

December 16, 2015

Ref: 57563.00

Ms. Laura Lapierre, Wetland Program Manager
Watershed Management Division
Vermont Department of Environmental Conservation
One National Life Drive, Main 2
Montpelier, VT 05620-3522



RE: Vermont Gas Systems, Inc.
Addison Natural Gas Project – Phase 1
Application to Amend Vermont Individual Wetland Permit #2012-0184

Dear Laura:

On behalf of Vermont Gas Systems, Inc. ("VGS"), and in support of the Addison Natural Gas Project – Phase 1 ("ANGP" or "Project"), VHB has prepared this resubmittal application package with additional information to request an amendment from the Vermont Department of Environmental Conservation ("VT DEC") for the Project's Vermont Individual Wetland Permit ("VWP") VT DEC File #2012-0184, issued on June 9, 2014 and VT DEC Permit 2015-464 issued on December 1, 2015. Please refer to the enclosed Vermont Wetland Permit Amendment document tracking table for a complete accounting of documents associated with this amendment request.

VGS has completed the majority of Segment 1 of the ANGP (between Mile Post ("MP") 0.0 and MP 11.48), with the exception of the two horizontal directional drills ("HDDs") in the vicinity of the Sandplain forest in Colchester and Essex, VT. The Project design changes included in this amendment request are a result of easement negotiations with property owners, property boundary updates, additional natural resources and cultural resources assessments, and/or constructability concerns. Each change is described in the enclosed "Summary of Project Changes" table. This table describes the changes to wetlands and waters or impacts to cultural resources, due to adjustments to the Project alignment or associated access roads/temporary workspaces, changes in installation methodology, or updates to the natural and cultural resources assessments.

The proposed Project changes are located in Monkton and include the "Rotax Road Reroute", "Old Stage Road Adjustment", "Old Stage Road Reroute", and "Access Road Removal/Addition". These Project changes are described in more detail below.

- Rotax Road Reroute - Realignment of approximately 3,400 feet of the transmission line from the Permitted alignment from Milepost ("MP") 23.99 to MP 24.64 (Station 1266+55 to 1301+00). The Permitted Route crosses four properties - LLN 134 (Norris), LLN 134.5 (Palmer), LLN 137 (Rotax Road – Town of Monkton) and LLN 138 (Latreille) in the Town of Monkton, Vermont. Includes avoidance of three previously impacted Class II wetlands, new impacts to previously avoided streams (due to change in construction methodology from HDD to open trench) and one Class II wetland, and changes to one previously impacted Class II wetland.



- Old Stage Road Adjustments - Minor lateral shifts in the proposed pipeline along approximately 2,500 linear feet of Old Stage Road in Monkton, Vermont between mile post ("MP") 28.89 and MP 29.41, from Station 1525+50 to 1545+30 on LLN 181 and from Station 1548+00 to 1553+30 on LLN 188.01 due to road right of way ("ROW") adjustments identified through a boundary survey. Includes changes in impacts to a previously impacted Class II wetland and stream.
- Old Stage Road Reroute - Approximately 270 linear feet of proposed pipeline rerouted from the west side of Old Stage Road to the east side between MP 29.27 and MP 29.65, specifically from Station 1545+30 and 1548+00) and approximately 1,270 linear feet of proposed pipeline reroute from the west side of Old Stage Road to the east (Station 1553+30 to 1566+00) in Monkton, Vermont. This change includes the complete avoidance of impacts to one Class III wetland and addition of impacts to a previously avoided Class III wetland.
- Access Road Removal/Addition - Removal of Access Road AL, and addition of new Access Road BK, approximately 2,000 feet to north of the previous Access Road AL location (unconstructed) on LLN 196; and reconfiguration of Additional Temporary Workspace ("ATWS") in the vicinity of Station 1640+00 Station (MP 31.1). This change avoids impacts to a Class II wetland and buffer and also updates a previously approximated wetland feature with field delineated information.

VHB is also providing an update to the wetland and waters boundaries, established by field delineations in the vicinity of the proposed Project. A summary of the additional areas where delineations have been completed by VHB is provided below (Sheet numbers refer to Natural Resource Series map set in Attachment 1 of the enclosed "Addison Natural Gas Project – Phase 1 Field Natural Resources 2015 Studies – Supplemental Memorandum"):

- Monkton: LLN 134, 135 and 135.01 – Field delineation updated during 2015 (Natural Resource Series, Sheets 21 & 22)
- Monkton: LLN 192 and 196 - Field delineation updated during 2015 (Natural Resource Series, Sheet 27).

Field delineation of wetlands and waters is now complete for the entire Project area as shown on the current EPSC plans. The updated study area is shown on the Natural Resource Map Series map set.

Based on updated wetland delineations and revisions to the proposed Project, the change in Class II wetland and buffer area impacts included in this amendment application represents a decrease from the previously permitted impacts. The revised impact area would decrease from 0.28 acres (11,990 s.f.) of Class II wetland impact and 0.26 acres (11,324 s.f.) of buffer impact currently permitted, to 0.07 acres (3,017 s.f.) of Class II wetland impact and 0.19 acres (8,113 s.f.) of buffer impact. The Project updates will not result in permanent fill impacts to Class II wetlands.

This application to amend the permit includes five Class II wetland and buffer features affected by the Project changes and updated delineations. The net effect of the Project changes is summarized above. However, this request to amend the permit includes the total proposed impacts (not the change in impacts) to the five affected Class II wetland and buffers associated with Project changes, as detailed in the VWP application form and supporting materials provided on the enclosed CD. The total impacts included in this permit amendment application are also summarized in the tables below.



Class II Wetland Impacts Totals:

Permanent Wetland Impact	0 s.f.
Temporary Wetland Impact	2,485 s.f.
Other Permanent Wetland Impacts	532 s.f.

Class II Buffer Impact Totals:

Permanent Buffer Impact	0 s.f.
Temporary Buffer Impact	2,661 s.f.
Other Permanent Buffer Impacts	5,452 s.f.

By comparison, the impact amounts currently authorized for these wetland features under the original VWP (Permit# 2012-0184) and VWP (Permit # 2015-464) Amendment for the Project are 3.76 acres (163,714 s.f.) of Class II wetland impact and 5.99 acres (260,726 s.f.) of buffer impact currently permitted. This amendment request would reduce the total Class II wetland impacts to 3.55 acres (154,740 s.f.) and reduce buffer impacts to 5.91 acres (257,515 s.f.). The Project Changes Summary Table included on the enclosed CD provides a feature by feature impact comparison. All of the documents provided as part of this Permit amendment request have been summarized in the Vermont Wetland Permit – Document Tracking Table (on the enclosed CD), which contains the title, authors, and date of each document. This table is primarily intended to provide a record of the current document versions that support the Project.

VHB is concurrently submitting a request to the Vermont Department of Environmental Conservation (“VT DEC”) Watershed Management Division for an amendment to the Individual Section 401 Water Quality Certification, pursuant to 33 CFR §1341; and also to the U.S Army Corps of Engineers for an amendment to the Department of Army Individual Section 404/Section 10 Permit (USACE No. NAE 2012-0123).

As always, please do not hesitate to contact us if you have any questions related to these materials.

Sincerely,

Handwritten signature of Jeffrey A. Nelson in black ink.

Jeffrey A. Nelson, CPESC, CPSWQ
Director, Energy and Environmental Services

Handwritten signature of Joshua L. Sky in black ink.

Joshua L. Sky
Senior Scientist

JAN/JLS/jkw

Enclosed on CD:

1. ANGP Phase 1 VWP Permit Amendment Document Tracking Table
2. All VWP Amendment Filing Materials as listed in the Document Tracking Table

cc: Chris LeForce, VGS
Michael Adams, Senior Project Manager, USACE (cover letter only)
John Stamatov, PWC (cover letter only)
Ned Farquhar, VGS (cover letter only)
Eileen Simollardes, VGS (cover letter only)
Billy Coster, ANR (cover letter only)

Vermont Wetland Section Wetland Application Database Form (AFFIX TO THE FRONT OF THE APPLICATION)

Applicant Name: Vermont Gas Systems, Inc.		Representative Name: Vanasse Hangen Brustlin (VHB)	
Town where project is located: Williston, Hinesburg, Monkton, New Haven and Middlebury		County: Chittenden and Addison	
Project Location Description: 911 Street Address or direction from nearest intersection See Section 4 for detailed Project location description			
Project Summary: Construction of a natural gas transmission mainline, gate stations, distribution mainline, and local distribution network to extend natural gas service from Colchester to Middlebury and Vergennes, Vermont.			
Permit Type Requested (check all that apply)			
<input type="checkbox"/> Vermont General Permit Coverage		<input checked="" type="checkbox"/> Wetland Determination	
		<input checked="" type="checkbox"/> Vermont Wetland Permit	
Impact Calculations:			
Total Wetland Impact 3,017 square feet (s.f.)		Total Buffer Zone Impact 8,113 square feet (s.f.)	
Permit Fees: Make check payable to - State of Vermont			
Wetland Impact Fee: (\$0.75/ sf) waived		Administrative Fee: \$ waived	
Buffer Impact Fee: (\$0.25/ sf) waived		Total Check Amount: \$ waived	
Clearing Fee: (\$0.25/ sf)		waived	
Existing Land Use Type: (check all that apply)			
<input type="checkbox"/> Forestry		<input type="checkbox"/> Residential (Subdivision)	
<input checked="" type="checkbox"/> Agriculture		<input checked="" type="checkbox"/> Residential (Single Family)	
<input checked="" type="checkbox"/> Transportation		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Parks/Rec/Trail		<input checked="" type="checkbox"/> Undeveloped	
<input type="checkbox"/> Residential (Single Family)		<input type="checkbox"/> Industrial/ commercial	
Proposed Land Use Type: (check all that apply)			
<input type="checkbox"/> Forestry		<input type="checkbox"/> Residential (Subdivision)	
<input type="checkbox"/> Agriculture		<input type="checkbox"/> Residential (Single Family)	
<input type="checkbox"/> Transportation		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Parks/Rec/Trail		<input checked="" type="checkbox"/> No Change	
Proposed Impact Type: (check all that apply)			
<input type="checkbox"/> Buildings		<input checked="" type="checkbox"/> Utilities	
<input type="checkbox"/> Parking		<input type="checkbox"/> Septic/Well	
<input type="checkbox"/> Stormwater		<input type="checkbox"/> Agriculture	
<input type="checkbox"/> Driveway		<input type="checkbox"/> Pond	
<input type="checkbox"/> Road		<input type="checkbox"/> Lawn	
<input type="checkbox"/> Parks/Path		<input type="checkbox"/> Aesthetics	
<input type="checkbox"/> Dry Hydrant		<input type="checkbox"/> Other	
<input type="checkbox"/> Beaver dam alteration		<input type="checkbox"/> No Impact	
<input type="checkbox"/> Silviculture			
TOTAL Wetland : (see the Class II Wetland and Buffer Impact Analysis spreadsheet, Attachment 4 of the Application)			
Wetland Type:		Location:	
WL Size Class :			
Proposed Alterations			
Wetland Alteration:		Buffer Zone Alteration:	
Wetland Alteration Type (check all that apply)			
Wetland Fill: 0 s.f.		<input type="checkbox"/> Dredge	
Temporary: 0 s.f.		<input checked="" type="checkbox"/> Cut Vegetation (possible)	
Permanent: 0 s.f.		<input type="checkbox"/> Stormwater	
Permanent: 0 s.f.		<input checked="" type="checkbox"/> Trench/Fill	
Permanent: 0 s.f.		<input checked="" type="checkbox"/> Other (equipment access)	
Mitigation			
Avoidance and Minimization			
(s.f. of Class II wetland NOT impacted):		Wetland: s.f. Buffer Zone s.f.	
Wetland Mitigation: (s.f. Gained)		Buffer Zone Mitigation (s.f. Gained):	
Restoration s.f.		Restoration s.f.	
Enhancement s.f.		Enhancement s.f.	
Creation s.f.		Creation s.f.	
Conservation s.f.		Conservation s.f.	

Reason for Mitigation:	<input type="checkbox"/> Correction of Violation	<input type="checkbox"/> Mitigation to offset permit impacts	<input type="checkbox"/> Voluntary
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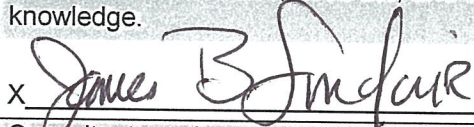
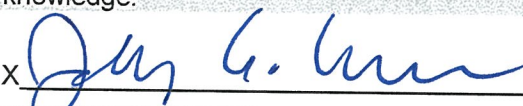

All Applications Should be Mailed To:

**Vermont Wetlands Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522**

Staff To Complete

Wetland Project Number:		
Wetland Project Name:		DEC ID#:
Date Application Received:		
Request for Information Date:		Information Received Date:
Request for Information Date:		Information Received Date:
Date Application Complete:		Distribution Complete Date:
Notice Begin Date:		Notice End Date:
Final Action Date:		Public Meeting Date:
Check#	Check Amount	Date Check Received
Check#	Check Amount	Date Check Received

Vermont Wetland Permit Application/Determination Petition

QUESTION	INSTRUCTIONS AND APPLICANT ANSWER	STAFF NOTE
1. Applicant #1	If the applicant is someone other than the landowner, the landowner information must also be included below.	
1.1. Applicant Name	Vermont Gas Systems, Inc. ("Vermont Gas") (Attn: Eileen Simollardes)	
1.2. Applicant Address	85 Swift Street, South Burlington, VT 05403	
1.3. Applicant Phone Number	(802) 951-0387	
1.4. Applicant Email	ESimollardes@vermontgas.com	
1.5. Applicant Signature (original signature required)	<p>By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.</p> <p>x <u></u> Date: 12/15/15</p>	
2. Representative	Consultant, engineer, or other representative that is responsible for filling out this application, if other than the applicant or landowner	
2.1. Representative Name	Vanasse Hangen Brustlin, Inc. ("VHB") (Attn: Jeffrey A. Nelson)	
2.2. Representative Address	40 IDX Drive Building 100, Suite 200 South Burlington, VT 05403	
2.3. Representative Phone Number	(802) 497-6150	
2.4. Representative Email	jnelson@vhb.com	
2.5. Representative Signature (original signature required)	<p>By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.</p> <p>x <u></u> Date: 12/16/15</p>	
3. Landowner	Landowner must sign the application. Use this space if landowner is different from the applicant	
3.1. Landowner Name	As unchanged from Individual Wetland Permit #2012-184. Attachment 1 provides a signed/notarized statement of the Applicant being the responsible party for compliance with terms and conditions imposed by this Permit, which the Applicant understands meets this requirement.	
3.2. Landowner Address	n/a (see response to Section 3.1)	
3.3. Landowner Phone Number	n/a (see response to Section 3.1)	
3.4. Landowner Email	n/a (see response to Section 3.1)	
3.5. Landowner Easement	<p>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.</p> <p>n/a (see response to Section 3.1)</p>	
3.6. Landowner Signature (original signature required)	<p>By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.</p> <p><u></u> Date: 12/15/15</p>	

	X n/a (see response to Section 3.1)	
4. Location of Wetland and Project	<p>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 geographic features.</p> <p>The Project Location is recorded in the Individual Wetland Permit #2012-184 and #2015-464. The wetlands and/or associated buffers included within this request to amend Individual Wetland Permit #2012-184 and #2015-464 are as follows:</p> <p>Wetlands 2013-CM-3 (all impacts avoided), 2014-CM-3 (reduction in impacts), 2015-CM-3 (newly impacted feature), 2012-JB-12 (change in impacts), and 2015-MJ-1 (formerly 2013-AW-RS-29) (all impacts avoided), located in the Town of Monkton.</p>	
5. Site Visit Date and Attendees	<p>Date of visit with District Wetlands Ecologist</p> <ul style="list-style-type: none"> November 5, 2015 	<p>List people present for site visits including Ecologist, landowner, and representatives.</p> <ul style="list-style-type: none"> Laura Lapiere (VT DEC); Emily Brodsky (VT DEC); Chelsea Martin (VHB)
6. Wetland Classification	<p>The wetland is a Class II wetland because (Choose one):</p> <p>Class II wetlands and buffers within the Project area have been classified according to the 2010 Vermont Wetland Rules Section 4.0. In summary, wetlands are classified as Class II when:</p> <ul style="list-style-type: none"> Wetland is contiguous with a mapped-VSWI Wetland meets a Section 4.6 Presumption, or Wetland meets Section 5 Functional Criteria significance <p>The Addison Natural Gas Project- Phase I Supplemental Field Natural Resource Studies Memorandum (dated December 16, 2015) in Attachment 5 includes complete wetland summary tables. This memorandum supplements the <i>Addison Natural Gas Project-Phase I Supplemental Field Natural Resource Studies Memorandum</i> (dated June 29, 2015 last supplemented September 16, 2015) and Section 248 Natural Resources Report. The current memorandum provided in Attachment 5 describes the additional areas where delineations have been completed by VHB since the issuance of Individual Wetland Permit #2015-464.</p>	
7. Description of Entire Wetland or Wetland Complex	<p>Answer the following questions regarding the entire wetland or wetland complex. A wetland complex is generally defined as two or more wetland types that are contiguous and interrelated. Specific questions about the wetland in the Project area will follow.</p> <p>These wetland and wetland complex descriptions are summarized in the summary table following this section:</p> <ul style="list-style-type: none"> See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex 	
7.1. Size of Wetland Complex in Acres	<p>Can be obtained from the Environmental Interest Locator Map for mapped wetlands</p> <p>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</p>	
7.2. Natural Community Types Present	<p>List all wetland types in the wetland or wetland complex and their abundance or relative abundance. For example: 50 acres of softwood forested swamp; or 30% scrub swamp, 70% emergent wetland</p> <p>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</p>	
7.3. Landscape Position	<p>Where is the wetland located on the landscape? Examples: bottom of a basin, edge of a stream, shore of a lake, etc.</p>	

	<p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.4. Wetland Hydrology	<p>Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.4.1. Direction of flow	<p>For example: stream flows from north to south through the wetland complex.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.4.2. Influence of hydrology on wetland complex	<p>For example: The river provides flood water to the wetland in the spring.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.4.3. Relation to the project area	<p>Distance between the Project area and any nearby surface waters.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.4.4. Hydroperiod	<p>Discuss frequency and duration of flooding, ponding, and/or soil saturation.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.5. Surrounding Landuse of the Wetland Complex	<p>For example: rural residential and forested; agricultural and undeveloped,</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.6. Relation to Other Nearby Wetlands	<p>Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	
7.7. Pre-project Cumulative Impacts to the Wetland	<p>Identify any cumulative ongoing impacts outside of the Project that may influence the wetland. Examples include but are not limited to wetland encroachments off the subject property, land management in or surrounding the wetland, or development that influences hydrology or water quality.</p> <p><i>See Vermont Wetland Permit Section 7 Table– Description of Entire Wetland or Wetland Complex</i></p>	

