

TDI NEW ENGLAND (TDI-NE)
NEW ENGLAND CLEAN POWER LINK PROJECT
(NECPL)
Grand Isle, Rutland, and Windsor
Counties, Vermont

Prepared for **Champlain VT, LLC d/b/a TDI New England**
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1.0 Introduction

At the request of TDI New England (“TDI-NE”) (doing business in Vermont as Champlain VT, LLC), Vanasse Hangen Brustlin, Inc. and TRC Environmental (“VHB/TRC”) conducted natural resources studies for the proposed New England Clean Power Link (“NECPL” or “Project”). The Project is a proposed 1,000 MW DC high-voltage direct current (“HVDC”) electric power transmission system that will have both aquatic (underwater) and terrestrial (underground) segments in Vermont. The NECPL will connect clean power production sources, produced in the Canadian Province of Quebec, and transmit that power, ultimately, to southern New England. The planned transmission line, which would run through Vermont, would originate on United States soil at the U.S./ Canadian border in Alburgh, Vermont and continue under the waters of Lake Champlain to Benson, Vermont (aquatic segment) then continue overland, (primarily in public rights-of-way) to Ludlow, Vermont (terrestrial segment; see NECPL Index Map, Appendix 1).

The Natural Resources Report (“NRR”) focuses on the terrestrial (overland) segments of this Project. These studies have been conducted for the primary purpose of providing natural resource inventories for the Project’s pending petition to the Vermont Public Service Board (“PSB”) for a Certificate of Public Good (“CPG”) under 30 V.S.A. § 248(b)(5). In addition, these studies and included reporting will also provide supporting documentation for other state and/or federal permit applications collateral to the CPG petition, to be filed subsequently.

Field and database studies have been completed by VHB/TRC or its subconsultants for the overland components of the Project. The field studies included a vernal pool survey, wetland delineation and assessments, surface waters delineations and assessments, surveys for Vermont significant natural communities (as part of review for potential Rare or Irreplaceable Natural Areas (“RINA”)), rare, threatened or endangered (“RTE”) species, and

necessary wildlife habitat (“NWH”). These studies also include database reviews, particularly of publically-available mapping information. This report presents the results of the studies to document natural resources for the proposed Project components under the following Act 250 criteria, as incorporated into Section 248 review:

- Outstanding Resource Waters (10 V.S.A. § 1424a(d))
- Headwaters (§ 6086(a)(1)(A))
- Floodways (§ 6086(a)(1)(D))
- Streams (§ 6086(a)(1)(E))
- Shorelines (§ 6086(a)(1)(F))
- Wetlands (§ 6086(a)(1)(G))

This report has been prepared to summarize the methodologies used to conduct the studies, and the results of the natural resources studies along the proposed Project Alignment. Where applicable, potential effects on the Section 248 natural resources criteria are included, but overall the report does not evaluate specific Project-related impacts on the natural resources criteria included herein, as such impact analyses will be presented in other impact analyses as part of the Section 248 filing, and subsequent collateral permit applications that are applicable.

Significant natural communities, RTE, and NWH resources are not included in this report, but rather covered under separate summary reporting completed by TRC with support from Arrowwood Environmental and Gilman and Briggs Environmental. The maps included in Appendix 1, however, depict these resources.

2.0 Project Description

The terrestrial portion of the proposed NECPL transmission line traverses through portions of fourteen towns in Rutland and Windsor Counties and one town in Grand Isle County, Vermont. From the US/Canadian border in Alburgh, Vermont, the HVDC transmission line will be located underground for approximately 0.5 mile [within roadway right-of-way (“ROW”) and overland]. The HVDC transmission system, consisting of two parallel cables, will then enter Lake Champlain via HDD and be constructed within the lake for approximately 98 miles to the southern end of Lake Champlain in the Town of Benson where the HVDC transmission line will exit the water via HDD onto a private land parcel. From there, the transmission line would traverse through 12 towns from Benson to Ludlow and would be installed within existing town and state roadway ROWs and railroad ROWs. Use of the previously disturbed roadway/railroad ROW will allow the Project to avoid and minimize impacts to natural resource features. Furthermore, unavoidable impacts would occur primarily to natural resource features that have been previously impacted due to road/railroad construction and ongoing operational management activities. The HVDC transmission line would terminate at a proposed converter station location to be built on privately-owned lands off Nelson Road in Ludlow, Vermont. An AC transmission line would then run below ground along the converter station driveway and town road, from the converter station to the VELCO Coolidge substation in Cavendish.

