland</i>		<input type="checkbox"/>
80% forested, 15% emergent, 5% scrub-shrub		
4.3. Landscape Position: <i>Where is the wetland located on the landscape?</i> <i>For example: Bottom of a basin, edge of a stream, shore of a lake, etc.</i>		<input type="checkbox"/>
Floodplain and low-slope terrain associated with Allen Brook		
4.4. Hydrology: <i>Describe the main source of water for the entire wetland. List any river, stream, lakes, or ponds</i>		<input type="checkbox"/>
Precipitation, runoff, and occasional flood waters from Allen Brook		
4.4.1. Direction of Flow: <i>For example: Stream flows from north to south through the wetland complex, or the wetland drains generally to the southwest.</i>		<input type="checkbox"/>
Allen Brook flows generally to the northwest		
4.4.2. Influence of Hydrology on the Entire Wetland: <i>For example: The river provides floodwater to the wetland in the spring.</i>		<input type="checkbox"/>
Snowmelt and precipitation directly cause saturation of the topsoil; on more permeable soils, infiltration of surface water raises the watertable		
4.4.3. Relation of Entire Wetland to the Project Area: <i>The distance between the project area and any nearby surface waters</i>		<input type="checkbox"/>
The project is approximately 150 ft from Allen Brook.		

<p>4.4.4. Entire Wetland Hydroperiod: <i>Discuss the frequency and duration of flooding, ponding, and/or soil saturation</i></p>	<input type="checkbox"/>
<p>Spring conditions cause saturation; significant storms cause flooding in portions of the wetland so affected</p>	
<p>4.5. Surrounding Landuse of the Entire Wetland: <i>For example: Rural residential and forested; Agricultural and undeveloped</i></p>	<input type="checkbox"/>
<p>Residential, commercial, and undeveloped</p>	
<p>4.6. Relation of the Entire Wetland to Other Nearby Wetlands: <i>Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question.</i></p>	<input type="checkbox"/>
<p>Other wetlands are associated with Allen Brook, its tributaries, and other areas with high groundwater or low slope</p>	
<p>4.7. Pre-project Cumulative Impacts to the Entire Wetland: <i>Identify any cumulative ongoing impacts outside of the proposed project that may influence the wetland. Examples include but are not limited to: Wetland encroachments on and off the subject property, land use management in or surrounding the wetland, or development that influences hydrology or water quality. List any past Vermont Wetland Permits or CUD's related to this property.</i></p>	<input type="checkbox"/>
<p>Surrounding residential developments may impact quality and quantity of stormwater runoff (proposed project is designed to mitigate these impacts).</p>	
<p>5. Description of Subject Wetland and Buffer: <i>Subject wetland is defined as the area of wetland in the project vicinity, but not limited to the portion of the wetland to be directly impacted by the project. For the purposes of this application, the subject wetland should encompass any portion of the wetland that could either be directly or indirectly impacted by the project, as defined by chemical, physical, or biological characteristics. This may include the entire wetland area, or wetland area off property. For multiple wetlands, fill out the multiple wetlands table.</i></p>	
<p>5.1. Context of Subject Wetland: <i>Describe where the subject wetland is in the context of the entire wetland described in section 4 above. For example: Upslope, narrow eastern "finger", 400 ft. from open water portion.</i></p>	<input type="checkbox"/>
<p>The subject wetland is associated with a drainageway to Allen Brook.</p>	
<p>5.2. Subject Wetland Land Use: <i>For example: Mowed lawn, old field, naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland.</i></p>	<input type="checkbox"/>
<p>Open space of residential neighborhood.</p>	
<p>5.3. Subject Wetland Vegetation: <i>List dominant wetland vegetation cover type and associated dominant plant species.</i></p>	<input type="checkbox"/>
<p>Speckled alder, spotted touch-me-not, river grape</p>	
<p>5.4. Subject Wetland Soils: <i>Use the USDA NRCS information where possible and use the ACOE Delineation Manual soil description</i></p>	<input type="checkbox"/>
<p>Mapped as Munson and Raynham silt loams; Depleted below dark surface</p>	
<p>5.5. Subject Wetland Hydrology: <i>Use the description from the ACOE Delineation Manual</i></p>	<input type="checkbox"/>
<p>Sediment Deposits, Water-Stained Leaves, Drainage Patterns, Geomorphic Position</p>	

5.6. Buffer Zone: <i>Describe the buffer zone of the subject wetland (50 foot envelope of land adjacent to wetland boundary).</i>	
5.6.1. Buffer Land Use: <i>For example: Mowed shoulder, forested, old field, paved road, and residential lawns, etc.</i> <i>Describe any previous and ongoing disturbance in the buffer zone.</i>	<input type="checkbox"/>
Open space of residential neighborhood, stormwater detention and treatment, access drive to sewage pump station	
5.6.2. Buffer Vegetation: <i>List the vegetation cover type and dominant plant species.</i>	<input type="checkbox"/>
Speckled alder, Tartarian honeysuckle, tall goldenrod, Canada goldenrod	
5.6.3. Buffer Soils: <i>Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description.</i>	<input type="checkbox"/>
Mapped as Munson and Raynham silt loams; non-hydric	

6. Entire Wetland Function and Value Summary (as defined in the Vermont Wetland Rules Section 5): <i>Check which functions are present in the entire wetland</i>		<input type="checkbox"/>
<input checked="" type="checkbox"/> Flood/Storm Storage	<input type="checkbox"/> RTE Species	
<input checked="" type="checkbox"/> Surface & Groundwater Protection	<input type="checkbox"/> Education & Research	
<input checked="" type="checkbox"/> Fish Habitat	<input type="checkbox"/> Recreation/Economic	
<input checked="" type="checkbox"/> Wildlife Habitat	<input type="checkbox"/> Open Space/Aesthetics	
<input type="checkbox"/> Exemplary Natural Community	<input checked="" type="checkbox"/> Erosion Control	

Functions and Values: *For each function and value:*

1. Evaluate the entire wetland and check all that apply. Use Wetland Inventory Maps for offsite areas
2. Evaluate how the wetland in the project area contributes to the function.
3. Explain how the project will not result in adverse impacts to the function.

Include any information on specific avoidance and minimization measures.

If more than one wetland complex is involved, provide a function and value checklist for each wetland complex. In addition fill out the Multiple Wetlands Table.

7. Water Storage for Flood Water and Storm Runoff	<input type="checkbox"/>
<input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function	
<input type="checkbox"/> Constricted outlet or no outlet and an unconstructed inlet.	
<input checked="" type="checkbox"/> Physical space for floodwater expansion and dense, persistent, emergent vegetation or dense woody vegetation that slows down flood waters or stormwater runoff during peak flows and facilitates water removal by evaporation and transpiration.	
<input type="checkbox"/> If a stream is present, it's course is sinuous and there is sufficient woody vegetation to intercept surface flows in the portion of the wetland that floods.	
<input checked="" type="checkbox"/> Physical evidence of seasonal flooding or ponding such as water stained leaves, water marks on trees, drift rows, debris deposits, or standing water.	
<input type="checkbox"/> Hydrologic or hydraulic study indicates wetland attenuates flooding	
<p>If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.</p>	

Water Storage for Flood Water and Storm Runoff Continued...

Check this box if any of the following conditions apply that may indicate the wetland provides this function at a **lower** level.

- Significant flood storage capacity upstream of the wetland, and the wetland in question provides this function at a negligible level in comparison to upstream storage (unless the upstream storage is temporary such as a beaver impoundment).
- Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland.
- Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures.
- Wetland is very small in size, not contiguous to a stream, and not part of a collection of small wetlands in the landscape that provide this function cumulatively.

Check this box if any of the following conditions apply that may indicate the wetland provides this function at a **higher** level.

- History of downstream flood damage to public or private property.
- Any of the following conditions present downstream of the wetland, but upstream of a major lake or pond, could be impacted by loss or reduction of the water storage function.
 - Developed public or private property
 - Stream banks susceptible to scouring and erosion
 - Important habitat for aquatic life
- The wetland is large in size and naturally vegetated.
- Any of the following conditions present downstream of the wetland, but upstream of a major lake or pond, could be impacted by a loss or reduction of the water storage function.
 - Developed public or private property.
 - Stream banks susceptible to scouring and erosion.
 - Important habitat for aquatic life.
- The wetland is large in size and naturally vegetated
- Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland.
 - A large amount of impervious surface in urbanized areas.
 - Relatively impervious soils.
 - Steep slopes in the adjacent areas.

7.1 Subject Wetland Contribution to Water Storage:

Explain how the subject wetland contributes to the function listed above

The subject wetland is above the flood elevation of Allen Brook and can provide only minimal storage for its own subwatershed.

7.2 Statement of No Undue Adverse Impact to Water Storage for Flood Water and Storm Runoff:

Explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance, minimization, and compensation measures relevant to this function.

The proposed project will not result in any undue, adverse impact to this function because no wetland impact is proposed.

8. Surface and Ground Water Protection:

- Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
- Constricted or no outlets.
 - Low water velocity through dense, persistent vegetation.
 - Hydroperiod permanently flooded or saturated.
 - Wetlands in depositional environments with persistent vegetation wider than 20 feet.
 - Wetlands with persistent vegetation comprising a defined delta, island, bar or peninsula.
 - Presence of seeps or springs.
 - Wetland contains a high amount of microtopography that helps slow and filter surface water.
 - Position in the landscape indicates the wetland is a headwaters area.
 - Wetland is adjacent to surface waters.
 - Wetland recharges a drinking water source.
 - Water sampling indicates removal of pollutants or nutrients.
 - Water sampling indicates retention of sediments or organic matter.
 - Fine mineral soils and alkalinity not low.
 - The wetland provides an obvious filter between surface water or ground water and land uses that may contribute point or nonpoint sources of sediments, toxic substances or nutrients to the wetland, such as: steep erodible slopes; row crops; dumps; areas of pesticide, herbicide or fertilizer application; feed lots; parking lots or heavily traveled road; and septic systems.

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.

- Check this box if any of the following conditions apply that may indicate the wetland provides function at a **lower** level.
- Presence of dead forest or shrub areas in sufficient amounts to result in diminished nutrient uptake.
 - Presence of ditches or channels that confine water and restrict contact of water with vegetation.
 - Wetland is very small in size, not contiguous to a stream, and not part of a collection of small wetlands in the landscape that provide this function cumulatively.
 - Current use in the wetland results in disturbance that compromises this function.
- Check this box if any of the following conditions apply that may indicate the wetland provides function at a **higher** level.
- The wetland is adjacent to a well head or source protection area, and provides ground water recharge.
 - The wetland provides flows to Class A surface water. (Check ANR Atlas)
 - The wetland contributes to the protection or improvement of water quality of any impaired waters.
 - The wetland is large in size and naturally vegetated.

<p>8.1. Subject Wetland Contribution to Water Protection: <i>Explain how the subject wetland contributes to the function listed above.</i></p>	<input type="checkbox"/>
<p>Wetland is well-vegetated with woody and herbaceous plants that serve to slow water velocity, trap sediment, and transform nutrients and pollutants in runoff.</p>	
<p>8.2. Statement of No Undue Adverse Impact to <u>Surface and Ground Water Protection</u>: <i>Explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance, minimization, or compensation measures relevant to this function.</i></p>	<input type="checkbox"/>
<p>The proposed project will not result in any undue, adverse impact to this function because no wetland impact is proposed.</p>	
<p>9. Fish Habitat:</p>	
<p><input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Contains woody vegetation that overhangs the banks of a stream or river and provides any of the following: shading that controls summer water temperature; cover including refuges created by overhanging branches or undercut banks; source of terrestrial insects as fish food; or streambank stability. <input type="checkbox"/> Provides spawning, nursery, feeding or cover habitat for fish (documented or professionally judged). Common habitat includes deep marsh and shallow marsh associates with lakes and streams, and seasonally flooded wetlands associated with streams and rivers. <input type="checkbox"/> Documented or professionally judged spawning habitat for northern pike. <input type="checkbox"/> Provides cold spring discharge that lowers the temperature of receiving waters and creates summer habitat for salmonoid species. <input checked="" type="checkbox"/> The wetland is located along a tributary that does not support fish, but contributes to a larger body of water that does support fish. The tributary supports downstream fish by providing cooler water and food sources. 	
<p>9.1. Subject Wetland Contribution to Fish Habitat: <i>Explain how the subject wetland contributes to the function listed above.</i></p>	<input type="checkbox"/>
<p>Wetland vegetation shades the intermittent stream that is associated with the subject wetland.</p>	
<p>9.2. Statement of No Undue Adverse Impact to <u>Fish Habitat</u>: <i>Explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance, minimization, or compensation measures relevant to this function.</i></p>	<input type="checkbox"/>
<p>The proposed project will not result in any undue, adverse impact to this function because no wetland impact is proposed.</p>	