<p>8. Description of Subject Wetland</p>	<p>Subject Wetland is defined as the area of wetland in the Project area, 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 larger wetland or wetland complex that could be directly or indirectly impacted by the Project, as defined by hydrology, vegetation and/or physical characteristics.</p>	
	<p>These subject wetland descriptions are summarized in the summary table following this section:</p> <ul style="list-style-type: none"> • See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland 	
<p>8.1. Context of Subject Wetland</p>	<p>Describe where the subject wetland is in the context of the larger wetland or wetland complex described above.</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>8.2. Wetland Landuse</p>	<p>For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland.</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>8.3. Wetland Vegetation</p>	<p>List dominant wetland community type and associated dominant plant species.</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>8.4. Wetland Soils</p>	<p>Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>8.5. Wetland Hydrology</p>	<p>Use descriptions from the ACOE Delineation Manual.</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>8.6. Buffer Zone</p>	<p>Describe the buffer zone of the subject wetland including:</p>	
<p>8.6.1. General landuse</p>	<p>For example: mowed road shoulder; forested; old field; paved road and residential lawns etc. Describe any previous and ongoing disturbance in the buffer zone.</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland.</p>	
<p>8.6.2. Buffer vegetation</p>	<p>List community type and dominant plant species</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>8.6.3. Buffer soils</p>	<p>Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description</p>	
	<p>See Vermont Wetland Permit Section 8 Table– Description of Subject Wetland</p>	
<p>9. Wetland Determination</p>	<p>If the application involves a wetland determination please answer the following. If not, skip to Section 10.</p>	
<p>9.1. Reason for Petition</p>	<p>Please choose one from the dropdown menu:</p>	
	<p>Add a Section 4.6 presumed wetland to the VSWI map.</p>	
<p>9.2. Previous Decisions</p>	<p>Please list all determinations and decisions, if any, issued by the Secretary, Panel or former Water Resources Board, pertaining to the wetland or buffer at issue:</p>	
	<p>Individual Wetland Permit #2012-184 was issued June 9, 2014 and authorized impacts to Class II wetland and buffers associated with ANGP Phase 1. Due to modifications to the ANGP design an additional Individual Wetland Permit #2015-464 issued December 1, 2015.</p>	
	<p>This application seeks to amend Individual Wetland Permit #2012-184 and #2015-464 for impacts to the wetland and/or buffer features noted in Section 4 and detailed in the Class II Wetland and Buffer Impact Analysis (summary table) included as Attachment 4.</p>	
<p>9.3. Narrative</p>	<p>Please provide any narrative to support the petition for a wetland determination here. This section is not required for petitions to add a</p>	

	Section 4.6 presumed wetland to the VSWI map, but is required for all other petitions.	
	Not applicable.	
If the application is only for a Wetland Determination only, skip to Section 13		
10. Project Description		
10.1. Overall Project	<p>Description of the project. For example: six-lot residential subdivision; expansion of an existing commercial building, access drive to a single family residence.</p> <p>The Project Description is unchanged from that described in the application for Individual Wetland Permit #2012-184. Adjustments to the project alignment and proposed off-ROW construction access ways are described in the accompanying cover letter.</p> <p>Selected pages of the updated plans for the ANGP are provided in Attachment 3, prepared by VHB and CHA Inc., dated October 26, 2015, November 13, 2015 and December 10, 2015. Updated Natural Resources Mapping last revised December 9, 2015 prepared by VHB is also provided in the Attachment of the Phase 1 Supplemental Natural Resources Summary Memorandum provided in Attachment 5 of this application. Annotated versions of the updated plans and Natural Resources Mapping are also provided in Attachment 7 of this application.</p>	
10.2. Project Purpose	<p>For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system</p> <p>The Project Purpose is unchanged from that described in the application for Individual Wetland Permit #2012-184.</p>	
10.3. Acres Owned by Applicant	<p>Acres of subject property.</p> <p>No change to acres owned by applicant as described in the application for Individual Wetland Permit #2012-184 for areas associated with this permit amendment request.</p>	
10.4. Acres Involved in the Project	<p>Acres of area involved in the project.</p> <p>No substantive change to acres involved with the Project for areas associated with this request to amend Individual Wetland Permit #2012-184.</p>	
11. Project Details	Provide details regarding specific impacts to the wetland and buffer zone	
11.1. Specific Impacts to Wetland and Buffer Zone	<p>List portions of the project that will specifically impact the wetland or buffer zone.</p> <p>The proposed construction that is the subject of this request to amend Individual Wetland Permit #2012-184 and Permit #2015-464 would result in temporary impacts, and other permanent impacts to proposed Vermont Class II Wetlands and/or Buffers. In general summary, each impact type would consist of the following activities:</p> <p><u>Class II Wetland</u></p> <ul style="list-style-type: none"> • Wetland Fill: There would be no impacts to wetlands from fill. • Temporary Impacts: Trenching for underground pipeline placement in non-forested wetland; or temporary forest clearing for construction access outside the permanent maintained corridor; and, • Other Permanent Impacts: Forested wetlands within the Project permanent corridor that would be cleared and maintained in non-forested condition. <p><u>Class II Wetland Buffer</u></p> <ul style="list-style-type: none"> • Fill: There would be no impacts to wetlands from fill. • Temporary Impacts: Trenching for underground pipeline placement in non-forested and forested wetland buffer, or temporary forest clearing for construction access outside the permanent maintained corridor; and • Other Permanent Impacts: Forested buffer to Class II wetland within the Project permanent corridor that would be cleared and maintained in non-forest condition 	

	<p>Note: On and off-corridor construction access within Class II wetlands would occur via the use of construction matting or temporary surface per the EPSC Plan, which is not included in proposed impacts. Where temporary impacts from trenching occur in areas that would be permanently impacted by forest clearing within the permanent ROW, the permanent impacts are those proposed for Permit coverage. Also, activities within existing developed areas that occur within Class II wetland buffer, such as roadway surface, are not included in the proposed wetland buffer impacts.</p> <p>Attachment 4 provides a tabulated summary of proposed impacts to Class II wetlands and/or buffers for the five wetland and buffer features included in this Permit amendment and also provides detailed exhibits for the proposed impacts.</p>									
<p>11.2. Dimension Details</p>	<p>Square footage of buildings, dimension of roads including fill footprint.</p> <p>The dimension details for the Project are unchanged from Individual Wetland Permit #2012-184.</p>									
<p>11.3. Bridges and Culverts</p>	<p>Culvert circumference, length, placement and shapes, or bridge details.</p> <p>Unchanged from Individual Wetland Permit #2012-184.</p>									
<p>11.4. Construction Sequence</p>	<p>Describe any details pertaining to the worked planned in the wetland and buffer in terms of sequence or phasing that is relevant</p> <p>Unchanged from Individual Wetland Permit #2012-184.</p>									
<p>11.5. Stormwater Design</p>	<p>List any stormwater permits obtained or applied for. Describe any stormwater and/or erosion controls proposed to prevent discharges to the wetland and buffer zone.</p> <p>Discharge Permit 6949-INDC for the ANGP was issued on June 9, 2014 and Discharge Permit and 6949-INDC.2 for the Middlebury Local Distribution Network was issued on July 29, 2015. A request to amend 6949-INDC for changes to the ANGP was approved by DEC on October 28, 2015. Vermont Gas is concurrently submitting an application to the DEC to amend the current discharge permit to reflect the proposed project changes.</p>									
<p>11.6. Permanent Demarcation of Limits of Impact</p>	<p>Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses.</p> <p>Unchanged from Individual Wetland Permit #2012-184.</p>									
<p>12. Wetland & Buffer Zone Impacts</p>										
<p>12.1. Wetland Impacts</p>	<p>Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets.</p> <table border="1" data-bbox="574 1612 1398 1724"> <thead> <tr> <th colspan="2">Totals</th> </tr> </thead> <tbody> <tr> <td>Permanent Wetland Impact</td> <td>0 s.f.</td> </tr> <tr> <td>Temporary Wetland Impact</td> <td>2,485 s.f.</td> </tr> <tr> <td>Other Permanent Wetland Impacts</td> <td>532 s.f.</td> </tr> </tbody> </table> <p>Describe in detail the proposed impact.</p> <p>See the Class II Wetland and Buffer Impact Analysis (summary table) located in Attachment 4 for details. This includes the five wetland features for which authorization to impact is requested by this application to amend Individual Wetland Permit #2012-184 and Permit #2015-464.</p>	Totals		Permanent Wetland Impact	0 s.f.	Temporary Wetland Impact	2,485 s.f.	Other Permanent Wetland Impacts	532 s.f.	
Totals										
Permanent Wetland Impact	0 s.f.									
Temporary Wetland Impact	2,485 s.f.									
Other Permanent Wetland Impacts	532 s.f.									

<p>12.2. Buffer Zone Impacts</p>	<p>Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets.</p> <table border="1" data-bbox="574 268 1398 384"> <tr> <td colspan="2">Totals</td> </tr> <tr> <td>Permanent Buffer Impact</td> <td>0 s.f.</td> </tr> <tr> <td>Temporary Buffer Impact</td> <td>2,661 s.f.</td> </tr> <tr> <td>Other Permanent Buffer Impacts</td> <td>5,452 s.f.</td> </tr> </table> <p style="text-align: right;"><i>(continued)</i></p> <p>Describe in detail the proposed impact.</p> <p>See the Class II Wetland and Buffer Impact Analysis (summary table) located in Attachment 4 for details. This includes the five wetland features for which authorization to impact is requested by this application to amend Individual Wetland Permit #2012-184 and Permit #2015-464.</p>	Totals		Permanent Buffer Impact	0 s.f.	Temporary Buffer Impact	2,661 s.f.	Other Permanent Buffer Impacts	5,452 s.f.	
Totals										
Permanent Buffer Impact	0 s.f.									
Temporary Buffer Impact	2,661 s.f.									
Other Permanent Buffer Impacts	5,452 s.f.									
<p>12.3. Cumulative Impacts</p>	<p>List any potential cumulative or ongoing, direct and indirect impacts on the functions of the wetland that could result from the proposed project.</p> <p>The following is unchanged from Individual Wetland Permit #2012-184 and Permit #2015-464:</p> <p>No cumulative impacts are ongoing, or foreseeable, to the wetlands proposed for impact. Future maintenance of the transmission line would occur within wetland and buffers, subject to a vegetation management plan, included in Attachment 6.</p>									
<p>12.4. Avoidance and Minimization</p>	<p>Please refer to Section 9.5b of the rules on Mitigation Sequencing for this section.</p>									
<p>12.4.1. Avoidance</p>	<p>Can the proposed activity be practicably located outside the wetland/buffer zone, or on another site owned or controlled by the applicant or reasonably available to satisfy the basic project purpose? If not, indicate why. This answer should include any examination of alternatives that you have explored including using other properties, requesting easements, and altering the project design.</p> <p>Avoidance methods are unchanged from Individual Wetland Permit #2012-184. The Proposed impacts are of scope and natural similar to other wetland and buffer impacts for this Project.</p>									
<p>12.4.2. Minimization</p>	<p>If the proposed activity cannot practicably be located outside the wetland/buffer zone, have all practicable measures have been taken to avoid adverse impacts on protected functions? Please include any information on on-site alternatives that have been examined; minimizing the size and scope of the project to avoid impacts; or relocating portions of the project to avoid impacts</p> <p><u>On an overall basis, the Project continues to employ the same means and methods used to minimize wetland and buffer zone impacts as described in Individual Wetland Permit #2012-184 and Permit #2015-464.</u></p> <p><u>Minimization of Unavoidable Impacts</u></p> <p>The Project changes, detailed in the <i>Summary of Project Revisions for the Vermont Wetland Permit Amendment</i> table, would result in an overall reduction in unavoidable impacts to Class II Wetlands and Buffers (see the Additional Materials and Supplemental Requests Attachment). The Project change design process sought to avoid and minimize impacts to natural and cultural resources while also addressing landowner requests, utility co-location constraints, constructability and safety concerns. The proposed Project changes were also reviewed and discussed with the DEC at a meeting on November 5, 2015 to solicit and incorporate agency staff input.</p> <p>For this request to amend Individual Wetland Permit #2012-184 and Permit #2015-464, the proposed Project construction width within wetland 2015-CM-3 and 2014-CM-3 along the transmission mainline has been narrowed from 75-feet to 50-feet to reduce temporary impacts from construction.</p>									

<p>12.4.3. Mitigation</p>	<p>If avoidance of adverse effects on protected functions cannot be practically achieved, has the proposed activity has been planned to minimize adverse impacts on the protected functions and a plan has been developed for the prompt restoration of any adverse impacts on protected functions? Include any information on best management practices to be used for the project both for the initial construction and ongoing use. Also include any proposed restoration of temporary impacts, previously disturbed wetland or buffer zones or proposed conservation that are being used to offset the proposed impacts.</p> <p>Mitigation plans for the Project are unchanged from Individual Wetland Permit #2012-184.</p>	
<p>12.4.4 Compensation</p>	<p>Please refer to Section 9.5c of the rules for compensation, which is appropriate when the project will result in an undue adverse impact. If compensation is proposed please include a summary here.</p> <p>Compensation for this Project is unchanged from Individual Wetland Permit #2012-184.</p>	
<p>13. Supporting materials</p>	<p>Where appropriate list the accompanying material by title, author, date and last revision date. Submit these documents and plans with the application.</p>	
<p>13.1. Location map</p>	<p>Provide a project location map that is 8 ½" x 11" and reproducible in black and white. An Environmental Interest Locator Map is appropriate using the USGS topography map base layer, roads, and VSWI wetlands at minimum.</p> <p>The Site Location Map is unchanged from Individual Wetland Permit #2012-184.</p>	
<p>13.2. Site Plans</p>	<p>List by title, author, date and last revision date. Plans should include wetland delineation and buffer zones, limits of disturbance, erosion controls, building envelopes and permanent memorialization.</p> <ul style="list-style-type: none"> • Site Plans (Attachment 3): EPSC Plan Set, Vermont Gas Addison Natural Gas Project, prepared by VHB and CHA, dated October 26, 2015, November 13, 2015 and December 10, 2015 • Impact Exhibits (Attachment 4): Selected Class II Wetland and Buffer Impacts Exhibits, prepared by VHB, dated December 16, 2015 	
<p>13.3. ACOE Delineation Forms</p>	<p>List by author, location, and date. Required only for Individual Permits.</p> <p>Attachment 5 - See Attachment 3 of the Addison Natural Gas Project- Phase I Supplemental Field Natural Resources Memorandum, prepared by VHB, dated December 16, 2015</p>	
<p>13.4. Other Supporting Documents</p>	<p>Provide any other documentation that supports the application. List photographs; easements; agreements; may include a GIS-compatible wetland submittal for determinations; etc.</p> <p>Attachment 5- Addison Natural Gas Project Phase I Supplemental Field Natural Resource Studies Memorandum, prepared by VHB dated December 16, 2015.</p> <p>Additional Materials - Project Revisions for Vermont Wetland Permit Application (Summary Table) dated December 16, 2015.</p> <p>Annotated EPSC Plan sheets - Cover Sheet ANGP-T-G-07B and 017 and Sheets ANGP-EPSC-049 to 051 and 061A to 065 (only) dated October 26, 2015, November 13, 2015 and December 10, 2015.</p> <p>Annotated Natural Resource Series - Index and Sheets 21, 22, 25, 26, and 27 (only) dated December 13, 2012 and last revised December 9, 2015.</p>	
<p>13.5. List of Abutters (Neighbors with land</p>	<p>Attach list of names and mailing addresses or submit as word mailing document.</p>	

<p>adjoining wetland or buffer zone)</p>	<p>Please find Attachment 7 for an updated List of Adjoining Property Owners for this requested Permit Amendment. That includes abutters to the five wetlands and buffers that are included in this application.</p>	
<p>13.5.1. Newspaper Notification</p>	<p>If choosing the option to fulfill the notice requirement with a newspaper notice, list the newspaper to be used here. A list of names and addresses for immediately adjacent landowners (500 foot radius) of the project area is required for the List of Abutters. ***NOTE: The applicant will be billed directly by the newspaper you list here. Use of the newspaper notification may extend the notice period, depending on when the notice posts in the newspaper.</p> <p>It is anticipated that there is no need for a newspaper notification for these permit amendment requests. This would not be applicable for this Permit notification.</p>	

VGS Addison Natural Gas Project-Phase I (ANGP)
 Vermont Wetland Permit Application Section 7-Description of Entire Wetland or Wetland Complex
 Prepared by VHB
 Original: 12/20/2012
 Last Revised:12/16/2015

Wetland Complex	Wetland ID	7.1		7.2	7.3	7.4	7.4.1	7.4.2	7.4.3	7.4.4	7.5	7.6	7.7
		Size of Wetland Delineated Area ^{1a} (acres)	Size of Wetland Complex in Acres (acres) ²	Natural Community Type present ³	Landscape Position ^{4,5}	Wetland Hydrology	Direction of Flow ⁶	Influence of hydrology on wetland complex	Relation to the project area (Surface Water) (l.f.) ⁷	Hydroperiod ⁸	Surrounding Landuse of the Wetland Complex	Relation to Other Nearby Wetlands (l.f.)	Pre-project Cumulative Impacts to the Wetland
31	2014-CM-3	3.49*	416.4	Scrub-shrub swamp and Northern Hardwood Forest	Depressional; Terrene	Groundwater discharge and Mapped VHD streams provide hydrology	Groundwater discharge and stream throughflow to the north toward Lewis Creek	Groundwater discharge and stream throughflow provides wetland with permanent saturation	0	Permanently saturated	Surrounding landscape includes light residential; naturally vegetated, agriculture, and road crossings	80	Naturally vegetated
31a	2015-CM-3	0.1*	2.0	Emergent and scrub shrub feature along stream; Northern Hardwood	Depressional; Riverine	Overland flow; groundwater discharge and stream floodflow provide hydrology	Groundwater discharge and stream throughflow to the east	Groundwater discharge and stream throughflow provides wetland with permanent saturation	0	Permanently saturated	Surrounding landscape includes agricultural; scattered residences and open fields	500	Naturally vegetated; partial maintained vegetation along trail
33	2012-JB-12	0.02*	5.0	Open field; Northern Hardwood Forest	Depressional; Terrene	Groundwater discharge and Mapped VHD streams provide hydrology	Groundwater stream flow to the south	Groundwater and stream throughflow contribute to permanent saturation	0	Semi-permanently saturated	Surround landscape open field and agricultural fields	480	Partially mowed from agriculture

NOTES:

- * Wetland continues outside of the VHB investigation area
- 1 Areas of delineated wetlands from wetlands located by VHB GPS data collections.
- 2 Area is an estimate based on Contiguity to VSWI 2010 Mapping from the Agency of Natural Resources, and remote sensing mapping by VHB using VSWI, Hydric Soils, and aerial photographs
- 3 When the wetland is part of a larger natural community (undisturbed), the best fit descriptions of Wetland, Woodland, and Wildland (Thompson and Sorenson 2005) is used.
- 4 Landscape position described using two sources: Brinson M.M 1993. A Hydrogeomorphic Classification of Wetlands. U.S. Army Engineer Waterways Expt. Station Vicksburg, MS.
- 5 Tiner Ralph W. 1999. Wetland Indicators A Guide to Wetland Identification Delineation, Classification, and Mapping. Lewis Publishers Boca Raton, FL; p 275 and;
- 6 Terminology inflow, outflow, throughflow or isolated from Tiner Ralph W. 1999. Wetland Indicators A Guide to Wetland Identification Delineation, Classification, and Mapping. Lewis Publishers Boca Raton, FL; p 260
- 7 Relation to the project area is determined by using mapped VHB Stream Layers, VCGI Waterbody (2008), and VHD Streams (2008)
- 8 Described using Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat of the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31. 103pp.