As currently planned, the cables would be installed underground within this section of the overland component as follows:

- Benson town roads (in ROW or within road) west of Vermont Route 22A (4.2 miles)
- Vermont Route 22A ROW south to U.S. Route 4 in Fair Haven (8.2 miles)
- U.S. Route 4 ROW east to U.S. Route 7 in Rutland (17.4 miles)
- U.S. Route 7 ROW south to Vermont Route 103 in North Clarendon (2.7 miles)
- Vermont Route 103 ROW south/southeast to the RR option in Shrewsbury (3.9 miles)

- Green Mountain Railroad Corp. (GMCR) ROW in Shrewsbury to Vermont Route 103 in Shrewsbury (3.5 miles)
- Vermont Route 103 ROW to Vermont Route 100 in Ludlow (10.6 miles)
- Vermont Route 100 ROW north to Ludlow town roads (0.8 miles)
- Ludlow town roads to proposed HVDC converter station (4.3 miles)
- Proposed AC cable alignment from converter station to VELCO Coolidge substation in Cavendish, VT (0.4 miles); and
- Various laydown and temporary work space areas.

These alignment segments are depicted on the Natural Resources map series provided in Appendix 1.

3.0 Existing Conditions

The southern portion of the proposed NECPL transmission corridor (overland route) is generally a northwest to southeast alignment that traverses through portions of fourteen towns in Rutland and Windsor Counties. In addition there is small portion of the transmission corridor in the town of Alburgh in Grand Isle, Vermont (See Map and the Natural Resource Series Maps, included in Appendix 1).

Through a combination of field, database, and off-site resources review, VHB/TRC has assessed natural resources within the area containing the alignment along roadway ROWs, of a section of GMCR railroad ROW in Shrewsbury, TDI-NE owned properties in Alburgh and Benson for Lake Champlain entry/exit points, and in Ludlow for the planned converter station. Field studies also included approximate visual mapping of an additional 50 feet on either side of the road or railroad right-of-way. This additional mapping was conducted to ensure that wetland and waters resources and potential buffers that were not directly covered in the detailed Study Area, are generally identified and accounted for during

Project planning and permitting. The method was also utilized to map the approximate locations of existing natural resources on private lands on which construction activity may occur, should the right be obtained in the future to use such land. All Project components are located in the Champlain Valley, Taconic Mountains, Vermont Valley and Southern Green Mountains biophysical region of the state (Thompson and Sorenson 2005).

Representative photographs of existing land uses and conditions within the areas studied are included in Appendix 4.

The lands along the proposed transmission line drain to five major Vermont watersheds, including the Lake Champlain Direct Main Lake, Lake Champlain Direct South End, Poultney River, Otter Creek, and the Black River, (see the NECPL Major Watershed Map in Appendix 1). The named streams intersecting the proposed Study Area include the Hubbardton River, Mud Brook, North Brenton Brook, Castleton River, Clarendon River, Otter Creek, Cold River, Mill River, Freeman Brook, Branch Brook, Coleman Brook, and Black River. Elevation in the segments of this overland component study ranges from approximately 100 feet above-mean-sea-level (amsl) at Lake Champlain up to 1660 feet amsl where the Project bisects the Southern Green Mountains biophysical region in Mt. Holly.

