Creating results for our clients and benefits for our communities.

January 10, 2014

Ref: 57276.03

Ms. Martha Abair Senior Project Manager USACE / Regulatory Branch / Vermont Project Office 11 Lincoln Street, Room 210 Essex Junction, VT 05452

RE: Jay Peak Resort - Jay, Vermont

Permit Number: NAE-2008-1314

Golf Course Wetland and Stream Mitigation Third Annual (2013) Monitoring Report

#### Dear Marty:

On behalf of Jay Peak Resort ("JPR"), Vanasse Hangen Brustlin, Inc. ("VHB") has prepared the enclosed report and supporting documentation to summarize the results of the third year of monitoring of the wetland and stream features which were restored or created as part of mitigation for the golf course, which was constructed without U.S. Army Corps of Engineer ("USACE") authorization. This monitoring was completed in accordance with Special Condition #4 of the Section 404 Individual Permit ("IP") (Permit Number NAE-2008-1314), which was issued after-the-fact.

As described in the IP application narrative and subsequently approved, the monitoring methods used for this site were developed to determine if the mitigation goals were being met. The goals are described in Special Condition #2 of the IP, and include:

- The restoration of natural vegetation communities in the restored/created wetlands and streams, and
- The replacement of the functions and values provided by the impacted wetlands and streams.

Please find enclosed one hardcopy of the complete *Jay Peak Resort, Golf Course Wetland and Stream Mitigation, Third Annual (2013) Mitigation Report* and Appendix with supporting documentation, as well as a complete electronic copy on compact disc.

Ms. Martha Abair Ref: 57276.03 Page 2 January 10, 2014

On behalf of JPR, VHB would like to thank you for your continued collaboration with JPR and VHB for the ongoing golf course monitoring efforts, and for reviewing this monitoring report. Please do not hesitate to contact me if you have any questions or comments.

Sincerely,

VANASSE HANGEN BRUSTLIN, INC.

Patti B. Kallfelz-Werts Environmental Scientist

PBW/jkw

cc: Denise Leonard, U. S. Environmental Protection Agency Policy Analyst/ Technical Support Branch ("PATS"), USACE Robert Moore, JPR (electronic copy only)

#### **Enclosure:**

• Jay Peak Resort – Golf Course Wetland and Stream Mitigation – Third Annual (2013) Mitigation Monitoring Report (one hardcopy and one electronic copy)

 $\label{thm:condition} $$ \operatorname{CC}\operatorname{Mitigation}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CC}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CC}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CC}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{Monitoring}\operatorname{CPR}\operatorname{M$ 



#### Third Annual (2013) Mitigation Monitoring Report

# JAY PEAK RESORT GOLF COURSE WETLAND AND STREAM MITIGATION Jay, Vermont

Prepared for: Jay Peak Resort

Jay, Vermont

Prepared by: Vanasse Hangen Brustlin, Inc.

7056 U.S. Route 7

North Ferrisburgh, VT 05473

#### **Table of Contents**

1.0	Introdu	uction	1
2.0	Summa	ary and Monitoring Methodologies	4
3.0		ition Data Results	
	3.1	Herbaceous	8
	3.2	Shrub Species	8
	3.3	Natural Woody Recruitment	9
4.0	Hydro	logy	10
5.0	Functio	ons and Values Assessment	12
	5.1 V	Vernal Pool Assessment	13
6.0	Stream	Assessments	13
7.0	Invasiv	ve Plant Species	14
8.0	Remed	lial Actions	15
9.0	Conclu	isions	16
10.0	Referei	nces	18

#### Appendix:

- Jay Peak Resort Golf Course Site Location Map
- Jay Peak Wetland and Stream Mitigation, 2013 Monitoring Maps (Index and Maps 1 through 7)
- Herbaceous Species and Cover Summary Data from Permanent 1m<sup>2</sup> Plots and Wetland Data Plots
- Woody Stem Survival Assessment Based on 0.02-acre (5-meter Radius) Permanent Vegetation Monitoring Plots and Wetland Data Plots
- Wetland Determination Data Sheets
- Jay Peak Resort Golf Course Mitigation Monitoring Year 3 Photographs
- Jay Peak Golf Course Restoration June 20, 2013 Golf Course Field Meeting with USACE and EPA memorandum
- Mitigation Report Transmittal and Self-Certification

#### 1.0 Introduction

On behalf of Jay Peak Resort ("JPR"), Vanasse Hangen Brustlin, Inc. ("VHB") has prepared this report to present the findings of the third year of post-construction monitoring of the restoration work which was conducted by JPR to mitigate for impacts which resulted from the construction of an 18-hole golf course at the resort between 2004 and 2006 (see JPR Golf Course Site Location Map in the Appendix, page 1). This mitigation was necessary for JPR to qualify for an after-the-fact Individual Permit ("IP") under Section 404 of the Clean Water Act, for dredge and fill work conducted in jurisdictional waters of the U.S., including wetlands ("Waters"). The IP (Permit Number: NAE-2008-1314), was issued June 23, 2011, and required JPR to monitor the restoration and creation areas within the golf course for a period of five years, and included reference to the criteria and success standards which were used to conduct these monitoring activities and evaluate performance (USACE 2011). The purpose of the annual monitoring and reporting is to measure the progress of the mitigation areas relative to the success standards and to offer recommendations to ultimately achieve site success standards.

The mitigation activities, which were completed during the 2009 and 2010 construction seasons (VHBP 2010 and VHB 2010), included the restoration of 19 stream segments, and 0.58 acre of wetland, in addition to the creation of 1.86 acres of wetland (VHB 2010). The first two years of annual monitoring conducted by VHB in July 2011 and 2012, indicated that all performance standards were being met in 2011, and most of the performance standards were being met in 2012 (see Table 1 below). The results of the Year Three (2013) monitoring indicate that all but one of the performance standards are being met at this time. The one performance standard which is not currently being met involves the presence of vernal pool indicator amphibian species within a select number of restored or created wetlands. The absence of the vernal pool species does not indicate an

oversight on the part of JPR or failure to comply with the conditions of the IP since JPR has not undertaken any changes to these features that would affect their ability to support vernal pool, or any, biota. The field activities for the Year Three (2013) monitoring took place on August 15 and 16, 2013, and were conducted by VHB Environmental Scientists. A summary description of each standard and Year Three (2013) monitoring results are provided in Table 1, with greater detail provided in Section 2.0.

	Table 1: P	Performance Standard	Outline and Succes	s Measure	
Performance Standard	Success Criteria	Monitoring Method	Performance Standard Met (?) Year 1 (2011)	Performance Standard Met (?) Year 2 (2012)	Performance Standard Met (?) Year 3 (2013)
	Herbaceous vegetation coverage of a minimum 80% of native, wetland plants within the restored and created wetland areas	Monitor herbaceous vegetation from permanent 1 square meter herbaceous vegetation monitoring plots [established in Year One (2011)] within the restored and created wetlands and adjacent to large stream restorations	Yes; based on extrapolation of 1 square meter plots, average coverage within the wetland mitigation areas is 100%	Yes; based on extrapolation of 1 square meter plots, average coverage within the wetland mitigation areas is over 100%	Yes; based on extrapolation of 1 square meter plots, average coverage within the wetland mitigation areas is over 100%
1. Re-establish (or establish in created wetlands) a natural wetland vegetation community in restored wetland areas	Survival rate of 80% of the planted native, wetland shrubs	Establish permanent 0.02-acre (5m radius) monitoring plots within the restored and created wetlands	Yes; based on extrapolation of 0.02-acre (5m radius) plots, shrub stem survival within the mitigation wetlands is 93%	Yes; based on extrapolation of 0.02-acre (5m radius) plots, shrub stem survival within the mitigation wetlands is 84%	Yes; based on extrapolation of 0.02-acre (5m radius) plots, shrub stem survival within the mitigation wetlands is 80%
	Wetlands develop a natural community, which blends into the adjacent, undisturbed features	Establish at least one permanent photograph monitoring station within each restored or created wetland which shows the adjacent undisturbed feature	Yes; permanent photograph stations were established in each wetland feature which shows the restored or created feature, and the adjacent undisturbed features	Yes; photographs recorded from permanent photograph stations (established in 2011); photos illustrate the restored or created feature, & the adjacent undisturbed features	Yes; photographs recorded from permanent photograph stations (established in 2011); photos illustrate the restored/ created features & the adjacent undisturbed features

	Table 1: F	erformance Standard	Outline and Succes	s Measure	
Performance Standard	Success Criteria	Monitoring Method	Performance Standard Met (?)	Performance Standard Met (?)	Performance Standard Met (?)
			Year 1 (2011)	Year 2 (2012)	Year 3 (2013)
2. Re-establish (or establish in the created wetlands) wetland hydrology	Clear evidence of hydrology based on the criteria in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Regional Supplement) (USACE 2012)	Visual assessment of restored or created wetlands for evidence hydrology indicators	Yes; all but one feature (H15-WT1) of the restored/created wetlands show evidence of persistent wetland hydrology	Yes; despite the below average precipitation during July & August 2012, all mitigation wetlands show evidence of persistent wetland hydrology	Yes; all restored and created wetlands show evidence of persistent wetland hydrology
3. Re-establish (or establish in the created wetlands) the functions and	Clear evidence of the functions and values are being performed by the restored and created wetlands (previously identified as Groundwater Recharge/ Discharge and Wildlife Habitat)	Assess each wetland using methods in the Highway Methodology (USACE 1999)	Yes; all but one (H15-WT1) of the restored wetlands are showing evidence of performing the function of groundwater recharge; some of the restored/ created wetlands are functioning as wildlife habitat	Yes; all of the restored wetlands are showing evidence of performing the function of groundwater recharge; some of the restored/ created wetlands are functioning as wildlife habitat	Yes; all of the restored wetlands are showing evidence of performing the function of groundwater recharge; some of the restored/ created wetlands are functioning as wildlife habitat
values provided by the wetlands within and adjacent to the golf course.	Wildlife Habitat)  Investigate the selected restored wetlands (WH-WT1, H13-WT2, & H14-WT1) at the appropriate time of year for signs of breeding use by vernal pool indicator species		Yes; all of the selected wetlands showed evidence of breeding use by vernal pool indicator species	No; none of the previously identified wetlands contained evidence of breeding use by vernal pool indicator species (H13-WT2 did contain other breeding amphibians)	No; none of the wetlands identified in 2011 as potential vernal pools contained evidence of breeding use by vernal pool indicator species during a site visit conducted in June 2013 (H13-WT2 did contain other breeding amphibians)

Table 1: Performance Standard Outline and Success Measure												
Performance Standard	Success Criteria	Monitoring Method	Performance Standard Met (?) Year 1 (2011)	Performance Standard Met (?) Year 2 (2012)	Performance Standard Met (?) Year 3 (2013)							
4. Visually assess each restored stream segment for evidence of natural channel	Restored stream segments show signs of naturalization, and minimal evidence of erosion	Visually assess each restored stream segment for signs of natural stream development; permanent photograph stations established to record progress throughout the monitoring period	Yes; the restored stream segments showed signs of ongoing substrate sorting, minimal erosion or undercutting of banks, and use of created floodplains (where applicable)	Yes; the restored streams continue to show evidence of naturalization.  New areas of erosion in 2 restored streams (P2-TB1 & H16-SC1) have been repaired in 2012, or will be early in 2013.	Yes; the restored streams continue to show evidence of naturalization & have stabilized. Streams repaired in 2012 & 2013 remained stable in late 2013.							
development and stability	Vegetation communities in the adjacent re-created floodplain areas are developing with native, wetland vegetation	Same as with restored/ created wetlands (1 square meter and 0.02-acre (5m radius) plots)	Yes; average herbaceous vegetation cover is 95%; average planted shrub survival is 91%	Yes; TOTAL average herbaceous vegetation cover is over 100%; average planted shrub survival is 84%	Yes; TOTAL average herbaceous vegetation cover is over 100%; average planted shrub survival is 82% in the restored floodplains							

A site visit was conducted, prior to the Year Three monitoring, with representatives from USACE, U.S. Environmental Protection Agency ("EPA"), JPR, and VHB on June 20, 2013, in order to review the overall condition of the mitigation areas, and to determine if any features required repair after the spring snow melt or early precipitation events. Overall, the mitigation features were found to be in good condition following winter 2012/2013, with remedial repairs needed in certain locations. The problem areas and the repairs are discussed below in Section 6 (Stream Assessments) and Section 8 (Remedial Actions).

#### 2.0 Summary and Monitoring Methodologies

The mitigation features are, in general, performing consistent with expectations. The wetland vegetation communities continue to develop (including new species observed

to be colonizing from adjacent previously undisturbed wetlands), all of the mitigation wetland features show evidence of wetland hydrology, all of the wetland features demonstrates groundwater recharge/ discharge function, several of the wetland features are also providing wildlife habitat function; at the time of the Year Three monitoring data collection, the restored streams are stable and developing natural stream channel characteristics.

The following sections detail the mitigation goals and the methods used to assess adherence to the success criteria.

1. Re-establish a native wetland vegetation community within the restored wetlands and adjacent to restored stream segments; establish a native wetland vegetation community within created wetlands.

In order to ensure a consistent data collection approach which could be compared throughout the 5-year monitoring period, VHB conducted the Year Three monitoring in approximately the same locations (using the same data plot designations) and using the same methodologies that were established in Year One. As stated above, the Year Three monitoring data collection was completed in early August, at the height of the growing season, which is consistent with procedures outlined in the Mitigation Plan, and with the first two years of monitoring. A full description of data collection methodologies is included in the Jay Peak Resort – Golf Course Wetland and Stream Mitigation - First Annual (2011) Mitigation Monitoring Report ("Year One Report") (VHB 2012). Data collection to determine overall herbaceous coverage was conducted using the one-meter square plots or wetland determination data plots, established during the Year One monitoring (see Mitigation Monitoring Map Set on pages 2 through 9 of the Appendix for plot locations). Data collection for Year Three monitoring was repeated at approximately the same points as in Year One.

VHB also completed USACE Wetland Determination Data Forms for a selection of restored or created wetland features (see pages 13 through 28 of the Appendix). Those wetlands which were determined to need full wetland data collection to monitor the

development of the three wetland criteria, prior to the Year One monitoring (2011), were again the subject of full wetland data collection during 2013. These features include: H11-Create, H11-WT6, H13-WT1/1a/1b, H14-WT2/3, H15-WT1, H16-Create, H5-Create, H6-WT1, and H8-Create.

The one square meter herbaceous vegetation monitoring plots also served as the centers for the 0.02 acre (five-meter radius) shrub survival monitoring plots. The number of surviving planted shrub stems were counted within the 0.02-acre plots; this number was then extrapolated from the 0.02-acre monitoring plot (or plots) to the size of the restored or created feature and compared to the total number of stems planted within each feature (NEE 2010), to determine the overall survival rate of survival of the planted shrubs. For features that are close to, or smaller in size than, the 0.02-acre monitoring plots used, all the planted shrubs within the feature were counted. Natural recruits will be included in the shrub tally as they become established.

Photographs were also recorded from the permanent photograph locations, established in 2011, in order to continue to provide visual documentation of the restored and created wetlands, as well as the restored stream channels (see Jay Peak Resort Golf Course Year 3 (2013) Monitoring Photographs on pages 29 through 50 of the Appendix) to ensure the restored and created features are developing naturally and blending with the adjacent, undisturbed features.

2. Re-establish (or establish in created wetlands) wetland hydrology (and hydrologic connections) through earthwork within restored and created wetlands to connect to existing Waters.

The purpose of establishing wetland hydrology and hydrologic connections was not only to ensure the development of functioning wetlands, but to ensure that the restored and created features meet USACE jurisdictional parameters. Evidence of hydrology was assessed within each restored/ created wetland during the visual assessment conducted within each feature, and the wetland data determination data collection conducted in a

selection of features, based on guidance found from Regional Supplement indicators, and is summarized in Table 2, in Section 4.0 below.

3. Re-establish (or establish in created wetlands) the wetland functions and values within restored and created wetlands previously provided by the wetlands within and adjacent to the golf course.

Using the methods described in the USACE's Highway Methodology, VHB assessed each restored and created wetland during the monitoring activities. VHB previously identified the functions and values of Groundwater Recharge/ Discharge and Wildlife Habitat as the target functions to be restored. The results of this assessment are provided in Table 2 in Section 4.0.

Because no evidence of use by vernal pool indicator species was found during the Year Two monitoring in wetlands WH-WT1, H13-WT2, and H14-WT1, no formal vernal pool survey was conducted. Although VHB did not conduct a formal vernal pool assessment for any of the restored or created wetlands in Year Three, during the June 2013 site visit, the three target wetlands were observed for the presence of vernal pool species, but none were found.

4. Visually assess each restored stream segment for evidence of natural channel development and stability.

During the monitoring activities, VHB walked the length of each stream channel to observe the development of the stream channel naturalization, and to look for potential problems to be addressed, such as bank erosion, grade control structure instability, incursion by golfers, course maintenance operations, etc. Signs of channel naturalization included stream bed material sorting, natural sediment deposition, floodplain use, and the development of in-stream habitats (i.e., riffles, and step/ pools). A pre-monitoring site visit conducted with the USACE and the EPA on June 20, 2013, showed two streams had sustained erosional damage during a storm event that occurred in late May 2013, including bank scouring, and in one case, bank failure. Streams P2-TB1 and H8-TB 2 (which was not part of the golf course mitigation activities) had previously eroded and

been repaired in 2012. The follow-up repairs discussed with the USACE and EPA were made prior to the August monitoring activities. The repairs undertaken to Stream P2-TB1 were minor in nature, and involved re-establishing a small area of stream bank, which had been previously repaired (see "June 20, 2013 Golf Course Field Inspection with USACE and EPA" meeting summary on pages 51 through 52 of the Appendix); seed and erosion control blanket were applied in July, prior to the official Year Three monitoring activities. During the August monitoring, it was observed that this feature had been stabilized with the growth of the seed that had been applied and showed no further areas of instability or erosion.

#### 3.0 Vegetation Data Results

#### 3.1 Herbaceous

Monitoring efforts found that the total average relative herbaceous cover within the wetlands and within the floodplains of the restored streams is over 100 percent, and is approximately 129 percent overall (see Herbaceous Species and Cover Summary Data from 1m<sup>2</sup> Plots and Wetland Data Plots table on pages 10 and 11 of the Appendix), all of which exceeds the performance standards of 80 percent coverage by non-invasive wetland herbaceous species. It is noteworthy that additional, native wetland species were recorded during the monitoring, that were not part of the wetland seed mix applied to the mitigation areas; this suggests the surrounding, undisturbed features are contributing seed, and therefore increased species richness and diversity to the vegetation communities.

#### 3.2 Shrub Species

Four shrub species were planted within the restored and created wetlands and adjacent to the large stream restoration segments after the completion of restoration activities in 2010; the species include:

Winterberry Holly (Ilex verticillata),

- Elderberry (Sambucus canadensis),
- American cranberrybush (*Viburnum trilobum*)<sup>1</sup>, and
- Red-osier dogwood (*Cornus sericea*).

Willow (*Salix* spp.) and dogwood (*Cornus* sp.) tubelings were planted at the same time as the shrubs, adjacent to all restored stream segments in order to increase bank stability. Since these tubelings were planted for the purposes of enhancing stream bank stability and not as vegetation community enhancement, these were not included in the shrub survival assessments. Very few dead tubelings were observed during the various site visits conducted in 2013. Rather, the tubelings were observed to be thriving, with the large majority of the stems showing significant added height and/or areal coverage during the 2013 growing season.

Based on the data obtained from the permanent vegetation monitoring plots, the overall shrub survival rate for the restored and created wetlands is 80 percent, and within the larger stream segment restorations is approximately 82 percent (see Woody Stem Survival Assessment Based on 0.02-acre Permanent Vegetation Monitoring Plots and Wetland Data Plots summary table on page 12 of the Appendix), which continues to meet the performance standards of 80 percent survival rate of planted shrubs.

#### 3.3 Natural Woody Recruitment

Based on observations made in the field, natural woody recruitment within the restored and created wetlands and adjacent to restored stream segments has increased compared to conditions in 2012. It is anticipated that additional species will continue to "volunteer" from the surrounding, undisturbed woodlands. VHB noted such volunteer species as yellow birch (*Betula alleghaniensis*), pin cherry (*Prunus pensylvanica*), and red maple (*Acer rubrum*) within a number of the restored and created wetlands, including Wetlands H6-WT1, H11-WT6, H13-WT3, and H15-WT1. It is expected that these and

<sup>&</sup>lt;sup>1</sup>The accepted scientific name for American cranberry bush was *Viburnum trilobum* at the time of the restoration activities; the currently accepted name for this species is *V. opulus var. americanum* (USDA 2013).

other volunteer species will continue to naturally propagate and may be represented within the permanent vegetations monitoring plots during future monitoring efforts.

#### 4.0 Hydrology

Based on the results summarized in Table 2 below, all of the restored and created wetlands show evidence of at least one primary, principal hydrology indicator, which would indicate hydrology is present within all of these features, and therefore that this success criterion is being met. The results of the assessment of hydrology within each restored or created wetland are detailed in Table 2.

Table 2: Su	mmary (	of Hydrol	logy Indicators and Functions and Va	lues in the Restored and Created Wetlands
Feature	Hole #	VHB Map #	Evidence of Hydrology <sup>2</sup>	Principal Functions and Values <sup>3</sup>
H5-Create	5	1	A3 (Saturated); B4 (Algal mat or crust); B9 (Water-stained leaves)	Groundwater recharge/ discharge and Floodflow alteration (evidence of water retention and adjacent to perennial stream); Wildlife habitat (pickerel frogs ( <i>Rana palustris</i> )) and various songbirds observed
H6-WT1	6	1	A3 (Saturated); B4 (Algal mat or crust); B9 (Water-stained leaves)	Groundwater recharge/ discharge (evidence of water retention)
WH-WT1	6	1	A1 (Surface water); A2 (High water table); A3 (Saturation); B13 (Aquatic fauna)	Groundwater recharge/ discharge (standing water at time of monitoring); Wildlife habitat (pickerel frogs ( <i>Rana palustris</i> ))
WH-WT2	6	1	A1 (Surface water); A2 (High water table); A3 (Saturation);B1 (Water marks); B4 (Algal mat or crust); B10 (Drainage patterns)	Groundwater recharge/ discharge (evidence of water retention and ground water discharge)

<sup>2</sup> Alpha-numeric codes representing Evidence of Hydrology are from Regional Supplement (Section 4). "A" indicators represent direct observations of surface or groundwater; "B" indicators represent evidence an area is subject to regular ponding or flooding; "C" indicators include other evidence and area is normally saturated; and "D" indicators include other landscape/soil/vegetation features that indicate contemporary (not historic) wet conditions.

<sup>&</sup>lt;sup>3</sup> Principal Functions and Values are from the USACE Highway Methodology (1999).