VGS Addison Natural Gas Project - Phase I (ANGP)

Vermont Wetland Permit Application Section 8-Description of Subject Wetland or Wetland Complex

Prepared by VHB

Original: 12/20/2012

Last Revised: 12/16/2015

Wetland Complex	Wetland ID	Description of Subject Wetland					Buffer Zone		
		8.1	8.2	8.3	8.4	8.5	8.6.1	8.6.2	8.6.3
		Context of Subject Wetland	Wetland Landuse	Wetland Vegetation ¹	Wetland Soils ^{2,3}	Wetland Hydrology ³	General Landuse	Buffer Vegetation	Buffer Soils ²
31	2014-CM-3	Large wetland complex located along Davis road and Rotax Road; several fingers off of complex	Naturally vegetated partially mowed and areas of agriculture	Emergent, Scrub-shrub and Forested; <i>Acer rubrum</i> , <i>Fraxinus nigra</i> , <i>Onoclea sensibilis</i>	Livingston clay, Histic Epipedon (A2)	Surface water (A1), High water table (A2), Saturation (A3), Drainage patterns (B10)	Agricultural use, minimal residential and naturally vegetated	Emergent and forested; <i>Pinus strobus</i> , <i>Phleum pratense</i>	Amenia extremely stony loam
31a	2015-CM-3	Wetland located along stream 2012/2015-TB/SC-PW-28; located on terrace above stream	Naturally vegetated	Emergent, scrub-shrub;	Amenia extremely stony loam; Depleted Matrix (F3)	High Water Table (A2); Saturation (A3)	Agricultural fields; naturally vegetated; forested	Forested; <i>Ulmus americana</i> , <i>Lonicera morrowii</i>	Amenia extremely stony loam
33	2012-JB-12	Along the VELCO K-43 line; agricultural lands surrounds	Naturally vegetated; vegetation clearing within the K-43 line	Emergent, Scrub-shrub and Forested; <i>Onoclea sensibilis</i> , <i>Ulmus americana</i>	Melrose fine sandy loam; Depleted Matrix (F3)	Saturation (A3); Drainage Patterns (B10)	Agricultural fields and naturally vegetated	Emergent and Forested; <i>Phleum pratense</i> , <i>Acer saccharum</i>	Melrose fine sandy loam

¹ Type according to Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat of the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31. 103pp. Most dominant vegetation described from field observations

² Vermont Center for Geographic Information (VCGI). 2008. Digital soil survey information derived from Natural Resource Conservation Service (NRCS) soil survey mapping (updated 2/18/2008).

³ Hydric Soil and Wetland hydrology indicators from (USACE) U.S. Army Corps of Engineers. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region. U.S. Army Corps of Engineers. 2012.

14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.	Wetland Function Summary: (if more than one wetland use supplemental wetland sheets) Wetland Complex: 31 (2014-CM-3)					
	Functions & Values	Subject Wetland	Wetland Complex	Functions & Values	Subject Wetland	Wetland Complex
	Flood/Storm Storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RTE Species	<input type="checkbox"/>	<input type="checkbox"/>
	Surface & Groundwater Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Education & Research	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Fish Habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Recreation/Economic	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Wildlife Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Space/Aesthetics	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Exemplary Natural Community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Erosion Control	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Functions and Values	<p>For each Function and Value, first evaluate the entire wetland or wetland complex and check all that apply. Secondly, evaluate how the wetland in the project area contributes to that function. Thirdly explain how the project will not result in adverse impacts to this function. Include any information on specific avoidance and minimization measures.</p> <p>If more than one wetland complex is involved, use the Supplemental Wetland Forms.</p>
16. Storage for Flood Water and Storm Runoff	<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 type="checkbox"/> Constricted outlet or no outlet and an unconstricted 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 checked="" type="checkbox"/> If a stream is present, its 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> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Significant flood storage capacity upstream of the wetland,

	<p>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).</p> <ul style="list-style-type: none"> <input type="checkbox"/> Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland. <input type="checkbox"/> Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures. <input type="checkbox"/> 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. <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> History of downstream flood damage to public or private property. <input type="checkbox"/> 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. <ul style="list-style-type: none"> <input type="checkbox"/> 1. Developed public or private property. <input type="checkbox"/> 2. Stream banks susceptible to scouring and erosion. <input type="checkbox"/> 3. Important habitat for aquatic life. <input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated. <input type="checkbox"/> Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland. <ul style="list-style-type: none"> <input type="checkbox"/> 1. A large amount of impervious surface in urbanized areas. <input type="checkbox"/> 2. Relatively impervious soils. <input type="checkbox"/> 3. Steep slopes in the adjacent areas. 	
16.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is large in size and naturally vegetated. It provides physical space for storage for flood water and storm runoff.</p>	
16.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been</p>	

designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function

17. 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 box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.
 - Presence of dead forest or shrub areas in sufficient amounts to result in diminished nutrient uptake.

	<ul style="list-style-type: none"> <input type="checkbox"/> Presence of ditches or channels that confine water and restrict contact of water with vegetation. <input type="checkbox"/> 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. <input type="checkbox"/> Current use in the wetland results in disturbance that compromises this function. <input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is adjacent to a well head or source protection area, and provides ground water recharge. <input type="checkbox"/> The wetland provides flows to Class A surface waters. <input type="checkbox"/> The wetland contributes to the protection or improvement of water quality of any impaired waters. <input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated. 	
17.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is large in size and naturally vegetated. It is permanently saturated and provide 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.</p>	
17.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function</p>	
18. Fish Habitat	<ul style="list-style-type: none"> <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. <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 	

	<p>associated with streams and rivers.</p> <ul style="list-style-type: none"> <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. 	
18.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland does not support this function.</p>	
18.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function</p>	
19. Wildlife Habitat	<ul style="list-style-type: none"> <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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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. <input type="checkbox"/> 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. <input type="checkbox"/> 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 these species include softwood swamps. Evidence of use includes deer 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:
 - 1. Wood Frog, Jefferson Salamander, Blue-spotted Salamander, or Spotted Salamander. Breeding habitat for these species includes vernal pools and small ponds.
 - 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams.
 - 3. 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 significant 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 includes 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:

1. Three or more wetland vegetation classes (greater than 1/2 acre) present including but not limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog;

2. The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp;

3. Located adjacent to a lake, pond, river or stream;

4. Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land;

5. Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water;

6. One of the following:

i. hydrologically connected to other wetlands of different dominant classes or open water within 1 mile;

ii. hydrologically connected to other wetlands of same dominant class within 1/2 mile;

iii. 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; and

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

	<p>and seeps are generally small in size, so this does not apply).</p> <ul style="list-style-type: none"> <input type="checkbox"/> 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. <input type="checkbox"/> The current use in the wetland results in frequent cutting, mowing or other disturbance. <input type="checkbox"/> The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species. <input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The wetland complex is large in size and high in quality. <input type="checkbox"/> The habitat has the potential to support several species based on the assessment above. <input type="checkbox"/> Wetland is associated with an important wildlife corridor. <input type="checkbox"/> The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist. 	
19.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is adjacent to bird breeding habitat and therefore may contribute to this function.</p>	
19.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function</p>	
20. Exemplary Wetland Natural Community	<ul style="list-style-type: none"> <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. <ul style="list-style-type: none"> <input type="checkbox"/> 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. 	

	<p>The wetland is also likely to be significant if any of the following conditions are met:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to: <ul style="list-style-type: none"> <input type="checkbox"/> Deep peat accumulation reflecting a long history of wetland formation; <input type="checkbox"/> Forested wetlands displaying very old trees and other old growth characteristics; <input type="checkbox"/> A wetland natural community that is at the edge of the normal range for that type; <input checked="" type="checkbox"/> A wetland mosaic containing examples of several to many wetland community types; or <input type="checkbox"/> A large wetland complex containing examples of several wetland community types. <p>List species or communities of concern:</p> <p>Wet Clayplain Forest and Red Maple- Green Ash Swamp, Northern White Cedar Swamp</p>	
<p>20.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland does not contain this function although there are state mapped communities throughout the complex. The subject wetland is within a mowed and maintained field.</p>	
<p>20.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function</p>	
<p>21. Rare, Threatened, and Endangered Species Habitat</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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. <p>The wetland is also likely to be significant if any of the following</p>	

	<p>apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> There is credible documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists; <input type="checkbox"/> There is credible documentation that threatened or endangered species have been present in past 10 years; <input type="checkbox"/> 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; <input type="checkbox"/> There is credible documentation that the wetland provides habitat for multiple uncommon species of plants or animals (S3 rank). <p>List name of species and ranking:</p>	
21.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>NA</p>	
21.2. Statement of no adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.</p>	
22. Education and Research in Natural Sciences	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Owned by or leased to a public entity dedicated to education or research. <input type="checkbox"/> History of use for education or research. <input type="checkbox"/> Has one or more characteristics making it valuable for education or research. 	
22.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland does not contribute to the function listed however, a parcel of land containing this wetland complex is owned by the Nature Conservancy</p>	
22.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been</p>	

	designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function	
23. Recreational Value and Economic Benefits	<input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. !! FORMCHECKBOX <input type="checkbox"/> Used for, or contributes to, recreational activities. <input type="checkbox"/> Provides economic benefits. <input type="checkbox"/> Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law. <input type="checkbox"/> Used for harvesting of wild foods. Comments: Noted as a valuable area for recreational bird watching	
23.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above This subject wetland does not contribute to this function.	
23.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. Within these wetlands or buffers, the proposed Project would result in temporary to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function	
24. Open Space and Aesthetics	<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 checked="" type="checkbox"/> Can be readily observed by the public; and <input type="checkbox"/> Possesses special or unique aesthetic qualities; or <input checked="" type="checkbox"/> Has prominence as a distinct feature in the surrounding landscape; <input type="checkbox"/> Has been identified as important open space in a municipal, regional or state plan. Comments: Can be viewed off of Rotax Road	
24.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above This subject wetland does not contribute to this function.	
24.2. Statement of no	Please explain how the proposed project will not result in any undue,	

undue adverse impact	<p>adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.</p>	
25. Erosion Control through Binding and Stabilizing the Soil	<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> <p><input checked="" type="checkbox"/> Erosive forces such as wave or current energy are present and any of the following are present as well:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. <input type="checkbox"/> Good interspersion of persistent emergent vegetation and water along course of water flow. <input type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control. <p>What type of erosive forces are present:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lake fetch and waves <input type="checkbox"/> High current velocities: <input type="checkbox"/> Water level influenced by upstream impoundment <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> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force. <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The stream contains high sinuosity. <input type="checkbox"/> Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor. 	
25.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland does not support this function.</p>	
25.2. Statement of no	Please explain how the proposed project will not result in any undue,	

undue adverse impact	adverse impact to this function. Include any avoidance and minimization measures relevant to this function.	
	Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.	

14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.	Wetland Function Summary: (if more than one wetland use supplemental wetland sheets) Wetland Complex: 31a (2015-CM-3)					
	Functions & Values	Subject Wetland	Wetland Complex	Functions & Values	Subject Wetland	Wetland Complex
	Flood/Storm Storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RTE Species	<input type="checkbox"/>	<input type="checkbox"/>
	Surface & Groundwater Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Education & Research	<input type="checkbox"/>	<input type="checkbox"/>
	Fish Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Recreation/Economic	<input type="checkbox"/>	<input type="checkbox"/>
	Wildlife Habitat	<input type="checkbox"/>	<input type="checkbox"/>	Open Space/Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>
	Exemplary Natural Community	<input type="checkbox"/>	<input type="checkbox"/>	Erosion Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Functions and Values	<p>For each Function and Value, first evaluate the entire wetland or wetland complex and check all that apply. Secondly, evaluate how the wetland in the project area contributes to that function. Thirdly explain how the project will not result in adverse impacts to this function. Include any information on specific avoidance and minimization measures.</p> <p>If more than one wetland complex is involved, use the Supplemental Wetland Forms.</p>
16. Storage for Flood Water and Storm Runoff	<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 type="checkbox"/> Constricted outlet or no outlet and an unconstricted 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 checked="" type="checkbox"/> If a stream is present, its 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> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Significant flood storage capacity upstream of the wetland,

	<p>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).</p> <ul style="list-style-type: none"> <input type="checkbox"/> Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland. <input type="checkbox"/> Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures. <input type="checkbox"/> 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. <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> History of downstream flood damage to public or private property. <input type="checkbox"/> 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. <ul style="list-style-type: none"> <input type="checkbox"/> 1. Developed public or private property. <input type="checkbox"/> 2. Stream banks susceptible to scouring and erosion. <input type="checkbox"/> 3. Important habitat for aquatic life. <input type="checkbox"/> The wetland is large in size and naturally vegetated. <input type="checkbox"/> Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland. <ul style="list-style-type: none"> <input type="checkbox"/> 1. A large amount of impervious surface in urbanized areas. <input type="checkbox"/> 2. Relatively impervious soils. <input type="checkbox"/> 3. Steep slopes in the adjacent areas. 	
<p>16.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is located along stream and receives overland flow from streamflow. It provides physical space for storage for flood water and storm runoff.</p>	
<p>16.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within this wetlands or buffers, the proposed Project would result in temporary and/or other permanent impacts to wetland and wetland buffer</p>	

through trenching and/or the permanent clearing of forested wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function

17. 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 box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.
 - Presence of dead forest or shrub areas in sufficient

	<p>amounts to result in diminished nutrient uptake.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Presence of ditches or channels that confine water and restrict contact of water with vegetation. <input type="checkbox"/> 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. <input type="checkbox"/> Current use in the wetland results in disturbance that compromises this function. <input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is adjacent to a well head or source protection area, and provides ground water recharge. <input type="checkbox"/> The wetland provides flows to Class A surface waters. <input type="checkbox"/> The wetland contributes to the protection or improvement of water quality of any impaired waters. <input type="checkbox"/> The wetland is large in size and naturally vegetated. 	
17.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is naturally vegetated. It is permanently saturated and provide 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.</p>	
17.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within this wetlands or buffers, the proposed Project would result in temporary and/or other permanent impacts to wetland and wetland buffer through trenching and/or the permanent clearing of forested wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function</p>	
18. Fish Habitat	<ul style="list-style-type: none"> <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. <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 	

	<p>includes deep marsh and shallow marsh associates with lakes and streams, and seasonally flooded wetlands associated with streams and rivers.</p> <ul style="list-style-type: none"> <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 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. 	
18.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland is located along a perennial stream and provides adequate coverage for the stream to create fish habitat</p>	
18.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary and/or other permanent impacts to wetland and wetland buffer through trenching and/or the permanent clearing of forested wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function</p>	
19. Wildlife Habitat	<ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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. <input type="checkbox"/> 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. <input type="checkbox"/> 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 these species include softwood swamps. Evidence of use includes deer 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:
 - 1. Wood Frog, Jefferson Salamander, Blue-spotted Salamander, or Spotted Salamander. Breeding habitat for these species includes vernal pools and small ponds.
 - 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams.
 - 3. 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 significant 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 includes 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:
 - 1. Three or more wetland vegetation classes (greater than 1/2 acre) present including but not limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog;
 - 2. The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp;
 - 3. Located adjacent to a lake, pond, river or stream;
 - 4. Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land;
 - 5. Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water;
 - 6. One of the following:
 - i. hydrologically connected to other wetlands of different dominant classes or open water within 1 mile;
 - ii. hydrologically connected to other wetlands of same dominant class within 1/2 mile;
 - iii. 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; and
- 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.

	<ul style="list-style-type: none"> <input type="checkbox"/> 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). <input type="checkbox"/> 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. <input type="checkbox"/> The current use in the wetland results in frequent cutting, mowing or other disturbance. <input type="checkbox"/> The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species. <input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <ul style="list-style-type: none"> <input type="checkbox"/> The wetland complex is large in size and high in quality. <input type="checkbox"/> The habitat has the potential to support several species based on the assessment above. <input type="checkbox"/> Wetland is associated with an important wildlife corridor. <input type="checkbox"/> The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist. 	
19.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above NA	
19.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
20. Exemplary Wetland Natural Community	<ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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. <p>The wetland is also likely to be significant if any of the following conditions are met:</p>	

	<input type="checkbox"/> 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. <input type="checkbox"/> Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to: <ul style="list-style-type: none"> <input type="checkbox"/> Deep peat accumulation reflecting a long history of wetland formation; <input type="checkbox"/> Forested wetlands displaying very old trees and other old growth characteristics; <input type="checkbox"/> A wetland natural community that is at the edge of the normal range for that type; <input type="checkbox"/> A wetland mosaic containing examples of several to many wetland community types; or <input type="checkbox"/> A large wetland complex containing examples of several wetland community types. <p>List species or communities of concern:</p>	
20.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above NA	
20.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
21. Rare, Threatened, and Endangered Species Habitat	<input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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. <p>The wetland is also likely to be significant if any of the following apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> There is credible documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists; <input type="checkbox"/> There is credible documentation that threatened or endangered species have been present in past 10 years; <input type="checkbox"/> There is credible documentation that the wetland provides important habitat for any species listed as rare in Vermont 	

	<p>(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;</p> <p><input type="checkbox"/> There is credible documentation that the wetland provides habitat for multiple uncommon species of plants or animals (S3 rank).</p> <p>List name of species and ranking:</p>	
21.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>NA</p>	
21.2. Statement of no adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.</p>	
22. Education and Research in Natural Sciences	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Owned by or leased to a public entity dedicated to education or research.</p> <p><input type="checkbox"/> History of use for education or research.</p> <p><input type="checkbox"/> Has one or more characteristics making it valuable for education or research.</p>	
22.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>NA</p>	
22.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.</p>	
23. Recreational Value and Economic Benefits	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Used for, or contributes to, recreational activities.</p> <p><input type="checkbox"/> Provides economic benefits.</p> <p><input type="checkbox"/> Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law.</p> <p><input type="checkbox"/> Used for harvesting of wild foods.</p> <p>Comments:</p>	

	Noted as a valuable area for recreational bird watching	
23.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above	
	NA	
23.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
24. Open Space and Aesthetics	<input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> Can be readily observed by the public; and <ul style="list-style-type: none"> <input type="checkbox"/> Possesses special or unique aesthetic qualities; or <input type="checkbox"/> Has prominence as a distinct feature in the surrounding landscape; <input type="checkbox"/> Has been identified as important open space in a municipal, regional or state plan. Comments:	
24.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above	
	NA	
24.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
25. Erosion Control through Binding and Stabilizing the Soil	<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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Erosive forces such as wave or current energy are present and any of the following are present as well: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. <input checked="" type="checkbox"/> Good interspersion of persistent emergent vegetation and water along course of water flow. <input type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control. What type of erosive forces are present: <ul style="list-style-type: none"> <input type="checkbox"/> Lake fetch and waves <input type="checkbox"/> High current velocities: 	

	<p><input type="checkbox"/> Water level influenced by upstream impoundment</p> <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> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <p><input type="checkbox"/> The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force.</p> <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <p><input checked="" type="checkbox"/> The stream contains high sinuosity.</p> <p><input type="checkbox"/> Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor.</p>	
25.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland borders stream and provides bank dense persistent vegetation along stream bank that reduces adjacent erosive force.</p>	
25.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within this wetland or buffers, the proposed Project would result in temporary and/or other permanent impacts to wetland and wetland buffer through trenching and/or the permanent clearing of forested wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetland and buffer to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.</p>	

14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.	Wetland Function Summary: (if more than one wetland use supplemental wetland sheets) Wetland complex: 33 (2012-JB-12)					
	Functions & Values	Subject Wetland	Wetland Complex	Functions & Values	Subject Wetland	Wetland Complex
	Flood/Storm Storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RTE Species	<input type="checkbox"/>	<input type="checkbox"/>
	Surface & Groundwater Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Education & Research	<input type="checkbox"/>	<input type="checkbox"/>
	Fish Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Recreation/Economic	<input type="checkbox"/>	<input type="checkbox"/>
	Wildlife Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Space/Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>
	Exemplary Natural Community	<input type="checkbox"/>	<input type="checkbox"/>	Erosion Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Functions and Values	<p>For each Function and Value, first evaluate the entire wetland or wetland complex and check all that apply. Secondly, evaluate how the wetland in the project area contributes to that function. Thirdly explain how the project will not result in adverse impacts to this function. Include any information on specific avoidance and minimization measures.</p> <p>If more than one wetland complex is involved, use the Supplemental Wetland Forms.</p>
16. Storage for Flood Water and Storm Runoff	<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 type="checkbox"/> Constricted outlet or no outlet and an unconstricted 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, its 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> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p>

	<ul style="list-style-type: none"> <input type="checkbox"/> 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). <input type="checkbox"/> Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland. <input type="checkbox"/> Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures. <input type="checkbox"/> 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. <input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <ul style="list-style-type: none"> <input type="checkbox"/> History of downstream flood damage to public or private property. <input type="checkbox"/> 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. <ul style="list-style-type: none"> <input type="checkbox"/> 1. Developed public or private property. <input type="checkbox"/> 2. Stream banks susceptible to scouring and erosion. <input type="checkbox"/> 3. Important habitat for aquatic life. <input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated. <input checked="" type="checkbox"/> Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland. <ul style="list-style-type: none"> <input type="checkbox"/> 1. A large amount of impervious surface in urbanized areas. <input type="checkbox"/> 2. Relatively impervious soils. <input checked="" type="checkbox"/> 3. Steep slopes in the adjacent areas. 	
16.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is large in size and naturally vegetated. It provides physical space for storage for flood water and storm runoff. Steep slopes in adjacent areas indicate a large volume of runoff may reach the wetland.</p>	
16.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	

Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching of forested wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetlands and buffers to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.