Land uses along the proposed transmission line are mostly comprised of maintained local, state, and U.S. roadway and railroad corridors, mowed fields, agricultural lands, hardwood and mixed hardwood/coniferous forests, interspersed with other natural and disturbed vegetative communities. The alignment is mostly existing road ROW surrounded by scattered residential areas, undeveloped properties, agricultural lands and commercial development.

4.0 Outstanding Resource Waters (10 V.S.A. § 1424a (d))

The Vermont Water Quality Standards (“VWQS”, effective October 30, 2014) (ANR, 2014c), under section 1-03D, state that the Secretary of ANR may, under 10 V.S.A. Section 1424(a), designate Outstanding Resource Waters (“ORW”). The following waterways have been classified as ORWs (ANR 2012):

1. Batten Kill River, Towns of East Dorset and Arlington
2. Pike’s Falls/Ball Mountain, Town of Jamaica
3. Poultney River, Towns of Poultney and Fair Haven
4. Great Falls, Ompompanoosuc River, Town of Thetford

There are no waters within the Project components that have been designated as Outstanding Resource Waters. However, the Project area is located in the Poultney River Watershed. The Poultney River in Fair Haven is approximately 0.2 mile from the Proposed Project at the closest point. Based on review of VHD-mapped stream layers, the Project alignment crosses two unnamed tributaries that flow directly to the Poultney River (near Project mile markers 109 and 109.2).

5.0 Headwaters (§ 6086(a)(1)(A))

VHB/TRC completed water resource field studies and analyzed available information including topographic maps, and state-mapped public water supply source protection areas to determine if the Project is located on lands that meet the criteria of V.S.A § 6086(a)(1)(A), which include:

- i. Headwaters or watersheds characterized by steep slopes and shallow soils; or
- ii. Drainage areas of 20 square miles or less; or
- iii. Above 1,500 feet elevation; or

- iv. Watersheds of public water supplies designated by the ANR; or
- v. Areas supplying significant amounts of recharge water to aquifers.

Within portions of the NECPL Study Areas there are discrete areas of steep slopes (typically those greater than 15 percent) with shallow soils and the drainage areas of several of the Vermont-mapped and delineated water features are less than 20 square miles. The transmission line is located above 1,500 feet elevation in the Towns of Mount Holly and Ludlow, ranging from 1500 to 1600 feet asl. Since much of Project area meets one or more of the headwaters criteria, the Project, at least in part, meets the definition of a headwaters area. Areas that meet a criteria would conform to applicable regulations to protect water quality pursuant to VWQS and most pertinently, discharges of stormwater runoff from Project construction activities would be regulated under the National Pollutant Discharge Elimination System (“NPDES”) Construction Stormwater Discharge program, which is administered by the Vermont Department of Environmental Conservation (“DEC”).

6.0 Floodways (§ 6086(a)(1)(D))

The Act 250 Floodway criterion (10 V.S.A. § 6086(a)(1)(D)), as incorporated into Section 248 review, takes into consideration a Project’s effect on both floodways and floodway fringes. The term “floodway” is defined to mean “the channel of a watercourse which is expected to flood on an average of at least once every 100 years and the adjacent land areas which are required to carry and discharge the flood of the watercourse.” (10 V.S.A. § 6001(6)). The term “floodway fringe” is defined as “an area which is outside a floodway and is flooded with an average frequency of once or more in each 100 years” (*Id.* § 6001(7)), and is generally synonymous with a 100-year floodplain. A Project’s impacts can be considered with respect to both flood inundation and fluvial erosion hazard (“FEH”), when applicable (ANR 2009). The FEH area is the lateral width of a stream corridor that may be subject to fluvial

erosion from stream channel lateral migration over time. The FEH, when applicable, is determined by geomorphic assessments of channel bank full width, meander centerline, confining lateral topography, channel type, and current channel adjustments; then typically defined by a channel-width to belt-width ratio, dependent on stream sensitivity type and adjacent landform (ANR 2009).