10. Wildlife Habitat

- Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
- Provides resting, feeding staging or roosting habitat to support waterfowl migration, and feeding habitat for wading birds. Good habitats for these species include open water wetlands.
 - Habitat to support one or more breeding pairs or broods of waterfowl including all species of ducks, geese, and swans. Good habitats for these species include open water habitats adjacent shallow marsh, deep marsh, shrub wetland, forested wetland, or naturally vegetated buffer zone.
 - Provides a nest site, a buffer for a nest site or feeding habitat for wading birds including but not limited to: great blue heron, black-crowned night heron, green-backed heron, cattle egret, or snowy egret. Good habitats for these species include open water or deep marsh adjacent to forested wetlands, or standing dead trees.
 - Supports or has the habitat to support one or more breeding pairs of any migratory bird that requires wetland habitat for breeding, nesting, rearing of young, feeding, staging roosting, or migration, including: Virginia rail, common snipe, marsh wren, American bittern, northern water thrush, northern harrier, spruce grouse, Cerulean warbler, and common loon.
 - Supports winter habitat for white-tailed deer. Good habitats for this species include softwood swamps. Evidence of use includes browsing, bark stripping, worn trails, or pellet piles.
 - Provides important feeding habitat for black bear, bobcat, or moose based on an assessment of use. Good habitat for these types of species includes wetlands located in a forested mosaic.
 - Has the habitat to support muskrat, otter, or mink. Good habitats for these species include deep marshes, wetlands adjacent to bodies of water including lakes, ponds, rivers, and streams.
 - Supports an active beaver dam, one or more lodges, or evidence of use in two or more consecutive years by an adult beaver population.
 - Provides the following habitats that support the reproduction of uncommon Vermont amphibian species including:
 - Wood frog, Jefferson salamander, blue-spotted salamander, or spotted salamander. Breeding habitat for these species includes vernal pools and small ponds.
 - Northern dusky salamander and the spring salamander. Habitat for these species includes headwater seeps, springs, and streams.
 - The four-toed salamander, Fowler's toad, western or boreal chorus frog, or other amphibians, found in Vermont of similar significance.
 - Supports or has the habitat to support populations of Vermont amphibian species including, but not limited to, pickerel frog, northern leopard frog, mink frog, and others found in Vermont of similar significance. Good habitat for these types of species include large marsh systems with open water components.
 - Supports or has the habitat to support populations of uncommon Vermont reptile species including: wood turtle, northern map turtle, eastern musk turtle, spotted turtle, spiny softshell, eastern ribbonsnake, northern watersnake, and others found in Vermont of similar significance.
 - Supports or has the habitat to support significant populations of Vermont reptile species, including smooth greensnake, DeKay's brownsnake, or other more common wetland-associated species.
 - Meets four or more of the following conditions indicative of wildlife habitat diversity:
 - Three or more wetland vegetation classes (greater than 1/2 acre) present including but not

Wildlife Habitat Continued...

limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog.

- The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp.
- Located adjacent to a lake, pond, river or stream.
- Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land.
- Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water.
- One of the following:
 - Hydrologically connected to other wetlands of different dominant classes or open water within 1 mile.
 - Hydrologically connected to other wetlands of same dominant class within 1/2 mile.
 - Within 1/4 mile of other wetlands of different dominant classes or open water, but not hydrologically connected.

Wetland or wetland complex is owned in whole or in part by state or federal government and managed for wildlife and habitat conservation.

Contains evidence that it is used by wetland dependent wildlife species

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.

Check box if any of the following conditions apply that may indicate the wetland provides this function at a lower level.

The wetland is small in size for its type and does not represent fugitive habitat in developed areas (vernal pools and seeps are generally small in size, so this does not apply).

The surrounding land use is densely developed enough to limit use by wildlife species (with the exception of wetlands with open water habitat). Can be negated by evidence of use.

The current use in the wetland results in frequent cutting, mowing or other disturbance.

The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species.

Check box if any of the following conditions apply that may indicate the wetland provides this function at a higher level.

The wetland is large in size and high in quality.

The habitat has the potential to support several species based on the assessment above.

Wetland is associated with an important wildlife corridor.

The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist.

10.1. Subject Wetland Contribution to Wildlife Habitat Functions:

Explain how the subject wetland contributes to the function listed above.

The subject wetland provides a small amount of wildlife habitat and supports plant species that provide food and browse.

10.2. Statement of No Undue Adverse Impact to Wildlife Habitat:

Explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance, minimization, or compensation measures relevant to this function.

The proposed project will not result in any undue, adverse impact to this function because no wetland impact is proposed. Although the access drive to the end of the culvert will bring human activity closer to the edge of the wetland, it will only rarely be used.

11. Exemplary Wetland Natural Community

Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

Wetlands that are identified as high quality examples of Vermont’s natural community types recognized by the Natural Heritage Information Project of the Vermont Fish and Wildlife Department, including rare types such as dwarf shrub bogs, rich fens, alpine peatlands, red maple-black gum swamps and the more common types including deep bulrush marshes, cattail marshes, northern white cedar swamps, spruce-fir-tamarack swamps, and red maple-black ash seepage swamps are automatically significant for this function

The wetland is also likely to be significant if any of the following conditions are met:

Is an example of a wetland natural community type that has been identified and mapped by, or meets the ranking and mapping standards of, the Natural Heritage Information Project of the Vermont Fish and Wildlife Department.

Contains ecological features that contribute to Vermont’s natural heritage, including, but not limited to:

- Deep peat accumulation reflecting a long history of wetland formation;
- Forested wetlands displaying very old trees and other old growth characteristics;
- A wetland natural community that is at the edge of the normal range for that type;
- A wetland mosaic containing examples of several to many wetland community types; or
- A large wetland complex containing examples of several wetland community types.

List species or communities of concern:

11.1. Subject Wetland Proximity to Exemplary Natural Communities

The subject wetland does not provide this function.

11.2. Statement of No Undue Adverse Impact to Exemplary Wetland Natural Community:

Explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance, minimization, or compensation measures relevant to this function.

The subject wetland does not provide this function.

12. Rare, Threatened, and Endangered Species Habitat:

Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

- Wetlands that contain one or more species on the federal or state threatened or endangered lists, as well as species that are rare in Vermont, are automatically significant for this function.

The wetland is also likely to be significant if any of the following apply:

- There is credible documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists;
- There is credible documentation that threatened or endangered species have been present in past 10 years;
- There is credible documentation that the wetland provides important habitat for any species listed as rare in Vermont (S1 or S2 ranks), state historic (SH rank), or rare to uncommon globally (G1, G2, or G3 ranks) by the Natural Heritage Information Project of the Vermont Fish and Wildlife Department;
- There is credible documentation that the wetland provides habitat for multiple uncommon species of plants or animals (S3 rank).

List name of species and ranking:

12.1. Subject Wetland Contribution to RTE Habitat:

Explain how the subject wetland contributes to the function listed above.

The subject wetland does not provide this function.

12.2 Statement of No Undue Adverse Impact to Rare, Threatened, or Endangered Species Habitat:

Explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance, minimization, or compensation measures relevant to this function.

The subject wetland does not provide this function.

13. Education and Research in Natural Sciences:

- Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.
 - Owned by or leased to a public entity dedicated to education or research.
 - History of use for education or research.
 - Has one or more characteristics making it valuable for education or research.

13.1. Subject Wetland Education and Research Potential:
Explain how the subject wetland contributes to the function listed above.

The subject wetland does not provide this function.

13.2 Statement of No Undue Adverse Impact to Education and Research in Natural Sciences:
Explain how the proposed project will not result in any undue, adverse impact to this value. Include any avoidance, minimization, or compensation measures relevant to this value.

The subject wetland does not provide this function.

14. Recreational Value and Economic Benefits:

- Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.
 - Used for, or contributes to, recreational activities.
 - Provides economic benefits.
 - Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law.
 - Used for harvesting of wild foods.

Comments:

14.1. Subject Wetland Recreational and Economic Value:
Explain how the subject wetland contributes to the value listed above.

The subject wetland does not provide this function.

14.2. Statement of No Undue Adverse Impact to Recreational Value and Economic Benefits:
Explain how the proposed project will not result in any undue, adverse impact to this value. Include any avoidance, minimization, or compensation measures relevant to this value.

The subject wetland does not provide this function.

15. Open Space and Aesthetics:

Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

- Can be readily observed by the public; and
 - Possesses special or unique aesthetic qualities; or
 - Has prominence as a distinct feature in the surrounding landscape;
- Has been identified as important open space in a municipal, regional or state plan.

Comments:

15.1. Subject Wetland Aesthetic Value:
Explain how the subject wetland contributes to the value listed above.

The subject wetland does not provide this function.

15.2. Statement of No Undue Adverse Impact to Open Space and Aesthetics:
Explain how the proposed project will not result in any undue, adverse impact to this value. Include any avoidance, minimization, or compensation measures relevant to this value.

The subject wetland does not provide this function.

16. Erosion Control Through Binding and Stabilizing

Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

- Erosive forces such as wave or current energy are present and any of the following are present as well:
 - Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force.
 - Good interspersions of persistent emergent vegetation and water along course of water flow.
 - Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control.

What type of erosive forces are present?

- Lake fetch and waves
- High current velocities:
- Water level influenced by upstream impoundment

Erosion Control Through Binding and Stabilization Continued...

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.

Check box if any of the following conditions apply that may indicate the wetland provides this function at a **lower** level.

The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force.

Check box if any of the following conditions apply that may indicate the wetland provides this function at a **higher** level.

The stream contains high sinuosity.

Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor.

16.1. Subject Wetland Contribution to Erosion Control:

Explain how the subject wetland contributes to the function listed above.

Herbaceous and woody vegetation stabilize soil in and along the intermittent stream.

16.2. Statement of No Undue Adverse Impact to Erosion Control:

Explain how the proposed project will not result in any undue, adverse impact to this function. include any avoidance, minimization, or compensation measures relevant to this function.

The proposed project will not result in any undue, adverse impact to this function because no wetland impact is proposed.

17. Project Description:

17.1. Overall Project Purpose:

Description of the basic project and why it is needed. Partial projects with no clear purpose will not be accepted.

For example: six-lot residential subdivision; expansion of an existing commercial building, building a single family residence.

The purpose of the project is to provide an access drive along, and to the end of, the overflow pipe from the existing stormwater system to allow for maintenance.

17.2. Description of Project Component Impacting Wetland or Buffer:

Explain in general terms which portions of the project will impact wetlands or buffer zones.

For example: Cross the wetland with a driveway to construct a residential subdivision, upgrade existing road through buffer to improve access, extend a trail system.

The access drive will impact wetland buffer. No wetland impact is proposed.

17.3. Acreage of Parcel(s) or Easements(s): <i>Acreage of subject property.</i>	<input type="checkbox"/>
28.9 acres	
17.4. Acreage of Project Area: <i>Acreage of area involved in the project.</i>	<input type="checkbox"/>
1.9 acres	

18. Project Details:
Provide details regarding specific impacts to the wetland and buffer zone.

For multiple wetlands fill out the multiple wetland table.

18.1. Specific Impacts to Wetland and Buffer Zone Dimensions: <i>List portions of the project that will specifically impact the wetland or buffer zone and their dimensions. For example: driveway crossing with 16' wide fill; installation of buried sewer force main with 5' trench including fill footprint; addition of Stormwater outfall which directs flow to northern portion of wetland</i>	<input type="checkbox"/>
--	--------------------------

A 12-ft wide gravel access drive with 4-ft clear zone on either side will impact the wetland buffer. No wetland impacts are proposed.

18.2. Bridges and Culverts: <i>Culvert circumference, length, placement and shapes, or bridge details. List any stream alteration permits that are required or obtained where perennial streams or rivers are involved.</i>	<input type="checkbox"/>
---	--------------------------

No bridges or culverts are proposed.

18.3. Construction Sequence: <i>Describe any details pertaining to the work planned in the wetland and buffer in terms of sequence or phasing that is relevant. Describe the construction limits of disturbance, how those will be marked, and check to ensure these are shown on the site plans as well.</i>	<input type="checkbox"/>
---	--------------------------

Prior to the beginning of construction, erosion control fencing will be installed along the limits of disturbance. After access drive installation is complete, disturbed soil will be seeded and mulched. Erosion control practices will be removed when vegetation has stabilized soil.

18.4. Stormwater Design** <i>List any stormwater permits obtained or applied for. Describe stormwater and/or erosion controls proposed. ** Erosion prevention is required in order to prevent sediment from entering the wetland.</i>	<input type="checkbox"/>
--	--------------------------

The project is currently subject to Stormwater Permit 1-1272. The project is being undertaken as part of the Town of Williston's Flow Restoration Plan for Allen Brook. After completion of the proposed project, the neighborhood's stormwater management system will be under the control of the Town of Williston. The project is subject to Construction General Permit authorization 3462-9020.

18.5. Permanent Demarcation of Limit of Impacts** <i>Describe any boulders, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses. **Permanent demarcations are required for projects with ongoing activities in or near wetlands or buffer zones such as houses, yards, woody clearing or parking areas, and needs to be depicted on the site plans.</i>	<input type="checkbox"/>
---	--------------------------

The access drive itself will serve as demarcation of the limits of disturbance.