17. 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 box if any of the following conditions apply that may

	<p>indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Presence of dead forest or shrub areas in sufficient amounts to result in diminished nutrient uptake. <input type="checkbox"/> Presence of ditches or channels that confine water and restrict contact of water with vegetation. <input type="checkbox"/> 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. <input type="checkbox"/> Current use in the wetland results in disturbance that compromises this function. <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is adjacent to a well head or source protection area, and provides ground water recharge. <input type="checkbox"/> The wetland provides flows to Class A surface waters. <input type="checkbox"/> The wetland contributes to the protection or improvement of water quality of any impaired waters. <input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated. 	
17.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland is large in size and provides an obvious filter between surface water and ground water.</p>	
17.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary to wetland and wetland buffer through trenching wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetlands and buffers to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.</p>	
18. Fish Habitat	<ul style="list-style-type: none"> <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. <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 checked="" type="checkbox"/> Provides spawning, nursery, feeding or cover habitat for fish (documented or professionally judged). Common habitat 	

	<p>includes deep marsh and shallow marsh associates with lakes and streams, and seasonally flooded wetlands associated with streams and rivers.</p> <ul style="list-style-type: none"> <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 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. 	
18.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland contains woody vegetation that overhangs the banks of a stream and provides shading along a perennial stream.</p>	
18.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary to wetland and wetland buffer through trenching wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetlands and buffers to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.</p>	
19. Wildlife Habitat	<ul style="list-style-type: none"> <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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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. <input type="checkbox"/> 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. <input type="checkbox"/> 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 these species include softwood swamps. Evidence of use includes deer 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:
 - 1. Wood Frog, Jefferson Salamander, Blue-spotted Salamander, or Spotted Salamander. Breeding habitat for these species includes vernal pools and small ponds.
 - 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams.
 - 3. 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 significant 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 includes 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:

1. Three or more wetland vegetation classes (greater than 1/2 acre) present including but not limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog;

2. The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp;

3. Located adjacent to a lake, pond, river or stream;

4. Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land;

5. Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water;

6. One of the following:

i. hydrologically connected to other wetlands of different dominant classes or open water within 1 mile;

ii. hydrologically connected to other wetlands of same dominant class within 1/2 mile;

iii. 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; and

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

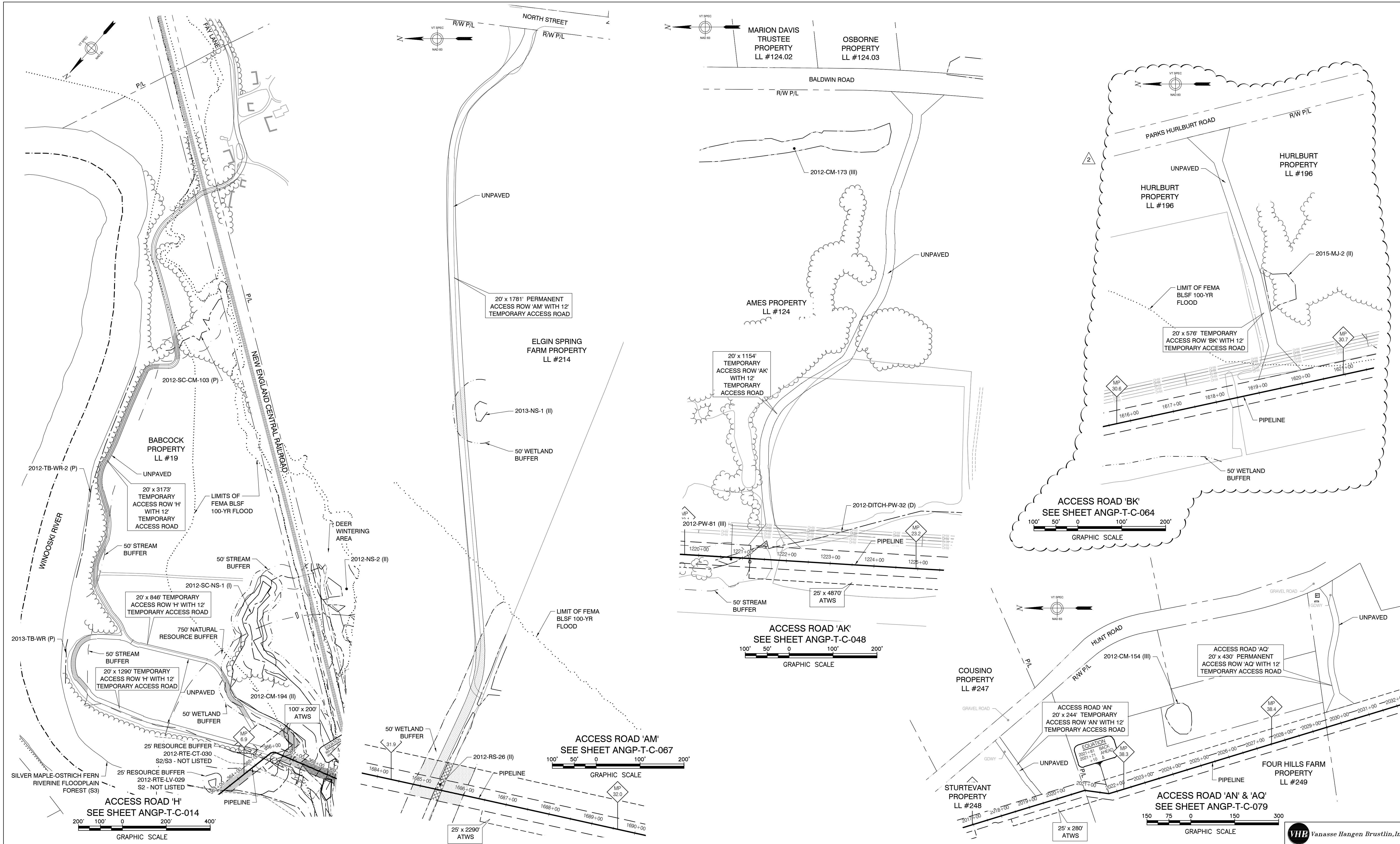
	<p>represent fugitive habitat in developed areas (vernal pools and seeps are generally small in size, so this does not apply).</p> <ul style="list-style-type: none"> <input type="checkbox"/> The surrounding land use is densely developed enough to limit use by wildlife species (with the exception of wetlands with open water habitat). Can be negated by evidence of use. <input type="checkbox"/> The current use in the wetland results in frequent cutting, mowing or other disturbance. <input type="checkbox"/> The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species. <input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The wetland complex is large in size and high in quality. <input type="checkbox"/> The habitat has the potential to support several species based on the assessment above. <input type="checkbox"/> Wetland is associated with an important wildlife corridor. <input type="checkbox"/> The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist. 	
19.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>This subject wetland is large in size and supports an active beaver dam as well as waterfowl habitat.</p>	
19.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetlands and buffers to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.</p>	
20. Exemplary Wetland Natural Community	<ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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 	

	<p>ash seepage swamps are automatically significant for this function.</p> <p>The wetland is also likely to be significant if any of the following conditions are met:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 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. <input type="checkbox"/> Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to: <ul style="list-style-type: none"> <input type="checkbox"/> Deep peat accumulation reflecting a long history of wetland formation; <input type="checkbox"/> Forested wetlands displaying very old trees and other old growth characteristics; <input type="checkbox"/> A wetland natural community that is at the edge of the normal range for that type; <input type="checkbox"/> A wetland mosaic containing examples of several to many wetland community types; or <input type="checkbox"/> A large wetland complex containing examples of several wetland community types. <p>List species or communities of concern:</p>	
20.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>NA</p>	
20.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.</p>	
21. Rare, Threatened, and Endangered Species Habitat	<ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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. <p>The wetland is also likely to be significant if any of the following apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> There is credible documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists; 	

	<input type="checkbox"/> There is credible documentation that threatened or endangered species have been present in past 10 years; <input type="checkbox"/> 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; <input type="checkbox"/> 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:	
21.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above NA	
21.2. Statement of no adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
22. Education and Research in Natural Sciences	<input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. <input type="checkbox"/> Owned by or leased to a public entity dedicated to education or research. <input type="checkbox"/> History of use for education or research. <input type="checkbox"/> Has one or more characteristics making it valuable for education or research.	
22.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above NA	
22.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
23. Recreational Value and Economic Benefits	<input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. <input type="checkbox"/> Used for, or contributes to, recreational activities. <input type="checkbox"/> Provides economic benefits.	

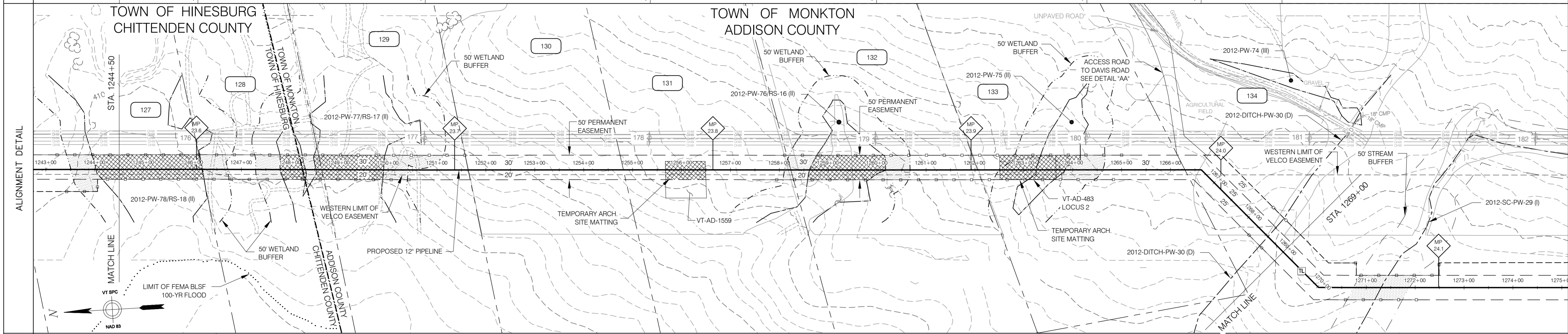
	<input type="checkbox"/> Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law. <input type="checkbox"/> Used for harvesting of wild foods. Comments:	
23.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above NA	
23.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
24. Open Space and Aesthetics	<input 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"/> Can be readily observed by the public; and <input type="checkbox"/> Possesses special or unique aesthetic qualities; or <input type="checkbox"/> Has prominence as a distinct feature in the surrounding landscape; <input type="checkbox"/> Has been identified as important open space in a municipal, regional or state plan. Comments:	
24.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above NA	
24.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. This wetland complex does not provide this function. Therefore, there will be no undue adverse impact to this function.	
25. Erosion Control through Binding and Stabilizing the Soil	<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 checked="" type="checkbox"/> Erosive forces such as wave or current energy are present and any of the following are present as well: <input checked="" type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. <input checked="" type="checkbox"/> Good interspersion of persistent emergent vegetation and water along course of water flow.	

	<p><input type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control.</p> <p>What type of erosive forces are present:</p> <p><input type="checkbox"/> Lake fetch and waves</p> <p><input type="checkbox"/> High current velocities:</p> <p><input type="checkbox"/> Water level influenced by upstream impoundment</p> <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> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <p><input type="checkbox"/> The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force.</p> <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <p><input checked="" type="checkbox"/> The stream contains high sinuosity.</p> <p><input type="checkbox"/> Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor.</p>	
25.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland provides erosion control through binding and stabilizing soils through dense, persistent vegetation along delineated Stream.</p>	
25.2. Statement of no undue adverse impact	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>Within these wetlands or buffers, the proposed Project would result in temporary impacts to wetland and wetland buffer through trenching wetland or buffers. As described in section 12.4, the Project has been designed to avoid and minimize environmental impacts, including those to Class II wetlands and buffers to the greatest extent practicable. Therefore, there will be no undue adverse impact to this function.</p>	



DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR:	W.O.	SCALE:	AS NOTED	DWG.	ANGP-T-G-007B	REV.	2
		2	VGS	VGS	ACCESS ROAD "BK" ADDED (11/13/15)												
		1	BCK	TDB	VHB EDITS (6/09/15)												
						ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT ACCESS ROAD DETAILS LOC. CHITTENDEN & ADDISON COUNTIES Vermont Gas 38 Eastwood Drive, Suite 105 South Burlington, VT 05403 Main: (802) 735-0372 • www.vhbc.companies.com						
						DRAFTING DESIGNER	GIL	06/28/13	GIL	04/02/15							
						DRAFTING SUPERVISOR	BZD	06/28/13	BCK	04/02/15							
						DESIGN ENGINEER	MDF	06/28/13	TDB	04/02/15							
						DESIGN MANAGER	SAB	06/28/13	JEO	04/02/15							

RIGHT-OF-WAY	MATCH LINE	(127) N/F LEUSCHNER, EDWARD T. JR. & DAWN	(128) N/F DERRICK, DIANE M.	TOWN OF HINESBURG TOWN OF MONKTON	(129) N/F WEAVER, TODD & TAMMY	(130) N/F ALMOND, DAVID	(131) N/F STEIN, PHILIP J.	(132) N/F MAY, PETER M. & SANDRA	(133) N/F NOLAN, KATHLEEN	(134) N/F NORRIS, NORMA	MATCH LINE
	SURVEY DATA	1246+08 00'12" RT S 03° 18' W	1246+08 00'12" RT S 03° 31' W	1250+75 00'11" LT S 03° 19' W	1255+35 00'05" RT S 03° 25' W	1259+97 00'07" LT S 03° 17' W	1264+78 00'08" RT S 03° 26' W	1266+63 45' 00" RT S 45° 26' W			



EROSION PREVENTION & SEDIMENT CONTROL	LEGEND PERMANENT EASEMENT TEMPORARY WORKSPACE CENTERLINE OF STREAM TEMPORARY STREAM CROSSING WETLAND 50' WETLAND BUFFER TEMPORARY WETLAND MATTING WETLAND BUFFER WITHIN PROJECT AREA REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL	INSTALL CONSTRUCTION DEMARCATION: STA. 1244+50 TO 1266+50 RT - 20' FROM NEW 12" PIPE ☒ STA. 1244+50 TO 1266+12 LT - 30' FROM NEW 12" PIPE ☒ STA. 1266+65 LT - 1269+00 LT 25' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1244+50 TO 1250+89 RT - 20' FROM NEW 12" PIPE ☒ STA. 1244+50 TO 1251+62 LT - 30' FROM NEW 12" PIPE ☒	INSTALL MATTING: STA. 1244+50 TO 1246+24 STA. 1247+79 TO 1249+93	INSTALL MATTING: STA. 1255+67 TO 1256+50	INSTALL MATTING: STA. 1258+61 TO 1260+17	INSTALL MATTING: STA. 1262+51 TO 1264+31	INSTALL STABILIZED CONSTRUCTION ENTRANCE: STA. 1266+25	INSTALL CONSTRUCTION DEMARCATION: STA. 1266+50 TO 1269+00 RT - 25' FROM NEW 12" PIPE ☒ STA. 1268+63 TO 1269+00 LT - 50' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1257+58 TO 1264+96 RT - 20' FROM NEW 12" PIPE ☒ STA. 1257+70 TO 1265+16 LT - 30' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1268+06 TO 1269+00 RT - 25' FROM NEW 12" PIPE ☒ STA. 1268+02 TO 1269+00 LT - 50' FROM NEW 12" PIPE ☒
	1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE 'CONSTRUCTION EPSC NOTES' - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6. 2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE 'CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS' (ANQP-T-G-011), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.										
	HORIZONTAL SCALE 										
	VERTICAL SCALE 										