Table 2: Summary of Hydrology Indicators and Functions and Values in the Restored and Created Wetlands

Feature		VHB Map #	Evidence of Hydrology <sup>2</sup>	Principal Functions and Values <sup>3</sup>
H4-WT1/2	4	2	A1 (Surface water); A2 (High water table); A3 (Saturation); B10 (Drainage patterns);	Groundwater recharge/ discharge and Floodflow alteration (groundwater discharge present; adjacent to small perennial stream with very dense vegetation)
H4-WT3	4	2	A3 (Saturation); B9 (Water-stained leaves); B10 (Drainage patterns)	Groundwater recharge/ discharge (evidence of standing water)
H8-Create	8	3	A3 (Saturation); B1 (Water marks); B9 (Water-stained leaves); B10 (Drainage patterns)	Groundwater recharge/ discharge and Floodflow alteration (adjacent to intermittent stream with dense vegetation)
H1-WT1	1	4	A3 (Saturation); B9 (Water-stained leaves); B10 (Drainage patterns)	Groundwater recharge/ discharge and Floodflow alteration (adjacent to two perennial streams with little capacity up-gradient)
H11-WT2/3	11	6	A3 (Saturation); B10 (Drainage patterns)	Groundwater recharge/ discharge (adjacent to small perennial stream)
H11-Create	11	6	B9 (Water-stained leaves); [A1 (Surface water); A2 (High water table); A3 (Saturation); B10 (Drainage patterns) present in other areas of wetland]	Groundwater recharge/ discharge (evidence of water retention)
H11-WT6	11	6	A3 (Saturation); B9 (Water-stained leaves; B10 (Drainage patterns)	Groundwater recharge/ discharge (evidence of water retention and ground water discharge)
H16-WT1/ H11-WT1	16	6	A3 (Saturation); B4 (Algal mat or crust); B9 (Water-stained leaves); B10 (Drainage patterns)	Groundwater recharge/ discharge and Floodflow alteration (evidence of water retention; adjacent to small perennial stream with limited capacity up-gradient)
H16-Create	16	6	B4 (Algal mat or crust); B9 (Water- stained leaves); B10 (Drainage patterns); [A1 (Surface water); A2 (High water table): A3 (Saturation) present in other portions of the wetland]	Groundwater recharge/ discharge and Floodflow alteration (evidence of water retention and groundwater discharge; large wetland adjacent to perennial stream)
H13- WT1/1a/1b	13	7	A3 (Saturation); B9 (Water-stained leaves); B10 (Drainage patterns)	Groundwater recharge/ discharge and Floodflow alteration (groundwater discharge points found; adjacent to small perennial stream with little capacity up-gradient)
H13-WT2	13	7	A1 (Surface water); A2 (High water table); A3 (Saturation); B1 (Water marks); B13 (Aquatic fauna)	Groundwater recharge/ discharge and Wildlife habitat (groundwater discharge points observed; pickerel frog and green frog ( <i>Lithobates clamitans</i> ) tadpoles observed
H13-WT3	13	7	A1 (Surface water); A2 (High water table); A3 (Saturation); B10 (Drainage patterns)	Groundwater recharge/ discharge (standing water at the time of monitoring)

Table 2: Su	mmary (	of Hydrol	ogy Indicators and Functions and Val	ues in the Restored and Created Wetlands
Feature	Hole #	VHB Map #	Evidence of Hydrology <sup>2</sup>	Principal Functions and Values <sup>3</sup>
H14-WT2/3	14	7	A3 (Saturation); B4 (Algal mat or crust); B9 (Water-stained leaves); B10 (Drainage patterns)	Groundwater recharge/ discharge (evidence of water retention and adjacent to small perennial stream)
H14-WT1	14	7	A1 (Surface water); A2 (High water table); A3 (Saturation); B2 (Sediment deposits); B10 (Drainage patterns)	Groundwater recharge/ discharge (groundwater discharge points observed)
H15-WT1	15	7	A3 (Saturation); B9 (Water-stained leaves)	Groundwater recharge/ discharge

#### 5.0 Functions and Values Assessment

VHB conducted an assessment of wetland functions and values during the Year Three monitoring efforts, using the methods outlined in the Highway Methodology, in order to ensure that the wetland functions and values impacted by golf course construction were restored. It was determined during the mitigation planning process that the principal functions and values provided by the impacted wetlands were groundwater recharge/ discharge and wildlife habitat. Each wetland feature was visually assessed during the monitoring efforts to determine if these previously identified functions and values (or any additional functions) were being provided. Based on this assessment, VHB determined that as of 2013, all of the restored and created wetlands are providing the function of Groundwater Recharge/ Discharge and/or Wildlife Habitat, thus meeting performance standards; in addition, several of the restored or created wetlands showed evidence of functioning for Floodflow Alteration. The results of this assessment are listed, by feature, above in Table 2.

#### 5.1 Vernal Pool Biology Assessment

Based on the negative results of a vernal pool assessment for biological indicator species conducted in Year Two, VHB did not conduct a similar assessment in Year Three. In 2013, during the June site visit, observations were made at the three target wetlands to determine the presence or absence of those indicator species. If there had been breeding activity by the known vernal pool indicator species in the three target wetlands, the young would have still occupied the wetlands. As in Year Two, there was no evidence of use by vernal pool indicator species, although there had been evidence, in both Years Two and Three of use by other amphibian species in two wetlands (H5-Create and H13-WT2). In Year One (2011), use of three wetlands (WH-WT1, H13-WT2, and H14-WT1) by vernal pool indicator species for breeding was observed during the appropriate season. These wetlands were identified as potential breeding habitat for vernal pool species prior to the start of mitigation monitoring in 2011. VHB does not recommend continuing to conduct separate surveys for vernal pool species during the remaining monitoring years, however observations during the typical late spring field visits should show if any of the target wetlands are used by vernal pool indicator species.

#### 6.0 Stream Assessments

In addition to the assessment of the herbaceous and shrub vegetation communities within the restored floodplains of the larger stream restoration sites, VHB conducted a visual assessment of the stream conditions within the restored stream segments. In order to assess stream condition, VHB observed and noted such characteristics as signs of erosion, and evidence of channel development (including substrate sorting, occupation of the floodplain, and sediment deposition). Overall, the restored streams continue to develop and naturalize in a stable manner. Several streams show evidence of accessing the created floodplains during high precipitation events, with minimal erosion occurring; signs include sediment deposits in the floodplain and continued

healthy vegetation (herbaceous and woody) growth after the high precipitation events. Evidence was observed that significant substrate sorting has taken place in all of the restored streams.

As described above, prior to the August monitoring activities, during a June site visit with USACE and EPA, one stream, P2-TB1, exhibited further signs of erosion which required follow up repair. The banks of Stream P2-TB1 had been severely eroded, and one grade control structure compromised during a high precipitation event in Spring 2012. As part of the normal photograph collection for monitoring, each restored stream was photographed to show representative conditions (see Golf Course Mitigation Monitoring – Year Three Photographs on pages 29 through 50 of the Appendix).

#### 7.0 Invasive Plant Species

In 2013, VHB observed the same small population (approximately 10 feet by 10 feet) of common reed (*Phragmites australis*) within Wetland H4-WT1/2. This population has previously been hand cut and treated with herbicide at various times during the growing seasons of 2009 through 2013, prior to which time it is was approximately the same dimensions. During the Year Three monitoring, it was noted that this population of common reed shows signs of stress, (i.e., looking less dense and vigorous than in previous years), and indicates that the continued cutting and targeted treatment with herbicide is having an effect. It has not spread within the wetland, or to other features, it should continue to be monitored and treated as necessary to ensure that it does not spread to other restored or created features.

During the 2013 monitoring, VHB observed a small population of reed canary grass (*Phalaris arundinacea*) in Wetland H13-WT3. This population, which was not present in 2012, was approximately two-feet by two-feet in size. Because the seed had already dispersed by the time of the 2013 monitoring, the small population was hand removed

for disposal off-site, but no further treatment was conducted or recommended for 2013. This area should be monitored in the future to ensure the reed canary grass does not spread to other wetland features; if it re-emerges in 2014, the plants should be hand-pulled and treatment with herbicide considered if the population is significantly larger than in 2013.

During Year Two monitoring, VHB observed three small populations of invasive species, (in addition to the common reed in Wetland H4-WT1/2): reed canary grass in Wetland H11-WT6, and purple loosestrife (*Lythrum salicaria*) within wetlands H8-Create and H11-Create. At the time of the 2012 monitoring, the reed canary grass had already released seeds, so it was not treated; the two small populations of purple loosestrife, which were both in flower, were hand-pulled for disposal off-site. These three small populations were not found during the Year Three monitoring.

#### 8.0 Remedial Actions

As discussed above and detailed in the June 20, 2013 USACE Meeting minutes (Appendix pages 51 through 52), JPR undertook minor, follow-up repairs in summer 2013, in Stream P2-TB1, which had sustained three areas of bank failure in 2012. This stream was originally repaired in Fall 2012, during a relatively dry time of year, and the follow up work consisted of the re-application of seed in order to ensure the repaired slope remains stable. This area will continue to be monitored in the future to ensure the repair is stable. The other remedial repairs undertaken in 2012, which are summarized in the "June 20, 2013 Golf Course Field Inspection with USACE and EPA" (Appendix pages 51 through 52) were inspected to ensure stability of the repairs.

#### 9.0 Conclusions/ Recommendations

Overall, the JPR golf course mitigation areas are meeting or exceeding performance standards. Field monitoring efforts identified average, overall herbaceous vegetation cover of over 100 percent; and overall shrub survival rates of approximately 80 percent. Both of these results meet or exceed the 80 percent herbaceous cover and meet the 80 percent shrub survival rate performance standards which were set in the Mitigation Plan. Based on the 2013 results, VHB anticipates that both the herbaceous cover and shrub survival rates within the various restoration and creation areas should continue to meet or surpass the performance criteria. Although the shrub survival rate was found to be at the lower end of the acceptable 80 percent survival performance standard in 2013, this should not be a significant concern, since the shrubs were planted to provide minimal structural diversity in the vegetation community and soil stability, and not to develop into shrub wetlands. Additionally, since the shrubs that have survived into 2013 have been observed to be thriving and natural recruits have begun to emerge in a portion of the features, the overall goal of shrubs providing structure to the vegetation communities including a minimum of areal coverage and prevention of soil erosion, would be met should the survival rate fall below the performance standard.

Based on the three years of data and observations collected and analyzed by VHB, and the success of the restored streams and the restored/created wetlands, VHB would recommend a reduction in the quantity of data collected for the mitigation monitoring, starting in 2014. Although JPR and VHB understand that a reduction in the minimum duration of monitoring (five years) is not possible, based on the success of the restored streams and restored/created wetlands, the full suite of quantitative data collection may not be necessary to prove that these features are meeting the minimum performance standards. Prior to the Year Four (2014) monitoring activities, JPR and VHB would recommend revisions to the required data collection standards to either an overall qualitative review of each feature method; or to a combination of qualitative

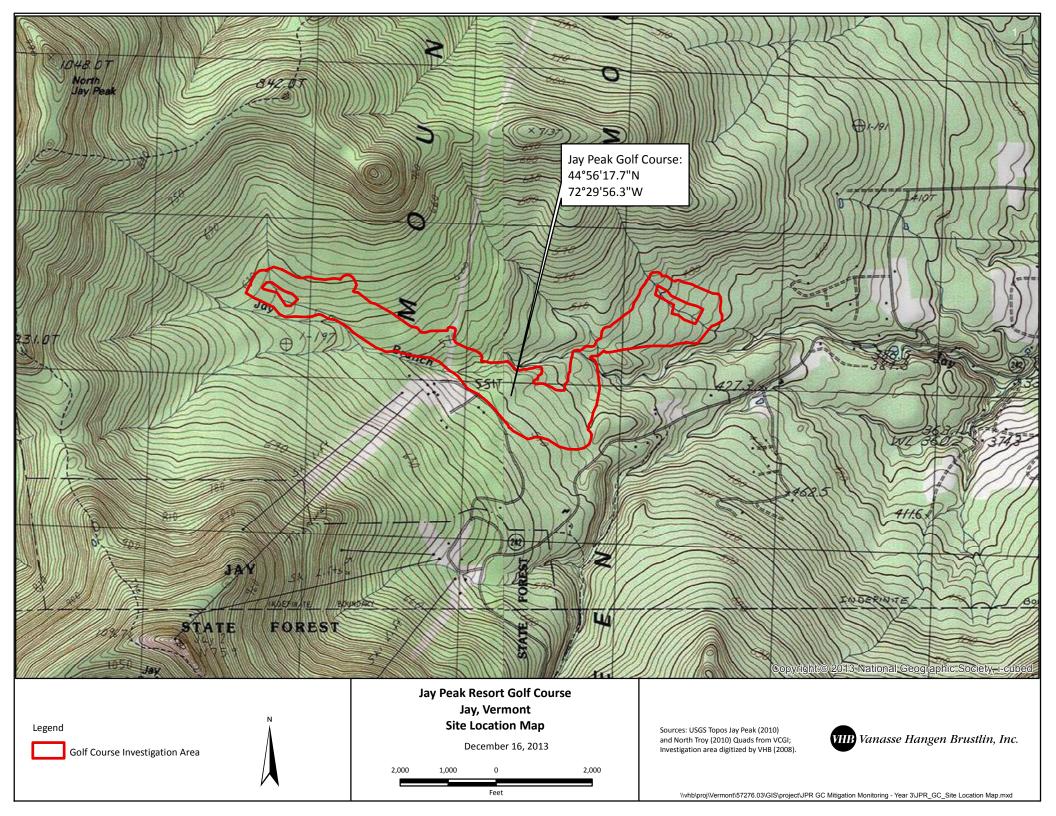
observations and reduced quantitative data collection. VHB understands that any changes to the current, approved system of monitoring data collection would need to be approved by the USACE.

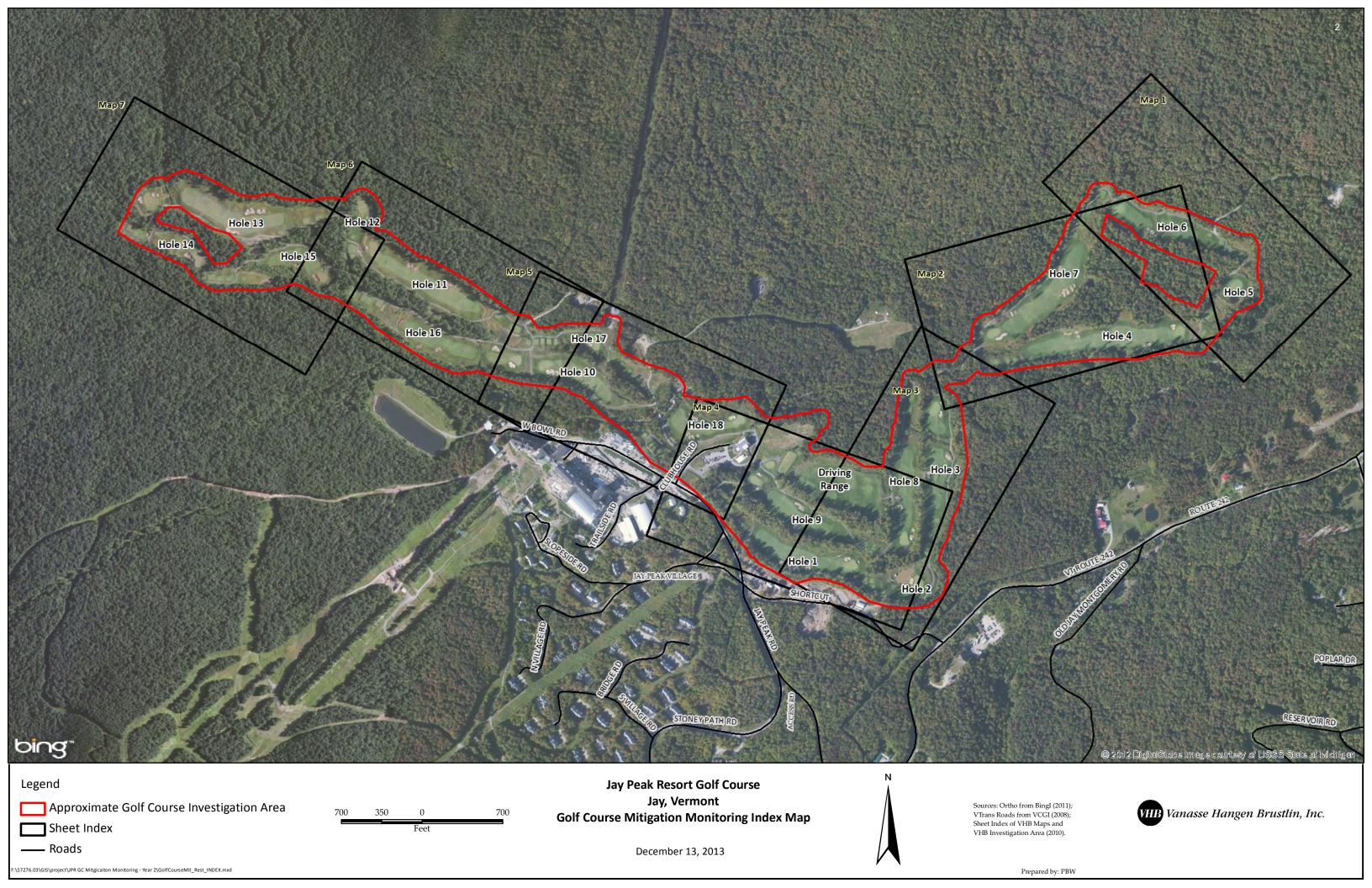
Finally, the signed *Mitigation Report Transmittal and Self-Certification* form as provided by the USACE's 7-20-10 New England District Compensatory Mitigation Guidance is provided on page 53 of the Appendix.

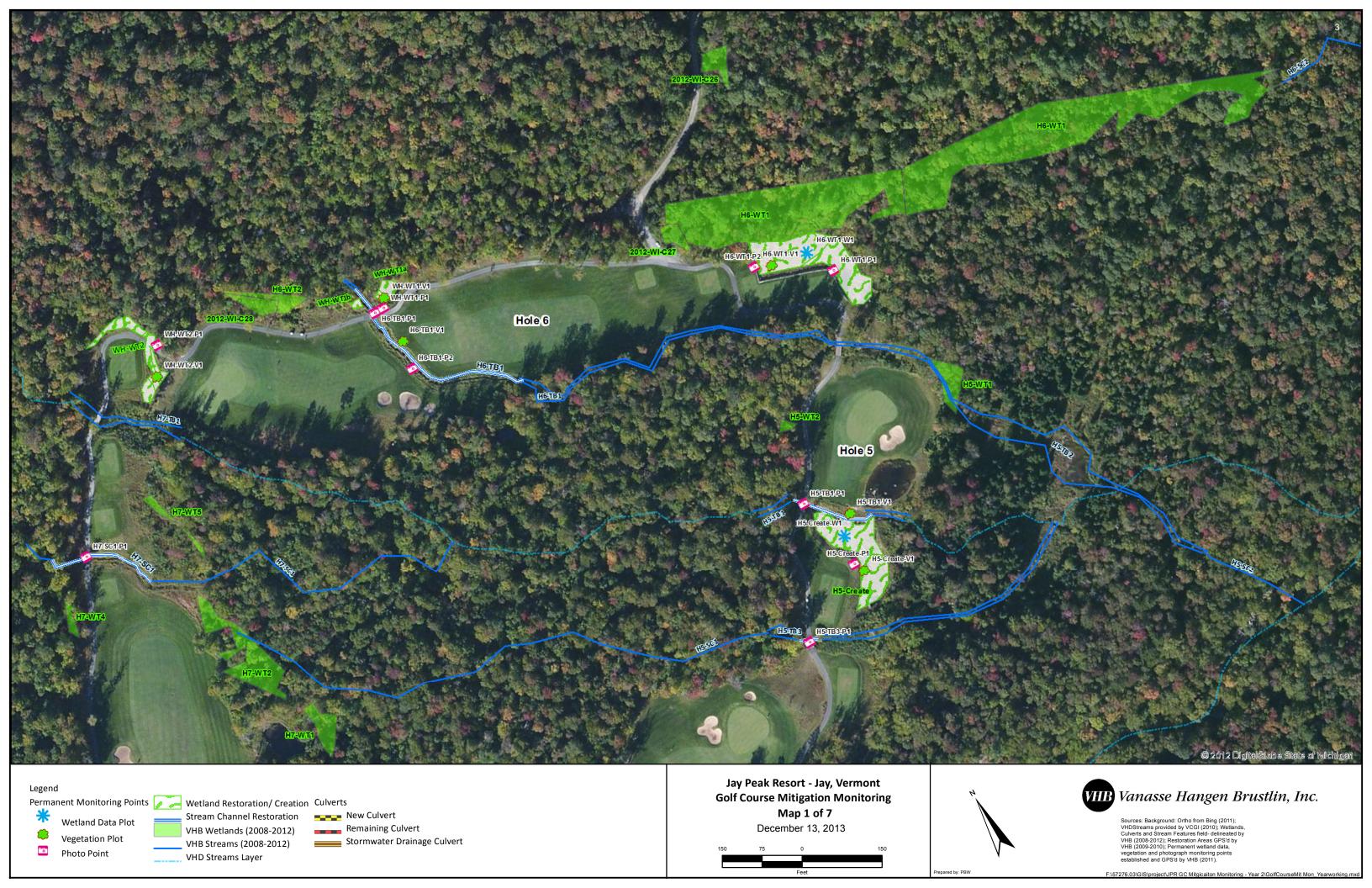
#### 10.0 References

- Lichvar, Robert W. 2013. "The National Wetland Plant List: 2013 Wetland Ratings". *Phytoneuron* 2013-49: 1 241. Published July 2013. ISSN 2153 733X.
- New England Environmental, Inc. (NEE). 2010. Post Construction Report Wetland/Stream Restoration Jay Peak Golf Course. NEE File #: 10-3758.
- U.S. Army Corps of Engineers (USACE). 2011. Permit Number: NAE-2008-1314. Department of the Army New England District Regulatory Division.
- USACE. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-09-19. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USACE 1999. U.S. Army Corps of Engineers New England District. 1999. *The Highway Methodology Workbook: Supplement: Wetland Functions and Values A Descriptive Approach*. NAEEP-360-1-30a.
- USACE 2010. New *England District Compensatory Mitigation Guidance*. USACE New England district Regulatory Division.
- VHB Pioneer (VHBP). 2009. Jay Peak Resort Golf Course 2009 Restoration and Mitigation Implementation Plan.
- VHBP. 2010. Jay Peak Resort 2009 Golf Course Restoration Monitoring Report.
- VHB 2010. Jay Peak Resort Golf Course 2010 Restoration and Mitigation Implementation Plan.
- VHB. 2010. 2010 Golf Course Restoration Monitoring Report Jay Peak Resort.
- VHB 2012. Jay Peak Resort Golf Course Wetland and Stream Mitigation First Annual (2011) Mitigation Monitoring Report.
- VHB 2013. Jay Peak Resort Golf Course Wetland and Stream Mitigation Second Annual (2012) Mitigation Monitoring Report.