19. Wetland and Buffer Zone Impacts:

For multiple wetlands provide narrative overview for each section below, and fill out the Multiple Wetland Tables

19.1. Wetland Impacts:

*Summarize the square footage of impact in the appropriate category. Add After-the-Fact impacts here too. **Round to the nearest square foot***

Permanent Wetland Fill	0 s.f.
Temporary Wetland Impact	0 s.f.
Other Permanent Wetland Impact <i>(this number includes clearing of woody vegetation, dredging, and does not include fill)</i>	0 s.f.
Total Wetland Impact:	0 s.f.

Describe in detail the proposed impact to wetlands

For example: Fill for road crossing, temporary impacts for trench and fill related to utility installation.

General narrative required here even for projects with multiple wetlands and impacts

19.2. Buffer Zone Impacts:

Summarize the square footage of impact in the appropriate category.

Temporary Buffer Impact	0 s.f.
Permanent Buffer Impact	2090 s.f.
Total Buffer Impact:	2090 s.f.

Describe in detail the proposed impact to buffer zones

For example: Addition of fill along roadway embankment extending into buffer zone.

General narrative required here even for projects with multiple wetlands and impacts.

Within the buffer zone, the project will provide an access drive along, and to the end of, the overflow pipe from the existing stormwater system to allow for maintenance.

19.3. Cumulative Impacts:

List any potential cumulative or ongoing, direct and indirect impacts on the functions of the wetland.

For example: Increased noise from parking lot, vegetation management, inputs from stormwater pond outlet, reduction in flood storage volume from the addition of fill from the project.

Ongoing impacts include occasional mowing of the access drive corridor (vegetated topsoil will cover the gravel) and very infrequent access by equipment to maintain the pipe and outfall.

20. Mitigation Sequence:
<i>Before you begin, please read all of Section 20 to respond most appropriately to specific questions. Questions specifically related to Section 9.5b of the Vermont Wetland Rules.</i>
20.1. Avoidance of Wetland Impacts: <input type="checkbox"/>
<p style="text-align: center;">20.1.1. Can the activity be located on another site owned or controlled by the applicant, or reasonably available to satisfy the basic project purpose? If not, indicate why. Cite any alternative sites and explain why they were not chosen.</p> <p>The proposed impact cannot be located elsewhere because it must be in close proximity to the existing pipe.</p>
<p style="text-align: center;">20.1.2. Can the proposed activity be practicably located outside the wetland/buffer zone? If not, indicate why. Explain the alternatives you have explored for avoiding the wetland and buffer onsite, And why they are not feasible.</p> <p>The proposed activity cannot be located outside the buffer zone because the outfall and much of the pipe is located in the buffer.</p>
20.2. Avoidance to the Impact to Functions and Values: <input type="checkbox"/>
<p style="text-align: center;">20.2.1. If the proposed activity cannot be practicably located outside the wetland/buffer zone, have all practicable measures been taken to avoid adverse impacts on protected functions? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p style="text-align: center;">20.2.2. What design alternatives were examined to avoid impacts to wetland function? <i>For example: Use of matting, relocation of footprint, etc.</i></p> <p>A standard gravel drive was originally envisioned for the project. To maximize permeability and vegetative cover, a design using gravel covered with vegetated topsoil was developed.</p>
<p style="text-align: center;">20.2.3. What steps have been taken to minimize the size and scope of the project to avoid impacts to wetland functions and values? Include information on project size reduction and relocation.</p> <p>The most direct route to the end of the stormwater pipe was used. By using the route of the existing culvert, future repair or replacement of the existing pipe will be limited to the drive corridor.</p>
<p style="text-align: center;">20.2.4. Explain how the proposed project represents the least impact alternative design. Explain why other alternatives, which you described above, were not chosen.</p> <p>The proposed project will use a vegetated access drive to minimize stormwater runoff and maintain vegetative cover over the footprint of the project.</p>
20.3. Minimization and Restoration: <input type="checkbox"/>
<p style="text-align: center;">20.3.1. If avoidance of adverse effects on protected functions cannot be practically achieved, has the proposed activity been planned to minimize adverse impacts on the protected function? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p style="text-align: center;">20.3.2. What measures will be used during construction and on an ongoing basis to protect th wetland and buffer zone? <i>For example: Stormwater treatment, signs, fencing, etc.</i></p> <p>Erosion control fencing and other practices will be used to prevent introducing sediment into the wetland. The drive and corridor will be maintained with vegetated cover.</p>

Minimization and Restoration Continued...

20.3.3. Has a plan been developed for the prompt restoration of any adverse impacts on protected functions? Yes No N/A

Restoration Narrative:

For example: Planting along the stream.

Quantification of Restoration:

Wetland Area (sqft)	Buffer Area (sqft)	Functions/Value s Addressed

20.4. Compensation:

*Please refer to Section 9.5c of the Vermont Wetland Rules for compensation, which is required when the project will result in net adverse impact to wetland function. Not all functions are presumed to be compensable. **All projects requiring compensation need prior consultation with the Vermont Wetlands Program.***

If compensation is proposed please include a summary here. Also list any supporting documents you may have attached to the application including In-Lieu-Fee proposal or detailed compensation plan.

No compensation is proposed.

21. Wetland Determination:

If the application involves a wetland determination please answer the following. For multiple wetlands provide narrative overview for each section below, and fill out the Multiple Wetland Tables.

- Wetland is mapped or contiguous to the Vermont Significant Wetland Inventory Map
- Wetland is not mapped on or contiguous to the Vermont Significant Wetland Inventory Map

21.1. Reason for Petition:

Please choose one from the dropdown menu.

<Choose One>

21.2. Determination Narrative:

Please provide any narrative to support the petition for a wetland determination here, including previous decisions by the Secretary or Water Board.

22. Supporting Materials:

****ADDITIONAL MATERIAL REQUIRED TO CALL APPLICATION COMPLETE**

22.1. **Location Map:

Provide a location map that is 8 1/2" x 11" and separate from any site plans.
The Vermont Natural Resources Atlas is appropriate using USGS topography map base layer, roads, and VSWI wetlands at a minimum.

Date	Title
09-28-2016	Brennan Woods - ANR Atlas

22.2. **Site Plan(s):

List as specified below. Plans must be legible and include wetland delineation and buffer zones, limits of disturbance, erosion controls, building envelopes, and any permanent memorialization.

Title	Author	Date	Date of Last Revision
Stormwater Pond Site Plan	Lamoureux & Dickinson	01-05-16	09-18-16
Erosion Prevention & Sediment Control Plan	Lamoureux & Dickinson	01-05-16	
Stormwater Pond X-Sections, Details and Specs	Lamoureux & Dickinson	01-05-16	09-19-16
Details & Specifications, DPW Standards	Lamoureux & Dickinson	01-05-16	

22.3. **U.S. Army Corps of Engineer Wetland Delineation Forms:

List attachment names, dates data was collected, cover types sampled, and number of paired plots included

Attachment #/Title	Range of Collection Dates	Vegetation Cover Types	# of Paired Plots
1A	9-27-2016	Shrub	1
1A	9-27-2016	Shrub/meadow	1

22.4. Other Supporting Documents:

Provide any other documentation that supports the application.
Examples include but are not limited to: Photographs, easements, agreements, restoration/plan, GIS shapefiles, additional ACOE forms.

Date	Last Revision	Author	Title
9-27-16		L&D	Photos of the Project Site

23. Abutting Landowners

Please provide abutting landowner information so that all persons owning property within, or adjacent to, the affected wetland area of buffer zone can be notified during the public notice period. **Please use additional sheets if necessary.**

23.1. Abutting Land Owner Information: Please list as first names first followed by last name

1. Name: Street/Road: City/State/Zip:	Town of Williston 7900 Williston Road Williston, VT 05495	16. Name: Street/Road: City/State/Zip:	
2. Name: Street/Road: City/State/Zip:	The Snyder Taft Corners, LLC 4076 Shelburne Road, Suite 6 Shelburne, VT 05482	17. Name: Street/Road: City/State/Zip:	
3. Name: Street/Road: City/State/Zip:	Beth E. Cook Revocable Trust 182 Barrett Lane Williston, VT 05495	18. Name: Street/Road: City/State/Zip:	
4. Name: Street/Road: City/State/Zip:	Chadwick & Tamara Smith 175 Barrett Lane Williston VT 05495	19. Name: Street/Road: City/State/Zip:	
5. Name: Street/Road: City/State/Zip:	Jonathan & Wendy Ruggles 253 Barrett Lane Williston, VT 05495	20. Name: Street/Road: City/State/Zip:	
6. Name: Street/Road: City/State/Zip:	Michael & Carol Albertelli 246 Barrett Lane Williston, VT 05495	21. Name: Street/Road: City/State/Zip:	
7. Name: Street/Road: City/State/Zip:		22. Name: Street/Road: City/State/Zip:	
8. Name: Street/Road: City/State/Zip:		23. Name: Street/Road: City/State/Zip:	
9. Name: Street/Road: City/State/Zip:		24. Name: Street/Road: City/State/Zip:	
10. Name: Street/Road: City/State/Zip:		25. Name: Street/Road: City/State/Zip:	
11. Name: Street/Road: City/State/Zip:		26. Name: Street/Road: City/State/Zip:	
12. Name: Street/Road: City/State/Zip:		27. Name: Street/Road: City/State/Zip:	
13. Name: Street/Road: City/State/Zip:		28. Name: Street/Road: City/State/Zip:	
14. Name: Street/Road: City/State/Zip:		29. Name: Street/Road: City/State/Zip:	
15. Name: Street/Road: City/State/Zip:		30. Name: Street/Road: City/State/Zip:	

24. Modified Distribution (Newspaper Notification): In situations where there is an application within a large wetland or buffer zone that has a large number of landowners, applicants can choose to limit the distribution list with a supplemental newspaper notification. At a minimum the applicant must 1) provide notice to immediate abutters, 2) provide notice to all persons owning property containing the wetland or buffer within 500 ft. of the project area, and 3) shall have the VWP publish notice of the application in a local newspaper generally circulating in the area where the wetland is located. *****The applicant will be billed directly by the newspaper listed. Use of newspaper notification may extend the notice period, depending on when the notice posts in the newspaper*****

Name of Newspaper(s)
Williston Observer



LEGEND

- Wetlands - VSWI
 - Class 1 Wetland
 - Class 2 Wetland
- Parcels (where available)
- Town Boundary

1: 6,745
September 28, 2016

NOTES

Map created using ANR's Natural Resources Atlas

343.0 0 172.00 343.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere
© Vermont Agency of Natural Resources

1" = 562 Ft. 1cm = 67 Meters
THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

Photos of the Project Site (page 1 of 2)



Photo 1. Outfall of existing culvert from stormwater basin (September 27, 2016)



Photo 2. Intermittent stream below the culvert outfall (December 16, 2015)

Photos of the Project Site (page 2 of 2)



Photo 3. Dry intermittent streambed above the culvert outfall. (September 27, 2016)



Photo 4. View along the route of the proposed access drive. (September 27, 2016)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Brennan Woods City/County: Williston/Chittenden Sampling Date: 9-27-2016
 Applicant/Owner: Brennan Woods HOA State: VT Sampling Point: 1A
 Investigator(s): Brian Tremback Section, Township, Range: ---
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave/linear
 Slope (%): 10 Lat: 44.454847° Long: -73.101692° Datum: NAD 83
 Soil Map Unit Name: Scantic silt loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Near end of existing culvert	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>> 20</u> Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>> 20</u>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1A

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status			
1. _____	_____	_____	_____			
2. _____	_____	_____	_____			
3. _____	_____	_____	_____			
4. _____	_____	_____	_____			
5. _____	_____	_____	_____			
6. _____	_____	_____	_____			
7. _____	_____	_____	_____			
	<u>0</u>	= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)						
1. <u><i>Alnus incana</i></u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACW</u>			
2. <u><i>Lonicera tatarica</i></u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>			
3. <u><i>Rubus occidentalis</i></u>	<u>5</u>		<u>UPL</u>			
4. _____	_____	_____	_____			
5. _____	_____	_____	_____			
6. _____	_____	_____	_____			
7. _____	_____	_____	_____			
	<u>105</u>	= Total Cover				
Herb Stratum (Plot size: <u>5 ft radius</u>)						
1. <u><i>Solidago altissima</i></u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>			
2. <u><i>Solidago canadensis</i></u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>			
3. <u><i>Impatiens capensis</i></u>	<u>10</u>		<u>FACW</u>			
4. <u><i>Clematis virginiana</i></u>	<u>5</u>		<u>FAC</u>			
5. _____	_____	_____	_____			
6. _____	_____	_____	_____			
7. _____	_____	_____	_____			
8. _____	_____	_____	_____			
9. _____	_____	_____	_____			
10. _____	_____	_____	_____			
11. _____	_____	_____	_____			
12. _____	_____	_____	_____			
	<u>95</u>	= Total Cover				
Woody Vine Stratum (Plot size: _____)						
1. _____	_____	_____	_____			
2. _____	_____	_____	_____			
3. _____	_____	_____	_____			
4. _____	_____	_____	_____			
	<u>0</u>	= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>4</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)</p> <hr/> <p>Prevalence Index worksheet:</p> <p>Total % Cover of: _____ Multiply by: _____</p> <p>OBL species _____ x 1 = _____</p> <p>FACW species _____ x 2 = _____</p> <p>FAC species _____ x 3 = _____</p> <p>FACU species _____ x 4 = _____</p> <p>UPL species _____ x 5 = _____</p> <p>Column Totals: <u>0</u> (A) <u>0</u> (B)</p> <p>Prevalence Index = B/A = _____</p> <hr/> <p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> Dominance Test is >50%</p> <p><input type="checkbox"/> Prevalence Index is ≤3.0¹</p> <p><input type="checkbox"/> Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p>Definitions of Vegetation Strata:</p> <p>Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.</p> <p>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines – All woody vines greater than 3.28 ft in height.</p> <hr/> <p>Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>		