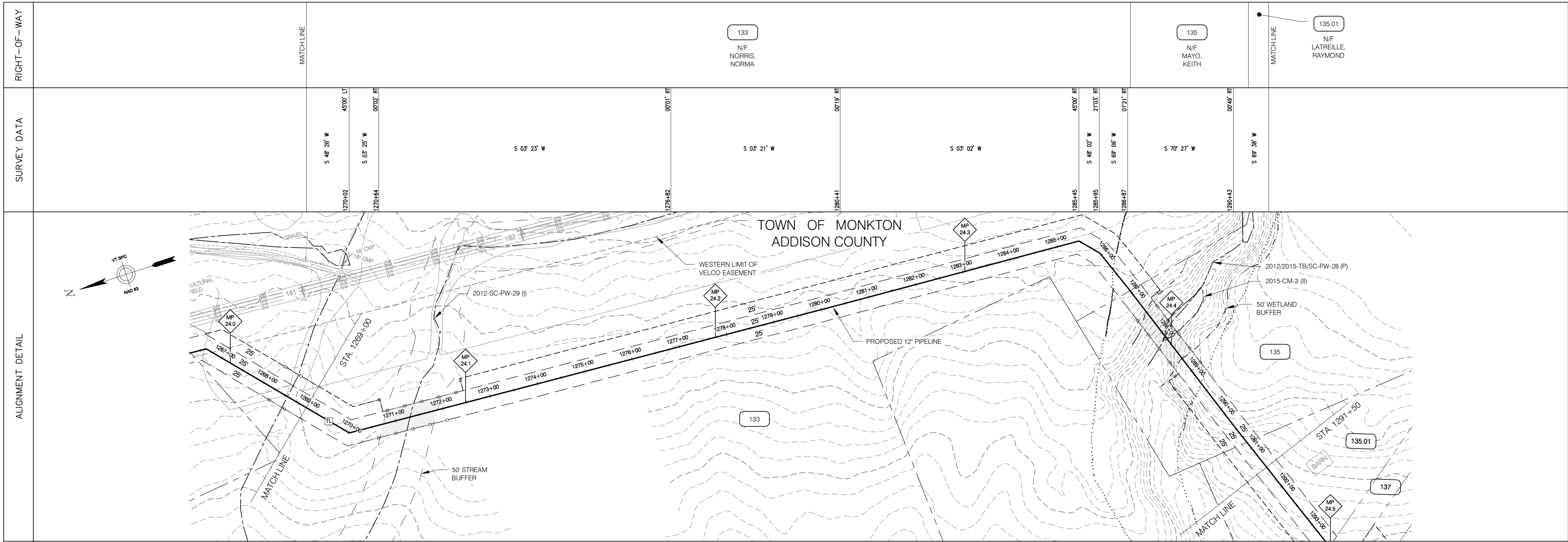
CONST. TYPE	(W)		(W)		(2D)	(A)		(W)		(A)	(W)	(1A)	(1A)
SOIL TYPE	VsB (PAS)		VsB (PAS)		AcB (PAS)					VsB (PAS)			EB
LC/LU	PASTURE AGRICULTURE												
STREAMS													2012-DITCH-PW-30 (D)
WETLANDS	WETLAND 2012-PW-78/RS-18- STATION 1244+50 TO 1246+79 CLASS II			WETLAND 2012-PW-77/RS-17- STATION 1247+30 TO 1251+12 CLASS II			WETLAND 2012-PW-76/RS-16- STATION 1258+08 TO 1260+67 CLASS II			WETLAND 2012-PW-75- STATION 1262+39 TO 1264+65 CLASS II			
VERNAL POOLS	MATCH LINE												
SIGNIFICANT NATURAL COMMUNITIES													
RTE SPECIES													
NRC WILDLIFE HABITAT													
ARCHAEOLOGY SITES						VT-AD-1559						VT-AD-483 LOCUS 2	

ANQP-T-G-07-010	ACCESS ROAD DETAILS												
ANQP-T-C-049	ALIGNMENT SHEET	1	BCK	TDB		ROTAX ROAD REROUTE (10/26/15)							
DWG. NO.	REFERENCE DWG.	REV	DSN	CK		DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR: 2015	W.O.	SCALE: 1" = 100'

ENVIRONMENTAL DRAFTING DESIGNER DRAFTING SUPERVISOR DESIGN ENGINEER DESIGN MANAGER	BID JLS 06/28/13 GIL 06/28/13 BZD 06/28/13 MDF 06/28/13 SAB 06/28/13				CONSTRUCTION JLS 04/02/15 GIL 04/02/15 BCK 04/02/15 TDB 04/02/15 JEO 04/02/15				VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN			LOC. ADDISON COUNTY, VERMONT	DWG. ANQP-EPSC-049	REV. 1
	ENVIRONMENTAL DRAFTING DESIGNER DRAFTING SUPERVISOR DESIGN ENGINEER DESIGN MANAGER	JLS 06/28/13 GIL 06/28/13 BZD 06/28/13 MDF 06/28/13 SAB 06/28/13	JLS 04/02/15 GIL 04/02/15 BCK 04/02/15 TDB 04/02/15 JEO 04/02/15	YEAR: 2015	W.O.	SCALE: 1" = 100'	DWG. ANQP-EPSC-049	REV. 1						
	ENVIRONMENTAL DRAFTING DESIGNER DRAFTING SUPERVISOR DESIGN ENGINEER DESIGN MANAGER	JLS 06/28/13 GIL 06/28/13 BZD 06/28/13 MDF 06/28/13 SAB 06/28/13	JLS 04/02/15 GIL 04/02/15 BCK 04/02/15 TDB 04/02/15 JEO 04/02/15	YEAR: 2015	W.O.	SCALE: 1" = 100'	DWG. ANQP-EPSC-049	REV. 1						
	ENVIRONMENTAL DRAFTING DESIGNER DRAFTING SUPERVISOR DESIGN ENGINEER DESIGN MANAGER	JLS 06/28/13 GIL 06/28/13 BZD 06/28/13 MDF 06/28/13 SAB 06/28/13	JLS 04/02/15 GIL 04/02/15 BCK 04/02/15 TDB 04/02/15 JEO 04/02/15	YEAR: 2015	W.O.	SCALE: 1" = 100'	DWG. ANQP-EPSC-049	REV. 1						
	ENVIRONMENTAL DRAFTING DESIGNER DRAFTING SUPERVISOR DESIGN ENGINEER DESIGN MANAGER	JLS 06/28/13 GIL 06/28/13 BZD 06/28/13 MDF 06/28/13 SAB 06/28/13	JLS 04/02/15 GIL 04/02/15 BCK 04/02/15 TDB 04/02/15 JEO 04/02/15	YEAR: 2015	W.O.	SCALE: 1" = 100'	DWG. ANQP-EPSC-049	REV. 1						

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 38 Eastwood Drive, Suite 105
 South Burlington, VT 05403
 Main: (802) 735-0372 - www.chacompanies.com



EROSION PREVENTION & SEDIMENT CONTROL	LEGEND	INSTALL CONSTRUCTION DEMARCATION: STA. 1269+00 TO 1288+89 RT - 25' FROM NEW 12" PIPE ☒ STA. 1288+89 TO 1291+50 RT - 50' FROM NEW 12" PIPE ☒ STA. 1269+00 TO 1270+78 LT - 50' FROM NEW 12" PIPE ☒	INSTALL CONSTRUCTION DEMARCATION: STA. 1270+78 TO 1272+50 LT - 25' FROM NEW 12" PIPE ☒ STA. 1272+50 TO 1287+31 LT - 50' FROM NEW 12" PIPE ☒ STA. 1287+31 TO 1291+50 LT - 25' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1269+00 TO 1269+08 RT - 25' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1270+14 TO 1272+24 RT - 25' FROM NEW 12" PIPE ☒ STA. 1287+17 TO 1288+89 RT - 25' FROM NEW 12" PIPE ☒ STA. 1288+89 TO 1289+19 RT - 50' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1270+43 TO 1270+79 LT - 50' FROM NEW 12" PIPE ☒ STA. 1270+79 TO 1272+49 LT - 25' FROM NEW 12" PIPE ☒ STA. 1272+49 TO 1272+55 LT - 50' FROM NEW 12" PIPE ☒	INSTALL REINFORCED PERIMETER CONTROL: STA. 1286+49 TO 1287+31 LT - 50' FROM NEW 12" PIPE ☒ STA. 1287+31 TO 1289+19 LT - 25' FROM NEW 12" PIPE ☒	INSTALL MATTING: STA. 1287+90 TO 1288+19	HORIZONTAL SCALE 100 50 0 100 200 300 feet	VERTICAL SCALE 100 50 0 100 200 300 feet
	PERMANENT EASEMENT TEMPORARY WORKSPACE CENTERLINE OF STREAM TEMPORARY STREAM CROSSING WETLAND 50' WETLAND BUFFER TEMPORARY WETLAND MATTING WETLAND BUFFER WITHIN PROJECT AREA REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL	<p>1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE 'CONSTRUCTION EPSC NOTES' - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.</p> <p>2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE 'CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS' (ANGP-T-G-01), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.</p>								

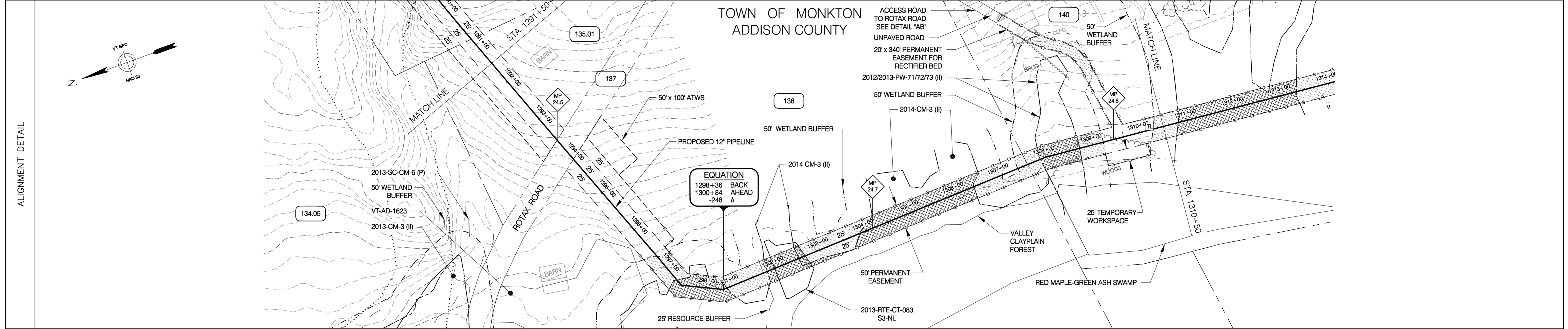
CONST. TYPE	1A	2A	1A	2A	W	1A
SOIL TYPE	EIB	1/2B (PAS)	A/B (PAS)	AsD	AsC	
LC/LU	PASTURE AGRICULTURE					
STREAMS	STREAM 2012-SC-PW-29 (I) STATION 1270+74 TO 1271+88			STREAM 2012/2015-TB/SC-PW-28 (P) STATION 1287+46 TO 1288+67		
WETLANDS	MATCH LINE			WETLAND 2015-CM-3 (II) STATION 1287+46 TO 1288+67		
VERNAL POOLS	MATCH LINE					
SIGNIFICANT NATURAL COMMUNITIES						
RTE SPECIES						
NRC WILDLIFE HABITAT						
ARCHAEOLOGY SITES						

ANGP-T-C-050	ALIGNMENT SHEET	1	BCK	TDB	ROTAX ROAD REROUTE (10/26/15)	ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN			
DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR: 2015	W.O.	SCALE: 1" = 100'		

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RIGHT-OF-WAY	MATCH LINE		135.01 N/F LATREILLE, RAYMOND	137 ROTAX ROAD	138 N/F LATREILLE, LEONARD	140 N/F VERMONT GAS SYSTEMS	MATCH LINE	
			00'23" LT 1296+88	00'47" RT 1296+83	44'10" LT 1297+50	28'11" LT 1298+36	07'41" RT 1308+00	
SURVEY DATA			S 69° 38' W	S 69° 16' W	S 70° 03' W	S 25° 53' W	S 02° 18' E	S 05° 22' W



EROSION PREVENTION & SEDIMENT CONTROL

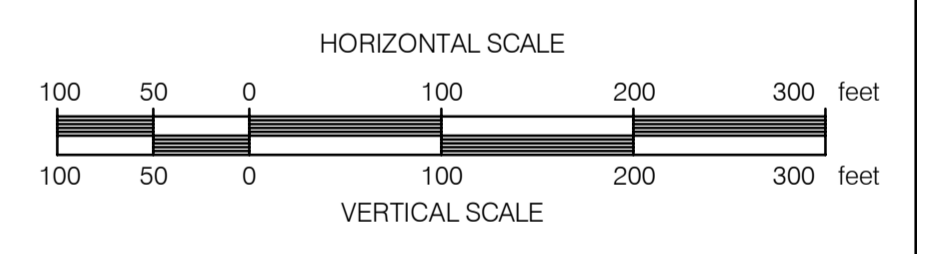
LEGEND

PERMANENT EASEMENT	---
TEMPORARY WORKSPACE	- - - -
CENTERLINE OF STREAM	—●—
TEMPORARY STREAM CROSSING	▨
WETLAND	▩
50' WETLAND BUFFER	▨
TEMPORARY WETLAND MATTING	▩
WETLAND BUFFER WITHIN PROJECT AREA	▨
REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL	—●—

<p>INSTALL CONSTRUCTION DEMARCATION: STA. 1291+50 TO 1293+57 RT - 50' FROM NEW 12" PIPE € STA. 1294+09 TO 1309+22 RT - 25' FROM NEW 12" PIPE € STA. 1309+22 TO 1310+10 RT - 50' FROM NEW 12" PIPE € STA. 1310+10 TO 1310+50 RT - 25' FROM NEW 12" PIPE €</p> <p>INSTALL REINFORCED PERIMETER CONTROL: STA. 1296+15 TO 1309+22 RT - 25' FROM NEW 12" PIPE € STA. 1309+22 TO 1310+10 RT - 50' FROM NEW 12" PIPE € STA. 1310+10 TO 1310+50 RT - 25' FROM NEW 12" PIPE €</p>	<p>INSTALL CONSTRUCTION DEMARCATION: STA. 1291+50 TO 1293+57 LT - 25' FROM NEW 12" PIPE € STA. 1294+09 TO 1294+88 LT - 100' FROM NEW 12" PIPE € STA. 1294+88 TO 1296+68 LT - 50' FROM NEW 12" PIPE € STA. 1296+68 TO 1310+50 LT - 25' FROM NEW 12" PIPE €</p> <p>INSTALL REINFORCED PERIMETER CONTROL: STA. 1296+24 TO 1296+68 LT - 50' FROM NEW 12" PIPE € STA. 1296+68 TO 1309+49 LT - 25' FROM NEW 12" PIPE € STA. 1309+73 TO 1310+50 LT - 25' FROM NEW 12" PIPE €</p>	<p>INSTALL MATTING: STA. 1297+25 TO 1300+92</p>	<p>INSTALL MATTING: STA. 1301+81 TO 1303+60</p>	<p>INSTALL MATTING: STA. 1303+72 TO 1306+57</p>	<p>INSTALL MATTING: STA. 1307+87 TO 1308+73</p>
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1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE 'CONSTRUCTION EPSC NOTES' - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.

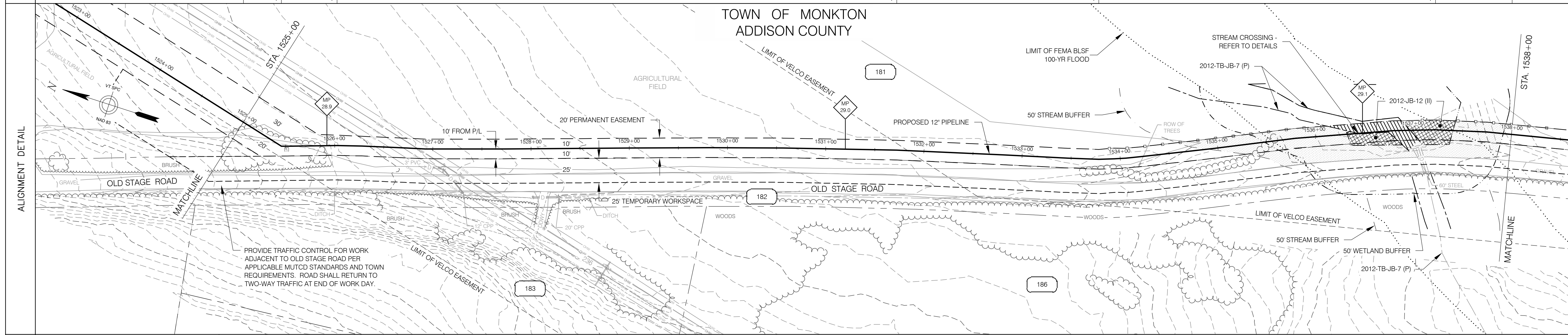
2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE 'CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS' (ANGP-T-G-011), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.



CONST. TYPE	(1A) (11) (1A) (W) (W) (2A) (W) (W) (1A) (2A)
SOIL TYPE	Asc Lk Gw (PAS) Rsb (PAS) Mv
LC/LU	PASTURE UNPAVED AGRICULTURE TRAVEL PASTURE AGRICULTURE
STREAMS	
WETLANDS	WETLAND 2014-CM-3 STATION 1296+63 TO 1307+21 CLASS II WETLAND 2012/2013-PW-71/72/73 STATION 1307+21 TO 1309+22 CLASS II WETLAND 2012/2013-PW-71/72/73 STATION 1310+30 TO 1310+50 CLASS II
VERNAL POOLS	
SIGNIFICANT NATURAL COMMUNITIES	
RTE SPECIES	2013-RTE-CT-083 S3-NL
NRC WILDLIFE HABITAT	
ARCHAEOLOGY SITES	

ANGP-T-G-07-010	ACCESS ROAD DETAILS	2	BCK	TDB	ROTAX ROAD REROUTE (10/26/15)	ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN		
ANGP-T-C-051	ALIGNMENT SHEET	1	BCK	TDB	ADDED ARCH. SITE AND ENV. EDITS (6/08/15)	DRAFTING DESIGNER	GIL	06/28/13	GIL	04/02/15			
DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	DRAFTING SUPERVISOR	BZD	06/28/13	BCK	04/02/15			

RIGHT-OF-WAY	MATCHLINE		181 N/F HURLBURT, HERRICK & CHARLOTTE		MATCHLINE	
	MATCHLINE		182 OLD STAGE ROAD		MATCHLINE	
SURVEY DATA	S 14° 22' W 32° 59' LT 1525+46		S 18° 36' E 00° 44' RT 1526+02		S 17° 52' E 02° 31' RT 1531+72	
	S 14° 22' W 32° 59' LT 1525+46		S 18° 36' E 00° 44' RT 1526+02		S 17° 52' E 02° 31' RT 1531+72	



EROSION PREVENTION & SEDIMENT CONTROL	LEGEND	<p>PERMANENT EASEMENT</p> <p>TEMPORARY WORKSPACE</p> <p>CENTERLINE OF STREAM</p> <p>TEMPORARY STREAM CROSSING</p> <p>WETLAND</p> <p>50' WETLAND BUFFER</p> <p>TEMPORARY WETLAND MATTING</p> <p>WETLAND BUFFER WITHIN PROJECT AREA</p> <p>REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL</p>	<p>INSTALL CONSTRUCTION DEMARCATION:</p> <p>STA. 1525+00 TO 1525+83 LT - 30' FROM NEW 12" PIPE €</p> <p>STA. 1525+83 TO 1538+00 LT - 10' FROM NEW 12" PIPE €</p> <p>STA. 1525+00 TO 1538+00 RT - WIDTH VARIES FROM NEW 12" PIPE €</p>	<p>INSTALL REINFORCED PERIMETER CONTROL:</p> <p>STA. 1533+71 TO 1536+12 LT - 10' FROM NEW 12" PIPE €</p> <p>INSTALL REINFORCED PERIMETER CONTROL:</p> <p>STA. 1536+88 TO 1538+00 LT - 10' FROM NEW 12" PIPE €</p>	<p>INSTALL MATTING:</p> <p>STA. 1536+32 TO 1536+44</p> <p>STA. 1536+97 TO 1537+40</p>	<p>HORIZONTAL SCALE</p> <p>50 25 0 50 100 150 feet</p> <p>VERTICAL SCALE</p> <p>50 25 0 50 100 150 feet</p>
	<p>1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE "CONSTRUCTION EPSC NOTES" - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.</p> <p>2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE "CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS" (ANGP-T-G-011), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.</p>					