### **APPENDIX**







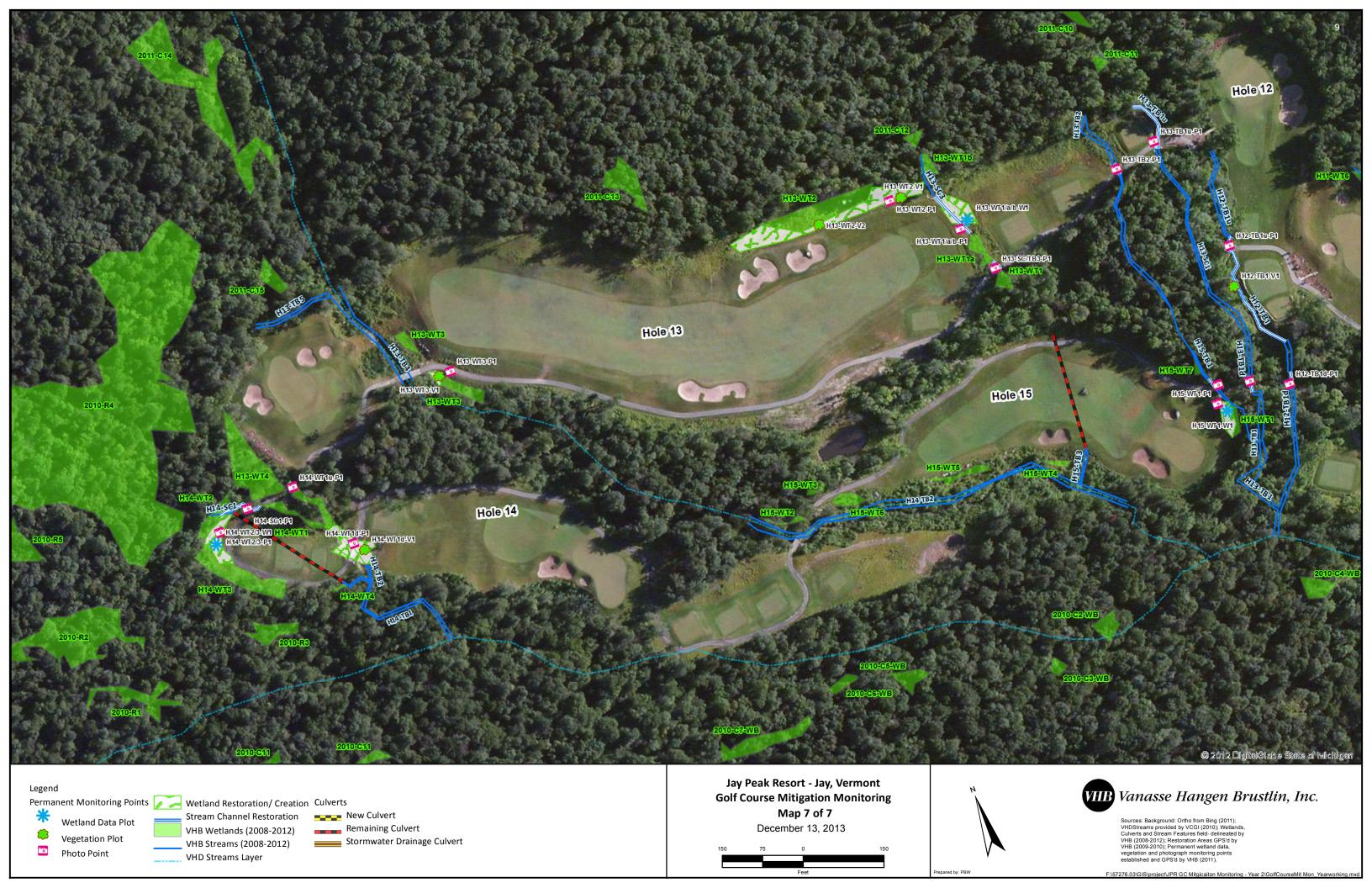












Jay Peak Resort Golf Course Mitigation Year Three (2013) Mitigation Monitoring Report Herbaceous Species and Cover Summary Data from 1m<sup>2</sup> Plots and Wetland Data Plots January 10, 2014



	VHB Mitigation Monitoring Map 1 of 7 <sup>5</sup> Map 2 of 7 <sup>7</sup> Map 4 of 7 <sup>7</sup> Map 4 of 7 <sup>7</sup>								of Map 6 of 7										Map 7 of 7															
Scientific Name <sup>1,2</sup>	Common Name	Indicator	H5-TB1	Н5-С	Create	H6-\	WT1	WH-WT1	H6-TB1	WH-WT2	H4-WT1	H4-WT3	H8-Create	H1-WT1	P2-	ГВ1	H11- WT2/3	H11-TB2	H11-0	Create	H11-	-WT6	H12-TB1u	H16-WT1/ H11-WT1	H16-Creat	te	H16-SC1	H13- WT1/1a/1 b	H13-\	WT2	H13-WT3	H14- WT2/3	H14-WT1	H15-WT1
		Status³	Stream		tland	Wet		Wetland	Stream	Wetland	Wetland	Wetland	Wetland	Wetland	Stre		Wetland	Stream	Wet			land	Stream	Wetland	Wetland		Stream	Wetland H13-	Wetl			Wetland	Wetland	Wetland
			H5-TB1-V1 <sup>6</sup>	H5-Create- V1	H5-Create- W1 <sup>6</sup>	H6-WT1-V1	H6-WT1- W1	WH-WT1- V1	H6-TB1-V1	WH-WT2- V1	H4-WT1/2- V1	H4-WT3-V1	H8-Create- W1	H1-WT1-V1	P2-TB1 (in GC) -V1		H11- WT2/3-V1	H11-TB2- V1	H11-Create- W1	H11-Create V1	H11-WT6- W1	H11-WT6- V1	H12-TB1u- V1	H16-WT1/ H11-VT1	H16-Create H16-Creat W1 V1	te-H16-Create V2	H16-SC1- V1	WT1/1a/1b· W1	H13-WT2- V1	H13-WT2- V2	H13-WT3- V1	H14- WT2/3-W1	H14-WT1d- V1	H15-WT1- W1
				1				l						! 	APPRO	OXIMATE CO	OVERAGE WI	THIN VEGET	ATION MON	ITORING AN	ID WETLAND	DATA PLOT	rs <sup>4</sup>					VVI					1	
Agrostis stolonifera L.	creeping bentgrass	FACW														15																		
Asclepias incarnata L. ssp. incarnata	swamp milkweed	OBL						15	3	3																								
Bidens cernua L.	nodding beggartick	OBL										3				3																		
Carex comosa Boott	longhair sedge	OBL	3	15		15	38	15		15	38	15	15	15	15		15	38	3	3	3	15	38	15			15	15	15		15	3	15	38
Carex crinita Lam.	fringed sedge	OBL		15			15				15	15		3			3				15	3	3				15	15	15	15	38	15		15
Carex scoparia Schkuhr ex Willd.	broom sedge	FACW		3					15	3	3	3	3	3	3	3	15	15	3	3		3						15	15					
Carex vulpinoidea Michx.	fox sedge	OBL	38	15	38	38	15	15	38	38		15	38	15	15		15	15	15	38	15		15		15 38	15		15		3		38	3	
Carex utriculata Boott	Beaked sedge	OBL										3																						
Chelone glabra L.	white turtlehead	OBL																						15										
Cyperus esculentus L.	chufa flatsedge	FACW														3																		
Eleocharis obtusa (Willd.) J.A. Schultes	blunt spikerush	OBL																												3				
Elymus virginicus L.	Virginia wildrye	FACW														15		3	15								15					3		
Equisetum arvense L.	field horsetail	FAC				3								3																				
Eragrostis pectinacea (Michx.) Nees ex Steud. var. pectinacea		FAC	3	15	3			3		3		15			3				15	15		15	15		15		38							
Eupatorium perfoliatum L.	common boneset	FACW	15	15	15	15	15	15	38	15	3			15	15		15	15	15	15	15		3		15 15	3	15	3	15	3		15	3	
Euthamia graminifolia (L.) Nutt.	flat-top goldentop	FAC		3			3	3	3		3	3	15	15	3	3	3		3	3	3	15		3	3			15	3	3				15
Eutrochium maculatum (L.) E.E. Lamont	spotted joepyeweed	OBL			3		3	3	15	3		3		3	3	15	15				3	3	3	3	15	3			3	3				15
Festuca rubra L.	red fescue	FACU														38			15															
Galium mollugo	false baby's breath	NI														3																		
Galinsoga parviflora Cav.	gallant-soldier	OBL													3																			
Glyceria canadensis (Michx.)	rattlesnake mannagrass	OBL																													15			
Glyceria melicaria (Michx.) F.T. Hubbard		OBL										15																	15			15		
Hieracium canadense Michx.	Canadian hawkweed	NI														3																		
Hypericum canadense L.	lesser Canadian St. Johnswort	FACW	5												3	3																		3
Impatiens capensis Meerb.	jewelweed	FACW	3					3			15		15				15	3					3				15		15	15	15		15	
Juncus effusus L.	common rush	OBL	3	3	15	38	15	15	15	15	38		38	38	38	3	38	15	15	38		15	15	38	15 38	15		15	15	3			15	15
Juncus tenuis Willd.	poverty rush	FAC			15	3			15					15		3		3	15	15			15	3									3	
Leersia oryzoides (L.) Sw.	rice cutgrass	OBL												15		3														38				
Lotus corniculatus L.	birdfoot deervetch	FACU																	3															
				·	1			l						l						I .														

\\whb\proj\Vermont\57276.03\\ssheets\UPR GC Mitigation Monitoring\UPR GC Mitigation Monitoring\UPR GC\_Y3\_Monitoring\_Veg\_List

## Jay Peak Resort Golf Course Mitigation Year Three (2013) Mitigation Monitoring Report Herbaceous Species and Cover Summary Data from 1m<sup>2</sup> Plots and Wetland Data Plots January 10, 2014



					VHB Mitiga	ation Moni	toring Map	1 of 7 <sup>5</sup>			Map 2 of 7				Map 5 of										Map 7 of 7								
Scientific Name <sup>1,2</sup>	Common Name	Indicator	H5-TB1	H5-C	Create	Н6-	WT1	WH-WT1	H6-TB1	WH-WT2	H4-WT1	H4-WT3	H8-Create	H1-WT1	P2-	ТВ1	H11- WT2/3	H11-TB2	H11-Create	H11-	-WT6	H12-TB1u	H16-WT1/ H11-WT1	H16-Create	e	H16-SC1	H13- WT1/1a/1 b	H13-\	WT2	H13-WT3	H14- WT2/3	H14-WT1	H15-WT1
Scientific Name		Status³	Stream	We	tland	Wet	tland	Wetland	Stream	Wetland	Wetland	Wetland	Wetland	Wetland	Stre	eam	Wetland	Stream	Wetland	Wet	land	Stream	Wetland	Wetland		Stream	Wetland	Wetla	and	Wetland	Wetland	Wetland	Wetland
			H5-TB1-V1 <sup>6</sup>	H5-Create- V1	H5-Create- W1 <sup>6</sup>	H6-WT1-V1	H6-WT1- W1	WH-WT1- V1	H6-TB1-V1	WH-WT2- V1	H4-WT1/2- V1	H4-WT3-V1	H8-Create- W1	H1-WT1-V1	P2-TB1 (in GC) -V1	P2-TB1 (off GC)-V1	H11- WT2/3-V1	H11-TB2- V1	H11-Create H11-Crea W1 V1	te- H11-WT6- W1	H11-WT6- V1	H12-TB1u- V1	H16-WT1/ H11-VT1	H16-Create H16-Create W1 V1	e-H16-Create V2	H16-SC1- V1	H13- WT1/1a/1b- W1	H13-WT2- V1	H13-WT2- V2	H13-WT3- V1	H14- WT2/3-W1	H14-WT1d- V1	H15-WT1- W1
Luganus amaricanus Muhl au	A ma a sisa a susta a			l I						1					APPR	OXIMATE CO	VERAGE WIT	THIN VEGET	ATION MONITORING	AND WETLAND	DATA PLOT	rs <sup>4</sup>					VVI			- 1	=		
Lycopus americanus Muhl. ex W. Bart.	horehound	OBL							3																	3							
Lysimachia ciliata L.	fringed loosestrife	FACW		15		3																											
Mimulus ringens L.	Allegheny monkeyflower	OBL		3	3			3	3					3				3	3 3			3	3		3								
Nepeta cataria L.	catnip	FACU				3																											
Phleum pratense L.	timothy	FACU														15										3							
Plantago major L.	common plantain	FACU																3															
Polygonum sagittatum L.	arrowleaf tearthumb	OBL						15					3															15	15				
Ranunculus acris L.	tall buttercup	FAC																															3
Schoenoplectus acutus (Muhl. ex Bigelow) A.& D. Löve var. acutus	hardstem bulrush	OBL																														15	
Schoenoplectus tabernaemontani (K.C. Gmel.)	softstem bulrush	OBL		15																													
Scirpus atrovirens Willd.	green bulrush	OBL	3		3	3		3					3	3				3			3		3		3	3		3	3		3	3	
Scirpus cyperinus (L.) Kunth	woolgrass	OBL	3			3	15	15		3	15	38	15	3		15	15			15	15	3	15	15	38		3	15	15			15	
Solidago canadensis L.	Canada goldenrod	FACU																		15													
Solidago gigantea	giant goldenrod	FACW					3				3	3	3		15			3			3	15	3	15	3						3		
Solidago rugosa P. Mill.	wrinkleleaf goldenrod	FAC											3	15						3	3			3			15				3		
Solanum dulcamara L.	climbing nightshade	FAC																															3
Symphyotrichum novae- angliae (L.) Nesom	New England aster	FACW	3	15	3	15	15		3	3	3	3		3	15		3	3	3	15		15		15 3	15								15
Taraxacum officinale G.H. Weber ex Wiggers	common dandelion	FACU														3																	
Thalictrum pubescens Pursh	king of the meadow	FACW																					3										
Trifolium pratense L.	red clover	FACU													3																		
Trifolium repens L.	white clover	FACU			3											15		3															
Typha angustifolia L.	narrowleaf cattail	OBL		15				15			38																	3		3			
Typha latifolia L.	broadleaf cattail	OBL											3																				
Verbena hastata L.	swamp verbena	FACW		3		3		3		3	3		15				3		3 3	3	3	15		3 3	15		3	3	3		3		15
Vicia sativa L.	garden vetch	FACU														15		3	3	3	3					3							
Phalaris arundinacea L.	reed canarygrass	FACW																												3			
	% Cover/San	npling Plot <sup>4</sup>	79	150	101	142	137	141	151	104	177	134	169	167	134	176	155	128	129 136	108	99	161	104	96 130	113	125	114	150	122	86	101	87	137
	Average % Cov	er/ Feature	79	1	26	1	40	141	151	104	177	134	169	167	1!	55	155	128	133	10	04	161	104	113		125	114	13	36	86	101	87	137
Total Average % Co	over for All Mitigation	Wetlands:	123	8																													

#### Notes:

Total Average % Cover for Restored Stream Floodplains

129

TOTAL Average % Herbaceous Cover:

\\whb\proj\Vermont\57276.03\ssheets\JPR GC Mitigation Monitoring\JPR GC\_Y3\_Monitoring\_Veg\_List

<sup>&</sup>lt;sup>1</sup>Species nomenclature follows the USDA Plants Database (USDA - NRCS 2013)

<sup>&</sup>lt;sup>2</sup> Species identification follows Haines, Arthur. 2011. Flora Novae Angliae: A Manual for the Identification of Native and Naturalized Higher Vascular Plants of New England . New England Wildflower Society.

<sup>&</sup>lt;sup>3</sup> Indicator status follows The National Wetland Plant List (Robert W. Lichvar. 2012. ERDC/CRREL TR-12-11. U.S. Army Corps of Engineers (USACE) - Engineer Research and Development Center - Cold Regions Research and Engineering Laboratory.

<sup>&</sup>lt;sup>4</sup> Cover class percentages from visual assessment of 1m<sup>2</sup> quadrats (including those within wetland data plots) and represents approximate coverage within the quadrat. Approximate mid-point cover classes have been used to report data.

<sup>&</sup>lt;sup>5</sup> Mapping refers to Jay Peak Resort Golf Course Mitigation Monitoring Set, prepared by VHB, and dated December 17, 2013

<sup>&</sup>lt;sup>6</sup> Plot names including "V" refer to 1m2 plots used to assess herbaceous vegetation only; plot names including "W" refer to data from wetland data plots.

<sup>&</sup>lt;sup>7</sup> Italics indicate invasive species per the Vermont Class A or B Noxious Weed list (Quarantine #3-Noxious Weeds)



## Jay Peak Resort Golf Course Mitigation Year Three (2013) Mitigation Monitoring Report Woody Stem Survival Assessment Based on 0.02-acre (5-meter radius) Permanent Vegetation Monitoring Plots and Wetland Data Plots December 18, 2013

Mitigation Feature	Feature Type	Mitigation Feature Size (acres)	Mitigation Feature Plot	Planted Shrubs within 0.02-acre (5m-radius) Plots	Approximate Total Planted Shrubs Within Feature	Total Shrubs Planted <sup>1</sup>	Approximate Survival Rate of Shrubs/ Feature (%)
H6-WT1		0.31	H6-WT1-V1	7	115	150	77%
110-4411		0.31	H6-WT1-W1	8	113	130	7776
WH-WT2		0.10	WH-WT2-V1	4	20	20	98%
WH-WT1		0.03	WH-WT1-V1	15	24	35	69%
H5-Create		0.24	H5-Create-V1	11	122	152	80%
no-create		0.24	H5-Create-W1	9	122	152	80%
H14-WT2/3		0.05	H14-WT2/4-W1	12	32	46	69%
H14-WT1		0.07	H14-WT1-V1	2	7	8	93%
			H16-WT1/H11-WT1-V1	4			
H16-WT1/Create/ H11-		0.55	H16-Create-W1	3	1	4-0	<b>-</b> 40/
WT1 <sup>2</sup>		0.66	H16-Create-V1	4	107	150	71%
	Š		H16-Create-V2	2			
H1-WT1	WETLANDS	0.06	H1-WT1-V1	10	28	37	76%
		0.00	H11-WT6-V1	7			<b>-</b> 40/
H11-WT6	≥	0.09	H11-WT6-W1	7	- 30	41	74%
H11-WT2/3		0.03	H11-WT2/3-V1	13	17	25	68%
1111 Coopte		0.26	H11-Create-W1	7	126	405	C00/
H11-Create		0.36	H11-Create-V1	7	126	185	68%
H4-WT1/2		0.02	H4-WT1/2-V1	8	8	10	75%
H4-WT3		0.04	H4-WT3-V1	5	9	10	89%
H8-Create		0.13	H8-Create-W1	4	26	30	85%
H13-WT1/1a/1b		0.06	H13-WT1/1a/1b-W1	5	14	16	87%
1142 14/72		0.10	H13-WT2-V1	3	24	45	500/
H13-WT2		0.18	H13-WT2-V2	4	- 31	45	69%
H13-WT3		0.01	H13-WT3-V1	12	15	16	94%
H15-WT1		0.03	H15-WT1-W1	12	23	25	92%
H6-TB1		0.26	H6-TB1-V1	5	65	75	86%
H5-TB1		0.17	H5-TB1-V1	9	75	81	92%
H16-SC1	ΝS	0.18	H16-SC1-V1	4	35	55	64%
H11-TB2	STREAMS	0.19	H11-TB2-V1	6	56	80	70%
H12-TB1u	STF	0.15	H12-TB1u-V1	6	44	45	97%
D2 TD4		0.35	P2-TB1-V1	4	42	F.4	000/
P2-TB1		0.25	P2-TB1-V2	3	43	54	80%
				AVERAGE SURVIV	AL RATE OF PLANTED SHRU	JBS WITHIN WETLANDS:	80%
			AVERAGE SURV	IVAL RATE OF PLANTED S	HRUBS WITHIN RESTORED	STREAM FLOODPLAINS:	82%
				TOTA	L AVERAGE SURVIVAL RAT	E OF PLANTED SHRUBS:	80%

<sup>&</sup>lt;sup>1</sup>Total plantings as reported in the *Post Construction Report - Wetland/Stream Restoration - Jay Peak Golf Course*, by New England Environmental, Inc. (NEE), dated August 23, 2010; this assessment of planted shrub survival includes those shrubs planted for wetland and stream enhancement (winterberry holly *llex verticillata*), elderbery (*Sambucus canadensis*), American cranberry (*Viburnum trilobum*), and red-osier dogwood (*Cornus sericea*)), but does not include the additional *Salix* sp. and *Cornus* sp. tublelings planted as part of the streambank stabilization plan.

<sup>&</sup>lt;sup>2</sup> The shrub planting summary provided by NEE combined the wetlands areas H16-WT1/H11-WT1 and H16-Create, although for permitting purposes these were considered separate features.



#### WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project Site:		ourse Wetland	Mitigation C	ity/County:				Samp. Date: 8/	•
Applicant/Owner: Investigator(s):	Jay Peak I P. Werts-			Section		hip, Range:	Sampling Point:	Н	I5-Create
Landform (hillslope, t		Terrace				convex, none):	Concave	Slope (%):	
Subregion (LRR or		LRR	Lat:	44°56'32.6		_	72°29'0.229"W	Datum:	NAD 83
Soil Map Unit:	Cabot							NWI Class:	PEM
			ypical for this time of year?		Yes	(If no, ex	xplain in Remarks.)		
Are Vegetation, Soi								cumstances?	YES
Are Vegetation, Soi	il, or Hydrolo	gy naturally pro	oblematic? NO				(If needed, ex	cplain any answe	's in Remarks.)
SUMMARY OF	FINDING	S - Attach sit	e map showing samp	ole point	location	ns, transec	ts, important fea	tures, etc.	
Hydrophytic Vegeta	ation Presen	t?	YES						
Hydric Soil Present			YES			Is This !	Sample Area Within	a Wetland?	YES
Wetland Hydrology	/ Present?		YES						
Remarks:									
HYDROLOGY									
Wetland Hydrology	/ Indicators:						Secondary Indicator	s (minimum of tw	o required)
,		f one is required	l; check all that apply)				Surface Soil Cr		o required)
Surface Wate			X Water-Stained Leaves	(B9)		_	Drainage Patte		
High Water T	able (A2)	-	Aquatic Fauna (B13)				Moss Trim Line	es (B16)	
X Saturation (A	.3)	- -	Marl Deposits (B13)				Dry-Season Wa	ater Table (C2)	
Water Marks			Hydrogen Sulfide Odor				Crayfish Burro		
Sediment De		•	Oxidized Rhizospheres	_	oots (C3)			ble on Aerial (C9)	
Drift Deposits		-	Presence of Reduced I		I- (CC)			essed Plants (D1)	
X Algal Mat or ( Iron Deposits		-	Recent Iron Reduction Thin Muck Surface (C7		is (Cb)		Geomorphic P Shallow Aquita		
Inundation Vi		al (B7)	Other (Explain in Rema					ohic Relief (D4)	
		e Surface (B8)	outer (Explain in Neme				FAC-Neutral Te	` '	
Field Observations:									
Surface Water Pres			Depth (inches):						
Water Table Preser			Depth (inches):		_	Wetland	d Hydrology Present?		YES
Saturation Present	?	X	Depth (inches):	6"	-				
Describe Recorded	Data (stream	n gauge, monito	oring well, aerial photos, pre	vious inspe	ections), if	available:			
0.46" in the	e last 5 days	at Jay Peak (NC	DAA)						
Remarks:									
SOIL									
Profile Description:	: (Describe to	the depth need	ded to document the indica	tor or confi	rm the ab	sence of indic	cators.)		
Depth	Matrix		Redo	x Features					
	(moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture		Remarks
	R 3/2 Y 4/2	100 97	10YR 4/6	- 2			SILT LOAM SILT LOAM		
	1 7/2		10111470		- —		SILI LOAW		
			· ·						
<sup>1</sup> Type: C=Concentration	n, D=Depletion,	RM=Reduced Matri	ix, MS=Masked Sand Grains.				<sup>2</sup> Location: PL=Pore Lining	g, M=Matrix.	
Hydric Soil Indicato	ors:						Indicators for Proble	matic Hydric Soil	s <sup>3</sup> :
Histosol (A1)			Polyvalue Belo	w Surface (S	8) (LRR R.		2 cm Muck (A1	10) (LRR K, L, MLRA	149B)
Histic Epiped			MLRA 149B)		, ,			edox (A16) (LRR K,	
Black Histic (A	A3)		Thin Dark Surfa	ace (S9) (LRR	R, MLRA 1	.49B)	5 cm Mucky Pe	eat or Peat (S3) (LR	R K, L, R)
Hydrogen Sul	lfide (A4)		Loamy Mucky	Mineral (F1)	(LRR K, L)		Dark Surface (	69) (LRR K, L, M)	
Stratified Lay	ers (A5)		Loamy Gleyed	Matrix (F2)				w Surface (S8) (LRI	₹ K, L)
Depleted Belo		ce (A11)	X Depleted Matr					ace (S9) (LRR K, L)	
Thick Dark Su			Redox Dark Su					se Masses (F12) (LF	
Sandy Mucky			Depleted Dark					dplain Soils (F19) (	
Sandy Gleyed Sandy Redox			Redox Depress	JOHS (F8)			Red Parent Ma	TA6) (MLRA 144A,	145, 1498)
Stripped Mat			3India	ators of hyd	ronhuticus	getation and		Dark Surface (TF12)	
Dark Surface		ILRA 149B)				esent, unless	Other (Explain		
						problematic.			
Restrictive Layer (if	observed):			_					
Туре							Hydric	Soil Present?	YES
Depth (inches)	:								
Remarks:									

		Absolute	Dom.	Indicator		
Tree S	Stratum (Plot size:)	% Cover	Sp?	Status	Dominance Test Worksheet:	
1.					# Dominants OBL, FACW, FAC:	(A)
2.						
3.			·		# Dominants across all strata:	<b>4</b> (B)
4.						
5.					% Dominants OBL, FACW, FAC:	<b>100%</b> (A/B)
6.						, , , ,
7.					Prevalence Index Worksheet:	
			= Total	Cover	Total % Cover of:	Multiply By:
Sanlir	g Stratum (Plot size:)			Cover	OBL <b>62</b> x 1 =	62
	· · · · · · · · · · · · · · · · · · ·				FACW 18 x 2 =	36
1. 2.					FAC 18 x 2 =	54
3.					FACU 3 x 4 =	12
4.					UPL x5=	464 (0)
5.					Sum: <b>101</b> (A)	<b>164</b> (B)
6.						
7.					Prevalence Index = B/A =	1.62
			= Total	Cover	Hydrophytic Vegetation Indicato	ors:
Shruh	Stratum (Plot size: <b>15'RAD</b> )	·			X Dominance Test is > 50%	
1.	` <u> </u>				X Prevalence Index is <= 3.0	)
2.					Problematic Hydrophytic	
3.					Rapid Test for Hydrophyt	
3. 4.					Morphological Adaptation	=
					IVIOI PITOIOGICAI Adaptation	113
5.					<sup>1</sup> Indicators of hydric soil and wetland hy	ydrology must be present, unless
6.					disturbed or problematic.	
7.					Definitions of Vegetation Strata:	
	_,		= Total	Cover		
	Stratum (Plot size: 5' RAD )				Tree - Woody plants, excluding woody	
	Carex vulpinoidea	38	X	OBL	more in height and 3in (7.6cm) or larger	r in diameter at breast neight (DBH).
2.	Juncus effusus	15	X	OBL		
3.	Eupatorium perfoliatum	15	Х	FACW		
4.	Juncus tenuis	15	Х	FAC	Sapling - Woody plants, excluding woo	ody vines, approximately 20ft (6m)
5.	Eragrostis pectinacea	3		FAC	or more in height and less than 3in (7.6	cm) DBH.
6.	Symphyotrichum novae-angliae	3	·	FACW		
7.	Scirpus atrovirens	3		OBL		
8.	Trifolium repens	3		FACU	Shrub - Woody plants, excluding wood	dy vines, approximately 3 to 20ft (1
9.	Eutrochium maculatum	3		OBL	to 6m) in height.	
10.	Mimulus ringens	3		OBL		
11.					Herb - All herbaceous (non-woody) pla	ants, including herbaceous vines.
12.					regardless of size. Includes woody plant	
12.		101	= Total	Covor	approximately 3ft (1m) in height.	
14/000	h. Vines (Dist size)		- 10tai	Covei		
	y Vines (Plot size:)					
1.					Manduning All I :	
2.		<del></del>			Woody vine - All woody vines, regard	diess of neight.
3.						
4.					Hydrophytic	
5.					Vegetation	
			= Total	Cover	Present?	YES
Remark	s: (If observed, list morphological adaptations below)					



Project Site:	JPR Golf C	ourse Wetland Mitigatio	n C	City/County:	Jay/Orle	ans		Samp. Date: 8/15/20	013
Applicant/Owner:	Jay Peak I	lesort				VERMONT	Sampling Point:	H6-W	/T1
Investigator(s):	P. Werts-	Callfelz	_			iip, Range:	•		
Landform (hillslope, to		Terrace	<del></del>	Local relief (d		_	Concave	Slope (%):	
Subregion (LRR or		LRR	Lat:	44°56'40.729	)"N	Long:	72°29'7.534"W	Datum:	NAD 83
Soil Map Unit:	Cabot	ons on the site typical for	this time of year?	)	Yes	/If no o	unlain in Domarks \	NWI Class:	PEM
•	-	ons on the site typical for gy significantly disturbed			res	(11 110, 62	xplain in Remarks.)	cumstances?	YES
_	-	gy naturally problematic?					_	plain any answers in F	
Are vegetation, son	i, or riyuroic	by naturally problematics	140					pidiii diiy diisweis iii i	terriarks.j
SLIMMARY OF	FINDING	S - Attach site map	showing same	nle noint lo	cation	s transec	ts important feat	ures etc	
Hydrophytic Vegeta		•	mo wing samp	J. Politicio	·cation	5, (1411500	, co, important real		
Hydric Soil Present?		YES				Is This	Sample Area Within	a Wetland? YE	S
Wetland Hydrology		YES							
Remarks:									
HYDROLOGY									
Wetland Hydrology	Indicators:						Secondary Indicators	(minimum of two red	quired)
, .,		f one is required; check al	l that apply)				Surface Soil Cra		
Surface Water	r (A1)	Wa	iter-Stained Leaves	(B9)			Drainage Patte	rns (B10)	
High Water Ta	able (A2)	Aq	uatic Fauna (B13)				Moss Trim Line		
X Saturation (A3	3)	Ma	rl Deposits (B13)				Dry-Season Wa	ter Table (C2)	
Water Marks	(B1)		drogen Sulfide Odo	or (C1)			Crayfish Burrov	vs (C8)	
Sediment Dep	oosits (B2)	Ox	idized Rhizosphere	s on Living Root	s (C3)		Saturation Visib	ole on Aerial (C9)	
Drift Deposits	(B3)	Pre	sence of Reduced	Iron (C4)			Stunted or Stre	ssed Plants (D1)	
Algal Mat or C	Crust (B4)	Re	cent Iron Reduction	n in Tilled Soils (	C6)		Geomorphic Po	sition (D2)	
Iron Deposits	. ,		n Muck Surface (C7				Shallow Aquita		
Inundation Vi		· · · —	ner (Explain in Rem	arks)			Microtopograp		
Sparsely Vege	tated Concav	e Surface (B8)					FAC-Neutral Te	st (D5)	
Field Observations:									
Surface Water Pres	ent?		Depth (inches):						
Water Table Presen			Depth (inches):			Wetland	d Hydrology Present?	YE	<u>S</u>
Saturation Present?		^	Depth (inches):	8"					
Describe Recorded	Data (strear	n gauge, monitoring well,	aerial photos, pr	evious inspect	ions), it a	available:			
	last 5 days	at Jay Peak (NOAA)							
Remarks:									
SOIL									
Profile Description:	(Describe to	the depth needed to do	cument the indica	ator or confirm	the abs	ence of indic	cators.)		
Depth	Matrix		Redo	ox Features					
(in) Color	(moist)	% Col	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rema	arks
	/ 3/2	100	<del>`</del>				SILT LOAM		
6-10+ 2.5\	/ 4/1	95 10	OYR 4/6	5	С	M	SILT LOAM		
¹Tuno: C=Concontration	D=Donlotion	RM=Reduced Matrix, MS=Masl	rod Sand Grains				<sup>2</sup> Location: PL=Pore Lining,	M-Matrix	
		NIVI-Neudced Iviati IX, IVI3-IVIASI	Red Salid Grailis.						
Hydric Soil Indicator	rs:						Indicators for Proble	matic Hydric Soils <sup>3</sup> :	
Histosol (A1)			Polyvalue Belo	ow Surface (S8)	(LRR R,		2 cm Muck (A1	0) (LRR K, L, MLRA 149B	)
Histic Epipedo	on (A2)		MLRA 149B	)			Coast Prairie Re	edox (A16) (LRR K, L, R)	
Black Histic (A	<b>(3)</b>		Thin Dark Surf	face (S9) (LRR R,	, MLRA 14	19B)	5 cm Mucky Pe	at or Peat (S3) (LRR K, L,	, R)
Hydrogen Sulf	fide (A4)		Loamy Mucky	Mineral (F1) (L	RR K, L)		Dark Surface (S	9) (LRR K, L, M)	
Stratified Laye	ers (A5)		Loamy Gleyed	l Matrix (F2)			Polyvalue Belov	v Surface (S8) (LRR K, L)	
Depleted Belo	ow Dark Surfa	ce (A11)	X Depleted Mat	rix (F3)			Thin Dark Surfa	ce (S9) (LRR K, L)	
Thick Dark Su	rface (A12)		Redox Dark Su	urface (F6)			Iron-Manganes	e Masses (F12) (LRR K, L	., R)
Sandy Mucky	Mineral (S1)		Depleted Dark	Surface (F7)			Piedmont Floor	dplain Soils (F19) (MLRA	149B)
Sandy Gleyed	Matrix (S4)		Redox Depres	sions (F8)			Mesic Spodic (7	A6) (MLRA 144A, 145, 1	L49B)
Sandy Redox	(S5)						Red Parent Ma	terial (F21)	
Stripped Matr	rix (S6)		<sup>3</sup> Indi	cators of hydro	phytic veg	getation and	Very Shallow D	ark Surface (TF12)	
Dark Surface (	(S7) (LRR R, N	ILRA 149B)	wetlan	nd hydrology mu			Other (Explain	n Remarks)	
Postrictive Lavor /:f	obsoriod).			distu	urbed or p	roblematic.	1		
Restrictive Layer (if							1 h	Soil Procent?	c
Type: Depth (inches):							Hyaric :	Soil Present? YE	<u> </u>
Remarks:	•						<u> </u>		

		A	bsolute	Dom.	Indicator			
Tree	tratum (Plot size:	)	6 Cover	Sp?	Status	Dominance Test Worksheet:		
1.						# Dominants OBL, FACW, FAC:	8	(A)
2.								
3.						# Dominants across all strata:	8	(B)
4.								
5.						% Dominants OBL, FACW, FAC:	100%	(A/B)
6.								
7.						Prevalence Index Worksheet:		
				= Total	Cover	Total % Cover of:	Multiply By	<b>'</b> :
Sanlir	g Stratum (Plot size:					OBL <b>101</b> x 1 =	101	<u></u>
1.	·					FACW 33 x 2 =	66	
2.						FAC <b>6</b> x3=	18	<del></del>
3.						FACU x 4 =		<del></del>
3. 4.						UPL x5=		<u>—</u>
5.						Sum: <b>140</b> (A)	185	(B)
						Suiii. 140 (A)		(B)
6.						Durantanas Indan	1 22	
7.						Prevalence Index = B/A =	1.32	<u>—</u>
					_			
	a since	_		= Total	Cover	Hydrophytic Vegetation Indicato	rs:	
	Stratum (Plot size: 15'RAI	<u>)                                    </u>				X Dominance Test is > 50%		
	Betula alleghaniensis		3	<u> </u>	FAC	X Prevalence Index is <= 3.0		
2.						Problematic Hydrophytic	-	cplain)
3.						Rapid Test for Hydrophyti	c Vegetation	
4.						Morphological Adaptation	ıs	
5.						<sup>1</sup> Indicators of hydric soil and wetland hy	drology must be	present, unless
6.						disturbed or problematic.		
7.						Definitions of Vegetation Strata:		
			3	= Total	Cover			
Herb	Stratum (Plot size: 5' RAD	)				Tree - Woody plants, excluding woody		
1.	Carex comosa		38	X	OBL	more in height and 3in (7.6cm) or larger	in diameter at br	east height (DBH).
2.	Carex vulpinoidea		15	Х	OBL			
3.	Carex crinita		15	x	OBL			
4.	Eupatorium perfoliatum		15	x	FACW	Sapling - Woody plants, excluding woo	dy vines, approxi	imately 20ft (6m)
5.	Juncus effusus		15	X	OBL	or more in height and less than 3in (7.6c	m) DBH.	
6.	Scirpus cyperinus		15	X	OBL			
7.	Symphyotrichum novae-angliae		15	x	FACW			
8.	Solidago gigantea		3		FACW	Shrub - Woody plants, excluding wood	y vines, approxim	nately 3 to 20ft (1
9.	Euthamia graminifolia		3		FAC	to 6m) in height.		,
10.	Eutrochium maculatum		3		OBL			
11.	<u> </u>	· · · · · · · · · · · · · · · · · · ·				Herb - All herbaceous (non-woody) pla	nts, including her	baceous vines.
12.						regardless of size. Includes woody plants		
12.		<del></del>	137	= Total	Cover	approximately 3ft (1m) in height.		
Moor	y Vines (Plot size:	_	137	- Total	COVE			
1.						Woody vine - All woody vines, regard	loss of boight	
2.						Woody virie - All woody viries, regard	iess of fleight.	
3.		<del></del>						
4.		· · · · · · · · · · · · · · · · · · ·				Hydrophytic		
5.						Vegetation		
				= Total	Cover	Present?	YES	
Remark	s: (If observed, list morphological adap	tations below).						



Project Site:	JPR Golf	Course Wetland Mitigation	City/	/County:	Jay/Orlea	ans		Samp. Date: 8/15/2013	
Applicant/Owner:	Jay Peak					VERMONT	Sampling Point:	H8-Create	<u> </u>
Investigator(s):	P. Werts					ip, Range:	•	CI (0/)	
Landform (hillslope, t		Terrace		ocal relief (c		_	Concave	Slope (%):N	AD 02
Subregion (LRR or Soil Map Unit:	Dixfield	LRR	Ldt. 44	'56'21.345'	- N	Long.	72°29'37.266"W		AD 83 PEM
•		ions on the site typical for this	time of year?		Yes	(If no. e)	plain in Remarks.)	14441 Class.	FLIVI
	-	ogy significantly disturbed?	NO			(,		umstances?	YES
_		ogy naturally problematic?	NO				(If needed, exp	olain any answers in Rem	arks.)
SUMMARY OF	FINDING	iS - Attach site map sho	wing sample	point lo	cations	s. transec	<del>-</del> ts. important feat	ures. etc.	
Hydrophytic Vegeta		•	<u> </u>			<u>,                                      </u>	, ,	•	
Hydric Soil Present?		YES				Is This S	Sample Area Within a	Wetland? YES	
Wetland Hydrology	Present?	YES							<del></del>
Remarks:				•					
HYDROLOGY									
Wetland Hydrology	/ Indicators						Secondary Indicators	(minimum of two require	ed)
		of one is required; check all tha	t apply)				Surface Soil Cra		euj
Surface Wate		•	Stained Leaves (B9	)			X Drainage Patter		
High Water Ta			Fauna (B13)	•			Moss Trim Lines		
X Saturation (A	3)	Marl De	posits (B13)				Dry-Season Wat	er Table (C2)	
Water Marks	(B1)	Hydrogo	en Sulfide Odor (C	1)			Crayfish Burrow	s (C8)	
Sediment Dep			d Rhizospheres on	-	s (C3)		Saturation Visib		
Drift Deposits			e of Reduced Iron				Stunted or Stres		
Algal Mat or (			Iron Reduction in	Tilled Soils (	C6)		Geomorphic Po		
Iron Deposits Inundation Vi			ick Surface (C7) Explain in Remarks	-1			Shallow Aquitar Microtopograph		
		ive Surface (B8)	-Apiaiii iii Neiliaiks	>)			FAC-Neutral Tes		
		(,						- ( /	
Field Observations: Surface Water Pres		Den	th (inches):						
Water Table Presen			th (inches):			Wetland	d Hydrology Present?	YES	
Saturation Present?			—	urface		Wedan	a riyarology r resent.		_
Describe Recorded	Data (strea	m gauge, monitoring well, aeri			ions). if a	vailable:			
		s at Jay Peak (NOAA)			,,				
Remarks:		, actual to an (1.00, a.1)							
SOIL									
	(Describe)	to the depth needed to docume	ent the indicator	or confirm	the abse	ence of indic	rators l		
Depth	Matrix		Redox F		i tiic absc	ince or man			
· -	(moist)	% Color (n			Type <sup>1</sup>	Loc²	Texture	Remarks	:
	R 3/2	100			-71		SILT LOAM	Tremaine.	•
6-10 2.5	Y 4/1	93 10YR	4/6	7	С	M	SILT LOAM		
		<del>_</del> ,					<del></del>		
¹Tyne: C=Concentration	D=Depletion	, RM=Reduced Matrix, MS=Masked Sa	and Grains		<del></del> -		<sup>2</sup> Location: PL=Pore Lining,	M=Matrix	
	•	, rivi-ricadeca ividenti, ivi3-ividstea se	and Grains.						
Hydric Soil Indicato	rs:						Indicators for Probler	natic Hydric Soils":	
Histosol (A1)			Polyvalue Below S	Surface (S8)	(LRR R,		2 cm Muck (A10	) (LRR K, L, MLRA 149B)	
Histic Epipedo			MLRA 149B)					dox (A16) (LRR K, L, R)	
Black Histic (A			Thin Dark Surface			9B)		et or Peat (S3) (LRR K, L, R)	
Hydrogen Sul			Loamy Mucky Mir		RR K, L)		Dark Surface (SS		
Stratified Laye			Loamy Gleyed Ma					Surface (S8) (LRR K, L)	
Depleted Belo Thick Dark Su			Depleted Matrix (				Thin Dark Surface		
Sandy Mucky			Redox Dark Surfact Depleted Dark Sur					e Masses (F12) (LRR K, L, R) plain Soils (F19) (MLRA 149	
Sandy Gleyed		·	Redox Depression					A6) (MLRA 144A, 145, 149E	
Sandy Redox			nedox Depression	3 (10)			Red Parent Mat		2)
Stripped Mati			3Indicato	rs of hydrop	hytic veg	hat and		rk Surface (TF12)	
Dark Surface		MLRA 149B)		ydrology mu			Other (Explain i		
				distu	irbed or p	roblematic.	1		
Restrictive Layer (if									
Type:							Hydric S	oil Present? YES	
Depth (inches): Remarks:	<u>:                                      </u>								
nemarks.									