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Brennan Woods City/County: Williston/Chittenden Sampling Date: 9-27-2016
 Applicant/Owner: Brennan Woods HOA State: VT Sampling Point: 1B
 Investigator(s): Brian Tremback Section, Township, Range: ---
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave/linear
 Slope (%): 2 Lat: 44.454847° Long: -73.101692° Datum: NAD 83
 Soil Map Unit Name: Scantic silt loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Near end of existing culvert	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>> 18</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>> 18</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

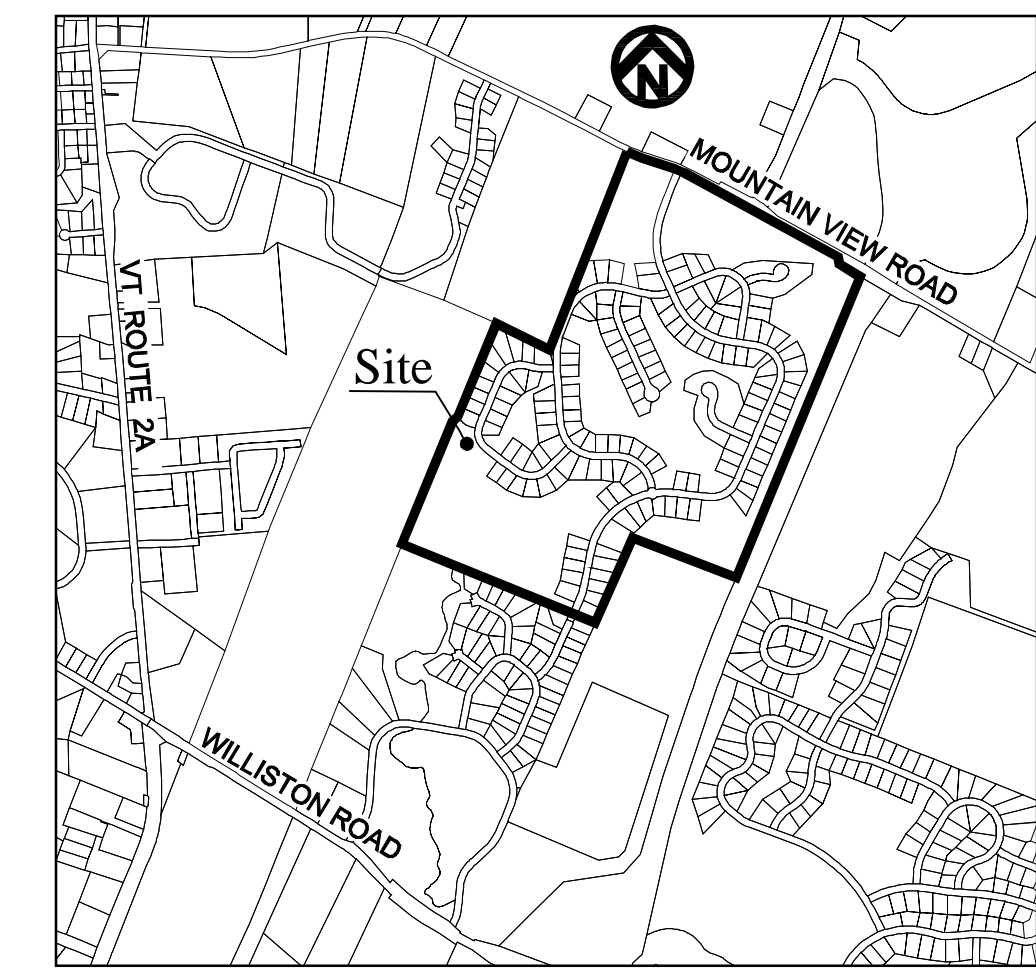
VEGETATION – Use scientific names of plants.

Sampling Point: 1B

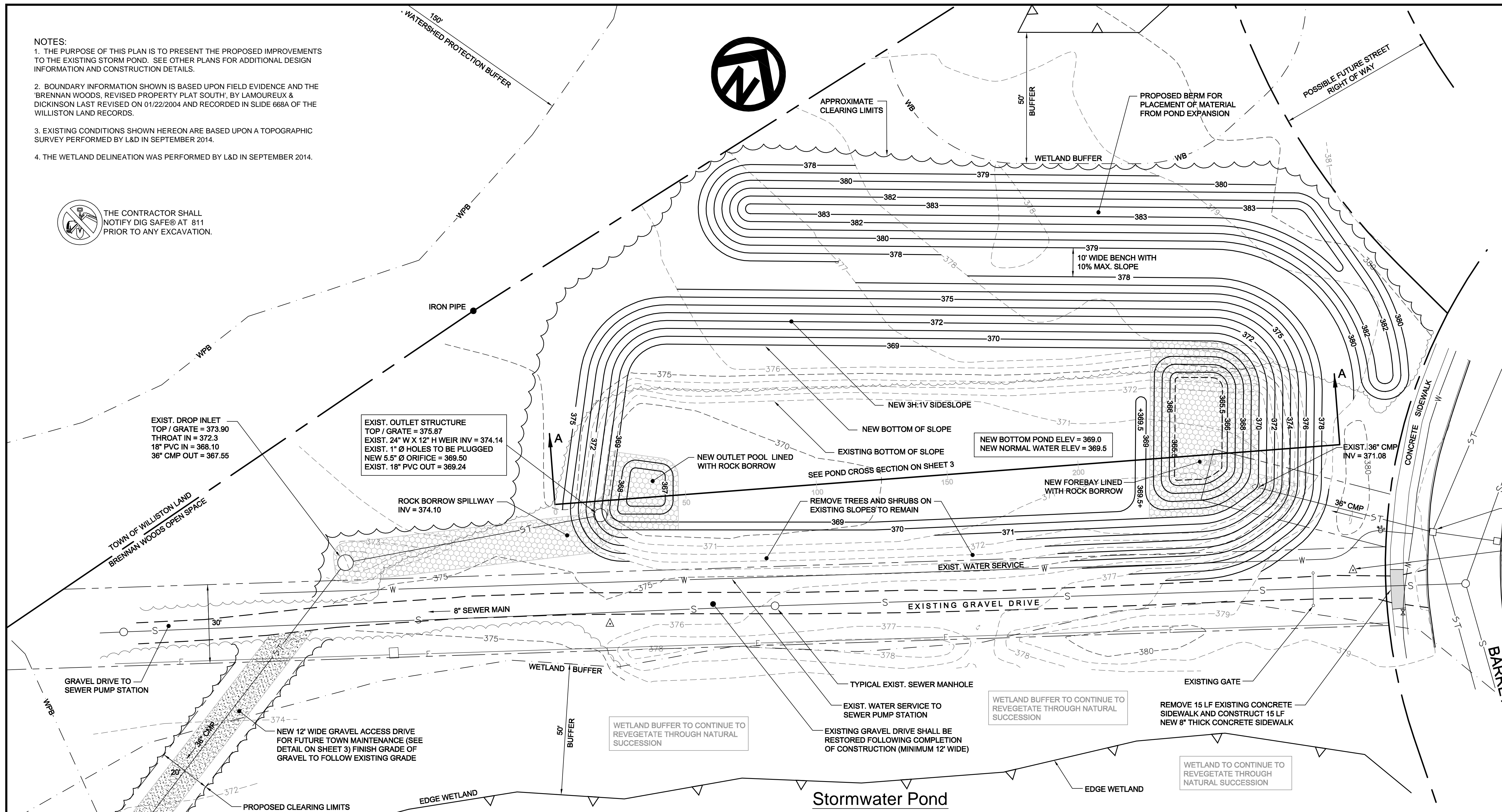
Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>30' radius</u>)				
1. <u>Alnus incana</u>	<u>90</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Betula populifolia</u>	<u>10</u>		<u>FAC</u>	
3. <u>Salix nigra</u>	<u>10</u>		<u>FACW</u>	
4. <u>Ulmus americana</u>	<u>10</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>120</u> = Total Cover				
Herb Stratum (Plot size: <u>10 ft radius</u>)				
1. <u>Impatiens capensis</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Onoclea sensibilis</u>	<u>10</u>		<u>FACW</u>	
3. <u>Eutrochium maculatum</u>	<u>5</u>		<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' radius</u>)				
1. <u>Vitis riparia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) 				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

- NOTES:
1. THE PURPOSE OF THIS PLAN IS TO PRESENT THE PROPOSED IMPROVEMENTS TO THE EXISTING STORM POND. SEE OTHER PLANS FOR ADDITIONAL DESIGN INFORMATION AND CONSTRUCTION DETAILS.
 2. BOUNDARY INFORMATION SHOWN IS BASED UPON FIELD EVIDENCE AND THE 'BRENNAN WOODS, REVISED PROPERTY PLAT SOUTH', BY LAMOUREUX & DICKINSON LAST REVISED ON 01/22/2004 AND RECORDED IN SLIDE 668A OF THE WILLISTON LAND RECORDS.
 3. EXISTING CONDITIONS SHOWN HEREON ARE BASED UPON A TOPOGRAPHIC SURVEY PERFORMED BY L&D IN SEPTEMBER 2014.
 4. THE WETLAND DELINEATION WAS PERFORMED BY L&D IN SEPTEMBER 2014.

THE CONTRACTOR SHALL NOTIFY DIG SAFE® AT 811 PRIOR TO ANY EXCAVATION.



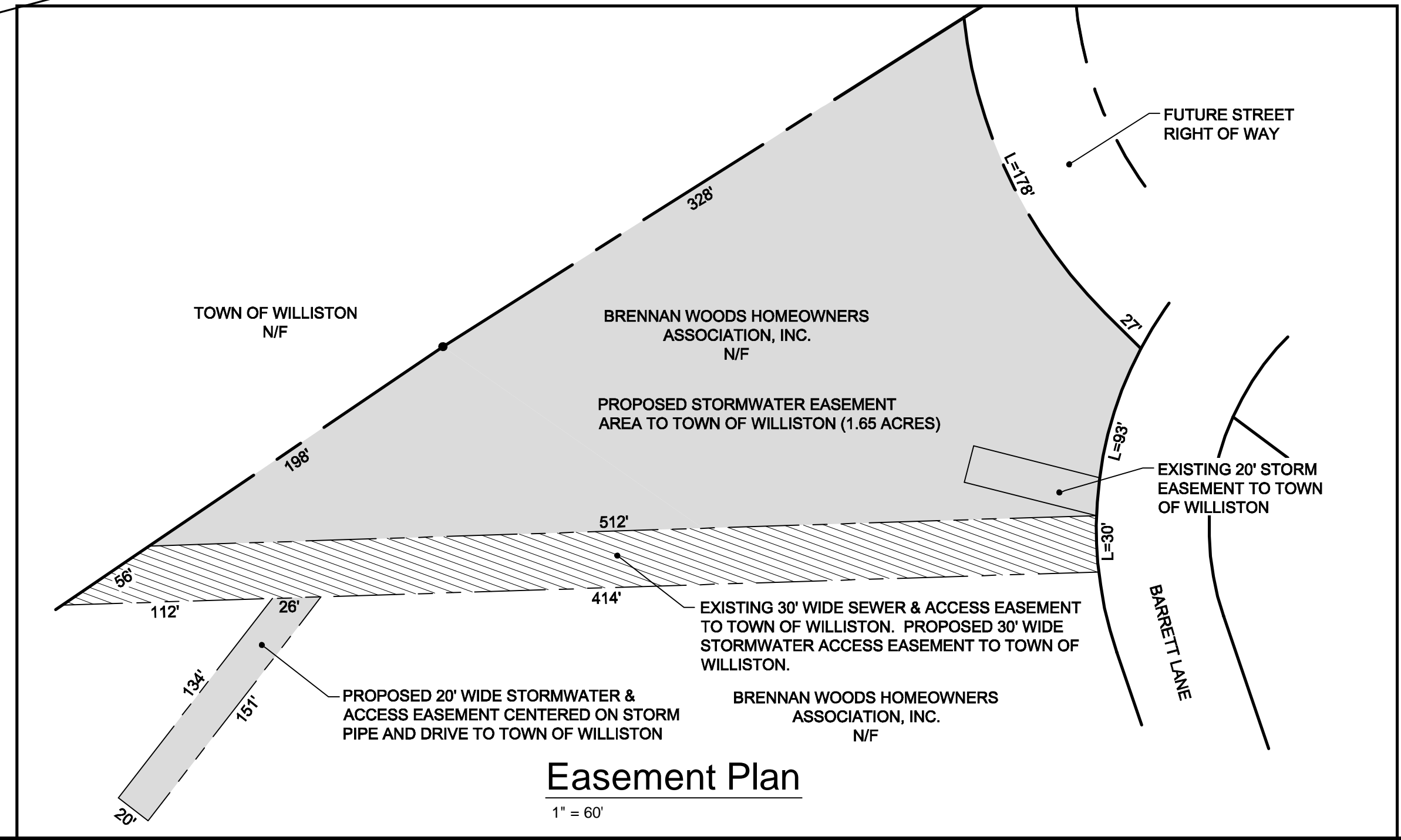
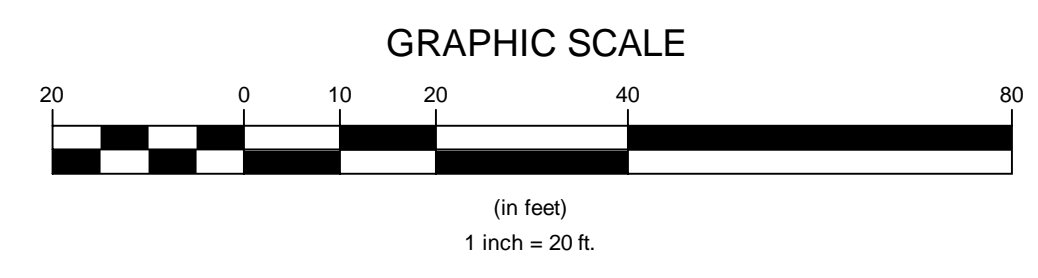
Vicinity Map
NOT TO SCALE