CONST. TYPE	(2D)	(4A)	(7)	(W)	(4A)
SOIL TYPE	AmC (PAS)	Or (PAS)	Vgc (PAS)	Cv (PAS)	
LC/LU	FORESTED AGRICULTURAL	PASTURE	TRAVEL	WATER	PASTURE
STREAMS	STREAM 2012-TB-JB-7 - (P) STATION 1536+10 TO 1537+04				
WETLANDS	WETLAND 2012-JB-12 - STATION 1536+31 TO 1537+42 CLASS II				
VERNAL POOLS					
SIGNIFICANT NATURAL COMMUNITIES					
RTE SPECIES					
NRC WILDLIFE HABITAT					
ARCHAEOLOGY SITES					

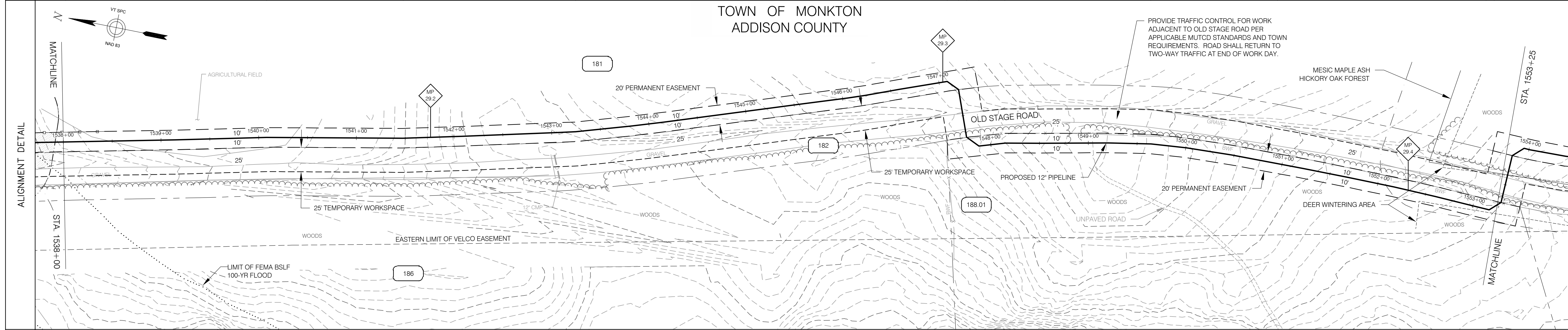
ANGP-T-C-061A	ALIGNMENT SHEET	1	VGS	VGS	OLD STAGE ROAD RE-ROUTE (11/13/15)	ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN			
DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR: 2015				W.O.

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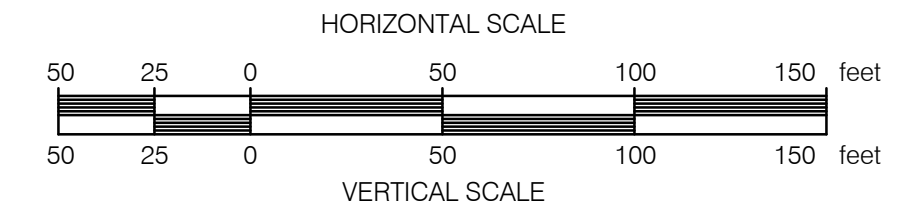
CIA

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RIGHT-OF-WAY	MATCHLINE	181 N/F HURLBURT, HERRICK & CHARLOTTE	182 OLD STAGE ROAD	188.01 N/F VERMONT GAS SYSTEMS, INC.	MATCHLINE				
SURVEY DATA		S 12° 55' E	S 10° 59' E	S 13° 35' E	S 18° 47' E	S 11° 34' E	S 02° 19' E	S 00° 44' E	
		1540+08	1541+48	1543+25	1547+08	1549+15	1549+64	1550+96	1553+17



EROSION PREVENTION & SEDIMENT CONTROL	LEGEND	INSTALL CONSTRUCTION DEMARCATION: STA. 1538+00 TO 1547+09 LT - 10' FROM NEW 12" PIPE € STA. 1538+00 TO 1547+00 RT - WIDTH VARIES FROM NEW 12" PIPE €	INSTALL CONSTRUCTION DEMARCATION: STA. 1547+00 TO 1547+88 RT - WIDTH VARIES FROM NEW 12" PIPE € STA. 1547+88 TO 1553+17 RT - 10' FROM NEW 12" PIPE € STA. 1547+09 TO 1548+00 LT - WIDTH VARIES FROM NEW 12" PIPE € STA. 1548+00 TO 1553+25 LT - WIDTH VARIES FROM NEW 12" PIPE €	INSTALL CONSTRUCTION DEMARCATION: STA. 1553+17 TO 1553+25 RT - WIDTH VARIES FROM NEW 12" PIPE €
	<ul style="list-style-type: none"> PERMANENT EASEMENT TEMPORARY WORKSPACE CENTERLINE OF STREAM TEMPORARY STREAM CROSSING WETLAND 50' WETLAND BUFFER TEMPORARY WETLAND MATTING WETLAND BUFFER WITHIN PROJECT AREA REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL 	INSTALL REINFORCED PERIMETER CONTROL: STA. 1538+00 TO 1538+44 LT - 10' FROM NEW 12" PIPE €	<p>1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE "CONSTRUCTION EPSC NOTES" - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.</p> <p>2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE "CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS" (ANGP-T-G-011), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.</p>	



CONST. TYPE		4A	11	4B
SOIL TYPE	Cv (PAS)	VgB (PAS)	VgD	VgB (PAS)
LC/LU		PASTURE	TRAVEL	TRAVEL FORESTED
STREAMS				
WETLANDS				
VERNAL POOLS				
SIGNIFICANT NATURAL COMMUNITIES				MESIC MAPLE ASH HICKORY OAK FOREST
RTE SPECIES				
NRC WILDLIFE HABITAT				DEER WINTERING AREA
ARCHAEOLOGY SITES				

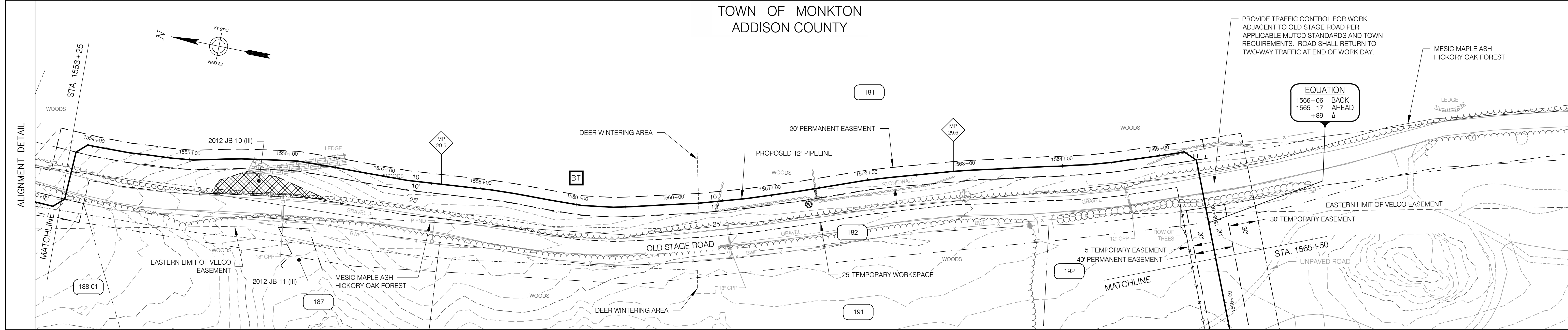
ANGP-T-C-061B	ALIGNMENT SHEET	1	VGS	VGS	OLD STAGE ROAD RE-ROUTE (11/13/15)	ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN			
DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR: 2015				W.O.

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RIGHT-OF-WAY	MATCHLINE	N/F HULBURT, HERRICK & CHARLOTTE										MATCHLINE																								
	188.01	N/F VERMONT GAS SYSTEMS, INC.										192																								
SURVEY DATA	1553+31	S 42° 44' E	45'00" LT	1553+81	S 87° 44' E	45'00" RT	1553+95	S 42° 44' E	45'00" RT	1554+01	S 02° 16' W	05'55" LT	1555+04	S 03° 39' E	05'41" LT	1556+11	S 09° 20' E	04'29" RT	1559+38	S 04° 51' E	14'26" LT	1562+30	S 19° 17' E	04'48" RT	1565+19	S 27° 28' E	07'59" LT	1565+25	S 42° 44' E	45'00" RT	1565+40	S 27° 32' W	45'00" RT	1565+40	S 67° 32' W	45'00" RT
	PIPE ALIGNMENT PARALLELS ROAD RIGHT-OF-WAY. FOR CLARITY, NOT ALL SURVEY DATA IS SHOWN																																			



EROSION PREVENTION & SEDIMENT CONTROL	LEGEND	<p>PERMANENT EASEMENT</p> <p>TEMPORARY WORKSPACE</p> <p>CENTERLINE OF STREAM</p> <p>TEMPORARY STREAM CROSSING</p> <p>WETLAND</p> <p>50' WETLAND BUFFER</p> <p>TEMPORARY WETLAND MATTING</p> <p>WETLAND BUFFER WITHIN PROJECT AREA</p> <p>REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL</p>	<p>INSTALL CONSTRUCTION DEMARCATION:</p> <p>STA. 1553+25 TO 1554+40 RT - WIDTH VARIES FROM NEW 12" PIPE €</p> <p>STA. 1553+40 TO 1565+75 RT - WIDTH VARIES FROM NEW 12" PIPE €</p> <p>STA. 1553+25 TO 1553+95 LT - WIDTH VARIES FROM NEW 12" PIPE €</p> <p>STA. 1553+95 TO 1565+26 LT - 10' FROM NEW 12" PIPE €</p> <p>INSTALL REINFORCED PERIMETER CONTROL:</p> <p>STA. 1555+06 TO 1556+81 RT - 35' FROM NEW 12" PIPE €</p> <p>INSTALL MATTING:</p> <p>STA. 1555+20 TO 1556+46</p>	<p>INSTALL CONSTRUCTION DEMARCATION:</p> <p>STA. 1565+75 TO 1565+50 RT - 25' FROM NEW 12" PIPE €</p> <p>STA. 1565+26 TO 1565+41 LT - WIDTH VARIES FROM NEW 12" PIPE €</p> <p>STA. 1565+41 TO 1565+50 LT - 50' FROM NEW 12" PIPE €</p> <p>INSTALL REINFORCED PERIMETER CONTROL:</p> <p>STA. 1565+75 TO 1565+50 RT - 25' FROM NEW 12" PIPE €</p> <p>INSTALL STABILIZED CONSTRUCTION ENTRANCE:</p> <p>STA. 1565+90</p>	<p>HORIZONTAL SCALE</p> <p>50 25 0 50 100 150 feet</p> <p>VERTICAL SCALE</p> <p>50 25 0 50 100 150 feet</p>
	<p>1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE "CONSTRUCTION EPSC NOTES" - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESSWAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.</p> <p>2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE "CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS" (ANGP-T-G-011), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.</p>				

CONST. TYPE	11	W	4A	11	1H	
SOIL TYPE	VgB (PAS)	VgC (PAS)	VgD	VgB (PAS)	FaC	VgB (PAS)
LC/LU	FORRESTED TRAVEL			AGRICULTURAL		
STREAMS	STREAM 2013-AS-SC-RS-1 (I) - STATION 1565+26 TO 1565+50					
WETLANDS	WETLAND 2012-JB-10 - STATION 1555+20 TO 1556+46 CLASS III					
VERNAL POOLS	MATCHLINE					
SIGNIFICANT NATURAL COMMUNITIES	MATCHLINE					
RTE SPECIES	MATCHLINE					
NRC WILDLIFE HABITAT	DEER WINTERING AREA					
ARCHAEOLOGY SITES	MATCHLINE					

ANGP-T-C-062	ALIGNMENT SHEET	1	VGS	VGS	OLD STAGE ROAD RE-ROUTE (11/13/15)	ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN	LOC. ADDISON COUNTY, VERMONT	YEAR: 2015	W.O.	SCALE: 1" = 50'	DWG. ANGP-EPSC-062	REV. 1
DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	INITIALS	DATE	INITIALS	DATE								

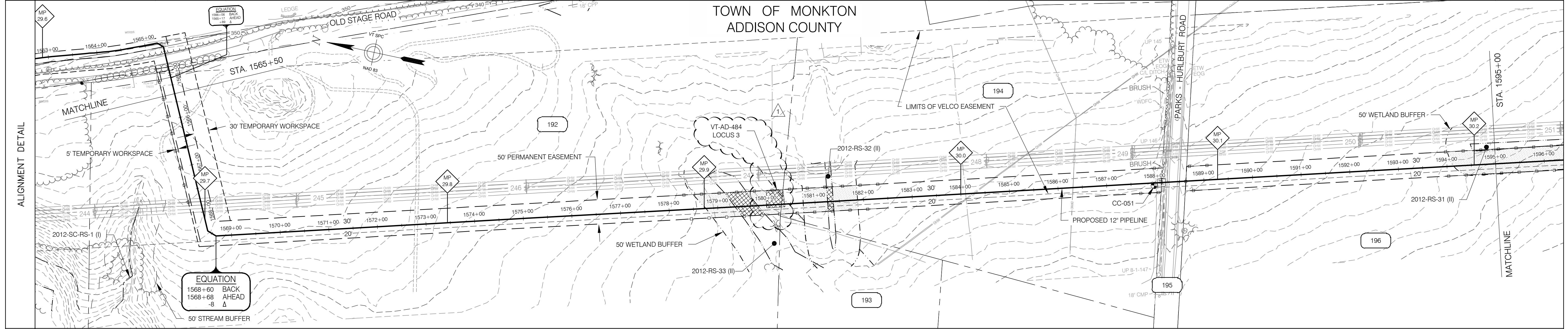
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Vermont Gas

RIGHT-OF-WAY			192 N/F HURLBURT, HERRICK & CHARLOTTE		194 N/F GRACE, LAWRENCE JR. & SANDRA L.	195 PARKS - HURLBURT ROAD	196 N/F HURLBURT, HERRICK & CHARLOTTE	
SURVEY DATA		S 67° 32' W 1568+40	S 12° 09' E 1570+39	S 12° 10' E	S 12° 03' E 1579+95	S 12° 08' E 1584+98	S 12° 13' E 1587+98	S 12° 09' E 1594+96
		45'00" LT -8.2 ft Back: 1568+60 Arc: 1568+68 1570+39	00'00" LT	00'00" RT	00'00" LT	00'00" RT	00'00" RT	00'00" RT



LEGEND

- PERMANENT EASEMENT
- TEMPORARY WORKSPACE
- CENTERLINE OF STREAM
- TEMPORARY STREAM CROSSING
- WETLAND
- 50' WETLAND BUFFER
- TEMPORARY WETLAND MATTING
- WETLAND BUFFER WITHIN PROJECT AREA
- REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL

INSTALL CONSTRUCTION DEMARCATION:
 STA. 1565+50 TO 1568+40 RT - 25' FROM NEW 12" PIPE
 STA. 1565+50 TO 1568+30 LT - 50' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
 STA. 1565+50 TO 1566+00 RT - 25' FROM NEW 12" PIPE

INSTALL CONSTRUCTION DEMARCATION:
 STA. 1568+40 TO 1568+68 RT - WIDTH VARIES FROM NEW 12" PIPE
 STA. 1568+30 TO 1568+99 LT - WIDTH VARIES FROM NEW 12" PIPE
 STA. 1568+68 TO 1588+11 RT - 20' FROM NEW 12" PIPE
 STA. 1568+99 TO 1588+16 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
 STA. 1578+39 TO 1582+38 RT - 20' FROM NEW 12" PIPE
 STA. 1578+01 TO 1582+37 LT - 30' FROM NEW 12" PIPE

INSTALL MATTING:
 STA. 1579+15 TO 1579+97
 STA. 1581+26 TO 1581+37

INSTALL CONSTRUCTION DEMARCATION:
 STA. 1588+61 TO 1595+00 RT - 20' FROM NEW 12" PIPE
 STA. 1588+66 TO 1595+00 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
 STA. 1587+61 TO 1588+11 RT - 20' FROM NEW 12" PIPE
 STA. 1587+66 TO 1588+16 LT - 30' FROM NEW 12" PIPE
 STA. 1588+61 TO 1589+11 RT - 20' FROM NEW 12" PIPE
 STA. 1588+66 TO 1589+16 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
 STA. 1593+92 TO 1595+00 RT - 20' FROM NEW 12" PIPE
 STA. 1593+52 TO 1595+00 LT - 30' FROM NEW 12" PIPE

INSTALL MATTING:
 STA. 1594+54 TO 1595+00

INSTALL STABILIZED CONSTRUCTION ENTRANCE:
 STA. 1588+15 TO 1588+65

HORIZONTAL SCALE:
 100 50 0 100 200 300 feet

VERTICAL SCALE:
 100 50 0 100 200 300 feet

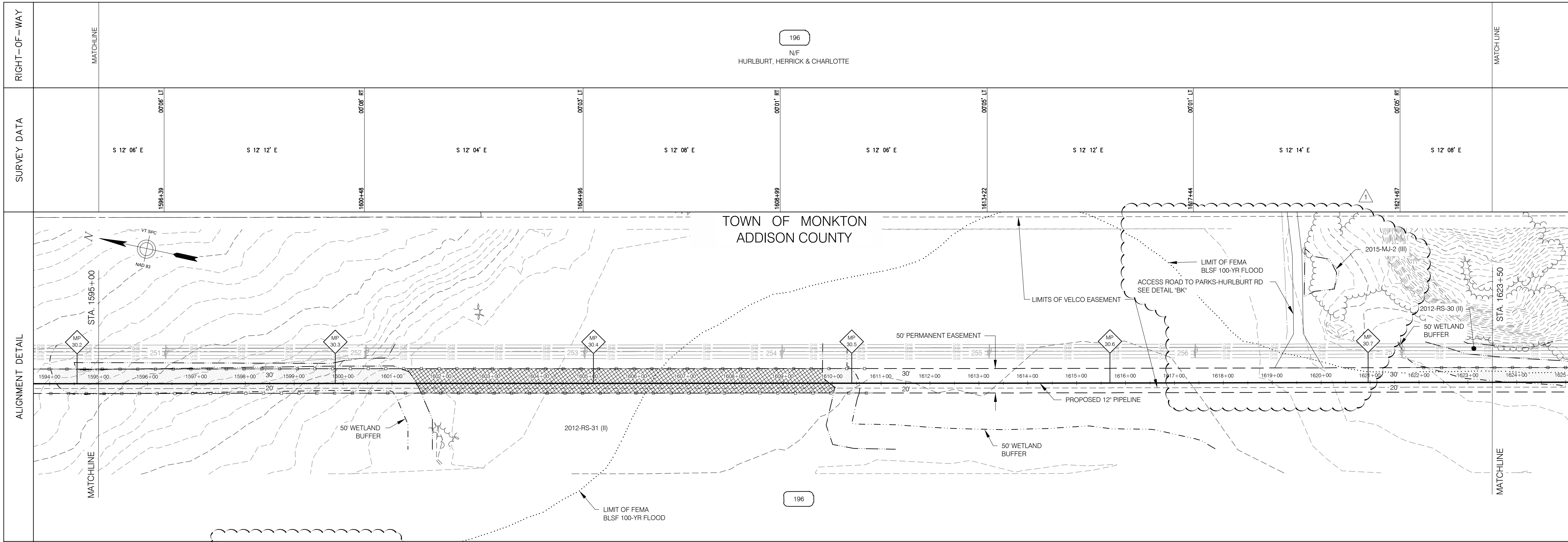
CONST. TYPE	(1H)	(2D)	(W)	(A)	(W)	(11)	(2D)
SOIL TYPE	VgB (PAS)	VgC (PAS)	VgB (PAS)	Lh	Cw (PAS)	VgB (PAS)	
LC/LU		PASTURE	AGRICULTURAL	WETLAND	WETLAND	PASTURE	UNPAVED TRAVEL
STREAMS							
WETLANDS				WETLAND 2012-RS-33 - STATION 1578+51 TO 1580+62 CLASS II	WETLAND 2012-RS-32 - STATION 1580+76 TO 1581+88 CLASS II		WETLAND 2012-RS-31 - STATION 1594+02 TO 1595+00 CLASS II
VERNAL POOLS							
SIGNIFICANT NATURAL COMMUNITIES							
RTE SPECIES							
NRC WILDLIFE HABITAT							
ARCHAEOLOGY SITES							