TRC reviewed the available Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Maps and determined the locations of FEMA-mapped floodways within the Project area. TRC utilized the available Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Maps and determined the locations of FEMA-mapped floodways within the Project area. These locations are depicted on the NECPL Natural Resource Map Series and the NECPL Floodway and Floodplain Maps in Appendix 1. From this, there are 25 floodway or floodway fringe (floodplain) areas that occur within the proposed Alignment.

To address the second consideration, fluvial erosion hazard (“FEH”) zones have been identified by ANR for certain streams and rivers. VT DEC provided FEH corridor polygons for twenty eight locations where the proposed alignment would cross or run parallel to a stream with a watershed greater than 0.5 square miles. Approximate FEH corridor polygons were generated by VHB for perennial streams that had a watershed greater than 0.5 square miles of drainage area. From this analysis, the Project would cross FEH corridors associated with 34 rivers/streams. Further details of VHB’s FEH analysis are included in the Stream Alteration Review Report prepared by VHB for the Project.

7.0 Streams (§ 6086(a)(1)(E))

This Act 250 criterion, as incorporated into Section 248 review, requires that projects will, when feasible, maintain natural stream channel condition, and will not endanger the health safety, or welfare of the public or adjoining landowners (10 V.S.A. § 6086(a)(1)(E)).

VHB/TRC environmental scientists conducted field delineation and assessment of stream features during the period May 2014 to November 2014. Streams are identified according to federal delineation procedures (USACE 2005) and were flagged with blue survey tape.

Flagging was coded with the consultant identification (T or V), Town Name Abbreviation (West Rutland, WR) and stream number, along with the specific flag number (e.g., T-WR-S-1-1). Generally, perennial and intermittent streams (channels > 6 feet or wider) are flagged along the stream Top-of-Bank (TB) or Top-of-Slope (TOS), according to guidelines in the *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers* (ANR 2005).

Narrow features, including most ephemeral channels, are flagged along the center line.

Ditches or constructed ponds are typically not included in the delineation if such features are due to excavation in the upland. However, such features were included in the delineation if these features were determined to be modified, naturally occurring streams or wetlands that would meet federal criteria for jurisdiction. Stream flags were located in the field using a Trimble® GPS unit capable of sub-meter accuracy and post-processed using Trimble® Pathfinder software. Stream identification and ordinary high water (“OHW”) width was also assessed, according to methods detailed in the “Regulatory Guidance Letter: Subject – Ordinary High Water Identification” (USACE 2005). The OHW width for each channel segment is determined from an average of measurements of bank-to-bank OHW widths taken at regular intervals along the surveyed portion of the watercourse. During field work, flow regimes are preliminarily classified as perennial, intermittent, ephemeral or jurisdictional ditch and are determined based on qualitative observations of instream hydrology indicators at the time of observation and existing geomorphic characteristics.

Open waters, such as those associated with Lake Champlain and Lake Bomoseen, are delineated along the field-determined ordinary-high-water levels.

In addition to study areas VHB/TRC had access to for detailed field delineations, mapping also included an approximate Study Area of an additional 50 feet on either side of the road or railroad right-of-way in order to approximate the boundaries of potential water resources. Such “Approximate Study Areas” are indicated on the Natural Resource Series Maps in Appendix 1. Approximated locations of resources are based on a combination of information gathering from off-site lands during field site visits with reconnaissance-level verification and mapping from off-site resource review/interpretation.