WETLAND VEGETATION PRESERVATION NOTE:
THE CLASS 2 WETLAND AND WETLAND BUFFER SOUTH OF THE EXISTING GRAVEL DRIVE TO THE SEWER PUMP STATION SHALL BE ALLOWED TO CONTINUE TO REVEGETATE THROUGH NATURAL SUCCESSION.

SHEET INDEX	
SHEET	TITLE
1	STORMWATER POND SITE PLAN
2	EROSION PREVENTION & SEDIMENT CONTROL PLAN
3	STORMWATER POND CROSS SECTION, TYPICAL DETAILS & SPECIFICATIONS
4	DETAILS & SPECIFICATIONS, DPW STANDARDS

Legend	
	PROPERTY CORNER FOUND
	SURVEY CONTROL POINT
	WATERSHED PROTECTION BUFFER
	WETLAND BUFFER
	WETLAND BOUNDARY
	FINISH GRADE CONTOUR
	EXISTING GROUND CONTOUR
	EXISTING STORMWATER PIPE & CATCH BASIN
	PROPERTY BOUNDARY
	EXISTING WATER LINE
	EXISTING WATER LINE
	PROPOSED NEW EDGE OF WOODS
	EXISTING EDGE OF WOODS



TAX PARCEL # COM.046 DP#

09-18-16	ADD WETLAND & BUFFER REVEGETATION NOTES	ABR
Date	Revision	By

These plans shall only be used for the purpose shown below:

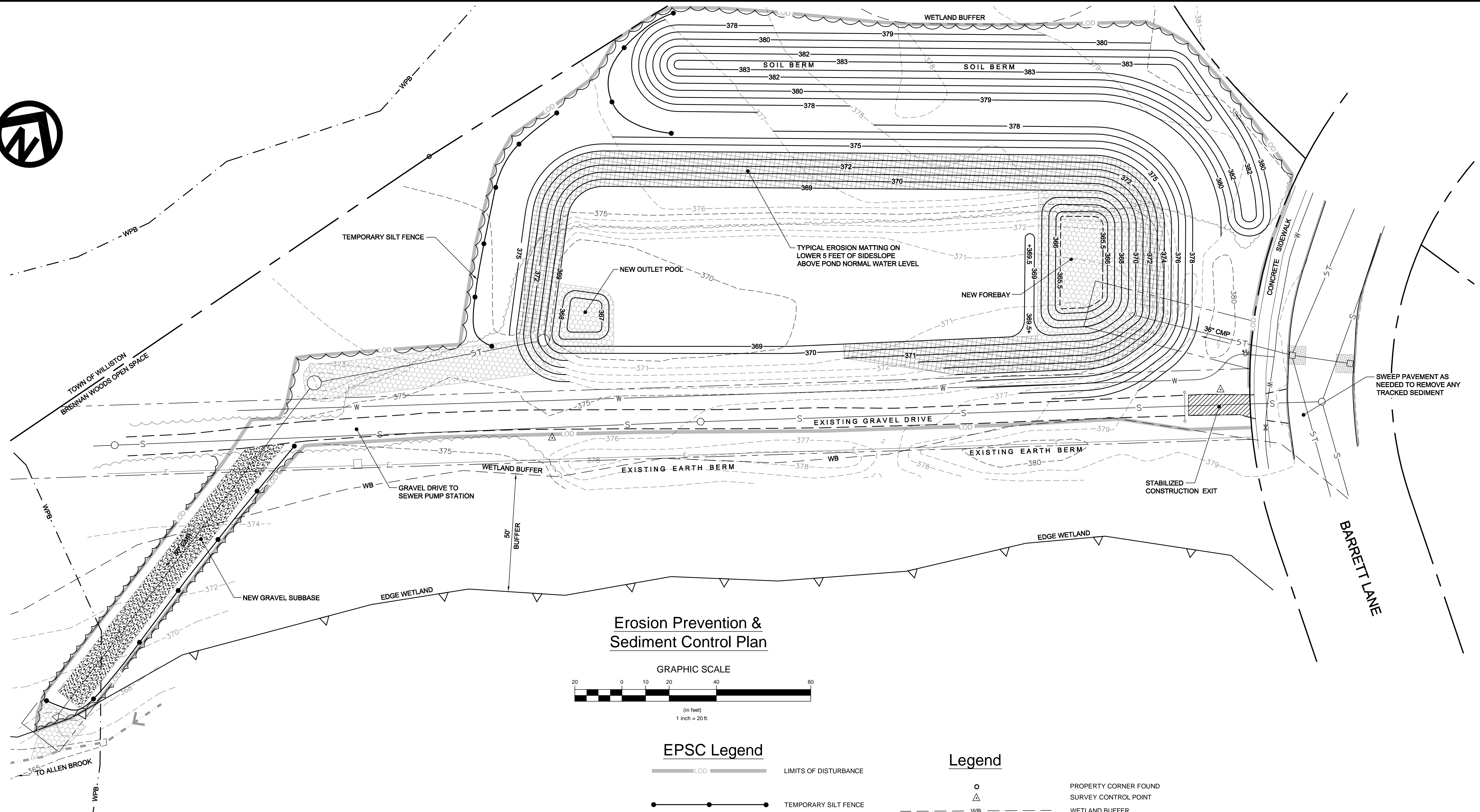
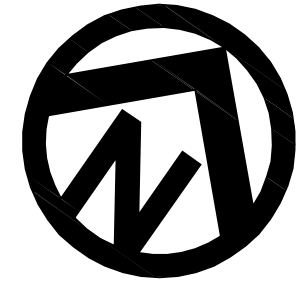
<input type="checkbox"/> Sketch/Concept	<input type="checkbox"/> Act 250 Review
<input type="checkbox"/> Preliminary	<input type="checkbox"/> Construction
<input checked="" type="checkbox"/> Final Local Review	<input type="checkbox"/> Record Drawing

Brennan Woods Neighborhood Stormwater Improvement Project
Barrett Lane Williston VT

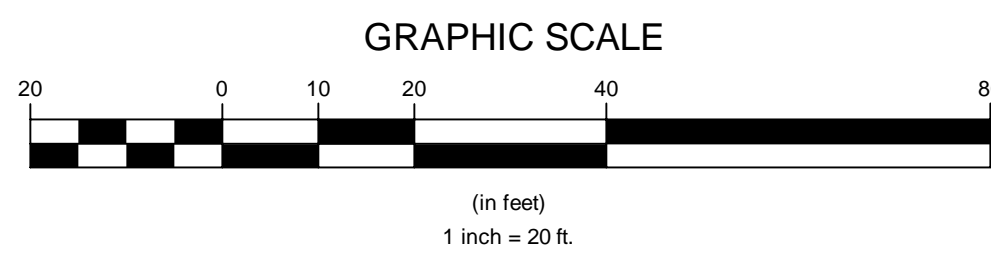
Stormwater Pond Site Plan

Project No. 98061C
Survey L&D
Design AR
Drawn L&D
Checked DG
Date 01-05-16
Scale 1" = 20'
Sheet number 1

Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDEngineering.com



Erosion Prevention & Sediment Control Plan



EPSC Legend

- LIMITS OF DISTURBANCE
- TEMPORARY SILT FENCE
- INLET PROTECTION
- EROSION MATTING
- ROCK BORROW
- STABILIZED CONSTRUCTION EXIT
- GRAVEL SUBBASE

Legend

- PROPERTY CORNER FOUND
- SURVEY CONTROL POINT
- PROPERTY BOUNDARY
- WETLAND BUFFER
- WETLAND BOUNDARY
- FINISH GRADE CONTOUR
- EXISTING GROUND CONTOUR
- EXISTING STORMWATER PIPE & CATCH BASIN
- PROPERTY BOUNDARY
- EXISTING WATER LINE
- EXISTING WATER LINE
- PROPOSED NEW EDGE OF WOODS
- EXISTING EDGE OF WOODS
- WATERSHED PROTECTION BUFFER

EROSION PREVENTION AND SEDIMENT CONTROL PERMIT REQUIREMENTS

PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL OBTAIN CO-PERMITTEE COVERAGE UNDER GENERAL PERMIT 3-9020 WHICH REGULATES STORMWATER RUNOFF FROM CONSTRUCTION SITES.

THIS PROJECT QUALIFIES AS HAVING A LOW RISK FOR IMPACTS TO WATER QUALITY, BASED UPON THE FOLLOWING:

- TOTAL CUMULATIVE DISTURBANCE OF LESS THAN 2 ACRES
- A MAXIMUM OF 14 CONSECUTIVE DAYS BEFORE DISTURBED AREAS ARE TEMPORARILY OR PERMANENTLY STABILIZED.

THESE CRITERIA FORM THE BASIS FOR THE LOW RISK DETERMINATION. ANY CHANGES TO THESE CRITERIA REQUIRE THAT THE RISK ANALYSIS BE RE-EVALUATED TO DETERMINE IF THE POTENTIAL RISK TO WATER QUALITY, AND THE RELATED PERMITTING REQUIREMENTS, HAVE CHANGED.