ANGP-T-C-063	ALIGNMENT SHEET	1	VGS	VGS	ARCH SITE ADDED (11/13/15)	DESCRIPTION	BID	CONSTRUCTION	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN			
DWG. NO.	REFERENCE DWG.	REV	DSN	CK			INITIALS	DATE	INITIALS	DATE		

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EROSION PREVENTION & SEDIMENT CONTROL

LEGEND

- PERMANENT EASEMENT
- TEMPORARY WORKSPACE
- CENTERLINE OF STREAM
- TEMPORARY STREAM CROSSING
- WETLAND
- 50' WETLAND BUFFER
- TEMPORARY WETLAND MATTING
- WETLAND BUFFER WITHIN PROJECT AREA
- REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL

INSTALL CONSTRUCTION DEMARCATION:
 STA. 1595+00 TO 1623+50 RT - 20' FROM NEW 12" PIPE
 STA. 1595+00 TO 1619+03 LT - 30' FROM NEW 12" PIPE
 STA. 1620+03 TO 1623+50 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
 STA. 1595+00 TO 1611+05 RT - 20' FROM NEW 12" PIPE
 STA. 1595+00 TO 1610+88 LT - 30' FROM NEW 12" PIPE

INSTALL MATTING:
 STA. 1601+18 TO 1610+07

INSTALL REINFORCED PERIMETER CONTROL:
 STA. 1621+67 TO 1623+50 LT - 30' FROM NEW 12" PIPE

CONSTRUCTION ENTRANCE:
 STA. 1619+50

1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE "CONSTRUCTION EPSC NOTES" - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.
 2. FOR AREAS DESIGNATED AS PRIME AGRICULTURAL SOILS (PAS), SEE "CONSTRUCTION WITHIN PRIME AGRICULTURAL SOILS (PAS) AREAS" (ANGP-T-G-011), FOR SOIL SEGREGATION AND ASSOCIATED CONSTRUCTION PROCEDURES.

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

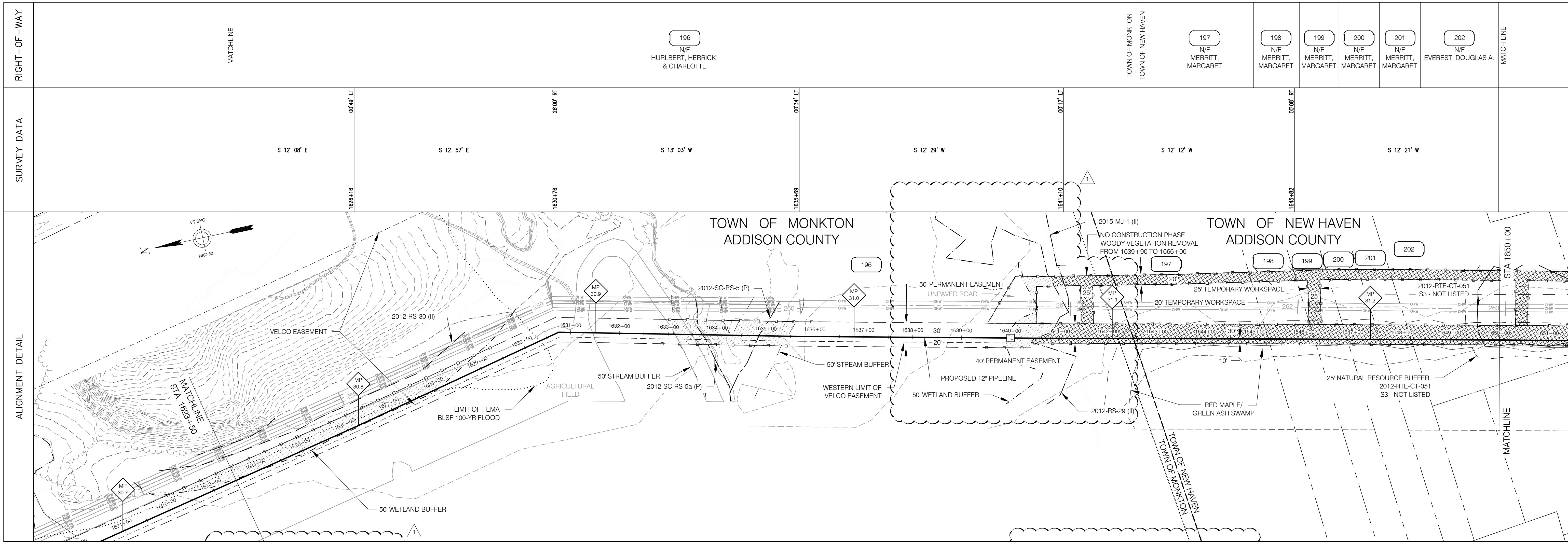
CONST. TYPE					(W)	(2D)				
SOIL TYPE	VgB (PAS)	Ow (PAS)	VgC (PAS)	Ow (PAS)	Lh				AmB (PAS)	
LC/LU	WETLAND				AGRICULTURAL				PASTURE	WETLAND
STREAMS										
WETLANDS	WETLAND 2012-RS-31 - STATION 1595+00 TO 1610+57 CLASS II								WETLAND 2012-RS-30 - STATION 1622-16 TO 1623+50 CLASS II	
VERNAL POOLS										
SIGNIFICANT NATURAL COMMUNITIES										
RTE SPECIES										
NRC WILDLIFE HABITAT										
ARCHAEOLOGY SITES										

ANGP-T-C-064	ALIGNMENT SHEET	1	VGS	VGS	ACCESS ROAD "BK" ADDED (11/13/15)	ENVIRONMENTAL	JLS	06/28/13	JLS	04/02/15	VERMONT GAS PROPOSED 12" PIPELINE ADDISON NATURAL GAS PROJECT EPSC PLAN			
DWG. NO.	REFERENCE DWG.	REV	DSN	CK	DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR: 2015	W.O.	SCALE: 1" = 100'		

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LEGEND

PERMANENT EASEMENT
TEMPORARY WORKSPACE
CENTERLINE OF STREAM
TEMPORARY STREAM CROSSING
WETLAND
50' WETLAND BUFFER
TEMPORARY WETLAND MATTING
WETLAND BUFFER WITHIN PROJECT AREA
REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROL

INSTALL CONSTRUCTION DEMARCATION:
STA. 1623+50 TO 1640+42 RT - 20' FROM NEW 12" PIPE
STA. 1623+50 TO 1639+52 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
STA. 1623+50 TO 1629+55 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
STA. 1632+73 TO 1635+81 RT - 20' FROM NEW 12" PIPE
STA. 1632+59 TO 1636+11 LT - 30' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
STA. 1639+43 TO 1640+42 RT - 20' FROM NEW 12" PIPE

INSTALL REINFORCED PERIMETER CONTROL:
STA. 1640+42 TO 1650+00 RT - 10' FROM NEW 12" PIPE
STA. 1640+51 TO 1641+44 LT - 30' FROM NEW 12" PIPE
STA. 1641+35 TO 1646+10 LT - 30' FROM NEW 12" PIPE
STA. 1646+35 TO 1650+00 LT - 30' FROM NEW 12" PIPE

INSTALL STABILIZED CONSTRUCTION ENTRANCE:
STA. 1640+00

INSTALL MATTING:
STA. 1640+42 TO 1650+00

HORIZONTAL SCALE
100 50 0 100 200 300 feet

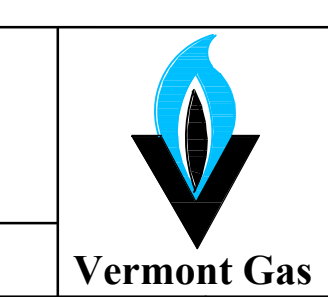
VERTICAL SCALE
100 50 0 100 200 300 feet

1. REINFORCED CONSTRUCTION DEMARCATION AND REINFORCED PERIMETER CONTROLS ARE ONLY SHOWN WITHIN 50 FT. OF WATER RESOURCE AREAS AND AT CONSTRUCTION ENTRANCES - SEE "CONSTRUCTION EPSC NOTES" - NOTE #6. CONSTRUCTION DEMARCATION AND PERIMETER CONTROLS ARE NOT TO CROSS ACCESS WAYS OR ACTIVE FLOW PATHS. FOR AREAS THAT ARE > 50 FT. FROM WATER RESOURCE AREAS, CONSTRUCTION DEMARCATION IS TO BE INSTALLED ALONG PERIMETER OF PROJECT AREA / LIMITS OF DISTURBANCE AND PERIMETER CONTROLS ARE TO BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS OF DISTURBANCE WHERE THERE IS POTENTIAL FOR SOIL EROSION AND/OR SEDIMENT RUNOFF - SEE NOTE #6.
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CONST. TYPE		2D	7	2D	W
SOIL TYPE		Rk	AmB (PAS)	Wb (PAS)	Cw (PAS)
LC/LU		PASTURE AGRICULTURE			FORESTED POWERLINE
STREAMS		STREAM 2012-SC-RS-5a (P) - STATION 1633+09 TO 1634+30		STREAM 2012-SC-RS-5 (P) - STATION 1634+30 TO 1635+61	
WETLANDS	MATCHLINE	WETLAND 2012-RS-30 - STATION 1623+50 TO 1629+05 CLASS II			WETLAND 2012-RS-29 - STATION 1639+92 TO 1650+00 CLASS II
VERNAL POOLS					
SIGNIFICANT NATURAL COMMUNITIES					
RTE SPECIES		2012-RTE-CT-051			
NRC WILDLIFE HABITAT					
ARCHAEOLOGY SITES					

ANGP-T-G-07-010	ACCESS ROAD DETAILS																				
ANGP-T-C-065	ALIGNMENT SHEET		1	VGS	VGS					ACCESS ROAD "AL" REMOVED (11/13/15)											
DWG. NO.	REFERENCE DWG.	REV	DSN	CK						DESCRIPTION	INITIALS	DATE	INITIALS	DATE	YEAR: 2015	W.O.	SCALE: 1" = 100'	DWG. ANGP-EPSC-065	REV. 1		

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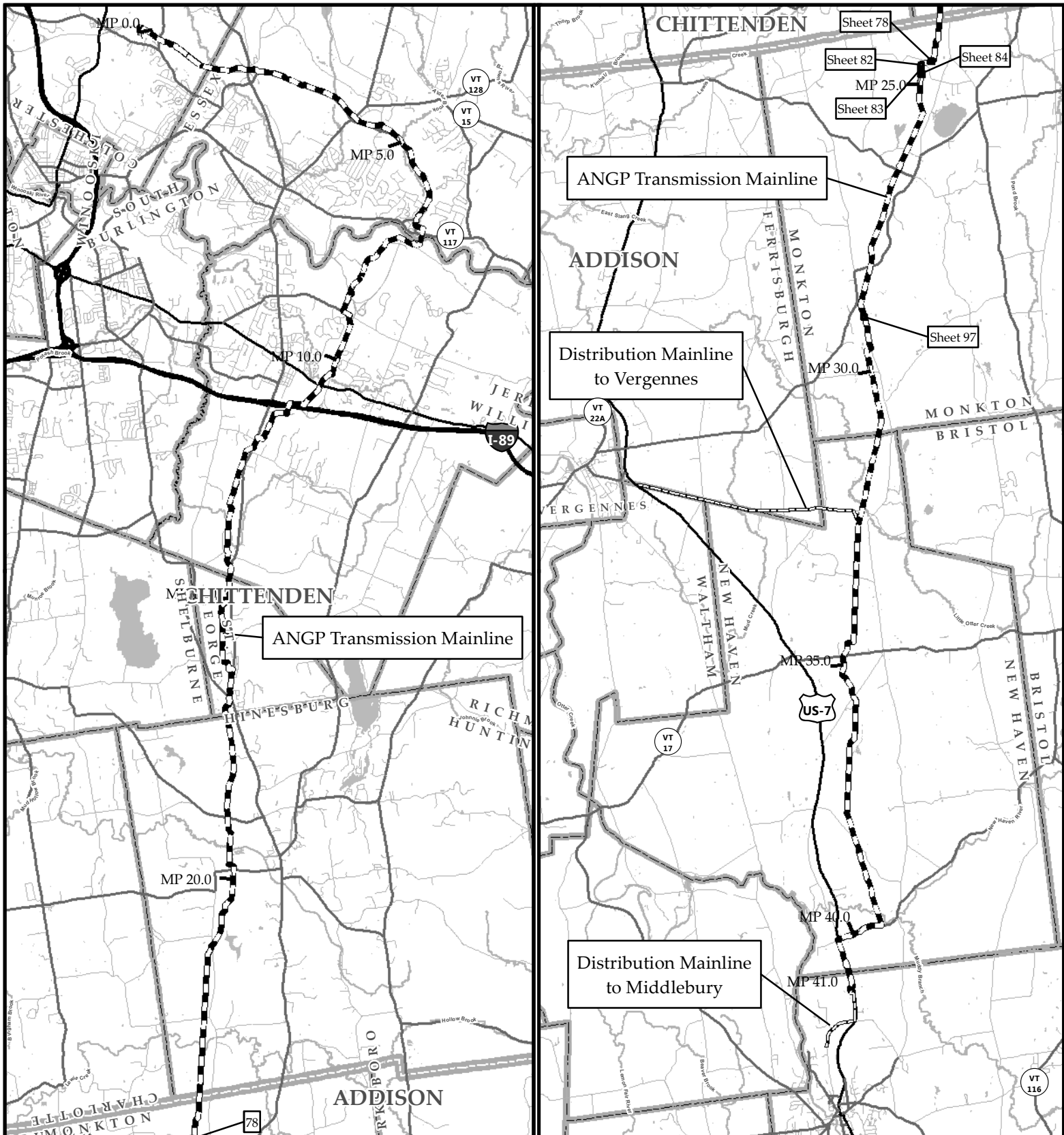


VERMONT GAS
 PROPOSED 12" PIPELINE
 ADDISON NATURAL GAS PROJECT
 EPSC PLAN
 LOC. ADDISON COUNTY, VERMONT










Vermont Gas - Addison Natural Gas Project - Phase I
 Chittenden and Addison Counties, Vermont
 Vermont Wetland Rules Proposed Class II Wetland and Buffer-Impact Analysis
 Prepared by VHB
 December 18, 2012
 Last Revised: January 29, 2015

VHB Impact Exhibit #	CHA Plan Sheet # ¹	Town	Wetland Complex ID	Wetland ID	Delineated Area (Sq Ft)	VWR Section 4.6 Presumption (s) ²	VWR Section 5 Function(s) ³	VHB Proposed VWR Classification ⁴	Proposed Class II Wetland Impacts ⁵				Proposed Class II Wetland Buffer Impacts ⁶				Abutter ⁷
									Proposed Wetland Fill (Sq Ft)	Proposed Temporary Impacts (Sq Ft)	Proposed Other Permanent Impacts (Sq Ft)	TOTAL IMPACTS (Sq Ft)	Permanent Impact (Sq Ft)	Temporary Impacts (Sq Ft)	Other Permanent Impacts (Sq Ft)	TOTAL IMPACTS (Sq Ft)	
78	ANGP-EPSC-050	Monkton	31a	2015-CM-3	4571*	b	5.1, 5.2, 5.3, 5.10	Class II	0	0	532	532	0	0	5,452	5,452	135
82 through 84	ANGP-EPSC-051	Monkton	31	2014-CM-3	260784*	a	5.1, 5.2, 5.4	Class II	0	2,167	0	2,167	0	1,759	0	1,759	138, 140
97	ANGP-EPSC-061A	Monkton	33	2012-JB-12	7390*	a, c	5.1, 5.2, 5.3, 5.4, 5.10	Class II	0	318	0	318	0	902	0	902	181
Total Impacts (Sq ft)									0	2,485	532	3,017	0	2,661	5,452	8,113	
Total Impacts (acres)									0.00	0.06	0.01	0.07	0.00	0.06	0.13	0.19	
Cumulative Project Impacts (Sq ft)									0	80,655	74,085	154,740	6,875	108,937	141,703	257,515	
Cumulative Project Impacts (acres)									0.00	1.85	1.70	3.55	0.16	2.50	3.25	5.91	

Note: GIS impact analysis conducted using limits of disturbance created from the CHA CAD-based design drawing: June 28, 2013 and updated based on September 20, 2013, February 4, 2014, June 10, 2015, October 23, 2015, November 6, 2015, and December 8, 2015 revisions to select areas.
¹Indicates wetland continues outside of the VHB investigation area.
²CHA Plan Sheet # references the September 20, 2013 - Site Plans Issued for construction and February 4, 2014, June 10, 2015, October 26, 2015, November 13, 2015, and December 10, 2015 updates to select sheets.
³Alpha-numeric codes correspond with Section 4.6 Presumptions of Significance in the 2010 Vermont Wetland Rules.
⁴VWR Section 5 Functional Criteria for Evaluating a Wetland's Significance: 5.1=Water Storage for Flood Water and Storm Runoff, 5.2=Surface and Groundwater Protection, 5.3=Fish Habitat, 5.4=Wildlife Habitat, 5.5=Exemplary Wetland Natural Community, 5.6=Rare, Threatened or Endangered Species Habitat, 5.7=Education and Research in Natural Sciences, 5.8=Recreational Value and Economic Benefits, 5.9=Open Space and Aesthetics, 5.10=Erosion Control Through Binding and Stabilizing the Soil. Functions presented are for the subject wetlands.
⁵VHB's proposed wetland classification has been field reviewed (representative areas) by VT DEC wetlands staff.
⁶Wetland fill impacts are those resulting from direct, permanent placement of fill; temporary impacts are those resulting from temporary clearing of forested areas during construction and does not include the use of swamp mats; other permanent impacts are those resulting from permanent conversion of forested wetland to non-forested condition.
⁷Buffer permanent impacts are those resulting from permanent placement of fill within non-developed buffers; temporary impacts are those resulting from temporary clearing of forested areas during construction; other permanent impacts are those resulting from buffer conversion from forested to non-forested condition.
⁸Abutter information corresponds with Line List Numbers, See Adjoining Property Owners table in the VWP application.
⁹Cumulative impacts include those authorized under Permit # 2012-184, as well as the change in impacts authorized under Permit # 2015-464, and the changes in this Permit Request.