VHB/TRC conducted stream delineations throughout the Study Area and identified a variety of perennial, intermittent, and ephemeral streams. See Appendix 1 Natural Resource Index and Series for stream mapping. These streams range from mapped Vermont Hydrography Dataset (“VHD”) streams and rivers to small streams and channelized/ditched segments within agricultural settings. The major water courses within the Study Area include the include the Hubbardton River, Mud Brook, North Brenton Brook, Castleton River, Clarendon River, Otter Creek, Cold River, Mill River, Freeman Brook, Branch Brook, Coleman Brook, and Black River. Representative stream photographs within the Project corridor are presented in Appendix 4. VHB/TRC analyzed the mapped VHD streams within the Project study area to initially determine watershed sizes in the context of potential review by the DEC Rivers Management Program under the Vermont Stream Alteration Permit program (WMD 2014). As described above, field determinations of stream flow regime are also used to identify streams that may be subject to this review that were not included on the watershed sizes mapping. As part of this review, VHB/TRC also reviewed the VWQS to determine the classifications of the streams throughout the NECPL alignment. The NECPL Stream Summary spreadsheets provide details on each

stream feature or segment, which include ditches that would be considered under federal jurisdiction (see the NECPL Natural Resource Series Maps and the NECPL Watershed Sizes Used as Guidance in Stream Alteration Regulations Map in Appendix 1 and the NECPL Stream Summary Spreadsheets in Appendix 2). The data provided in the NECPL Stream Summary Spreadsheet include:

- VHB/TRC Stream ID
- Stream Name (Geographic Names Information System (“GNIS”))
- Town
- Average OHW
- Potential Flow Regime (Perennial, Intermittent, Ephemeral, Ditch)
- Watershed Size > 0.5 mile (yes/no)
- Impaired or Priority Waters

All delineated streams and rivers are Vermont Class B waters, as designated by the 2014 VWQS (see Appendix 2 Stream Summary Spreadsheet).

Riparian buffers adjacent to streams and rivers, consistent with the ANR Buffer Guidance (ANR 2005) have been designated for perennial and intermittent streams within the study areas. Fifty-foot buffers from the field mapped stream center or top of bank/top of slope, as appropriate, is used (see the NECPL Natural Resource Map in Appendix 1).

Project impacts to federally jurisdictional waters, including streams, will likely require a Department of the Army Section 404 Individual Permit as well as a Vermont Section 401 Water Quality Certification. A Stream Alteration Permit will also be required from the VT DEC River Management Program for impacts to perennial streams. Otter Creek is considered a navigable water under the Section 10 of the Rivers and Harbors Act. “Navigable waters of the United States” are “those waters that are subject to the ebb and

flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. 33 C.F.R. § 329.4. However, the limits of Section 10 jurisdiction on the Otter Creek occur further downstream in Proctor, Vermont from where the Otter Creek is crossed by the Project in Rutland.

The VT DEC Rivers Management Program has reviewed mapping and discussed Project components as it relates to the Stream Alteration Permit review. The USACE has field reviewed stream delineations on July 11, 2014 and August 27, 2014.

8.0 Shorelines (§ 6086(a)(1)(F))

Shorelines are defined under Act 250, as incorporated into Section 248, as the land adjacent to the waters of lakes, ponds, reservoirs, and rivers. Shorelines include the land between the mean high water mark and the low water mark of such waters (Argentine 2008). For projects that are within shoreline areas, the following shoreline management criteria are required to be met:

- (i) retain the shoreline and the waters in their natural condition;
- (ii) allow continued access to the waters and the recreational opportunities provided by the waters;
- (iii) retain or provide vegetation which will screen the development or subdivision from the waters, and;
- (iv) stabilize the bank from erosion as necessary with vegetation cover.

The waterbodies that meet the criterion within the Project area are Lake Bomoseen and Lake Champlain as indicated on the Natural Resources Maps in Appendix 1. Additionally,

shorelines are associated with the following rivers that are intersected or parallel to the planned Project alignment: Hubbardton River, Castleton River, Clarendon River, Otter Creek, Cold River, Mill River, and Black River.

For the aquatic portion of the Project (e.g. the portion within Lake Champlain), a Vermont Lake Encroachment Permit will be required, but that component of the Project is not evaluated as part of this NRR. For the overland component of the Project, the crossing of the south end of Lake Bomoseen will also likely require this permit from the VT DEC Watershed Management Division (ANR 2014a). Projects under Section 248 review are exempt from needing a Vermont Shoreland Encroachment Permit (which regulates activities within 250-feet of lakes mean water level for all lakes greater than 10-acres in size), but would likely be required to undergo review during Section 248 per the parameters of this program (ANR 2014b).