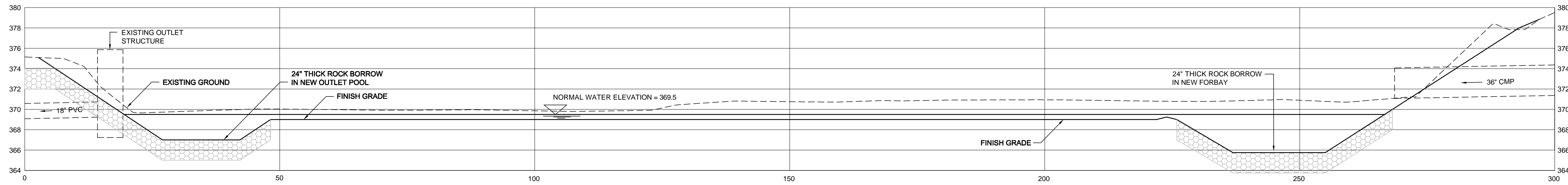
THE CONTRACTOR SHALL REFER TO THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES TO BE IMPLEMENTED ON THE SITE. AT A MINIMUM, THESE SHALL INCLUDE:

- MARKING THE LIMITS OF DISTURBANCE TO LIMIT THE EXTENT OF DISTURBANCE AND PRESERVE EXISTING VEGETATION OUTSIDE THE LIMITS OF CONSTRUCTION
- PRESERVE AND PROTECT EXISTING TREES TO REMAIN
- LIMITING THE DISTURBED AREA TO THAT WHICH IS ACTIVELY BEING WORKED
- TEMPORARY STABILIZATION OF AREAS WHERE WORK IS SUSPENDED
- INSTALLATION OF STABILIZED CONSTRUCTION EXIT(S)
- INLET PROTECTION AT ALL EXISTING CATCHBASINS
- INSTALLATION OF SILT FENCE ALONG THE DOWNSLOPE PERIMETER OF THE DISTURBED AREA AND AROUND SOIL STOCKPILES
- SWEEPING PAVED AREAS TO REMOVE SEDIMENT

- THE AREA OF DISTURBED SOILS AND THE DURATION OF EXPOSURE OF THE DISTURBED SOILS SHALL BE MINIMIZED. TO ACCOMPLISH THIS, WORK EFFORT SHOULD BE FOCUSED ON THE COMPLETION AND STABILIZATION OF ONE TASK BEFORE PROCEEDING TO THE NEXT.
- EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED PRIOR TO AND FOLLOWING PRECIPITATION EVENTS, AND NOT LESS THAN ONCE EVERY SEVEN (7) DAYS. MAINTENANCE AND REPAIRS SHALL BE PROMPTLY COMPLETED.
- TEMPORARY SOIL STOCKPILES SHALL BE MULCHED WITH HAY AND TEMPORARY SILT FENCE INSTALLED AROUND THE DOWNSLOPE PERIMETER OF THE PILES.
- THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES AFTER FINAL STABILIZATION AND PRIOR TO COMPLETION OF THE PROJECT.
- PAYMENT FOR THE DISPOSAL OF UNSUITABLE OR EXCESS MATERIAL AT AN OFFSITE LOCATION INCLUDING TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCIDENTAL TO THE VARIOUS ITEMS REQUIRED FOR COMPLETION OF THE WORK SHOWN ON THE PLANS.
- PAYMENT FOR TEMPORARY STABILIZED BASE IN STAGING OR STORAGE AREAS OR TEMPORARY ACCESS ROADS SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCIDENTAL TO THE VARIOUS ITEMS REQUIRED FOR COMPLETION OF THE WORK SHOWN ON THE PLANS.

Date	Revision	By
These plans shall only be used for the purpose shown below:		
<input type="checkbox"/> Sketch/Concept	<input type="checkbox"/> Act 250 Review	
<input type="checkbox"/> Preliminary	<input type="checkbox"/> Construction	
<input type="checkbox"/> Final Local Review	<input type="checkbox"/> Record Drawing	
Brennan Woods Neighborhood Stormwater Improvement Project Barrett Lane Williston VT		
Erosion Prevention & Sediment Control Plan		
Lamoureux & Dickinson Consulting Engineers, Inc. 14 Morse Drive, Essex, VT 05452 802-878-4450 www.LDengineering.com		Project No. 98061C Survey L&D Design AR Drawn L&D Checked DG Date 01-05-16 Scale 1" = 20' Sheet number 2

TAX PARCEL # COM.046 DP#



STORMWATER POND CROSS SECTION A - A

1" = 10' HOR.
1" = 5' VERT.

GENERAL CONSTRUCTION SPECIFICATIONS

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSIONS OF THE WILLISTON PUBLIC WORKS STANDARD SPECIFICATIONS, THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THESE PLANS.
- THE CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY UNDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY DIG SAFE AND THE TOWN OF WILLISTON PUBLIC WORKS DEPARTMENT PRIOR TO ANY EXCAVATION.
- UTILITIES INFORMATION SHOWN HEREON WAS OBTAINED FROM RECORD DRAWINGS AND FIELD EVIDENCE, AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL CONNECT OR RECONNECT ALL UTILITIES TO THE NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FACILITATE A PRECONSTRUCTION MEETING WITH THE OWNER, ENGINEER, AND THE WILLISTON PUBLIC WORKS DEPARTMENT. THE PROJECT SCHEDULE, INCLUDING CRITICAL MILESTONES SHALL BE PRESENTED. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 24 HOURS NOTICE TO THE OWNER AND ENGINEER PRIOR TO BEGINNING ANY WORK, MODIFYING THE OUTLET STRUCTURE, INSTALLATION OF STONE FILL, INSTALLATION OF GRAVEL SUBBASE, AND PLACEMENT OF TOPSOIL. THE CONTRACTOR SHALL ALSO FACILITATE A FINAL INSPECTION WITH THE OWNER, ENGINEER, AND WILLISTON PUBLIC WORKS DEPARTMENT.
- LAMOUREUX & DICKINSON (L&D) WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT MAY ARISE FROM FAILURE TO FOLLOW THESE PLANS AND SPECIFICATIONS, THE DESIGN INTENT THAT THEY CONVEY, AND ANY CHANGES MADE TO THE PLANS AND/OR SPECIFICATIONS WITHOUT THE PRIOR KNOWLEDGE AND ACCEPTANCE OF L&D.

STORMWATER CONSTRUCTION SPECIFICATIONS

SITE PREPARATION
AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. ALL TREES SHALL BE CLEARED AND GRUBBED TO THE LIMITS SHOWN ON THE PLANS.
SWALE/DITCH SIDESLOPES AND SLOPE BREAKS SHALL BE GRADED TO NO STEEPER THAN 2H:1V.
NO CLEARING OR GRUBBED MATERIAL SHALL BE DISPOSED OF WITHIN THE LIMITS OF THE POND OR THE POND EMBANKMENT.
EARTH FILL
MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED OR DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6 INCHES IN DIAMETER, FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE.
MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.
COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT IS ADEQUATELY AND EVENLY COMPACTED. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 2% OF THE OPTIMUM. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).
STRUCTURE BACKFILL
BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. REFER TO THE TYPICAL PIPE OR CONDUIT CROSS SECTION DETAIL FOR BEDDING REQUIREMENTS. THE MINIMUM REQUIRED DENSITY AND COMPACTION SHALL BE THE SAME AS FOR EARTH FILL.
SEE ALSO REQUIREMENTS FOR ANTI-SEEP COLLARS FOR PIPES WITHIN THE POND EMBANKMENT.

PIPE CONDUITS
ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.
PIPE MATERIALS SHALL BE AS SPECIFIED ON THE PLANS. WHERE EXISTING PIPES ARE TO BE EXTENDED, THE EXTENSION SHALL MATCH THE EXISTING PIPE MATERIAL.
PVC PIPE SHALL BE SDR35 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M294 TYPE 3 OR ASTM F2306.
COUPLING BANDS, FITTINGS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS (WHERE APPLICABLE) AS THE PIPE.
CONNECTIONS - ALL CONNECTIONS BETWEEN PIPES AND STRUCTURES MUST BE COMPLETELY WATERTIGHT. ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS.
CONNECTIONS TO NEW OR EXISTING CORRUGATED PIPES SHALL ONLY BE MADE WITH AN ADEQUATE NUMBER OF ANNULAR CORRUGATIONS TO ACCOMMODATE THE COUPLING BANDWIDTH.

BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT. BACKFILLING SHALL CONFORM TO STRUCTURE BACKFILL REQUIREMENTS.
STONE FILL OR ROCK BORROW
STONE FILL AND ROCK BORROW SHALL MEET THE REQUIREMENTS OF SECTION 703.05 OF THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
GEOTEXTILE SHALL BE PLACED UNDER ALL STONE FILL AND ROCK BORROW, AND SHALL MEET THE REQUIREMENTS OF SECTION 720 OF THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION.

CARE OF WATER DURING CONSTRUCTION
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DICES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED, AND SHALL NOT INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE.
THE REMOVAL OF WATER SHALL BE ACCOMPLISHED IN A MANNER THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTION OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION.
STABILIZATION
ALL DISTURBED AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL DISTURBED AREAS THAT DO NOT HAVE AN IMPERVIOUS OR STONE SURFACE SHALL BE STABILIZED WITH NEW VEGETATIVE COVER.
SEE TURF ESTABLISHMENT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TURF ESTABLISHMENT SPECIFICATIONS

ALL DISTURBED AREAS THAT DO NOT HAVE AN IMPERVIOUS SURFACE (PAVEMENT OR WALKS), STONE FILL/BORROW, OR ARE NOT LANDSCAPED WITH BARK MULCH, SHALL BE STABILIZED NEW GRASS COVER.
ALL SEEDING AND MULCHING FOR ESTABLISHING NEW GRASS COVER SHALL BE COMPLETED AFTER APRIL 15 (AS SITE CONDITIONS ALLOW) AND PRIOR TO SEPTEMBER 15. PLACEMENT OF TOPSOIL, AND THE APPLICATION OF SEED, FERTILIZER, LIME (WHERE APPLICABLE), AND MULCH SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

- A MINIMUM OF 4" OF APPROVED TOPSOIL SHALL BE PLACED IN ALL AREAS. PLACEMENT OF TOPSOIL SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN, EXCESSIVELY WET, OR OTHERWISE IN A CONDITION DETRIMENTAL TO THE WORK. FOLLOWING PLACEMENT OF TOPSOIL, THE SURFACE SHALL BE RAKED. ALL STONES, LUMPS, ROOTS, OR OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED.
- SEED MIXTURE (SEE BELOW) SHALL BE SPREAD UNIFORMLY IN ALL AREAS AT THE SPECIFIED RATE.
- FERTILIZER SHALL BE APPLIED ONLY AFTER PERFORMING A SOIL TEST AND BE APPLIED BASED UPON SOIL DEFICIENCIES. LIME SHALL ONLY BE APPLIED AS NEEDED BASED UPON A SOIL PH TEST.
- MULCHING SHALL IMMEDIATELY FOLLOW THE SEEDING OPERATION. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A MINIMUM RATE OF 2 TONS PER ACRE. SITE CONDITIONS MAY WARRANT THE APPLICATION OF A TACKIFIER OR NETTING TO HOLD THE MULCH IN PLACE. IF NECESSARY TO RETAIN THE MULCH, THE CONTRACTOR SHALL APPLY AN APPROVED TACKIFIER, OR NETTING, WITHOUT ADDITIONAL COST TO THE OWNER.
- HYDROSEEDING MAY BE USED IN LIEU OF SEEDING AND APPLYING HAY MULCH DURING THE GROWING SEASON. HYDROSEEDING SHALL INCLUDE THE APPLICATION OF WOOD AND/OR PAPER BINDER MULCH. THE BINDER SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, BUT SHALL NOT BE LESS THAN 1500 POUNDS PER ACRE ON SLOPES LESS THAN 15%, AND NOT LESS THAN 2000 POUNDS PER ACRE ON SLOPES GREATER THAN 15%. HYDROSEEDING ALONE SHALL NOT BE USED FOR TEMPORARY STABILIZATION AFTER SEPTEMBER 15.
- ALL SLOPES STEEPER THAN 3H:1V SHALL HAVE EROSION MATTING APPLIED OVER THE SEED. ALL DITCH CENTERLINE GRADES GREATER THAN 2% OR AS SHOWN ON THE PLANS SHALL HAVE EROSION MATTING APPLIED OVER THE SEED. EROSION MATTING SHALL CONSIST OF EROSION CONTROL BLANKET WITH 100% AGRICULTURAL STRAW MATRIX STITCH BOUND WITH DEGRADABLE THREAD BETWEEN TWO PHOTODEGRADABLE POLYPROPYLENE NETTINGS, NORTH AMERICAN GREEN S150 OR EQUAL, NORTH AMERICAN GREEN DS150 MAY BE USED IN LAWN AREAS, ONLY WHEN SEEDING TAKES PLACE PRIOR TO SEPTEMBER 15.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A FULL GROWTH OF GRASS IN ALL DISTURBED AREAS TO BE RE-VEGETATED. VEGETATION GROWTH SHALL BE PERMANENT AND SUFFICIENT TO PREVENT EROSION OF THE UNDERLYING SOIL UNDER ALL CONDITIONS OF PRECIPITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND CARING FOR SEEDS, MULCHED, AND AREAS OF ESTABLISHED VEGETATION UNTIL FINAL ACCEPTANCE OF THE WORK BY THE OWNER.

SEED MIX SPECIFICATIONS

CONSERVATION SEED MIX SHALL BE USED IN ALL DISTURBED AREAS.