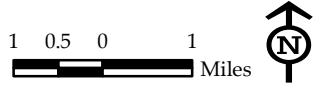


Legend

-  Proposed Transmission Mainline
-  Interstate
-  Proposed Distribution Mainline
-  US Route
-  Town Boundary
-  State Highway
-  County Boundary
-  Town Road
-  Waterbody (VHD)

**Vermont Gas
Addison Natural Gas Project - Phase I
Chittenden and Addison Counties, VT
Class II Wetland and Buffer
Impact Exhibit - Index Map**

December 20, 2012
Last Revised: December 16, 2015



Sources: Roads downloaded from VCGI (2014); VHD Streams & Waterbodies by VHD and downloaded from VCGI (2009), Town and County Boundaries by VCGI (2009); Proposed Pipeline by CHA (2012-2015)



LLN # 134.05
Nathan R. Palmer and
Jane E. Palmer

Wetland Complex ID # 31a
2015-CM-3
Wetland Fill: 0 sq. ft.
Temporary Impacts: 0 sq. ft.
Other Permanent Impacts: 532 sq. ft.
Permanent Buffer Impacts: 0 sq. ft.
Temporary Buffer Impacts: 0 sq. ft.
Other Permanent Buffer Impacts: 5452 sq. ft.

2012/2015-TB/SC-PW-28

50 ft. Permanent
Corridor

LLN # 134
Richard B. Norris and
Norma F. Norris

25 ft. Temporary
Workspace

MP 24.5

Wetland
2015-CM-3

ELN # 135
Keith
E. Mayo

Notes:
1. Use of construction mats for all work in wetlands per the EPSC plan for the Project.
2. Stream crossings or work in/over channel to follow details in the Project EPSC plan.

Wetlands (VHB)	Approximate Wetlands (VHB)
Proposed Class II	Proposed Class II
Proposed Class III	Proposed Class III
Stream (VHB)	Approximate Stream (VHB)
Vernal Pool (VHB)	Significant Archeology Sites
Sheet Outline	Approximate Treeline (VHB)
Town Boundary	Proposed 50 ft. Class II Wetland Buffer
Culvert (VHB)	

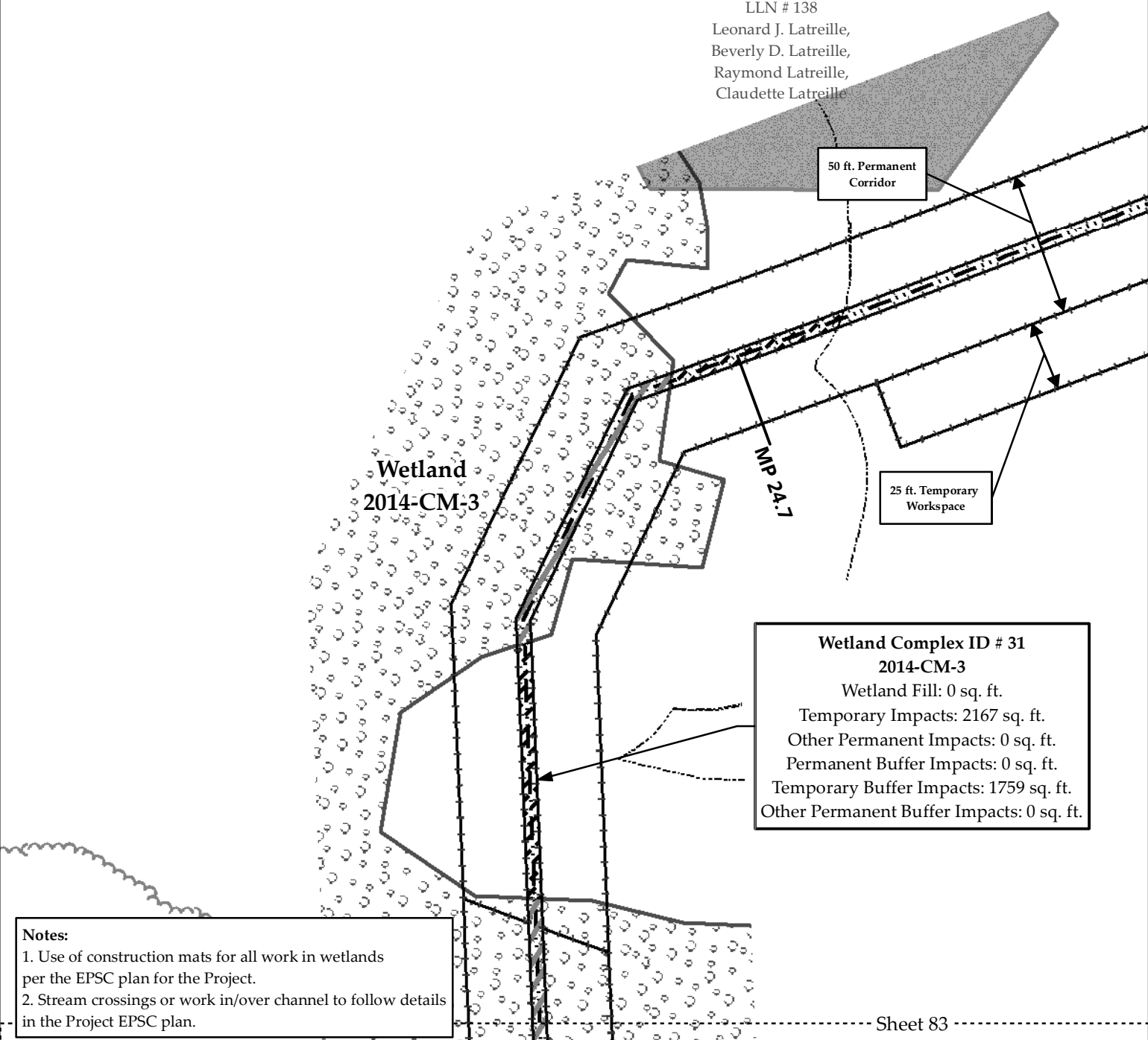
Vermont Gas
Addison Natural Gas Project - Phase I
Chittenden and Addison Counties, VT
Class II Wetland and Buffer
Impact Exhibit
Sheet # 78 of 266
December 20, 2012
Last Revised: December 16, 2015

50 25 0 50
Feet

Sources: Wetlands, streams, culverts and vernal pools delineated and captured by VHB using Trimble GPS units (2012-2015); Treeline digitized by VHB (2012-2014); Significant Archeology Sites by UVM CAP (2012-2014); Wetland and Buffer impacts by VHB (2015); Proposed 50 ft. Class II wetland buffers by VHB (2012-2015); Proposed plans by CHA (2015); Town boundary data downloaded from VCGI (2012); Roads downloaded from VCGI (2012); VELCO Structures from VELCO (2012); Parcel boundaries compiled by CHA (2012-2015); Contours prepared by VHB and also provided by CHA (2012/13).

Town of
MONKTON

LLN # 138
Leonard J. Latreille,
Beverly D. Latreille,
Raymond Latreille,
Claudette Latreille



Notes:
1. Use of construction mats for all work in wetlands per the EPSC plan for the Project.
2. Stream crossings or work in/over channel to follow details in the Project EPSC plan.

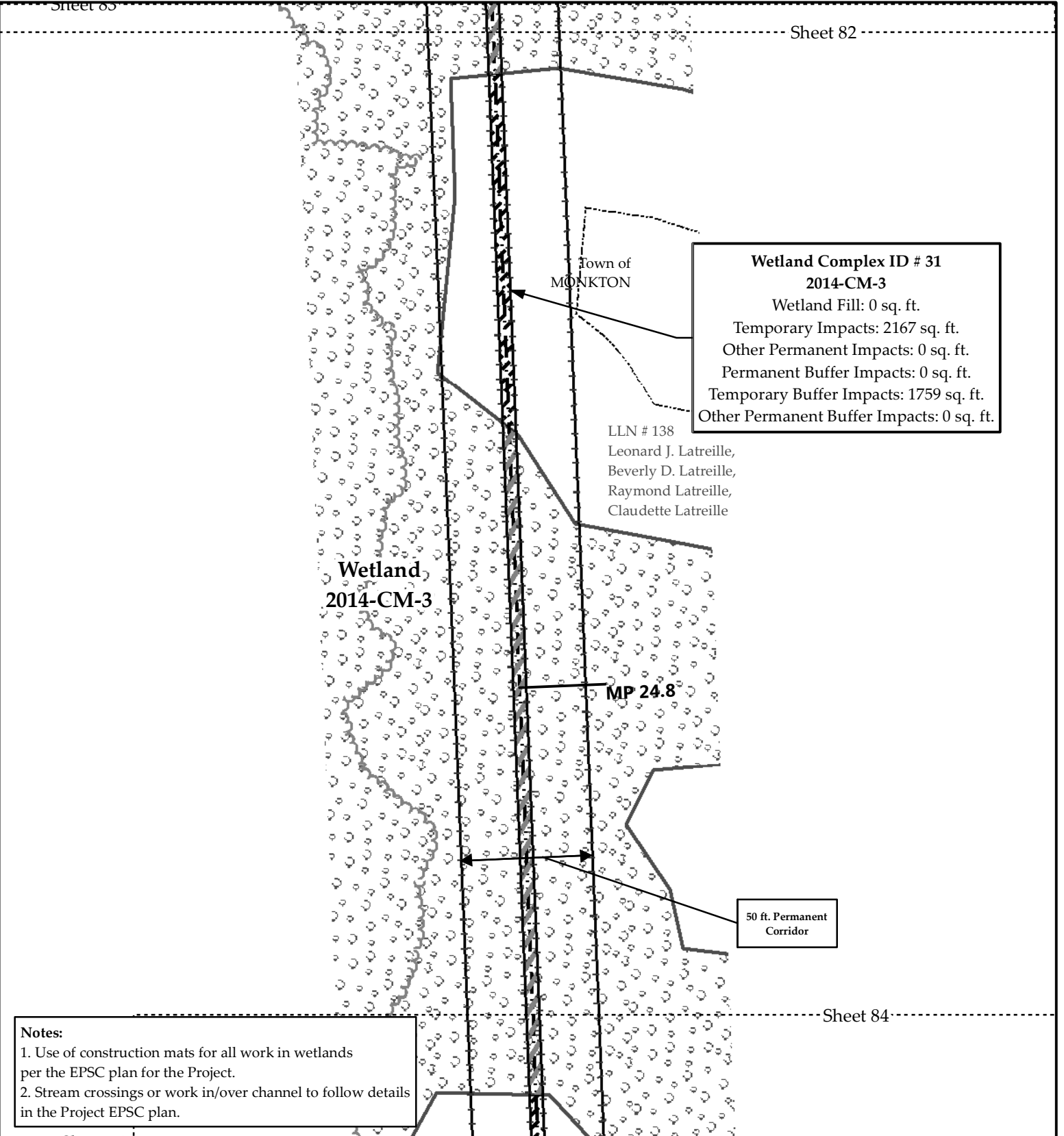
Wetlands (VHB)	Approximate Wetlands (VHB)
Proposed Class II	Proposed Class II
Proposed Class III	Proposed Class III
Stream (VHB)	Approximate Stream (VHB)
Vernal Pool (VHB)	Significant Archeology Sites
Sheet Outline	Approximate Treeline (VHB)
Town Boundary	Proposed 50 ft. Class II Wetland Buffer
Culvert (VHB)	

Vermont Gas
Addison Natural Gas Project - Phase I
Chittenden and Addison Counties, VT
Class II Wetland and Buffer
Impact Exhibit
Sheet # 82 of 266
December 20, 2012
Last Revised: December 16, 2015

50 25 0 50
Feet

Sources: Wetlands, streams, culverts and vernal pools delineated and captured by VHB using Trimble GPS units (2012-2015); Treenline digitized by VHB (2012-2014); Significant Archeology Sites by UVM CAP (2012-2014); Wetland and Buffer impacts by VHB (2015); Proposed 50 ft. Class II wetland buffers by VHB (2012-2015); Proposed plans by CHA (2015); Town boundary data downloaded from VCGI (2012); Roads downloaded from VCGI (2012); VELCO Structures from VELCO (2012); Parcel boundaries compiled by CHA (2012-2015); Contours prepared by VHB and also provided by CHA (2012/13).

design/construction solutions



Notes:
 1. Use of construction mats for all work in wetlands per the EPSC plan for the Project.
 2. Stream crossings or work in/over channel to follow details in the Project EPSC plan.

Wetlands (VHB)	Approximate Wetlands (VHB)
Proposed Class II	Proposed Class II
Proposed Class III	Proposed Class III
Stream (VHB)	Approximate Stream (VHB)
Vernal Pool (VHB)	Significant Archeology Sites
Sheet Outline	Approximate Treeline (VHB)
Town Boundary	Proposed 50 ft. Class II Wetland Buffer
Culvert (VHB)	

Vermont Gas
Addison Natural Gas Project - Phase I
Chittenden and Addison Counties, VT
Class II Wetland and Buffer
Impact Exhibit
 Sheet # 83 of 266
 December 20, 2012
 Last Revised: December 16, 2015

50 25 0 50
 Feet

Sources: Wetlands, streams, culverts and vernal pools delineated and captured by VHB using Trimble GPS units (2012-2015); Treeline digitized by VHB (2012-2014); Significant Archeology Sites by UVM CAP (2012-2014); Wetland and Buffer impacts by VHB (2015); Proposed 50 ft. Class II wetland buffers by VHB (2012-2015); Proposed plans by CHA (2015); Town boundary data downloaded from VCGI (2012); Roads downloaded from VCGI (2012); VELCO Structures from VELCO (2012); Parcel boundaries compiled by CHA (2012-2015); Contours prepared by VHB and also provided by CHA (2012/13).



Wetland
2014-CM-3

LLN # 138
Leonard J. Latreille,
Beverly D. Latreille,
Raymond Latreille,
Claudette Latreille

50 ft. Permanent
Corridor

Wetland Complex ID # 31
2014-CM-3
Wetland Fill: 0 sq. ft.
Temporary Impacts: 2167 sq. ft.
Other Permanent Impacts: 0 sq. ft.
Permanent Buffer Impacts: 0 sq. ft.
Temporary Buffer Impacts: 1759 sq. ft.
Other Permanent Buffer Impacts: 0 sq. ft.

Wetland Complex ID # 31
2012/2013-PW-71/72/73
Wetland Fill: 0 sq. ft.
Temporary Impacts: 1944 sq. ft.
Other Permanent Impacts: 387 sq. ft.
Permanent Buffer Impacts: 3065 sq. ft.
Temporary Buffer Impacts: 1500 sq. ft.
Other Permanent Buffer Impacts: 6016 sq. ft.

Wetland
2012/2013-PW-71/72/73

LLN # 140
George
Bailey

Town of
MONKTON

25 ft. Temporary
Work Space

Proposed Permanent Easement
(Rectifier Bed)

MP 24.9

Notes:
1. Use of construction mats for all work in wetlands per the EPSC plan for the Project.
2. Stream crossings or work in/over channel to follow details in the Project EPSC plan.

	Proposed Class II		Approximate Wetlands (VHB) Proposed Class II
	Proposed Class III		Proposed Class III
	Stream (VHB)		Approximate Stream (VHB)
	Vernal Pool (VHB)		Significant Archeology Sites
	Sheet Outline		Approximate Treeline (VHB)
	Town Boundary		Proposed 50 ft. Class II Wetland Buffer
	Culvert (VHB)		

Vermont Gas
Addison Natural Gas Project - Phase I
Chittenden and Addison Counties, VT
Class II Wetland and Buffer
Impact Exhibit
Sheet # 84 of 266
December 20, 2012
Last Revised: December 16, 2015

50 25 0 50
Feet

Sources: Wetlands, streams, culverts and vernal pools delineated and captured by VHB using Trimble GPS units (2012-2015); Treeline digitized by VHB (2012-2014); Significant Archeology Sites by UVM CAP (2012-2014); Wetland and Buffer impacts by VHB (2015); Proposed 50 ft. Class II wetland buffers by VHB (2012-2015); Proposed plans by CHA (2015); Town boundary data downloaded from VCGI (2012); Roads downloaded from VCGI (2012); VELCO Structures from VELCO (2012); Parcel boundaries compiled by CHA (2012-2015); Contours prepared by VHB and also provided by CHA (2012/13).

Town of
MONKTON

OLD STAGE RD

LLN # 181
Herrick Hurlburt;
Charlotte Hurlburt

LLN # 182
Town of
Monkton

Wetland
2012-JB-12

Wetland Complex ID # 33
2012-JB-12
Wetland Fill: 0 sq. ft.
Temporary Impacts: 318 sq. ft.
Other Permanent Impacts: 0 sq. ft.
Permanent Buffer Impacts: 0 sq. ft.
Temporary Buffer Impacts: 902 sq. ft.
Other Permanent Buffer Impacts: 0 sq. ft.

LLN # 186
Katherine M.
George Trustee

2012-TB-JB-7

MP 29.1

Variable Temporary
Workspace

20 ft. Permanent
Corridor

Notes:
1. Use of construction mats for all work in wetlands per the EPSC plan for the Project.
2. Stream crossings or work in/over channel to follow details in the Project EPSC plan.

Proposed Class II	Approximate Wetlands (VHB) Proposed Class II
Proposed Class III	Approximate Wetlands (VHB) Proposed Class III
Stream (VHB)	Approximate Stream (VHB)
Vernal Pool (VHB)	Significant Archeology Sites
Sheet Outline	Approximate Treeline (VHB)
Town Boundary	Proposed 50 ft. Class II Wetland Buffer
Culvert (VHB)	

Vermont Gas
Addison Natural Gas Project - Phase I
Chittenden and Addison Counties, VT
Class II Wetland and Buffer
Impact Exhibit
Sheet # 97 of 266
December 20, 2012
Last Revised: December 16, 2015

50 25 0 50
Feet

Sources: Wetlands, streams, culverts and vernal pools delineated and captured by VHB using Trimble GPS units (2012-2015); Treeline digitized by VHB (2012-2014); Significant Archeology Sites by UVM CAP (2012-2014); Wetland and Buffer impacts by VHB (2015); Proposed 50 ft. Class II wetland buffers by VHB (2012-2015); Proposed plans by CHA (2015); Town boundary data downloaded from VCGI (2012); Roads downloaded from VCGI (2012); VELCO Structures from VELCO (2012); Parcel boundaries compiled by CHA (2012-2015); Contours prepared by VHB and also provided by CHA (2012/13).