		Absolute	Dom.	Indicator		
Tree	Stratum (Plot size:)	% Cover	Sp?	Status	Dominance Test Worksheet:	
						(4)
1.					# Dominants OBL, FACW, FAC: 7	(A)
2.						
3.					# Dominants across all strata: 7	(B)
4.						
5.					% Dominants OBL, FACW, FAC: 100%	(A/B)
					70 Bollinants OBE, FACW, FAC. 10070	(~) 0)
6.						
7.		·			Prevalence Index Worksheet:	
			= Total	Cover	Total % Cover of: Multiply By:	
Saplir	g Stratum (Plot size:)				OBL 115 x 1 = 115	
1.	· · · · · · · · · · · · · · · · · · ·				FACW 33 x 2 = 66	
2.					FAC <u>18</u> x 3 = <u>54</u>	
3.					FACU x 4 =	
4.					UPL x 5 =	
5.			,		Sum: <b>166</b> (A) <b>235</b>	(B)
6.	-					
					Dravalance Index — D/A — 1.43	
7.					Prevalence Index = B/A = 1.42	
			= Total	Cover	Hydrophytic Vegetation Indicators:	
Shrub	Stratum (Plot size: <b>15'RAD</b> )				X Dominance Test is > 50%	
1.					X Prevalence Index is <= 3.0	
2.					Problematic Hydrophytic Vegetation <sup>1</sup> (explain	,
					l ——	1)
3.					Rapid Test for Hydrophytic Vegetation	
4.					Morphological Adaptations	
5.					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be pres	ant unless
6.					disturbed or problematic.	ent, unless
7.					Definitions of Vegetation Strata:	
			= Total	Cover		
Herb	Stratum (Plot size: <b>5' RAD</b> )				Tree - Woody plants, excluding woody vines, approximately	
1.	Juncus effusus	38	Х	OBL	more in height and 3in (7.6cm) or larger in diameter at breas	t height (DBH).
2.	Carex vulpinoidea	38	X	OBL		
	Carex comosa	15	X	OBL		
					Carlina va da	
	Verbena hastata	15	X	FACW	Sapling - Woody plants, excluding woody vines, approximat	ely 20ft (6m)
5.	Euthamia graminifolia	15	X	FAC	or more in height and less than 3in (7.6cm) DBH.	
6.	Scirpus cyperinus	15	Х	OBL		
7.	Impatiens capensis	15	X	FACW		
	Solidago gigantea	3		FACW	Shrub - Woody plants, excluding woody vines, approximate	ly 3 to 20ft (1
					to 6m) in height.	19 5 to 2010 (1
	Solidago rugosa	3		FAC		
	Eutrochium maculatum	3		OBL		
11						
11.	Typha latifolia	3		OBL	Herb - All herbaceous (non-woody) plants, including herbac	eous vines,
		3		OBL	regardless of size. Includes woody plants, except woody vines	
	Typha latifolia Persicaria sagittata	3	= Total	OBL		
12.	Persicaria sagittata		= Total	OBL	regardless of size. Includes woody plants, except woody vines	
12. Wood		3	= Total	OBL	regardless of size. Includes woody plants, except woody vines	
12.	Persicaria sagittata	3	= Total	OBL	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.	
12. Wood	Persicaria sagittata	3	= Total	OBL	regardless of size. Includes woody plants, except woody vines	
12. Wood 1.	Persicaria sagittata  ly Vines (Plot size:)	3	= Total	OBL	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.	
12. Wood 1. 2. 3.	Persicaria sagittata  ly Vines (Plot size:)	3	= Total	OBL	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.	
12. Wood 1. 2. 3. 4.	Persicaria sagittata  ly Vines (Plot size:)	3	= Total	OBL	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic	
12. Wood 1. 2. 3.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4.	Persicaria sagittata  ly Vines (Plot size:)	3	= Total	OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
12. Wood 1. 2. 3. 4. 5.	Persicaria sagittata  ly Vines (Plot size:)	3		OBL Cover	regardless of size. Includes woody plants, except woody vines approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	



pplicant/Owner:	Jay Peak F			Soction		VERMONT	Sampling Point	t:	H11-Create
ivestigator(s): andform (hillslope, te	P. Werts-I			Local relief	n, Townshi		Jay	Slope (%):	
ubregion (LRR or		LRR	Lat:	44°56'29.84			72°30'25.141"W	Datum:	NAD 83
oil Map Unit:	Cabot	LNN		44 30 23.0	+5 IV	Long.	72 30 23.141 W	NWI Class:	PEM
•		ons on the site	typical for this time of year?	)	YES	(If no. e	xplain in Remarks.)		1 2.141
re Vegetation, Soil,	-		···			()		Circumstances?	YES
e Vegetation, Soil,							_	_	vers in Remarks.)
	LINDING	Attach ci	to man showing same	ala naint l	locations	tranco	<del>-</del> etc important fo	aturas ats	
drophytic Vegeta			te map showing samp	ole point i	locations	, transec	is, important re	eatures, etc.	
ydric Soil Present?			YES			Is This	Sample Area With	in a Wetland?	YES
etland Hydrology			YES				·	=	
emarks:									
IVDDOLOGV									
YDROLOGY	Indicators						Casandaniladiaat	ana (mainima uma af	tura manuimad)
etland Hydrology		f and is require	d: chock all that apply)				Secondary Indicat  X Surface Soil		two required)
		one is require	d; check all that apply)	(00)					
Surface Water			Water-Stained Leaves	(B9)			Drainage Pa		
High Water Ta			Aquatic Fauna (B13) Marl Deposits (B13)				Moss Trim L	water Table (C2)	
Saturation (A3 Water Marks (			Hydrogen Sulfide Odo	or (C1)			Crayfish Bur		
Sediment Dep			Oxidized Rhizospheres		ots (C3)			rows (C8) /isible on Aerial (C9	2)
Drift Deposits			Presence of Reduced I	_	ots (C3)			disible on Aerial (CS Stressed Plants (D1	
Algal Mat or C			Recent Iron Reduction		: (C6)			Position (D2)	ı
Iron Deposits (			Thin Muck Surface (C7		. (00)		Shallow Aqu		
Inundation Vis		I (B7)	Other (Explain in Rema	•				raphic Relief (D4)	
Sparsely Veget			Other (Explain in Neme	a. Noj			FAC-Neutral		
					-				
-1-1-01									
	a m t 2		Donth (inches).						
urface Water Prese			Depth (inches):			\ <b>\</b> \-\	d 11. duala au Duana a	2	VE0
urface Water Prese Vater Table Present	t?		Depth (inches):			Wetlan	d Hydrology Present	? _	YES
eld Observations: urface Water Prese /ater Table Present aturation Present? escribe Recorded I	t?	n gauge, monit	Depth (inches):	evious inspe	ctions), if a		d Hydrology Present	? _	YES
urface Water Prese /ater Table Present aturation Present? escribe Recorded I	t? Data (strear	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): oring well, aerial photos, pre	evious inspe	ctions), if a		d Hydrology Present	? _	YES
arface Water Present fater Table Present faturation Present? escribe Recorded I 0.46" in the emarks:	t? Data (strear <b>last 5 days</b>	at Jay Peak (N	Depth (inches):  Depth (inches):  oring well, aerial photos, pre			vailable:		? _	YES
rface Water Presenter Table Present turation Present? escribe Recorded I 0.46" in the emarks:	t? Data (strear <b>last 5 days</b>	at Jay Peak (N	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  ded to document the indica			vailable:		? -	YES
rface Water Presenter Table Pr	t? Data (strear last 5 days  (Describe to Matrix (moist)	at Jay Peak (No	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  ded to document the indica	ator or confir		vailable:	cators.)	? _	YES
rface Water Presenter Table Pr	t? Data (strear last 5 days  (Describe to Matrix [moist)	o the depth nee	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)	ator or confir ox Features	m the abse	vailable: ence of indi	cators.)  Texture  SILT LOAM	?	
rface Water Presenter Table Pr	t? Data (strear last 5 days  (Describe to Matrix (moist)	at Jay Peak (No	Depth (inches): Depth (inches): oring well, aerial photos, pre DAA)  eded to document the indica Redo	ator or confir ox Features	m the abse	vailable:	cators.)	?	
rface Water Presenter Table Pr	t? Data (strear last 5 days  (Describe to Matrix [moist)	o the depth nee	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)	ator or confir ox Features	m the abse	vailable: ence of indi	cators.)  Texture  SILT LOAM	?	
rface Water Presenter Table Pr	t? Data (strear last 5 days  (Describe to Matrix [moist)	o the depth nee	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)	ator or confir ox Features	m the abse	vailable: ence of indi	cators.)  Texture  SILT LOAM	?	
orface Water Present atter Table Present turation Present? escribe Recorded I	Data (strear last 5 days  (Describe to Matrix (moist)  7 3/2	the depth need 100 98	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)  10YR 4/4	ator or confir ox Features	m the abse	vailable: ence of indi	Texture SILT LOAM SILT LOAM		
arface Water Present atter Table Present atter	t? Data (strear last 5 days  (Describe to Matrix (moist) 73/2 4/1	the depth need 100 98	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)	ator or confir ox Features	m the abse	vailable: ence of indi	Texture SILT LOAM SILT LOAM 2-Location: PL=Pore Lin	ing, M=Matrix.	Remarks
ratace Water Present attraction Present? escribe Recorded I	t? Data (strear last 5 days  (Describe to Matrix (moist) 73/2 4/1	the depth need 100 98	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)  10YR 4/4	ator or confir ox Features	m the abse	vailable: ence of indi	Texture SILT LOAM SILT LOAM	ing, M=Matrix.	Remarks
riface Water Present atter Table Present atter Table Present atteration Present? escribe Recorded I	t? Data (strear last 5 days  (Describe to Matrix (moist) 73/2 4/1	the depth need 100 98	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)  10YR 4/4  rix, MS=Masked Sand Grains.	ator or confir ox Features % 2	Type <sup>1</sup>	vailable: ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prob	ing, M=Matrix. olematic Hydric S	Remarks Soils <sup>3</sup> :
orface Water Present atter Table Present atter	Data (stream last 5 days  (Describe to Matrix (moist)  73/2  4/1  D=Depletion,  75:	the depth need 100 98	Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  eded to document the indica Redo Color (moist)  10YR 4/4	ator or confir ox Features % 2	Type <sup>1</sup>	vailable: ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prot 2 cm Muck (	ing, M=Matrix.	Remarks  Soils <sup>3</sup> :  RA 149B)
orface Water Presentator Table Present turation Present? escribe Recorded In the emarks:  OIL offile Description: (epth in) Color (194 2.5Y 4.10+ SY 4.10+ S	(Describe to Matrix (moist)  D=Depletion, rs:	the depth need 100 98	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  ded to document the indica Redo Color (moist)  10YR 4/4  rix, MS=Masked Sand Grains.  Polyvalue Belo	ator or confir ox Features % 2 2 ow Surface (S8	Type <sup>1</sup> C C B) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prot 2 cm Muck ( Coast Prairie	ing, M=Matrix. Dlematic Hydric S (A10) (LRR K, L, ML	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)
riface Water Presenter Table P	(Describe to Matrix (moist)  D=Depletion, rs:	the depth need 100 98	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Ided to document the indica Redo Color (moist)  10YR 4/4  Polyvalue Belo MLRA 1498)	ator or confir ox Features % 2 2 ow Surface (S8)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck ( Coast Prairie 5 cm Mucky	ing, M=Matrix. Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)
riface Water Presenter Table P	(Describe to Matrix (moist)  D=Depletion, rs:	the depth need 100 98	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Incided to document the indica Redo Color (moist)  10YR 4/4  Incident the indica Redo Redo Redo Alerta (Main and Alerta)  Polyvalue Belo MLRA 1498) Thin Dark Surf.	ow Surface (S8) face (S9) (LRR Mineral (F1)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)
riface Water Presenter Table P	(Describe to Matrix (moist)  D=Depletion, TS:  on (A2) 3) Gide (A4) ers (A5)	the depth need when the de	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Deded to document the indica Redo Color (moist)  10YR 4/4  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 1498) Thin Dark Surfi Loamy Mucky	ow Surface (S8) face (S9) (LRR Mineral (F1)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2 Location: PL=Pore Lin Indicators for Prot 2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) ( e (S9) (LRR K, L, M)	Remarks  Soils <sup>3</sup> : RA 149B) K, L, R) (LRR K, L, R)
rface Water Presenter Table Pr	(Describe to Matrix (moist)  D=Depletion, rs:  on (A2) 3) Gide (A4) ers (A5) w Dark Surfa	the depth need when the de	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Deded to document the indica Redo Color (moist)  10YR 4/4  Tix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 1498) Thin Dark Surfi Loamy Mucky Loamy Gleyed	ow Surface (S8) face (S9) (LRR Mineral (F1) (IMATRIX (F2)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prot Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su	ing, M=Matrix. Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) (e (S9) (LRR K, L, M) elow Surface (S8) (I	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LRR K, L, R)
riface Water Presenter Table P	(Describe to Matrix (moist)  D=Depletion,  S:  (matrix (moist)  D=Depletion,  S:  (mat	the depth need when the de	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Eded to document the indica Redo Color (moist)  10YR 4/4  Polyvalue Belo MLRA 1498) Thin Dark Surfi Loamy Mucky Loamy Gleyed X Depleted Matr	ow Surface (S8) face (S9) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su	ing, M=Matrix. Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) (e (S9) (LRR K, L, M) elow Surface (S8) (i	Remarks  Soils <sup>3</sup> :  .RA 149B)  .K, L, R)  (LRR K, L, R)  LRR K, L, L)  (LRR K, L, R)
riface Water Presenter Table P	(Describe to Matrix (moist)  D=Depletion,  S:  In (A2)  Jide (A4)  Prs (A5)  w Dark Surfarface (A12)  Mineral (S1)	the depth need when the de	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Reded to document the indica Redec Color (moist)  10YR 4/4  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 1498) Thin Dark Surfi Loamy Mucky Loamy Gleyed X Depleted Matri Redox Dark Su	ow Surface (S8) face (S9) (LRR Mineral (F1) Matrix (F2) rix (F3) urface (F6) s Surface (F7)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su Iron-Mangal Piedmont Fl	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) ( e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, Innese Masses (F12)	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LRR K, L, R)  (LRR K, L, R)
riface Water Presentator Table Present Interaction Present? escribe Recorded In the Emarks:  OIL Offile Description: Tepth (In) O-4 2.5Y O-4 2.5Y O-4 2.5Y O-4 10+ 5Y O-4 10-4 5Y O-5 10-4 5Y O-6 10-4 10-4 5Y O-7	(Describe to Matrix (moist)  D=Depletion,  S:  D=Depletion,  S:  M(A2)  M(C)	the depth need when the de	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Reded to document the indica Redec Color (moist)  10YR 4/4  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 149B) Thin Dark Surfi Loamy Mucky Loamy Gleyed X Depleted Matri Redox Dark Su Depleted Dark	ow Surface (S8) face (S9) (LRR Mineral (F1) Matrix (F2) rix (F3) urface (F6) s Surface (F7)	Type <sup>1</sup> C 3) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM SILT LOAM	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) ( e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, nese Masses (F12) oodplain Soils (F15)	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LRR K, L, R)  (LRR K, L, R)
riface Water Presenter Table P	(Describe to Matrix (moist)  D=Depletion,  TS:  D=D	the depth need when the de	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Reded to document the indica Redec Color (moist)  10YR 4/4  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 149B) Thin Dark Surfi Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Matri Redox Dark Su Depleted Dark Redox Depress	ow Surface (S8)  Cow Surface (S8)  Mineral (F1)  Matrix (F2)  rix (F3)  urface (F6)  s Surface (F7)  sions (F8)	Type <sup>1</sup> C 3) (LRR R, R, MLRA 149	ence of indi Loc² M	Texture SILT LOAM SILT LOAM  **Location: PL=Pore Lin Indicators for Prot	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) ( e (S9) (LRR K, L, M) elow Surface (S8) (i urface (S9) (LRR K, i nese Masses (F12) oodplain Soils (F13 c (TA6) (MLRA 144	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LIR K, L, R)  (LRR K, L, R)  9) (MLRA 149B)  1A, 145, 149B)
riface Water Presentaturation Present? escribe Recorded I  0.46" in the emarks:  OIL  ofile Description: epth (in)  Color ( 0-4  2.5Y  10+  Sylve Soil Indicator Histosol (A1) Histic Epipedo Black Histic (A: Hydrogen Sulf Stratified Laye Depleted Belo Thick Dark Sur Sandy Mucky I Sandy Gleyed Sandy Redox (3:	(Describe to Matrix (moist)  D=Depletion, rs:  on (A2)  ide (A4)  w Dark Surfarface (A12)  Mineral (S1)  Matrix (S4)  S5)  ix (S6)	o the depth need when the	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Reded to document the indica Redec Color (moist)  10YR 4/4  Tix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 149B) Thin Dark Surfi Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Mark Redox Dark Su Depleted Dark Redox Depress  3 Indic	ow Surface (S8)  face (S9) (LRR Mineral (F1) (I) Matrix (F2) rrface (F6) Surface (F7) sions (F8) cators of hydrid hydrology r	Type <sup>1</sup> C 3) (LRR R, R, MLRA 149 (LRR K, L)	wailable:  ence of indi  Loc²  M  PB)	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prob 2 cm Muck Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark SL Iron-Mangai Piedmont Fl Mesic Spodi Red Parent I Very Shallov	ing, M=Matrix.  Delematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR K, e Peat or Peat (S8) (e S9) (LRR K, L, M) elow Surface (S9) (LRR K, Innese Masses (F12) oodplain Soils (F19 c (TA6) (MLRA 144 Material (F21)	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LIR K, L, R)  (LRR K, L, R)  9) (MLRA 149B)  1A, 145, 149B)
rface Water Presenter Table Pr	(Describe to Matrix (moist)  D=Depletion, rs:  on (A2)  inde (A4)  wrs (A5)  w Dark Surfarface (A12)  Mineral (S1)  Matrix (S4)  S5)  ix (S6)  S7) (LRR R, N	o the depth need when the	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Reded to document the indica Redec Color (moist)  10YR 4/4  Tix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 149B) Thin Dark Surfi Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Mark Redox Dark Su Depleted Dark Redox Depress  3 Indic	ow Surface (S8)  face (S9) (LRR Mineral (F1) (I) Matrix (F2) rrface (F6) Surface (F7) sions (F8) cators of hydrid hydrology r	Type <sup>1</sup> C 3) (LRR R, R, MLRA 149 (LRR K, L)	wailable:  ence of indi  Loc²  M  PB)	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prob 2 cm Muck Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark SL Iron-Mangai Piedmont Fl Mesic Spodi Red Parent I Very Shallov	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML Peat or Peat (S3) ( 10 (LRR K, L, M) Peat or Peat (S8) ( 11 (10 (LRR K, L) Peat or Peat (S8) ( 12 (S9) (LRR K, L) Peat or Peat (S9) (LRR K, L) Peat (S9) (	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LIR K, L, R)  (LRR K, L, R)  9) (MLRA 149B)  IA, 145, 149B)
riface Water Presenter Table P	(Describe to Matrix (moist)  Data (strear last 5 days  (Describe to Matrix (moist)  7 3/2  4/1  D=Depletion,  Ts:  on (A2)  3)  Gide (A4)  ers (A5)  w Dark Surfarface (A12)  Matrix (S4)  S5)  ix (S6)  S7) (LRR R, Moobserved):	o the depth need when the	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pre DAA)  Reded to document the indica Redec Color (moist)  10YR 4/4  Tix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 149B) Thin Dark Surfi Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Mark Redox Dark Su Depleted Dark Redox Depress  3 Indic	ow Surface (S8)  face (S9) (LRR Mineral (F1) (I) Matrix (F2) rrface (F6) Surface (F7) sions (F8) cators of hydrid hydrology r	Type <sup>1</sup> C 3) (LRR R, R, MLRA 149 (LRR K, L)	wailable:  ence of indi  Loc²  M  PB)	Texture SILT LOAM SILT LOAM  SILT LOAM  2Location: PL=Pore Lin Indicators for Prot 2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su Iron-Mangai Piedmont Fl Mesic Spodi Red Parent I Very Shallov Other (Explain	ing, M=Matrix.  Dlematic Hydric S (A10) (LRR K, L, ML Peat or Peat (S3) ( 10 (LRR K, L, M) Peat or Peat (S8) ( 11 (10 (LRR K, L) Peat or Peat (S8) ( 12 (S9) (LRR K, L) Peat or Peat (S8) ( 13 (LRR K, L) Peat or Peat (S8) ( 14 (LRR K, L) Peat or Peat (S8) ( 15 (S9) (LRR K, L) Peat or Peat (S8) ( 16 (S9) (LRR K, L) Peat (S9)	Remarks  Soils <sup>3</sup> :  RA 149B)  K, L, R)  (LRR K, L, R)  LIR K, L, R)  (LRR K, L, R)  9) (MLRA 149B)  IA, 145, 149B)

Sampling Point: **H11-Create** 

	Absolute	Dom.	Indicator	
Tree Stratum (Plot size:)	% Cover	Sp?	Status	Dominance Test Worksheet:
	70 60 (6)	<u> </u>	Julia	
1.				# Dominants OBL, FACW, FAC: 5 (A)
2				
3				# Dominants across all strata: <b>6</b> (B)
4.				
E				% Dominants OBL, FACW, FAC: 83% (A/B)
				70 Bollimants OBE, TACW, TAC(A) B
6				
7				Prevalence Index Worksheet:
		= Total	Cover	Total % Cover of: Multiply By:
Sapling Stratum (Plot size:)	<u> </u>			OBL 21 x 1 = 21
				FACW 39 x 2 = 78
				·
2				FAC 33 x 3 = 99
3				FACU <b>15</b> x 4 = <b>60</b>
4				UPL x 5 =
E				Sum: <b>108</b> (A) <b>258</b> (B)
6.				``
	<del></del>			Decordence Index D/A 3.30
7				Prevalence Index = B/A = 2.39
		= Total	Cover	Hydrophytic Vegetation Indicators:
Shrub Stratum (Plot size: 15'RAD )				X Dominance Test is > 50%
				X Prevalence Index is <= 3.0
-				·   <del></del>
2				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
3				Rapid Test for Hydrophytic Vegetation
4				Morphological Adaptations
E				1
				¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
		= Total	Cover	
Herb Stratum (Plot size: <b>5' RAD</b> )				Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or
1. Eupatorium perfoliatum	15	Х	FACW	more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).
2. Elymus virginicus	15	X	FACW	
		X	FAC	
3. Eragrostis pectinacea	15		FAC	·
4. Juncus tenuis	15	Х	FAC	Sapling - Woody plants, excluding woody vines, approximately 20ft (6m)
<ul><li>4. Juncus tenuis</li><li>5. Carex vulpinoidea</li></ul>	15 15	X	FAC OBL	Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.
1				
<ul><li>5. Carex vulpinoidea</li><li>6. Festuca rubra</li></ul>	15	Х	OBL FACU	
<ul><li>5. Carex vulpinoidea</li><li>6. Festuca rubra</li><li>7. Juncus effusus</li></ul>	15 15 3	Х	OBL FACU OBL	or more in height and less than 3in (7.6cm) DBH.
<ul> <li>5. Carex vulpinoidea</li> <li>6. Festuca rubra</li> <li>7. Juncus effusus</li> <li>8. Euthamia graminifolia</li> </ul>	15 15 3 3	Х	OBL FACU OBL FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1
<ul><li>5. Carex vulpinoidea</li><li>6. Festuca rubra</li><li>7. Juncus effusus</li></ul>	15 15 3 3 3	Х	OBL FACU OBL FAC FACW	or more in height and less than 3in (7.6cm) DBH.
<ul> <li>5. Carex vulpinoidea</li> <li>6. Festuca rubra</li> <li>7. Juncus effusus</li> <li>8. Euthamia graminifolia</li> </ul>	15 15 3 3	Х	OBL FACU OBL FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1
<ul> <li>5. Carex vulpinoidea</li> <li>6. Festuca rubra</li> <li>7. Juncus effusus</li> <li>8. Euthamia graminifolia</li> <li>9. Verbena hastata</li> <li>10. Carex scoparia</li> </ul>	15 15 3 3 3	Х	OBL FACU OBL FAC FACW	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1
<ul> <li>5. Carex vulpinoidea</li> <li>6. Festuca rubra</li> <li>7. Juncus effusus</li> <li>8. Euthamia graminifolia</li> <li>9. Verbena hastata</li> <li>10. Carex scoparia</li> <li>11. Symphyotrichum novae-angliae</li> </ul>	15 15 3 3 3 3	Х	OBL FACU OBL FAC FACW FACW	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.
<ul> <li>5. Carex vulpinoidea</li> <li>6. Festuca rubra</li> <li>7. Juncus effusus</li> <li>8. Euthamia graminifolia</li> <li>9. Verbena hastata</li> <li>10. Carex scoparia</li> </ul>	15 15 3 3 3 3 3 3	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines,
<ol> <li>Carex vulpinoidea</li> <li>Festuca rubra</li> <li>Juncus effusus</li> <li>Euthamia graminifolia</li> <li>Verbena hastata</li> <li>Carex scoparia</li> <li>Symphyotrichum novae-angliae</li> <li>Carex comosa</li> </ol>	15 15 3 3 3 3 3	Х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:)	15 15 3 3 3 3 3 3	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
<ol> <li>Carex vulpinoidea</li> <li>Festuca rubra</li> <li>Juncus effusus</li> <li>Euthamia graminifolia</li> <li>Verbena hastata</li> <li>Carex scoparia</li> <li>Symphyotrichum novae-angliae</li> <li>Carex comosa</li> </ol>	15 15 3 3 3 3 3 3 3 108	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1.	15 15 3 3 3 3 3 3 3 108	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	<u>х</u> х	OBL FACU OBL FAC FACW FACW OBL	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	<u>х</u> х	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1. 2. 3. 4. 5.	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
5. Carex vulpinoidea 6. Festuca rubra 7. Juncus effusus 8. Euthamia graminifolia 9. Verbena hastata 10. Carex scoparia 11. Symphyotrichum novae-angliae 12. Carex comosa  Woody Vines (Plot size:) 1	15 15 3 3 3 3 3 3 3 108	= Total	OBL FACU OBL FAC FACW FACW FACW COBL Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation



Project Site:	JPR Golf C	ourse Wetland Mit	tigation	City/County:	Jay/Orle	eans		Samp. Date: 8/15	5/2013
Applicant/Owner:	Jay Peak I	esort				VERMONT	Sampling Point:	H1	.1-WT6
Investigator(s):	P. Werts-	Callfelz	_			nip, Range:			
Landform (hillslope, te		Terrace		Local relief (d		_	Concave	Slope (%):	
Subregion (LRR or		LRR	Lat:	44°56'37.815	"N	Long:	72°30'40.383"W	Datum:	NAD 83
Soil Map Unit:	Cabot	ns on the site tunio	cal for this time of year	3	YES	(If no. o	volain in Romarks \	NWI Class:	PEM
Are Vegetation, Soil,	-		cal for this time of year	<u></u>	163	(11 110, 62	xplain in Remarks.)	cumstances?	YES
Are Vegetation, Soil,							_	plain any answers	
Are vegetation, 3011,	, or riyuroic	By Hatarany probic	matic: NO					plain any answers	iii iiciiidi ks.j
SLIMMARY OF F	INDING	S - Attach site r	nan showing sam	nle noint lo	cation	s transec	cts, important feat	tures etc	
Hydrophytic Vegetat			YES	T Point 10	, cation	15, (1411500	oto, important rea		
Hydric Soil Present?	cioni i resen		YES			Is This	Sample Area Within	a Wetland?	YES
Wetland Hydrology	Present?		YES						
Remarks:				+					
HYDROLOGY									
Wetland Hydrology	Indicators:						Secondary Indicators	(minimum of two	required)
Primary Indicators (r		one is required; cl	neck all that apply)				Surface Soil Cra		· · cquii cu)
Surface Water			Water-Stained Leave	s (B9)		-	Drainage Patte		
High Water Ta			Aguatic Fauna (B13)	- ()			Moss Trim Line		
X Saturation (A3			Marl Deposits (B13)				Dry-Season Wa		
Water Marks (	•		Hydrogen Sulfide Ode	or (C1)			Crayfish Burroy		
Sediment Depo			Oxidized Rhizosphere		ts (C3)			ble on Aerial (C9)	
Drift Deposits			Presence of Reduced	_			Stunted or Stre	essed Plants (D1)	
Algal Mat or Ci	rust (B4)		Recent Iron Reductio	n in Tilled Soils (	(C6)		Geomorphic Po	osition (D2)	
Iron Deposits (	(B5)		Thin Muck Surface (C	. <del>7</del> )			Shallow Aquita	rd (D3)	
Inundation Vis	ible on Aeria	I (B7)	Other (Explain in Ren	narks)			Microtopograp	hic Relief (D4)	
Sparsely Veget	tated Concav	e Surface (B8)					FAC-Neutral Te	st (D5)	
Field Observations:									
Surface Water Prese	ent?		Depth (inches):						
Water Table Present	t?		Depth (inches):			Wetland	d Hydrology Present?		YES
Saturation Present?		X	Depth (inches):	10"					
Describe Recorded D	Data (strear	n gauge, monitorin	g well, aerial photos, pi	revious inspect	ions), if	available:			
0.46" in the	last 5 days	at Jay Peak (NOAA	.)						
Remarks:									
SOIL									
	Describe to	the depth needed	to document the indic	ator or confirm	n the abs	sence of indic	cators.)		
Depth	Matrix			lox Features			,		
(in) Color (	moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	R	emarks
0-9 10YR		100	20.01 (0.01)		.,,,,		SILT LOAM		Ciliano
9-13+ 5Y 4		98	10YR 4/6	2	С	M	SILT LOAM		
· ·			-						
1							2		
<sup>1</sup> Type: C=Concentration,	D=Depletion,	RM=Reduced Matrix, N	IS=Masked Sand Grains.				<sup>2</sup> Location: PL=Pore Lining	, M=Matrix.	
Hydric Soil Indicator	s:						Indicators for Proble	matic Hydric Soils <sup>3</sup>	:
Histosol (A1)			Polyvalue Rel	ow Surface (S8)	(IRR R		2 cm Muck (A1	.0) (LRR K, L, MLRA 1	49R)
Histic Epipedo	n (A2)		MLRA 1498		(LINIX IX,			edox (A16) (LRR K, L,	
Black Histic (A3				face (S9) (LRR R,	MIRA 1	49B)		eat or Peat (S3) (LRR	
Hydrogen Sulfi				y Mineral (F1) (Li		.55,		69) (LRR K, L, M)	, _,,
Stratified Layer			Loamy Gleye		, _,			w Surface (S8) (LRR k	( 1)
Depleted Belov		ce (A11)	X Depleted Ma					ace (S9) (LRR K, L)	-, -,
Thick Dark Sur		(	Redox Dark S					se Masses (F12) (LRR	K. L. R)
Sandy Mucky N				k Surface (F7)				dplain Soils (F19) (M	
Sandy Gleyed I			Redox Depre					TA6) (MLRA 144A, 14	
Sandy Redox (S				` ,			Red Parent Ma		
Stripped Matri			<sup>3</sup> Ind	icators of hydro	phytic ve	getation and		ark Surface (TF12)	
Dark Surface (S		LRA 149B)		nd hydrology mi		-	Other (Explain		
						problematic.	<del></del>		
Restrictive Layer (if o	observed):		<u> </u>						
Type:							Hydric	Soil Present?	YES
Depth (inches):									
Remarks:									

		Absolute	Dom.	Indicator	
Tree	Stratum (Plot size: )	% Cover	Sp?	Status	Dominance Test Worksheet:
	<del></del>				
1.					# Dominants OBL, FACW, FAC: 4 (A)
2.					
3.					# Dominants across all strata: <b>5</b> (B)
4.					
5.					% Dominants OBL, FACW, FAC: <b>80%</b> (A/B)
6.					,, , ,
7.					Prevalence Index Worksheet:
/.					
			= Total	Cover	Total % Cover of: Multiply By:
Saplir	ng Stratum (Plot size:)				OBL 48 x 1 = 48
1.					FACW 18 x 2 = 36
2.					FAC 9 x 3 = 27
3.					FACU <b>18</b> x 4 = <b>72</b>
4.					UPL x 5 =
5.					Sum: 93 (A) 183 (B)
6.					
7.					Prevalence Index = B/A = 1.97
			= Total	Cover	Hydrophytic Vegetation Indicators:
Shrub	Stratum (Plot size: <b>15'RAD</b> )				X Dominance Test is > 50%
1.					X Prevalence Index is <= 3.0
					l —
2.					Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
3.					Rapid Test for Hydrophytic Vegetation
4.					Morphological Adaptations
5.					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless
6.					disturbed or problematic.
7.					Definitions of Vegetation Strata:
,.					Definitions of Vegetation Strata.
	- Elpap		= Total	Cover	
	Stratum (Plot size: 5' RAD )				Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or
	Eupatorium perfoliatum	15	X	FACW	more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).
2.	Carex crinita	15	Х	OBL	
3.	Solidago canadensis	15	Х	FACU	
	Solidago canadensis Scirpus cyperinus				Sapling - Woody plants, excluding woody vines, approximately 20ft (6m)
4.	Scirpus cyperinus	15	Х	OBL	Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.
4. 5.	Scirpus cyperinus Carex vulpinoidea	15 15		OBL OBL	Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.
4. 5. 6.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum	15 15 3	Х	OBL OBL FAC	
4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa	15 15 3 3	Х	OBL OBL FAC OBL	
4. 5. 6.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum	15 15 3	Х	OBL OBL FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1
4. 5. 6. 7. 8.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata	15 15 3 3	Х	OBL OBL FAC OBL	or more in height and less than 3in (7.6cm) DBH.
4. 5. 6. 7. 8. 9.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia	15 15 3 3 3 3	Х	OBL OBL FAC OBL FACW FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1
4. 5. 6. 7. 8. 9.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa	15 15 3 3 3 3 3	Х	OBL FAC OBL FACW FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.
4. 5. 6. 7. 8. 9. 10.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia	15 15 3 3 3 3	Х	OBL OBL FAC OBL FACW FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines,
4. 5. 6. 7. 8. 9.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
4. 5. 6. 7. 8. 9. 10.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa	15 15 3 3 3 3 3	Х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines,
4. 5. 6. 7. 8. 9. 10. 11.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
4. 5. 6. 7. 8. 9. 10. 11.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
4. 5. 6. 7. 8. 9. 10. 11. 12.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	<u>х</u> х	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FAC COVER	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FACU Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation
4. 5. 6. 7. 8. 9. 10. 11. 12. Wood 1. 2. 3. 4. 5.	Scirpus cyperinus Carex vulpinoidea Eutrochium purpureum Carex comosa Verbena hastata Euthamia graminifolia Solidago rugosa Vicia sativa	15 15 3 3 3 3 3 3	= Total	OBL OBL FAC OBL FACW FAC FAC FAC FACU Cover	or more in height and less than 3in (7.6cm) DBH.  Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.  Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation



oplicant/Owner: vestigator(s):	Jay Peak F			Soction		VERMONT	Sampling Poin	ι	H16-Create
ndform (hillslope, te	P. Werts-I	Terrace			on, Townsh ef (concave, co		Jay Concave	Slope (%):	
ibregion (LRR or		LRR	Lat:	44°56'32.12			72°30'40.583"W	Datum:	NAD 83
oil Map Unit:	Cabot			44 30 3E11			72 50 40,505 11	NWI Class:	PEM
•		ons on the site	typical for this time of year?	)	Yes	(If no, e	xplain in Remarks.)		
e Vegetation, Soil	l, or Hydrolo	gy significantly	disturbed? NO				Normal	Circumstances?	YES
e Vegetation, Soil	l, or Hydrolo	gy naturally pr	oblematic? NO				(If needed,	explain any ansv	wers in Remarks.)
JMMARY OF	FINDINGS	S - Attach si	te map showing samp	ole point	locations	s. transec	cts. important fe	eatures, etc.	
drophytic Vegeta			YES	э.с рос		,	,p o. ta	20, 200	
dric Soil Present?			YES			Is This	Sample Area With	in a Wetland?	YES
etland Hydrology	Present?		YES					-	
emarks:									
YDROLOGY									
etland Hydrology	Indicators:						Secondary Indicat	ors (minimum of	two required)
mary Indicators (	minimum o	fone is require	d; check all that apply)				Surface Soil	Cracks (B6)	
Surface Water	r (A1)		X Water-Stained Leaves	(B9)			Drainage Pa	itterns (B10)	
High Water Ta	able (A2)		Aquatic Fauna (B13)				Moss Trim L	ines (B16)	
X Saturation (A3			Marl Deposits (B13)					Water Table (C2)	
Water Marks			Hydrogen Sulfide Odo				Crayfish Bur		
Sediment Dep			Oxidized Rhizospheres	_	oots (C3)			isible on Aerial (C	
Drift Deposits			Presence of Reduced I					Stressed Plants (D1	)
Algal Mat or C			Recent Iron Reduction		Is (C6)			c Position (D2)	
Iron Deposits		>	Thin Muck Surface (C7				Shallow Aqu		
Inundation Vis			Other (Explain in Rem	arks)				raphic Relief (D4)	
Sparsely Vege	tated Concav	e Surface (B8)					FAC-Neutra	i Test (D5)	
rface Water Prese			Depth (inches):		_				
eld Observations: urface Water Prese ater Table Presen	it?		Depth (inches):		_	Wetlan	d Hydrology Present	i? _	YES
rface Water Prese ater Table Presen turation Present? escribe Recorded	t? Data (strear	X n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): oring well, aerial photos, pro	<b>4"</b> evious inspe	ections), if a		d Hydrology Present	:? 	YES
orface Water Presenter Table Presenter Table Present? escribe Recorded	t? Data (strear	n gauge, monit	Depth (inches): Depth (inches): oring well, aerial photos, pro	-	ections), if a		d Hydrology Present	? <u>-</u>	YES
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:	ot? Data (strear last 5 days	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica	evious inspe	irm the abso	ıvailable:		:? <u> </u>	YES
rface Water Press ster Table Present curation Present? scribe Recorded 0.46" in the marks:  DIL offile Description:	Data (strear last 5 days	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica	evious inspe	irm the abso	ıvailable:		:? <u> </u>	YES
rface Water Press ster Table Present uration Present? scribe Recorded 0.46" in the marks:  OIL offle Description: pth n) Color ( 10Yi	Data (strear last 5 days  (Describe to Matrix (moist) R 3/2	o the depth nee	Depth (inches): Depth (inches): oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)	evious inspe ator or confi ox Features	irm the abso	ence of indi	cators.)  Texture  SILT LOAM		
rface Water Press ster Table Present uration Present? scribe Recorded 0.46" in the marks:  OIL offle Description: pth n) Color ( 10Yi	Data (strear last 5 days  (Describe to Matrix (moist)	n gauge, monit at Jay Peak (No	Depth (inches): Depth (inches): oring well, aerial photos, pro OAA)  eded to document the indica	evious inspe ator or confi ox Features	irm the abso	ence of indi	cators.)		
rface Water Press ster Table Present uration Present? scribe Recorded 0.46" in the marks:  OIL offle Description: pth n) Color ( -6 10Yi	Data (strear last 5 days  (Describe to Matrix (moist) R 3/2	o the depth nee	Depth (inches): Depth (inches): oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)	evious inspendent ator or confi ox Features %	irm the abso	ence of indi	cators.)  Texture  SILT LOAM		
rface Water Press ster Table Present uration Present? scribe Recorded 0.46" in the marks:  OIL offle Description: pth n) Color ( -6 10Yi	Data (strear last 5 days  (Describe to Matrix (moist) R 3/2	o the depth nee	Depth (inches): Depth (inches): oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)	evious inspendent ator or confi ox Features %	irm the abso	ence of indi	cators.)  Texture  SILT LOAM		
rface Water Press ater Table Present turation Present? escribe Recorded 0.46" in the marks:  DIL offile Description: epth in) Color ( 104" 1071	Data (strear last 5 days  (Describe to Matrix (moist)  R 3/2	the depth needs 100 95	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)  10YR 4/6	evious inspendent ator or confi ox Features %	irm the abso	ence of indi	Texture SILT LOAM SILT LOAM		
rface Water Presenter Table Presenturation Present? escribe Recorded 0.46" in the marks:  OIL offile Description: epth in) Color (1.56 10 M) 1.56 10 M; eper C=Concentration, oper C=Concentration, op	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1	the depth needs 100 95	Depth (inches): Depth (inches): oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)	evious inspendent ator or confi ox Features %	irm the abso	ence of indi	Texture SILT LOAM SILT LOAM	ning, M=Matrix.	Remarks
rface Water Presenter Table Presenturation Present? escribe Recorded 0.46" in the marks:  OIL offile Description: epth in) Color (1.56 10 M) 1.56 10 M; eper C=Concentration, oper C=Concentration, op	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1	the depth needs 100 95	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)  10YR 4/6	evious inspendent ator or confi ox Features %	irm the abso	ence of indi	Texture SILT LOAM SILT LOAM	ning, M=Matrix.	Remarks
rface Water Presenter Table Presenturation Present? escribe Recorded 0.46" in the marks:  OIL offile Description: epth in) Color (1.56 10 M) 1.56 10 M; eper C=Concentration, oper C=Concentration, op	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1	the depth needs 100 95	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)  10YR 4/6	ator or confi ox Features %	Type <sup>1</sup>	ence of indi	Texture SILT LOAM SILT LOAM	ning, M=Matrix.	Remarks Soils <sup>3</sup> :
rface Water Presenter Table Pr	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1  Dependence, Dependence, Trick R 3:	the depth needs 100 95	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.	ator or confi ox Features % 5	Type <sup>1</sup>	ence of indi	Texture SILT LOAM SILT LOAM	ning, M=Matrix. blematic Hydric S	Remarks  Soils <sup>3</sup> :  RA 149B)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  DIL offile Description: epth in) Color ( 10Yi 12 10Yi pe: C=Concentration, dric Soil Indicator Histosol (A1)	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1  , D=Depletion, rs:	the depth needs 100 95	Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belo	ator or confi ox Features % 5	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairie	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K. L. R.)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  OIL  Offile Description: pth in) Color 10Yi 12  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedo	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1 , D=Depletion, rs:	the depth needs 100 95	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  eded to document the indica Redo Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 1498	ator or confi ox Features % 5	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairie 5 cm Mucky	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K, L, R)  (LRR K, L, R)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  OIL  offile Description: pth n) Color 10Yi 12  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedo Black Histic (A	(Describe to Matrix (moist) R 3/2 R 4/1 , D=Depletion, rs:	the depth needs 100 95	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Rede Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belc MLRA 1498 Thin Dark Surf	ator or confi ox Features % 5 ow Surface (S ) face (S9) (LRR	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairie 5 cm Mucky Dark Surface	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR v Peat or Peat (S3) (	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K, L, R)  (LRR K, L, R)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  DIL  offile Description: pth in) Color 1-6 10Yi 12 10Yi  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histot Epipedo Black Histic (A Hydrogen Sulf	(Describe to Matrix (moist)  R 3/2 R 4/1  Data (strear to be	the depth needs when the depth	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Peded to document the indica Redo Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 1498 Thin Dark Surf Loamy Mucky	evious inspectors or confict the confict of the con	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	rexture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairic 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR r Peat or Peat (S3) (e (S9) (LRR K, L, M) elow Surface (S8) (urface (S9) (LRR K,	Remarks  Soils <sup>3</sup> :  .RA 149B)  : (, L, R)  (, LRR K, L, R)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  DIL  Offile Description: pth in) Color ( -6 10Yi -12 10Yi  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye	(Describe to Matrix (moist) R 3/2 R 4/1  on (A2) (3) fide (A4) ers (A5) ow Dark Surfa	the depth needs when the depth	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Peded to document the indica Redo Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belo MLRA 1498; Thin Dark Surf Loamy Mucky Loamy Gleyed	evious inspectors or confict the confict of the con	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	rexture SILT LOAM SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairic 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su	ming, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR / Peat or Peat (S3) (e (S9) (LRR K, L, M) elow Surface (S8) (	Remarks  Soils <sup>3</sup> :  .RA 149B)  : (, L, R)  (, LRR K, L, R)
rface Water Press ater Table Present turation Present? scribe Recorded  0.46" in the marks:  DIL  offile Description: epth in) Color ( 104" 104"  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye Depleted Belo	(Describe to Matrix (moist) R 3/2 R 4/1  Data (stream of the last 5 days)  (Describe to Matrix (moist) R 3/2 R 4/1  Dependent on (A2) R 3)  fide (A4)  ers (A5)  ow Dark Surfarface (A12)	the depth needs when the depth	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Eded to document the indica Redo Color (moist)  10YR 4/6  Polyvalue Belo MLRA 1498 Thin Dark Surf Loamy Mucky Loamy Gleyed X Depleted Mate	evious inspectors or confict of the	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	rexture SILT LOAM SILT LOAM  **Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairic 5 cm Mucky Dark Surface Polyvalue Br Thin Dark Surface Iron-Manga	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR r Peat or Peat (S3) (e (S9) (LRR K, L, M) elow Surface (S8) (urface (S9) (LRR K,	Remarks  Soils <sup>3</sup> :  .RA 149B) : K, L, R) (LRR K, L, R)  LRR K, L) (LRR K, L) (LRR K, L)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  DIL  Offile Description: pth n) Color ( -6 10Y  12 10Y   De: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye Depleted Belo Thick Dark Sur	(Describe to Matrix (moist)  R 3/2  R 4/1  D=Depletion, rs:  on (A2) (33) (fide (A4) ers (A5) ow Dark Surfarface (A12) Mineral (S1)	the depth needs when the depth	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Redec Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belec MLRA 149B; Thin Dark Surf Loamy Mucky Loamy Gleyed X Depleted Mate Redox Dark Surf Redox Dark Surf Redox Dark Surf	ator or confi ox Features % 5 5 ow Surface (S) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6) s Surface (F7)	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  **Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairic 5 cm Mucky Dark Surface Polyvalue B Thin Dark Su Iron-Manga Piedmont Fi	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR r Peat or Peat (S3) ( e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, nese Masses (F12)	Remarks  Soils <sup>3</sup> : .RA 149B) t K, L, R) (LRR K, L, R) .LRR K, L, R) (LRR K, L, R) 9) (MLRA 149B)
rface Water Presenter Table Pr	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1  Dependence  On (A2) Bidde (A4) Bers (A5) Born (A2) Mineral (S1) Matrix (S4)	the depth needs when the depth	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Redec Color (moist)  10YR 4/6  rix, MS=Masked Sand Grains.  Polyvalue Belc MLRA 149B; Thin Dark Surf Loamy Mucky Loamy Gleyed X Depleted Mate Redox Dark Sur Depleted Dark	ator or confi ox Features % 5 5 ow Surface (S) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6) s Surface (F7)	Type <sup>1</sup> C C S8) (LRR R,	ence of indi	Texture SILT LOAM SILT LOAM  **Indicators for Prol 2 cm Muck Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Manga Piedmont Fl Mesic Spodi	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR Peat or Peat (S3) (e (S9) (LRR K, L, M) elow Surface (S8) (urface (S9) (LRR K, nese Masses (F12)	Remarks  Soils <sup>3</sup> : .RA 149B) t K, L, R) (LRR K, L, R) .LRR K, L, R) (LRR K, L, R) 9) (MLRA 149B)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  DIL  offile Description: epth in) Color ( 1-6 10Yi 1-12 10Yi  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedc Black Histic (A Hydrogen Sulf Stratified Laye Depleted Belo Thick Dark Sur Sandy Mucky Sandy Gleyed	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1  Denomination R 3/2 R 4/1  Den	the depth needs when the depth	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Redec Color (moist)  10YR 4/6  Polyvalue Belc MLRA 1498; Thin Dark Surf Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Math Redox Dark Su Depleted Dark Redox Depress	ator or confi ox Features % 5 5 ow Surface (S) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6) s Surface (F7)	Type <sup>1</sup> C C S8) (LRR R,	ence of indi Loc² M  9B)	Texture SILT LOAM SILT LOAM  **Indicators for Prol	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR K, L) e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, nese Masses (F12) loodplain Soils (F15) ic (TA6) (MLRA 144	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (MLRA 149B)  IA, 145, 149B)
rface Water Presenter Table Pr	Data (stream last 5 days  (Describe to Matrix (moist) R 3/2 R 4/1  Dependence  R 3/2 R 4/1  Depe	n gauge, monit at Jay Peak (No othe depth nee  % 100 95  RM=Reduced Mat	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Redec Color (moist)  10YR 4/6  Polyvalue Belc MLRA 149B; Thin Dark Surf Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Math Redox Dark Su Depleted Dark Redox Depres:  3 Indic	ator or confi ox Features % 5 5 ow Surface (S) face (S9) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6) s Surface (F7) sions (F8)	Type <sup>1</sup> C S8) (LRR R, R R, MLRA 14) (LRR K, L)	ence of indi  Loc²  M  9B)	Texture SILT LOAM SILT LOAM  **Indicators for Prol	blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR K, L, M) e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, nese Masses (F12) loodplain Soils (F19 ic (TA6) (MLRA 144 Material (F21)	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (MLRA 149B)  IA, 145, 149B)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  OIL  Offile Description: pth n) Color ( 104" 104" 112 104"  Pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye Depleted Bloe Thick Dark Sur Sandy Mucky Sandy Gleyed Sandy Redox ( Stripped Matr Dark Surface (	(Describe to Matrix (moist)  R 3/2  R 4/1  , D=Depletion, rs:  on (A2) (3) fide (A4) ers (A5) who Dark Surfarface (A12) Mineral (S1) Matrix (S4) (S5) erix (S6)	n gauge, monit at Jay Peak (No othe depth nee  % 100 95  RM=Reduced Mat	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Redec Color (moist)  10YR 4/6  Polyvalue Belc MLRA 149B; Thin Dark Surf Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Math Redox Dark Su Depleted Dark Redox Depres:  3 Indic	ator or confi ox Features % 5 5 ow Surface (S) face (S9) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6) s Surface (F7) sions (F8)	Type <sup>1</sup> C S8) (LRR R,	ence of indi  Loc²  M  9B)	Texture SILT LOAM SILT LOAM  **Indicators for Prol	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR r/ Peat or Peat (S3) ( e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, nese Masses (F12) loodplain Soils (F19 ic (TA6) (MLRA 144 Material (F21) w Dark Surface (TF:	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (MLRA 149B)  IA, 145, 149B)
rface Water Press ater Table Present turation Present? scribe Recorded 0.46" in the marks:  OIL  offile Description: epth in) Color ( 1-6 10Yi 1-12 10Yi  pe: C=Concentration, dric Soil Indicator Histosol (A1) Histic Epipedc Black Histic Epipedc Black Histic Epipedc Hydrogen Sulf Stratified Laye Depleted Belo Thick Dark Sur Sandy Mucky Sandy Gleyed Sandy Redox ( Stripped Matr	(Describe to Matrix (moist) R 3/2 R 4/1  , D=Depletion, rs: on (A2) (3) fide (A4) ers (A5) ow Dark Surfarface (A12) Mineral (S1) Matrix (S5) ix (S6) (S7) (LRR R, M	n gauge, monit at Jay Peak (No othe depth nee  % 100 95  RM=Reduced Mat	Depth (inches): Depth (inches): Depth (inches): Oring well, aerial photos, pro OAA)  Reded to document the indica Redec Color (moist)  10YR 4/6  Polyvalue Belc MLRA 149B; Thin Dark Surf Loamy Mucky Loamy Mucky Loamy Gleyed X Depleted Math Redox Dark Su Depleted Dark Redox Depres:  3 Indic	ator or confi ox Features % 5 5 ow Surface (S) face (S9) (LRR Mineral (F1) I Matrix (F2) rix (F3) urface (F6) s Surface (F7) sions (F8)	Type <sup>1</sup> C S8) (LRR R, R R, MLRA 14) (LRR K, L)	ence of indi  Loc²  M  9B)	Texture SILT LOAM SILT LOAM  SILT LOAM  2Location: PL=Pore Lin Indicators for Prol 2 cm Muck Coast Prairie 5 cm Mucky Dark Surface Polyvalue Bi Thin Dark Si Iron-Manga Piedmont Fi Mesic Spodi Red Parent Very Shallov Other (Explain	ning, M=Matrix. blematic Hydric S (A10) (LRR K, L, ML e Redox (A16) (LRR r/ Peat or Peat (S3) ( e (S9) (LRR K, L, M) elow Surface (S8) ( urface (S9) (LRR K, nese Masses (F12) loodplain Soils (F19 ic (TA6) (MLRA 144 Material (F21) w Dark Surface (TF:	Remarks  Soils <sup>3</sup> :  RA 149B)  S. K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (LRR K, L, R)  (MLRA 149B)  IA, 145, 149B)