POND SIDESLOPES DISTURBED DURING CONSTRUCTION SHALL HAVE CONSERVATION MIX AND WETLAND SEED MIX APPLIED. THE WETLAND SEED MIX NEED ONLY BE APPLIED TO THE POND SIDESLOPE EXTENDING TO 3 VERTICAL FEET ABOVE THE NORMAL WATER LEVEL OF THE POND.
WETLAND SEED MIX SHALL BE OBTAINED FROM NEW ENGLAND WETLAND PLANTS, INC. WWW.NEWP.COM

CONSERVATION MIX GRASS SEED		
% BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED
35	35	CREeping RED FESCUE
23	23	KENTUCKY BLUEGRASS
15	15	ANNUAL RYE
11	11	WINTER HARDY, PERENNIAL RYE (VARIETY PENNINE, MANHATTAN OR SIMILAR VARIETY)
6	6	WHITE CLOVER
10	10	HIGHLAND BENTGRASS
100	100# LIVE SEED / ACRE	

NEW ENGLAND WETMIX (WETLAND SEED MIX)
APPLICATION RATE: 1 LB PER 2500 SF OR 18 LBS PER ACRE
AVAILABLE FROM: NEW ENGLAND WETLAND PLANTS, INC. 820 WEST STREET AMHERST, MA 01002 416-548-8000 WWW.NEWP.COM

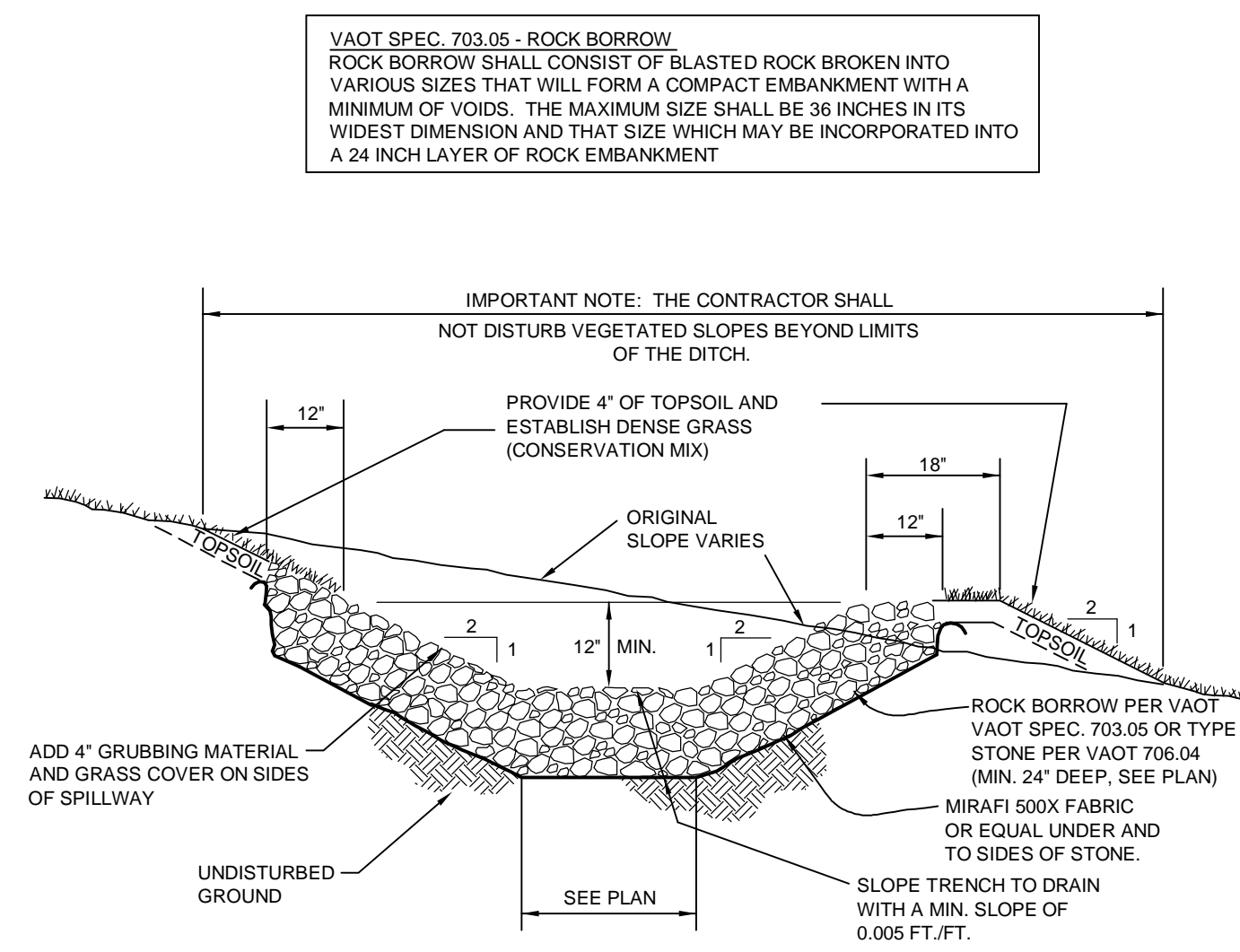
STUMP DISPOSAL SPECIFICATIONS

THE DECIDUOUS TREES THAT MUST BE CUT WILL BE USED AS FIREWOOD. THE STUMPS, BRUSH, AND EXCESS UNSUITABLE EARTH WILL BE DISPOSED OF AT A SUITABLE OFF-SITE LOCATION DESIGNATED AS A STUMP DISPOSAL AREA WELL ABOVE THE SEASONAL HIGH WATER OR HAULLED OFF-SITE TO A STATE-APPROVED LANDFILL. STUMP DISPOSAL AREAS SHALL CONFORM WITH THE FOLLOWING GUIDELINES:
- WHENEVER POSSIBLE, STUMP DISPOSAL SITES SHOULD BE LOCATED ON NEARLY LEVEL TO MODERATELY SLOPING LANDS (SLOPES LESS THAN 12%).
- DISPOSAL SITES WILL NOT BE LOCATED IN OR WITHIN 100 FEET OF FLOWING WATERCOURSES OR STREAMS OR IN ACTIVELY ERODING GULLIES.
- DISPOSAL SITES SHALL NOT BE LOCATED IN FLOODED OR FLOOD-PRONE LANDS, WETLANDS, MARSHES, OR OTHER AQUIFER RECHARGE AREAS.
- STUMPS WILL BE PLACED ON THE SITE IN A SINGLE LIFT PRIOR TO BACKFILLING. WHEN ADDITIONAL STUMPS ARE TO BE DEPOSITED ON THE SAME SITE, EACH SUCCESSIVE LAYER OR LIFT OF STUMPS WILL BE BACKFILLED.
- A MINIMUM OF TWO FEET (2') OF OVERBURDEN WILL BE PLACED OVER ALL DISPOSAL SITES.

DEWATERING SPECIFICATIONS

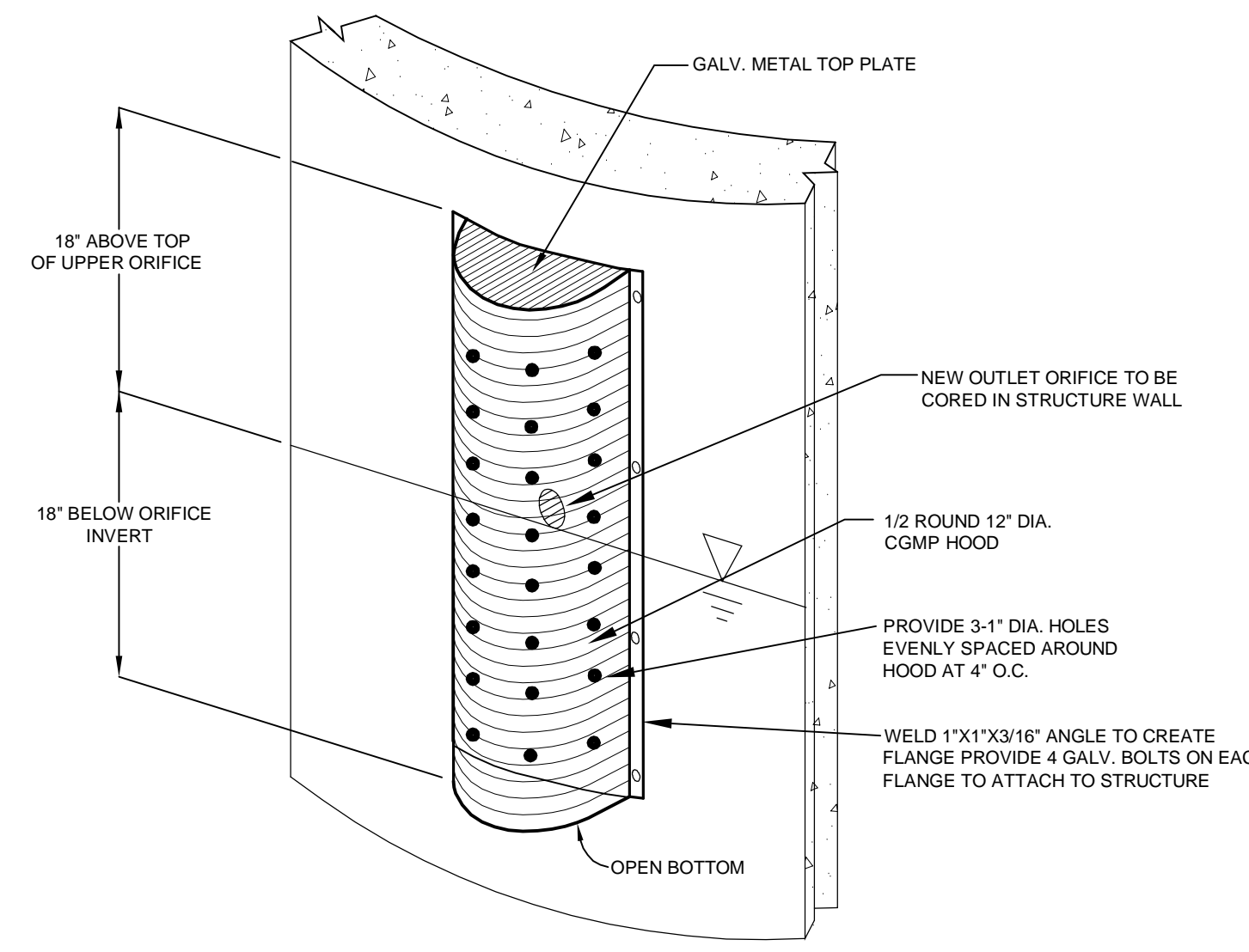
THE CONTRACTOR IS RESPONSIBLE FOR PREPARING AND EXECUTING A DEWATERING PLAN THAT IS COMMENSURATE WITH THE WORK PROPOSED AND THAT PREVENTS THE DISCHARGE OF SEDIMENT TO WATERS OF THE STATE. THE CONTRACTOR'S WORK PLAN AND DEWATERING PLAN SHALL CONSIDER BOTH BASE FLOW AND THE FORECAST FOR PRECIPITATION.
TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL PLAN THE WORK AND THE SEQUENCE OF THEIR OPERATIONS TO MINIMIZE THE NEED FOR, AND DURATION OF, DEWATERING OF THE WORK AREA. THIS MAY INCLUDE THE CONSTRUCTION OF TEMPORARY STABILIZED STORMWATER CONVEYANCES AND / OR BARRIERS TO SEPARATE RUNOFF FROM THE WORK AREA.
WHERE POSSIBLE, UPGRADIENT RUNOFF SHALL BE DIVERTED AWAY FROM THE WORK AREA. THIS SHALL INCLUDE BYPASS PUMPING TO DIVERT FLOW IN THE STORMWATER COLLECTION PIPING AWAY FROM THE STORMWATER POND WHILE UNDER CONSTRUCTION. THE DISCHARGE LOCATION(S) OF DIVERTED RUNOFF SHALL BE MONITORED FOR STABILITY OR EROSION PROBLEMS PRIOR TO, DURING AND FOLLOWING THE DIVERSION OF RUNOFF.
THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE METHODS TO PREVENT THE TRANSPORT OF SEDIMENT FROM THE WORK AREA AS WELL AS EROSION PREVENTION MEASURES AT THE PROPOSED DISCHARGE LOCATION(S). EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE BASED UPON THE CONTRACTOR'S SITE SPECIFIC WORK PLAN AND DEWATERING PLAN. MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, ONE OR MORE OF THE FOLLOWING:
- TEMPORARY SUMP / DEWATERING PIT
- TEMPORARY SEDIMENT TRAP OR BASIN
- GEOTEXTILE BAGS OR TUBES
- VEGETATED FILTER STRIP
- TEMPORARY DISSIPATION DEVICE / FLOW SPREADER
- TEMPORARY STORMWATER CONVEYANCES (PIPING AND/OR STABILIZED DITCHES)

ALL SEDIMENT COLLECTED DURING DEWATERING OR DURING THE TREATMENT OF DISCHARGE FROM DEWATERING OPERATIONS SHALL BE PLACED IN AN UPLAND LOCATION (OUTSIDE OF WETLANDS AND BUFFERS AND AT LEAST 100 FEET FROM ANY STREAMS) AND PERMANENTLY STABILIZED.