Lake Champlain is considered navigable waters under Section 10 of the Rivers and Harbors Act and the Project activities within Lake Champlain will be required to obtain USACE approval under Section 10.

9.0 Wetlands (§ 6086(a)(1)(G))

Under Section 248, and the incorporated Act 250 criteria, the Board must give “due consideration” to Act 250 Criterion 1(G), which specifies that a proposed project “will not violate” the Vermont Wetland Rules (“VWR”). Act 250 Criterion 1(G) states: “[a] permit will be granted whenever it is demonstrated by the applicant, in addition to other criteria, that the development or subdivision will not violate the rules of the [natural resources] board, as adopted under this chapter, relating to significant wetlands.” 10 V.S.A. § 6086(a)(1)(G). The VWR regulates significant wetlands (Class I and Class II Wetlands) and their buffers (NRB 2010). Class III wetland impacts are not considered under Act 250

Criterion 1(G), but are generally reviewed under Section 248(b) (no undue adverse impacts on the natural environment), and are regulated by the USACE Section 404 permit program as well as the related VT DEC Section 401 Water Quality Certification review process.

VHB/TRC field staff conducted wetland delineation work from May to November 2014. Wetland delineations were made pursuant to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Routine Determination Method* (USACE 2012). Wetlands were identified in the field with pink “Wetland Delineation” flagging. Field notes were taken to record information relative to wetland classifications under the 2010 VWR, general characteristics, potential functions and values of the wetland, any unique characteristics observed during the site assessment, along with other considerations relevant to support site findings. Wetlands were also classified in accordance with the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et al. 1979). Wetland functions criteria were qualitatively evaluated based on the field notes and observations according to the VWR Section 5 (Functional Criteria for Evaluating a Wetland’s Significance) (NRB 2010). Wetland features were located in the field using a Trimble® GPS unit capable of sub-meter accuracy and post processed using Trimble® Pathfinder software for enhanced accuracy.

In addition to study areas VHB/TRC had access for detailed field delineations, mapping also included an Approximate Study Area of an additional 50 feet on either side of the road or railroad right-of-way, in order to approximate the boundaries of potential wetlands and potential Class II wetland buffers. Such “Approximate Study Areas” are indicated on the Natural Resource Series Maps in Appendix 1. Approximated locations of resources are based on a combination of information gathering from off-site lands during field site visits with reconnaissance-level verification and mapping from off-site resource review/interpretation (including aerial photography, available topography, soil survey

maps, VSWI-mapping, previous delineations etc.), to conservatively assess the maximum likely extent of any wetland features.

The wetland delineation included assessments for the presence of all Class I, Class II and Class III wetlands within the study areas. There are no Class I Wetlands present. As part of the field studies, all wetland features were delineated within the study areas, several of which are not distinct wetlands, but rather components of larger on or off-study area complexes (see the NECPL Natural Resource maps in Appendix 1 and Representative Wetland Photographs in Appendix 4). The Summary of Delineated Wetlands table in Appendix 2 details wetland characteristics relative to the criteria for classifying significant wetlands under the 2010 VWR, as well as other summary data including:

- VHB Wetland ID
- Town
- Wetland Habitat Classification (per Cowardin, et. al. 1979)
- Contiguous to mapped VSWI (Yes/no)
- Delineation Area (Square Feet)
- VHB Proposed VWR Classification

In May 2014, VHB/TRC Environmental Scientists also conducted a survey for vernal pool sites according to the definitions of vernal pools provided by the USACE (2007) and Thompson and Sorenson (2005). Through this survey no vernal pools were identified within the study area that would meet vernal pool criteria. This is further corroborated by field surveys for Special Aquatic Sites performed by Arrowwood Environmental in the summer 2014 and reported separately for the Project.