				Absolute	Dom.	Indicator			
Tree S	Stratum	(Plot size:	)	% Cover	Sp?	Status	Dominance Test Worksheet:		
1.							# Dominants OBL, FACW, FAC:	7	(A)
2.									
3.							# Dominants across all strata:	7	(B)
4.									<u></u>
5.							% Dominants OBL, FACW, FAC:	100%	(A/B)
6.									
7.							Prevalence Index Worksheet:		
				<del></del>	= Tota	Cover	Total % Cover of:	Multiply B	v:
Sanlin	g Stratum	(Plot size:	1			COVCI	OBL <b>30</b> x 1 =	30	<u>, , , , , , , , , , , , , , , , , , , </u>
1.							FACW <b>63</b> x 2 =	126	
2.							FAC 18 x 3 =	54	
							-		
3.							FACU x 4 =	-	
4.				<del></del>			UPL x5=		<del></del> ,_,
5.							Sum:(A)	210	(B)
6.									
7.							Prevalence Index = B/A =	1.89	
					= Tota	l Cover	Hydrophytic Vegetation Indicate	ors:	
Shrub	Stratum	(Plot size:	15'RAD )				X Dominance Test is > 50%		
1.	Viburnum	n opulus		15	Х	FACW	X Prevalence Index is <= 3.0	)	
2.							Problematic Hydrophytic	Vegetation <sup>1</sup> (e	explain)
3.							Rapid Test for Hydrophyt	ic Vegetation	
4.							Morphological Adaptatio	-	
5.							1 . · · · · · · · · · · · · · · · · · ·		
6.							<sup>1</sup> Indicators of hydric soil and wetland hydric disturbed or problematic.	ydrology must be	present, unless
7.							Definitions of Vegetation Strata:		
7.					= Tota	Cover	Deminitions of Vegetation Strata.		
Hambi	C4 404	(Diet sies	5' RAD )		_ = TOTA	Covei	Troo Weeds plants evaluding weeds	uinas anneavima	ataly 20ft (6m) or
	Stratum	(Plot size:	)	45	v	OBL	Tree - Woody plants, excluding woody more in height and 3in (7.6cm) or large		
	Carex vul			15	_ <u>X</u>	OBL			
		pectinacea		15	X	FAC			
	Juncus eff			15	X	OBL			
		ım perfoliatum		15	_ <u> </u>	FACW	Sapling - Woody plants, excluding wo		kimately 20ft (6m)
5.	Symphyot	trichum novae-an	ngliae	15	X	FACW	or more in height and less than 3in (7.6	ст) рвн.	
	Solidago g			15	X	FACW			
7.	Verbena l	hastata		3		FACW			
8.	Euthamia	graminifolia		3		FAC	Shrub - Woody plants, excluding wood	dy vines, approxir	mately 3 to 20ft (1
9.							to 6m) in height.		
10.				-					
11.							Herb - All herbaceous (non-woody) pla	ants, including he	rbaceous vines,
12.				<del></del> , - <del></del>			regardless of size. Includes woody plant	ts, except woody	vines, less than
				96	= Tota	l Cover	approximately 3ft (1m) in height.		
Wood	ly Vines	(Plot size:	١		_	COVCI			
	-								
1.				<del></del>			Woodyvino	JI£  :- -4	
2.				<del></del>			Woody vine - All woody vines, regard	diess of neight.	
3.									
4.							Hydrophytic		
5.							Vegetation		
					= Tota	l Cover	Present?	YES	
Remark	s: (If observ	ed, list morphologic	cal adaptations belov	w).			•		



H13-

oject Site:	JPR Golf C				+-+ \/ED840817	Communition Delicate		2 MT4 /- /I-
plicant/Owner: vestigator(s):	Jay Peak R P. Werts-k				tate: <b>VERMONT</b> ownship, Range:		H1	3-WT1/a/b
ndform (hillslope, t		Terrace			ncave, convex, none):		Slope (%):	
bregion (LRR or		LRR	Lat:	•			Datum:	NAD 83
il Map Unit:	Cabot				<u>-</u>	72 00 02:107 11	NWI Class:	PEM
e climatic/hydrol		ons on the site	typical for this time of year	r?	Yes (If no,	explain in Remarks.)		
e Vegetation, Soi	il, or Hydrolo	gy significantly	disturbed? NO			Normal Ci	ircumstances?	YES
e Vegetation, Soi	il, or Hydrolo	gy naturally pr	roblematic? NO			(If needed, e	xplain any answe	rs in Remarks.)
IMMARY OF	FINDINGS	S - Attach si	ite map showing sam	nle noint loc	ations transe	— cts_imnortant fea	atures etc	
drophytic Vegeta			YES	ipic point loce	acions, cransc	ets, important ret	itures, etc.	
dric Soil Present	?		YES		Is This	Sample Area Withir	n a Wetland?	YES
etland Hydrology	Present?		YES					
emarks:								
YDROLOGY								
etland Hydrology		f and is require	od, chack all that apply)			Secondary Indicator		vo required)
		one is require	ed; check all that apply)  X Water-Stained Leave	os (DO)		Surface Soil C		
Surface Wate				` '		Drainage Patt		
High Water T  Saturation (A			Aquatic Fauna (B13)			Moss Trim Lin		
Saturation (A Water Marks	•		Marl Deposits (B13) Hydrogen Sulfide Od	lor (C1)		Crayfish Burro	ater Table (C2)	
Sediment De	. ,		Oxidized Rhizospher		(C3)		sible on Aerial (C9)	
Drift Deposits			Presence of Reduced		(03)		ressed Plants (D1)	
Algal Mat or			Recent Iron Reduction		5)	Geomorphic F		
Iron Deposits			Thin Muck Surface (0		<i>,</i>	Shallow Aquit		
	isible on Aeria	I (B7)	Other (Explain in Rer				phic Relief (D4)	
		e Surface (B8)		,		FAC-Neutral T		
Id Observations:								
			Denth (inches):					
eld Observations:	ent?		Depth (inches):		Wetla	nd Hydrology Present?		VEC
rface Water Pres ater Table Present turation Present scribe Recorded 0.46" in the	ent? nt? ? Data (strean	X n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): toring well, aerial photos, p			nd Hydrology Present?	_	YES
rface Water Preserter Table Preserturation Present'scribe Recorded 0.46" in the	ent? nt? ? Data (strean	n gauge, monit	Depth (inches): Depth (inches): toring well, aerial photos, p	<b>-</b>		nd Hydrology Present?		YES
rface Water Presenter Table Presenter Table Presenter Table Presenter Table Recorded 0.46" in the marks:	sent? nt? ? Data (strean e last 5 days	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): toring well, aerial photos, p	revious inspection	ns), if available:			YES
rface Water Presenter Table Pr	ent? nt? nt? Data (strean e last 5 days	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)	orevious inspection	ns), if available:			YES
rface Water Presenter Table Pr	ent? nt? nt? Data (stream le last 5 days  (Describe to Matrix	n gauge, monit at Jay Peak (N o the depth nee	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)  eded to document the indic	cator or confirm to	ns), if available:	icators.)		
rface Water Preservation Present uration urati	ent? nt? Data (stream le last 5 days  (Describe to Matrix (moist)	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)	cator or confirm to	ns), if available:	icators.) Texture		YES Remarks
face Water Preseter Table Present uration Present'scribe Recorded  0.46" in the marks:  OIL  file Description: oth  Color  Color  104  104  107  108	ent? nt? nt? Data (stream le last 5 days  (Describe to Matrix	n gauge, monit at Jay Peak (N o the depth nee	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)  eded to document the indic	cator or confirm to	ns), if available:	icators.)		
rface Water Presenter Table Pr	ent? nt? nt? Data (stream last 5 days  f (Describe to Matrix (moist) R 3/2	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)  eded to document the indic  Rec  Color (moist)	cator or confirm to dox Features	the absence of ind	icators.) Texture SILT LOAM		
rface Water Presenter Table Pr	ent? nt? nt? Data (stream last 5 days  f (Describe to Matrix (moist) R 3/2	n gauge, monit at Jay Peak (N	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)  eded to document the indic  Rec  Color (moist)	cator or confirm to dox Features	the absence of ind	icators.) Texture SILT LOAM		
rface Water Presenter Table Pr	ent? nt? nt? nt? nt of the control o	o the depth nee	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)  eded to document the indic  Rec  Color (moist)	cator or confirm to dox Features	the absence of ind	icators.) Texture SILT LOAM		
rface Water Presenter Table Pr	ent? nt? nt? nt? nt of the control o	o the depth nee	Depth (inches): Depth (inches): toring well, aerial photos, p  OAA)  eded to document the indic  Rec  Color (moist)  10YR 4/6	cator or confirm to dox Features	the absence of ind	icators.)  Texture  SILT LOAM  SILT LOAM	g, M=Matrix.	Remarks
rface Water Presenter Table Pr	ent? nt? nt? nt? nt of the control o	o the depth nee	Depth (inches): Depth (inches)	cator or confirm to dox Features	the absence of ind	Texture SILT LOAM SILT LOAM	g, M=Matrix.	Remarks
rface Water Presenter Table Pr	ent? nt? nt? nt? nt (stream le last 5 days  f (Describe to Matrix (moist) R 3/2 5/2 n, D=Depletion, prs:	o the depth nee	Depth (inches): Depth (inches)	cator or confirm to dox Features  5  Slow Surface (S8) (LF	the absence of ind	icators.)  Texture  SILT LOAM  SILT LOAM	g, M=Matrix. ematic Hydric Soil	Remarks
rface Water Presenter Table Pr	ent? nt? nt? Data (stream le last 5 days  (Describe to Matrix (moist) R 3/2 5/2  n, D=Depletion, ors:	o the depth nee	Depth (inches): Polyvalue Be MLRA 149	cator or confirm to dox Features  5  Slow Surface (S8) (LF	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM	g, M=Matrix. ematic Hydric Soil 10) (LRR K, L, MLRA	Remarks    Is <sup>3</sup> :   A 149B)   L, R)
rface Water Presenter Table Presenter Recorded  O.46" in the marks:  OIL  OIL  OIL  OIL  OIL  OIL  OIL  OI	ent? nt? nt? nt? nt? nt (Secretary of the last 5 days) nt (Describe to Matrix (moist) nt	o the depth nee	Depth (inches): Depth (inches)	cator or confirm to dox Features   5  Slow Surface (S8) (LFB)	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM	g, M=Matrix. ematic Hydric Soil 10) (LRR K, L, MLRA Redox (A16) (LRR K,	Remarks    Is <sup>3</sup> :   A 149B)   L, R)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? ntata (stream le last 5 days le last 6 days le last 7 days le last 6 days le last 6 days le last 6 days le last 7 days le last 6 days le last 7 days le last 6 days le last 7 days le last 8 days l	o the depth nee	Depth (inches): Depth (inches)	cator or confirm to dox Features   5  Slow Surface (S8) (LFB)  rface (S9) (LRR R, M	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM	g, M=Matrix. ematic Hydric Soil 10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR	Remarks   s <sup>3</sup> :   (149B)   L, R)   R K, L, R)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? ntata (stream le last 5 days le last 6 days le last 7 days le last 6 days le last 6 days le last 6 days le last 7 days le last 6 days le last 7 days le last 6 days le last 7 days le last 8 days l	the depth needs when the depth	Depth (inches): Depth (inches)	cator or confirm the dox Features  %  5  clow Surface (S8) (LF B)  rface (S9) (LRR R, Now My Mineral (F1) (LRR ed Matrix (F2)	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM  2Location: PL=Pore Linin Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface I  Polyvalue Bele	g, M=Matrix. ematic Hydric Soil .10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR (S9) (LRR K, L, M)	Remarks   s <sup>3</sup> :   (149B)   L, R)   R K, L, R)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt	the depth needs when the depth	Depth (inches): Depth (inches)	cator or confirm to dox Features  %  5  clow Surface (S8) (LFB)  rface (S9) (LRR R, M cy Mineral (F1) (LRR ed Matrix (F2)  atrix (F3)	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM  2Location: PL=Pore Linin Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface I  Polyvalue Bele  Thin Dark Sur	g, M=Matrix. ematic Hydric Soil .10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI	Remarks  Is <sup>3</sup> : x 149B) L, R) R K, L, R)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	the depth needs when the depth	Depth (inches): Depth (inches)	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, Now Mineral (F1) (LRR de Matrix (F2) (Strick (F3) (Strick (F3) (Strick (F6) (F6) (F7))	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM  2 Coatlon: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface (  Polyvalue Bele  Thin Dark Sur  Iron-Mangane  Piedmont Floe	g, M=Matrix.  ematic Hydric Soil  10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI face (S9) (LRR K, L) ese Masses (F12) (Li odplain Soils (F19) (	Remarks  Is <sup>3</sup> : A 149B) L, R) IR K, L, R) RR K, L, R) MRR K, L, R) MLRA 149B)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	the depth needs when the depth	Depth (inches): Depth (inches)	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, Now Mineral (F1) (LRR de Matrix (F2) (Strick (F3) (Strick (F3) (Strick (F6) (F6) (F7))	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM  2-Location: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface (  Polyvalue Bele  Thin Dark Sur  Iron-Mangane  Piedmont Floe  Mesic Spodic	g, M=Matrix. ematic Hydric Soil. 10) (LRR K, L, MLRA Redox (A16) (LRR K, eat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI face (S9) (LRR K, L) ese Masses (F12) (Li odplain Soils (F19) ( (TA6) (MLRA 144A,	Remarks  Is <sup>3</sup> : A 149B) L, R) IR K, L, R) RR K, L, R) MRR K, L, R) MLRA 149B)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	the depth needs when the depth	Depth (inches): Depth (inches)	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, Now Mineral (F1) (LRR de Matrix (F2) (Strick (F3) (Strick (F3) (Strick (F6) (F6) (F7))	the absence of incomplete the absence of inc	icators.)  Texture  SILT LOAM  SILT LOAM  2-Location: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface (  Polyvalue Bele  Thin Dark Sur  Iron-Mangane  Piedmont Floe  Mesic Spodic  Red Parent M	g, M=Matrix. ematic Hydric Soil. 10) (LRR K, L, MLRA Redox (A16) (LRR K, eat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI face (S9) (LRR K, L) ese Masses (F12) (LI odplain Soils (F19) ( (TA6) (MLRA 144A, aterial (F21)	Remarks  Is <sup>3</sup> : A 149B) L, R) RR K, L, R) RR K, L, R) MRRA 149B) 145, 149B)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	n gauge, monit at Jay Peak (N  the depth nee  95  RM=Reduced Mat	Depth (inches): Depth (inches)	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, Now Mineral (F1) (LRR de Matrix (F2) (Strick (F3) (Strick (F3) (Strick (F6) (F6) (F7))	the absence of ind  the absence of ind  ype <sup>1</sup> Loc <sup>2</sup> M  RR R,  MLRA 149B)  R K, L)	icators.)  Texture  SILT LOAM  SILT LOAM  2-Location: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface (  Polyvalue Bele  Thin Dark Sur  Iron-Mangane  Piedmont Floe  Mesic Spodic  Red Parent M	g, M=Matrix. ematic Hydric Soil. 10) (LRR K, L, MLRA Redox (A16) (LRR K, eat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI face (S9) (LRR K, L) ese Masses (F12) (Li odplain Soils (F19) ( (TA6) (MLRA 144A,	Remarks  Is <sup>3</sup> : A 149B) L, R) RR K, L, R) RR K, L, R) MRRA 149B) 145, 149B)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	n gauge, monit at Jay Peak (N  the depth nee  95  RM=Reduced Mat	Depth (inches): Redox Dark (inches): Depth (in	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, M  cy Mineral (F1) (LRR R  dd Matrix (F2)  atrix (F3)  Surface (F6)  rk Surface (F7)  cessions (F8)  dicators of hydrophydrology must	the absence of ind  ype¹ Loc²  C M  RR R,  ALRA 149B)  St.K, L)  Lytic vegetation and the present, unless	icators.)  Texture  SILT LOAM  SILT LOAM   2-Location: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie I  5 cm Mucky P  Dark Surface I  Polyvalue Bele  Thin Dark Sur  Iron-Mangane  Piedmont Flor  Mesic Spodic  Red Parent M  Very Shallow	g, M=Matrix. ematic Hydric Soil 10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI face (S9) (LRR K, L) ese Masses (F12) (LF odplain Soils (F19) ( (TA6) (MLRA 144A, aterial (F21) Dark Surface (TF12)	Remarks  Is <sup>3</sup> : A 149B) L, R) RR K, L, R) RR K, L, R) MRRA 149B) 145, 149B)
face Water Preservation Present uration uratio	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	n gauge, monit at Jay Peak (N  the depth nee  95  RM=Reduced Mat	Depth (inches): Redox Dark (inches): Depth (in	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, M  cy Mineral (F1) (LRR R  dd Matrix (F2)  atrix (F3)  Surface (F6)  rk Surface (F7)  cessions (F8)  dicators of hydrophydrology must	the absence of ind  the absence of ind  ype <sup>1</sup> Loc <sup>2</sup> C M  RR R,  MLRA 149B)  RK, L)	icators.)  Texture  SILT LOAM  SILT LOAM  2 Location: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie (A  Dark Surface (A  Polyvalue Beley  Thin Dark Surf  Iron-Mangane  Piedmont Floor  Mesic Spodic  Red Parent M  Very Shallow  Other (Explain	g, M=Matrix. ematic Hydric Soil 10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR (S9) (LRR K, L) Gose (S9) (LRR K, L) Godplain Soils (F19) ((TA6) (MLRA 144A, aterial (F21) Dark Surface (TF12) n in Remarks)	Remarks  Is <sup>3</sup> : A 149B) L, R) IR K, L, R) RR K, L, R) MRRA 149B) 145, 149B)
rface Water Presenter Table Pr	ent? nt? nt? nt? nt? nt? nt? nt? nt? nt?	n gauge, monit at Jay Peak (N  the depth nee  95  RM=Reduced Mat	Depth (inches): Redox Dark (inches): Depth (in	cator or confirm to dox Features  % Ty  5  clow Surface (S8) (LFR R, M  cy Mineral (F1) (LRR R  dd Matrix (F2)  atrix (F3)  Surface (F6)  rk Surface (F7)  cessions (F8)  dicators of hydrophydrology must	the absence of ind  ype¹ Loc²  C M  RR R,  ALRA 149B)  St.K, L)  Lytic vegetation and the present, unless	icators.)  Texture  SILT LOAM  SILT LOAM  2 Location: PL=Pore Linin  Indicators for Proble  2 cm Muck (A  Coast Prairie (A  Dark Surface (A  Polyvalue Beley  Thin Dark Surf  Iron-Mangane  Piedmont Floor  Mesic Spodic  Red Parent M  Very Shallow  Other (Explain	g, M=Matrix. ematic Hydric Soil 10) (LRR K, L, MLRA Redox (A16) (LRR K, Peat or Peat (S3) (LR (S9) (LRR K, L, M) ow Surface (S8) (LRI face (S9) (LRR K, L) ese Masses (F12) (LF odplain Soils (F19) ( (TA6) (MLRA 144A, aterial (F21) Dark Surface (TF12)	Remarks  Is <sup>3</sup> : A 149B) L, R) RR K, L, R) RR K, L, R) MRRA 149B) 145, 149B)