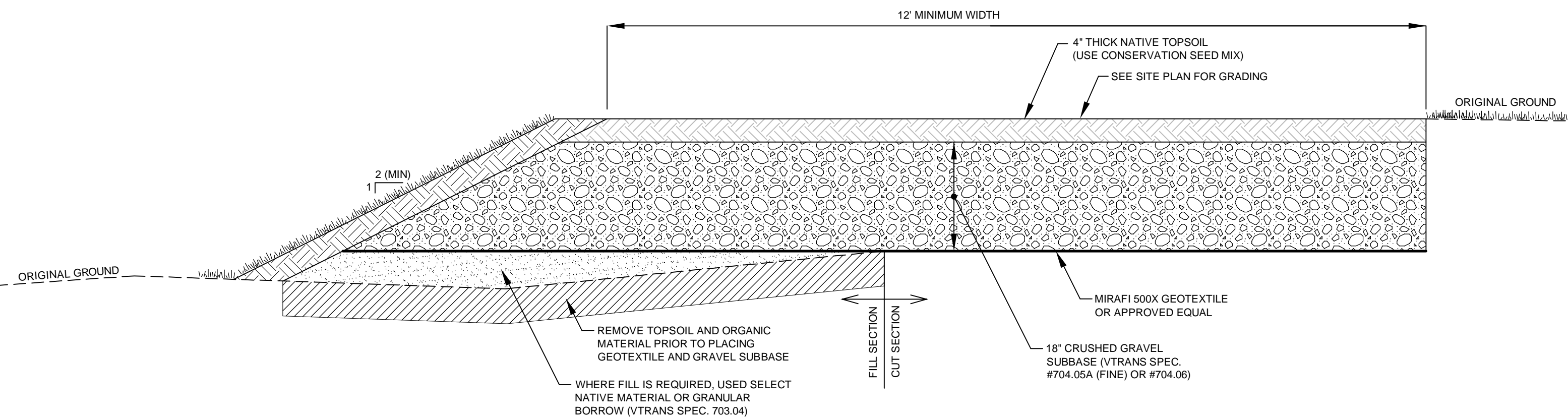
TYPICAL STONE DITCH OR SPILLWAY DETAIL

NTS



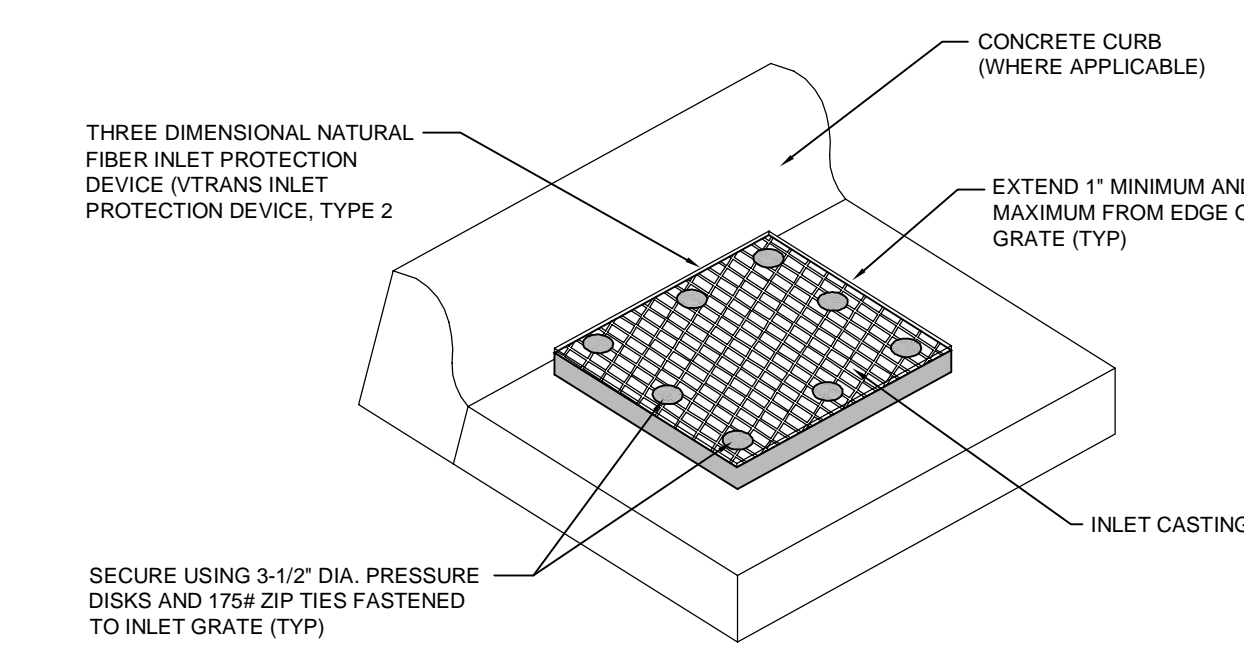
BASIN OUTLET STRUCTURE ORIFICE HOOD

NTS



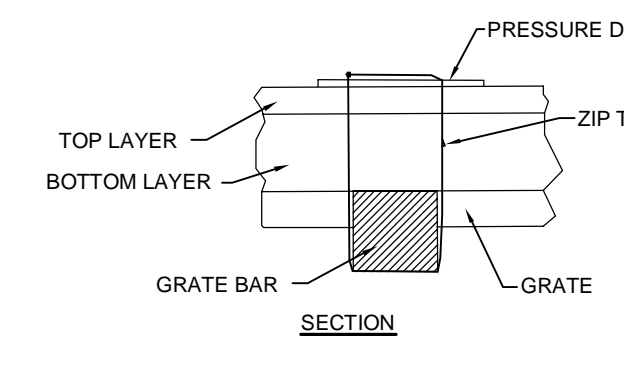
TYPICAL GRAVEL MAINTENANCE ACCESS DRIVE

NTS



INLET PROTECTION

NTS



09-19-16	REPLACE GRAVEL SURFACE WITH TOPSOIL ON ACCESS DRIVE DETAIL	ABR
Date	Revision	By
These plans shall only be used for the purpose shown below:		
<input type="checkbox"/> Sketch/Concept	<input type="checkbox"/> Act 250 Review	
<input type="checkbox"/> Preliminary	<input type="checkbox"/> Construction	
<input checked="" type="checkbox"/> Final Local Review	<input type="checkbox"/> Record Drawing	
Brennan Woods Neighborhood Stormwater Improvement Project		Project No. 98061C
Barrett Lane Williston VT		Survey L&D
Stormwater Pond Cross Section Typical Details & Specifications		Design AR
		Drawn L&D
		Checked DG
		Date 01-05-16
		Scale AS NOTED
		Sheet number
Lamoureux & Dickinson Consulting Engineers, Inc. 14 Morse Drive, Essex, VT 05452 802-878-4450 www.LDEngineering.com		3

TAX PARCEL # COM.046 DP#

DEGRADABLE EROSION CONTROL BLANKET. PLACE AFTER SEEDING-SEE SCHEDULE FOR TYPE OF BLANKET.

DEGRADABLE BLANKET SLOPE STABILIZATION NOTES:

- INSTALL WHERE SHOWN ON PLANS.
- CONTRACTOR SHALL USE BIODEGRADABLE STAKES FOR FASTENERS. WIRE STAPLES ARE NOT ACCEPTABLE.
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 4" DEEP X 8" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF BIODEGRADABLE STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF BIODEGRADABLE STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING BIODEGRADABLE STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, BIODEGRADABLE STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2'-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
- IN LOOSE SOIL CONDITIONS, THE USE OF STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

DEGRADABLE EROSION CONTROL BLANKET SCHEDULE			
TYPE	SLOPE (%)	BLANKET DESCRIPTION	MODEL NO.
A	4:1-3:1	SINGLE NET STRAW BLANKET	NORTH AMERICAN GREEN S150 OR EQUAL
B	3:1-2:1	DOUBLE NET STRAW BLANKET	NORTH AMERICAN GREEN S150 OR EQUAL
C	2:1-1:1	DOUBLE NET BLANKET 70% STRAW/30% COCONUT	NORTH AMERICAN GREEN S2150 OR EQUAL
D	1:1 OR GREATER	DOUBLE NET COCONUT BLANKET	NORTH AMERICAN GREEN C125 OR EQUAL

TOWN OF WILLISTON PUBLIC WORKS DEPARTMENT	
SCALE: NTS	DATE: APRIL 2010
DRAWING #: F-3	DRAWN BY: FA&A
EROSION CONTROL BLANKET DETAIL	

SECTION F-1 SCALE: NOT TO SCALE

SILT FENCE NOTES:

- SILT FENCE SHALL BE PRE-FABRICATED EROSION CONTROL FENCE BY MIRAFI OR APPROVED EQUAL.
- INSTALL WHERE SHOWN ON PLANS. THE FENCE SHALL BE INSTALLED PARALLEL TO CONTOURS WHERE POSSIBLE. THE ENDS OF THE FENCE SHOULD BE CURVED UPHILL TO PREVENT FLOW AROUND THE ENDS.
- SECTIONS OF THE SILT FENCE SHALL BE JOINED TO OVERLAP BY FOLDING FABRIC AROUND EACH POST ONE FULL TURN. DRIVE POSTS TIGHTLY TOGETHER AND SECURE TOPS OF POSTS BY TYING OFF WITH CORD OR WIRE TO PREVENT FLOW-THROUGH OR BUILT-UP SEDIMENT AT JOINT.
- INSPECT ALL SILT FENCE AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER EACH RAINFALL. MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND SEDIMENT REMOVED WHEN SEDIMENT REACHES 1/3 HEIGHT OF SILT FENCE.
- UPON FINAL STABILIZATION OF THE AREA UPHILL OF THE FABRIC, THE FABRIC SHALL BE REMOVED WITH THE APPROVAL OF THE ENGINEER.

TOWN OF WILLISTON PUBLIC WORKS DEPARTMENT	
SCALE: NTS	DATE: APRIL 2010
DRAWING #: F-1	DRAWN BY: FA&A
TEMPORARY SILT FENCE DETAIL	

**TOWN OF WILLISTON
PUBLIC WORKS DEPARTMENT**

SCALE: NTS DATE: APRIL 2010

DRAWING #: E-14 DRAWN BY: FA&A

TYPICAL CONCRETE CURB/SIDEWALK

SECTION SCALE: NONE

PLAN SCALE: NONE

STABILIZED CONSTRUCTION ENTRANCE NOTES:

- LENGTH (L) SHALL BE 40' MINIMUM WHERE SUFFICIENT SPACE IS AVAILABLE.
- WIDTH (W) SHALL NOT BE LESS THAN 24'.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE, WHICH DRAINS INTO APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF METHODS AS APPROVED BY THE ENGINEER.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, OR WASHED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.

TOWN OF WILLISTON PUBLIC WORKS DEPARTMENT	
SCALE: NTS	DATE: APRIL 2010
DRAWING #: F-4	DRAWN BY: FA&A
STABILIZED CONSTRUCTION ENTRANCE DETAIL	

NOTES:

- PROVIDE MINIMUM 10' WIDTH OF RIP-RAP OR DIA. x5 WHICHEVER IS GREATER.

ADVANCED DRAINAGE SYSTEMS, Inc. FLARED END SECTIONS, OR EQUAL						
PART#	PIPE SIZE	A	B (MAX)	H	L	W
1210NP	12 in. (300 mm)	6.5 in. (165 mm)	10.0 in. (254 mm)	6.5 in. (165 mm)	25.0 in. (635 mm)	29.0 in. (737 mm)
1510NP	15 in. (375 mm)	6.5 in. (165 mm)	10.0 in. (254 mm)	6.5 in. (165 mm)	25.0 in. (635 mm)	29.0 in. (737 mm)
1810NP	18 in. (450 mm)	7.5 in. (191 mm)	15.0 in. (381 mm)	6.5 in. (165 mm)	32 in. (813 mm)	35.0 in. (889 mm)
2410NP	24 in. (600 mm)	7.5 in. (191 mm)	18.0 in. (457 mm)	6.5 in. (165 mm)	38 in. (914 mm)	45.0 in. (1143 mm)
3015NP	30 in. (750 mm)	7.5 in. (191 mm)	12.0 in. (305 mm)	8.6 in. (218 mm)	58.0 in. (1473 mm)	63.0 in. (1600 mm)
3615NP	36 in. (900 mm)	7.5 in. (191 mm)	25.0 in. (635 mm)	8.6 in. (218 mm)	58.0 in. (1473 mm)	63.0 in. (1600 mm)

TOWN OF WILLISTON PUBLIC WORKS DEPARTMENT	
SCALE: NTS	DATE: APRIL 2010
DRAWING #: D-5	DRAWN BY: FA&A
STORM SEWER OUTFALL DETAIL	

TAX PARCEL # COM.046 DP# -

Date	Revision	By
These plans shall only be used for the purpose shown below:		
<input type="checkbox"/> Sketch/Concept	<input type="checkbox"/> Act 250 Review	
<input type="checkbox"/> Preliminary	<input type="checkbox"/> Construction	
<input checked="" type="checkbox"/> Final Local Review	<input type="checkbox"/> Record Drawing	

**Brennan Woods Neighborhood
Stormwater Improvement Project**
Barrett Lane Williston VT

**DETAILS & SPECIFICATIONS
DPW STANDARDS**

Project No. 98061C	Survey L&D
Design AR	Drawn L&D
Checked DG	Date 01-05-16
Scale AS NOTED	Sheet number 4

**Lamoureux & Dickinson
Consulting Engineers, Inc.**
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802-878-4450 www.LDengineering.com