Based on a review of the data associated with each wetland there are several wetlands that are proposed as meeting one or more of the VWR Section 4.6 presumptions of significance. As such, these wetlands would potentially be considered Class II. The *Wetland Classification Recommendations and Delineation Summary* memorandum provided in Appendix 3 provides further details on the Project's wetland classification. The Vermont DEC wetlands program has field reviewed the VHB/TRC wetland classifications on July 11 and August 27, 2014, as has the USACE reviewed the wetland boundaries concurrently.

Vermont Wetland Evaluation Forms were used as guidance to determine which functions are provided by each delineated wetland, which are summarized in the attached summary spreadsheet. The applicable Vermont Wetland Evaluation Forms will be included as part of the subsequent Individual Vermont Wetland Permit application for each wetland complex subject to regulated impact. In brief summary, proposed Class II wetlands within the area studied are found to meet one or more of the VWR functions:

- 5.1 Water Storage for Flood Water and Storm Runoff
- 5.2 Surface and Ground Water Protection
- 5.4 Wildlife Habitat
- 5.5 Exemplary Wetland Natural Community
- 5.6 Rare Threatened and 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

It is noteworthy that many of the wetlands and buffers within the Study Area are colonized by non-native invasive species ("NNIS"). These most often include, but are not limited to:

common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), buckthorn (*Rhamnus* spp.), and various honeysuckles (*Lonicera* spp.), as well as the aggressive reed canary grass (*Phalaris arundinacea*). A general survey for NNIS has been completed for the Project and is reported under separate memorandum by Arrowwood Environmental.

Data was collected in the field in order to complete USACE Wetland Determination Forms for representative delineated wetlands throughout the VHB study area. As part of this effort, determination forms were also completed within representative non-wetland areas within the study area to document representative boundaries. These will be submitted per the requirements for applicable Section 404 and VWR permits.

Proposed impacts to Class II wetlands or their associated 50-foot buffer zones for uses other than those allowed under the VWR require a Vermont Wetland Permit from the DEC. Class III wetlands are not regulated by the VWR. The placement of fill in any wetland (or water) under USACE jurisdiction requires permit coverage from the USACE under Clean Water Act Sections 404/401.

TDI-NE will be required to apply for a Department of the Army Section 404 Permit, a Vermont Wetland Permit, and Section 401 Water Quality Certification prior to undertaking Project activities with permanent or temporary wetland impacts resulting from regulated impacts that are unavoidable from the Project.

10.0 Summary

On behalf of TDI-NE, VHB/TRC reviewed and documented natural resources for the proposed NECPL project, which is being planned to convey electricity generated in the Canadian Province of Quebec the New England power grid via interconnect in Ludlow, Vermont. The assessment was performed in support of the pending Section 248 petition to

the PSB and in preparation for subsequent collateral permitting efforts for Project construction. The assessment included the evaluation of resources identified as Section 248 criteria including Outstanding Resource Waters (10 V.S.A. § 1424a(d)), Headwaters (§ 6086(a)(1)(A)), Floodways (§ 6086(a)(1)(D)), Streams (§ 6086(a)(1)(E)), Shorelines (§ 6086(a)(1)(F)), and Wetlands (§ 6086(a)(1)(G)). Based on the results of these assessments and the contents of this report herein, the following collateral environmental Vermont permits and/or federal authorizations or regulatory program coordination as applicable to this report, will likely be required to authorize impacts from Project construction:

- NPDES Construction Stormwater Discharge Permit
- NPDES Operational Stormwater Discharge Permit
- Vermont Stream Alteration Permit
- Vermont Wetland Permit
- Department of the Army Section 404 Permit
- Vermont Section 401 Water Quality Certification
- Department of the Army Rivers and Harbors Act Section 10 Permit
- Lake Encroachment Permit
- Vermont Discharge Permit(s) per 10 VSA Chapter 47 for Lake-related activities.

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