		Absolute	Dom.	Indicator		
Tree	Stratum (Plot size:)	% Cover	Sp?	Status	Dominance Test Worksheet:	
1.					# Dominants OBL, FACW, FAC: 7 (A)	
2.						
3.					# Dominants across all strata: 7 (B)	
4.						
5.					% Dominants OBL, FACW, FAC: <b>100</b> % (A/B)	
					(A) b)	
6.						
7.					Prevalence Index Worksheet:	
			= Total	Cover	Total % Cover of: Multiply By:	
Saplir	g Stratum (Plot size:)				OBL <b>63</b> x 1 = <b>63</b>	
1.	· · · · · · · · · · · · · · · · · · ·				FACW 21 x 2 = 42	
2.					FAC 30 x 3 = 90	
3.					FACU x 4 =	
4.					UPL x 5 =	
5.					Sum: <b>114</b> (A) <b>195</b> (B)	
6.						
					Describer as Index D/A 1.71	
7.					Prevalence Index = B/A = 1.71	
			= Total	Cover	Hydrophytic Vegetation Indicators:	
Shrub	Stratum (Plot size: <b>15'RAD</b> )				X Dominance Test is > 50%	
1.					X Prevalence Index is <= 3.0	
					l <del></del>	
2.					Problematic Hydrophytic Vegetation <sup>1</sup> (explain)	
3.					Rapid Test for Hydrophytic Vegetation	
4.					Morphological Adaptations	
5.					1	
6.					Indicators of hydric soil and wetland hydrology must be present, unle disturbed or problematic.	:SS
		· <del></del>				
7.					Definitions of Vegetation Strata:	
			= Total	Cover		
Herb	Stratum (Plot size: 5' RAD )				Tree - Woody plants, excluding woody vines, approximately 20ft (6m	) or
1.	Juncus effusus	15	Х	OBL	more in height and 3in (7.6cm) or larger in diameter at breast height (	DBH).
2.	Euthamia graminifolia	15	X	FAC		
	Carex crinita	15	X	OBL		
	Carex vulpinoidea	15	Х	OBL	Sapling - Woody plants, excluding woody vines, approximately 20ft (	(6m)
5.	Solidago rugosa	15	Х	FAC	or more in height and less than 3in (7.6cm) DBH.	
6.	Carex comosa	15	Х	OBL		
7.	Carex scoparia	15	X	FACW		
	Scirpus cyperinus	3		OBL	Shrub - Woody plants, excluding woody vines, approximately 3 to 20	)f+ /1
						11 (1
9.						
	Eupatorium perfoliatum	3		FACW	to 6m) in height.	
10.		3		FACW FACW	to om) in neight.	
10. 11.	Eupatorium perfoliatum				Herb - All herbaceous (non-woody) plants, including herbaceous vine	<b>:</b> S,
11.	Eupatorium perfoliatum				Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that	
	Eupatorium perfoliatum	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine	
11. 12.	Eupatorium perfoliatum Verbena hastata		= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that	
11. 12. Wood	Eupatorium perfoliatum	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that	
11. 12.	Eupatorium perfoliatum Verbena hastata	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that	
11. 12. Wood	Eupatorium perfoliatum Verbena hastata  ly Vines (Plot size:)	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that	
11. 12. Wood 1.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less tha approximately 3ft (1m) in height.	
11. 12. Wood 1. 2. 3.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.	
11. 12. Wood 1. 2. 3. 4.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3	= Total	FACW	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic	
11. 12. Wood 1. 2. 3.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3	= Total	Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic	
11. 12. Wood 1. 2. 3. 4.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	
11. 12. Wood 1. 2. 3. 4. 5.	Eupatorium perfoliatum  Verbena hastata  ly Vines (Plot size:)	3		Cover	Herb - All herbaceous (non-woody) plants, including herbaceous vine regardless of size. Includes woody plants, except woody vines, less that approximately 3ft (1m) in height.  Woody vine - All woody vines, regardless of height.  Hydrophytic Vegetation	



Project Site:	JPR Golf C	ourse Wetland Mitiga	ntion C	City/County:	Jay/Orleans			Samp. Date: 8/1	amp. Date: <b>8/16/2013</b>	
Applicant/Owner:	Jay Peak Resort				State: <b>VERMONT</b>		Sampling Point:	H15-WT1		
Investigator(s):	P. Werts-	Callfelz				nip, Range:	•			
Landform (hillslope, te		Terrace		Local relief (d		· -	Concave	Slope (%):		
Subregion (LRR or		LRR	Lat:	44°56'35.358	B"N	Long:	72°30'46.838"W	Datum:	NAD 83	
Soil Map Unit:	Cabot	ans on the site tunical	for this time of year?	,	Yes	/If no o	volain in Romarks \	NWI Class:	PEM	
	-	ons on the site typical gy significantly disturl		·	res	(11 110, 62	xplain in Remarks.)	cumstances?	YES	
_		gy naturally problema						plain any answers		
Are vegetation, son	, or riyuroic	By naturally problems	140					plant arry arrowers	s in nemarks.,	
SLIMMARY OF I	FINDING	S - Attach site ma	n showing samr	ale noint lo	cation	s transec	cts, important feat	tures etc		
Hydrophytic Vegeta			ES	T Political	cation	3, transce	oto, important rea			
Hydric Soil Present?			ES ES			Is This	Sample Area Within	a Wetland?	YES	
Wetland Hydrology			ES ES							
Remarks:										
HYDROLOGY										
Wetland Hydrology	Indicators:						Secondary Indicators	s (minimum of two	o required)	
		one is required; chec	k all that apply)				Surface Soil Cra	•	o required,	
Surface Water			Water-Stained Leaves	(B9)			Drainage Patterns (B10)			
High Water Ta			Aquatic Fauna (B13)	(==)			Moss Trim Line			
X Saturation (A3			Marl Deposits (B13)				Dry-Season Wa			
Water Marks (	•		Hydrogen Sulfide Odo	or (C1)			Crayfish Burroy			
Sediment Dep			Oxidized Rhizospheres		s (C3)			ble on Aerial (C9)		
Drift Deposits	(B3)		Presence of Reduced I	Iron (C4)			Stunted or Stre	Stunted or Stressed Plants (D1)		
Algal Mat or C	rust (B4)		Recent Iron Reduction	n in Tilled Soils (	C6)		Geomorphic Po	osition (D2)		
Iron Deposits	(B5)		Thin Muck Surface (C7	7)			Shallow Aquita	rd (D3)		
Inundation Vis	sible on Aeria	I (B7)	Other (Explain in Rem	arks)			Microtopograp	raphic Relief (D4)		
Sparsely Vege	tated Concav	e Surface (B8)					FAC-Neutral Te	est (D5)		
Field Observations:										
Surface Water Prese	ent?		Depth (inches):							
Water Table Presen	t?		Depth (inches):			Wetland	d Hydrology Present?		YES	
Saturation Present?		X	Depth (inches):	10"						
Describe Recorded I	Data (strear	n gauge, monitoring w	ell, aerial photos, pre	evious inspect	ions), if a	available:				
0.46" in the	last 5 days	at Jay Peak (NOAA)								
Remarks:										
SOIL										
	(Describe to	the depth needed to	document the indica	tor or confirm	the abs	ence of indi	cators.)			
Depth	Matrix			ox Features			,			
(in) Color (	moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	F	Remarks	
0-10 10YF		100			.,,,,		SILT LOAM		Territor No	
	R 4/1	97	10YR 5/4	3	CACM?	М	SILT LOAM	-		
			· ·					•		
1							2			
*Type: C=Concentration,	D=Depletion,	RM=Reduced Matrix, MS=	Masked Sand Grains.				<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
<b>Hydric Soil Indicator</b>	s:						Indicators for Proble	matic Hydric Soils	3:	
Histosol (A1)			Polyvalue Relo	ow Surface (S8)	(IRR R		2 cm Muck (A1	LO) (LRR K, L, MLRA 1	149R)	
Histic Epipedo	n (A2)		MLRA 149B	Below Surface (S8) (LRR R, 19B) Surface (S9) (LRR R, MLRA 149B)			Coast Prairie Redox (A16) (LRR K, L, R)  5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
Black Histic (A										
				cky Mineral (F1) (LRR K, L)			Dark Surface (S9) (LRR K, L, M)			
<del></del> , , , , , , , , , , , , , , , , ,				yed Matrix (F2)				w Surface (S8) (LRR	K, L)	
Depleted Below Dark Surface (A11) X Depleted Mat							Thin Dark Surface (S9) (LRR K, L)			
Thick Dark Surface (A12) Redox Dark S				Surface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy Mucky Mineral (S1) Depleted Dar				ark Surface (F7)			Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Gleyed Matrix (S4) Redox Depres				essions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Redox (	S5)						Red Parent Ma	terial (F21)		
Stripped Matr	ix (S6)		<sup>3</sup> India	cators of hydro	phytic veg	getation and	Very Shallow D	ark Surface (TF12)		
Dark Surface (	S7) (LRR R, N	LRA 149B)	wetlan	nd hydrology mu			Other (Explain	in Remarks)		
Doctrictive Lover /:f	obcom and \:			distu	urbed or p	oroblematic.	1			
Restrictive Layer (if	•						11	Soil Drocont?	VEC	
Type: Depth (inches):							Hyaric	Soil Present?	YES	
Remarks:							<u>I</u>			
- ::=:::=:										

		Absolute	Dom.	Indicator		
Troo	Stratum (Plot size: )	% Cover	Sp?	Status	Dominance Test Worksheet:	
	Stratum (Plot size:)	70 COVCI		Status		• (*)
1.					# Dominants OBL, FACW, FAC:	8 (A)
2.						
3.					# Dominants across all strata:	<b>8</b> (B)
4.						
5.					% Dominants OBL, FACW, FAC:	<b>100%</b> (A/B)
6.					, ,	
7.					Prevalence Index Worksheet:	
7.						
			= Total	Cover	Total % Cover of:	Multiply By:
Saplir	ng Stratum (Plot size:)				OBL <b>83</b> x 1 =	83
1.					FACW <b>48</b> x 2 =	96
2.					FAC <b>24</b> x 3 =	72
3.					FACU x 4 =	
4.					UPL x 5 =	<del></del>
5.						<b>251</b> (B)
					Sum:(A)	<b>251</b> (B)
6.						
7.					Prevalence Index = B/A =	1.62
			= Total	Cover	Hydrophytic Vegetation Indicators	s:
Shruk	Stratum (Plot size: <b>15'RAD</b> )				X Dominance Test is > 50%	
	Cornus alba	15	Х	FACW	X Prevalence Index is <= 3.0	
		3			<del></del>	1
	Betula alleghaniensis	3		FAC	Problematic Hydrophytic V	=
3.					Rapid Test for Hydrophytic	Vegetation
4.					Morphological Adaptations	S
5.					<sup>1</sup> Indicators of hydric soil and wetland hyd	rology must be present upless
6.					disturbed or problematic.	rology must be present, umess
7.					Definitions of Vegetation Strata:	
,.		18	- Total	Carran	Definitions of Vegetation Strata.	
	- FIDAD		= Total	Cover		
	Stratum (Plot size: <b>5' RAD</b> )				Tree - Woody plants, excluding woody vi	
1.	Carex comosa	38	X	OBL	more in height and 3in (7.6cm) or larger in	n diameter at breast neight (DBH).
2.	Carex crinita	15	Х	OBL		
3.	Eutrochium maculatum	15	X	OBL		
	Juncus effusus	15	X	OBL	Sapling - Woody plants, excluding wood	dy vines, approximately 20ft (6m)
	Symphyotrichum novae-angliae	15	$\frac{x}{x}$	FACW	or more in height and less than 3in (7.6cn	
6.	Euthamia graminifolia	15	X	FAC		
7.	Verbena hastata	15	X	FACW		
8.	Solanum dulcamara	3		FAC	Shrub - Woody plants, excluding woody	vines, approximately 3 to 20ft (1
9.	Ranunculus acris	3		FAC	to 6m) in height.	
10.	Hypericum canadense	3		FACW		
11.	The second secon				Herb - All herbaceous (non-woody) plan	ts, including herbaceous vines.
					regardless of size. Includes woody plants,	
12.					approximately 3ft (1m) in height.	
		137	= Total	Cover		
Wood	ly Vines (Plot size:)					
1.						
2.					Woody vine - All woody vines, regardle	ess of height.
3.				-		
4.					Hydrophytic	
5.						
٦.					Vegetation	
			= Total	Cover	Present?	YES
Remark	s: (If observed, list morphological adaptations below).				•	





Photograph 1: H5-TB3 from Station H5-TB3-P1, facing east (P. Werts, 8/15/13)



Photograph 2: H5-TB1 from Station H5-TB1-P1, facing south (P. Werts, 8/15/13)



Photograph 3: H5-Create from Station H5-Create-P1, facing northeast (P. Werts, 8/15/13)



Photograph 4: H6-WT1, from Station H6-WT1-P1, facing southeast (P. Werts, 8/15/13)



Photograph 5: H6-WT1, from Station H6-WT1-P2, facing east (P. Werts, 8/15/13)



Photograph 6: H6-TB1 from Station H6-TB1-P1, facing south (P. Werts, 8/15/13)



Photograph 7: H6-TB1 from Station H6-TB1-P2, facing northwest (P. Werts, 8/15/13)



Photograph 8: WH-WT1 from Station WH-WT1-P1, facing northeast (P. Werts, 8/15/13)



Photograph 9: WH-WT2 from Station WH-WT2-P1, facing southwest (P. Werts, 8/15/13)



Photograph 10: H7-SC1 from Station H7-SC1-P1, facing southeast (P. Werts, 8/15/13)





Photograph 11: H4-WT1/2 from Station H4-WT1-P1, facing southeast (P. Werts, 8/15/13)



Photograph 12: H4-WT3 from Station H4-WT3-P1, facing southeast (P. Werts, 8/15/13)



Photograph 13: H8-SC3 from Station H8-SC3-P1, facing east (P. Werts, 8/15/13)



Photograph 14: H8-SC1 from Station H8-SC1-P1, facing northeast (P. Werts, 8/15/13)





Photograph 15: H8-Create from Station H8-Create-P1, facing northeast (P. Werts, 8/15/13)



Photograph 16: H1-WT1 from Station H1-WT1-P1, facing north (P. Werts, 8/15/13)



Photograph 17: P2-TB1 looking upstream from Station P2-TB1-P1, facing southwest (P. Werts, 8/15/13)



Photograph 18: P2-TB1 looking downstream from Station P2-TB1-P1, facing northeast (P. Werts, 8/15/13)



Photograph 19: P2-TB1 looking upstream from Station P2-TB1-P2, facing southwest (P. Werts, 8/15/13)



Photograph 20: P2-TB1 looking upstream from Station P2-TB1-P3, facing southwest (P. Werts, 8/15/13)



Photograph 21: H11-WT2/3 from Station H11-WT2/3-P1, facing southwest (P. Werts, 8/15/13)



Photograph 22: H11-TB1 from Station H11-TB1-P1, facing northwest (P. Werts, 8/15/13)





Photograph 23: H11-Create from Station H11-Create-P1, facing northwest (P. Werts, 8/15/13)



Photograph 24: H11-Create from Station H11-Create-P2, facing southeast (P. Werts, 8/15/13)





Photograph 25: H11-TB2 from Station H11-TB2-P1 facing north (P. Werts, 8/15/13)



Photograph 26: H11-WT6 from Station H11-WT6-P1, facing northeast (P. Werts, 8/15/13)



Photograph 27: H12-TB1u from Station H12-TB1u-P1, facing south (P. Werts, 8/16/13)



Photograph 28: H13-TB1u from Station H13-TB1u-P1, facing north (P. Werts, 8/16/13)



Photograph 29: H13-TB2 from Station H13-TB2-P1, facing south (P. Werts, 8/16/13)



Photograph 30: H13-SC/TB3 from Station H13-SC/TB3-P1, facing north (P. Werts, 8/16/13)



Photograph 31: H13-WT1/a/b from Station H13-WT1/a/b-P1, facing north (P. Werts, 8/16/13)



Photograph 32: H13-WT2-from Station H13-WT2-P1, facing west (P. Werts, 8/16/13)



Photograph 33: H13-WT3 from Station H13-WT3-P1, facing southwest (P. Werts, 8/16/13)



Photograph 34: H14-WT1u from Station H14-WT1u-P1, facing southeast (P. Werts, 8/16/13)



Photograph 35: H14-SC1 from Station H14-SC1-P1, facing northwest (P. Werts, 8/16/13)



Photograph 36: H14-WT2/3 from Station H14-WT2/3-P1, facing southwest (P. Werts, 8/16/13)



Photograph 37: H14-WT1d from Station H14-WT1d-P1, facing southeast (P. Werts, 8/16/13)



Photograph 38: H15-TB1 from Station H15-TB1-P1, facing south (P. Werts, 8/16/13)



Photograph 39: H15-WT1 from Station H15-WT1-P1, facing south (P. Werts, 8/16/13)



Photograph 40: H13-TB1d from Station H15-TB1d-P1, facing north (P. Werts, 8/16/13)



Photograph 41: H12-TB1d from Station H12-TB1d-P1, facing south (P. Werts, 8/16/13)



Photograph 42: H16-Create from Station H16-Create-P1, facing southwest (P. Werts, 8/16/13)



Photograph 43: H16-Create from Station H16-Create-P2, facing northwest (P. Werts, 8/16/13)



Photograph 44: H16-SC1 from Station H16-SC1-P1, facing northwest (P. Werts, 8/16/13)

Transportation
Land Development
Environmental
Energy

Services



7056 US Route 7 Post Office Box 120 North Ferrisburgh, Vermont 05473 802.497.6100 Fax 802.425.7799

Memorandum

To: Jay Peak Golf Course Mitigation

Project File

Date: July 22, 2013

Project No.: 57276.03

From: Patti B. Kallfelz-Werts Re: June 20, 2013 Golf Course Field

Inspection with USACE and EPA

This memorandum has been prepared to summarize the site meeting/ field inspection conducted with the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) held on June 20, 2013 to inspect the Jay Peak Golf Course Restoration and Mitigation sites. Because the large majority of the restored and/or created wetlands and streams have stabilized and are developing well, the site inspection focused on those few features that required repairs in 2012, as well as small "touch-ups" in early 2013. Overall, the restored and created features are developing extremely well. Streams are stable and naturalized, with well vegetated banks, including a noticeable increase in the size of the stream side shrubs. Wetlands are also becoming more naturalized, with species of plants that were not part of the original seed mix; and visible evidence of hydrology (evidence of hydric soils will be investigated during the annual data collection, which supports the annual monitoring report).

The features which were reviewed more closely included:

- P2-TB1 (above Hole 1),
- H8-TB2 (not part of the golf course mitigation activities),
- H14-WT1d, and
- H12-TB1u.

P2-TB1 was repaired after an area of bank failure was found in spring 2012. The repair was made in fall 2012, and given a "touch-up" in spring 2013. This repaired area remains stable despite the higher than average rainfall so far in spring and early summer 2013. Seed mix and mulch will be re-applied no later than early July.

Jay Peak Resort - Golf Course Restoration Monitoring - June 20, 2013 Field Inspection Summary

Project No.: 57276.03 Page 2

Page 2 July 22, 2013

H8-TB2 was originally crossed via a bridge, and so was not part of the golf course mitigation efforts. A section of right bank (looking downstream) where the bridge ends, suffered a severe failure in spring 2012, with a failure of the original repair later in 2012. This area was repaired again in early 2013 and has been stable. This area would need to have erosion control fabric applied as well as seed, to ensure the soil/grubbing remains in place.

H14-WT1d had an area of material wash out due to the high volume of water that moves through this system. A small head cut formed where H14-SC1 comes into this feature. This was repaired in fall 2012 by the addition of rock "steps" under the headcut to prevent it from deteriorating further. These steps were reinforced (a small number of additional rocks) in spring 2013 and are stable and preventing the cut from migrating upstream.

H12-TB1u, specifically a small area upstream of the bridge and the restored stretch, may have been mildly affected by "drifting" of herbicide applied to the area of golf play in the vicinity of the restoration. USACE and EPA have advised extra care should be taken when applying herbicide in proximity to any wetland or stream. [It is noteworthy to add that inspections of that area since the June 20, 2013 meeting have shown that the vegetation, affected by the "drifting" of herbicides, has fully recovered.]

#### APPENDIX E

# MITIGATION REPORT TRANSMITTAL AND SELF-CERTIFICATION

PROJECT TITLE: Jay Peak Resort Golf Course

PERMITTEE:

4850 VT Route 242

**MAILING ADDRESS:** 

Jay, VT 05859

TELEPHONE:

802-988-2726

AUTHORIZED AGENT: Vanasse Hangen Brustlin, Inc.

MAILING ADDRESS:

7056 US Route 7, P.O. Box 120

North Ferrisburgh, VT 05473

TELEPHONE:

802-497-6100

ATTACHED MITIGATION REPORT Jay Peak Resort Golf Course Mitigation - Third Annual (2013)

TITLE:

Mitigation Monitoring Report

PREPARERS: Vanasse Hangen Brustlin, Inc.

DATE:

January 10, 2014

CERTIFICATION OF COMPLIANCE: I certify that the attached report is accurate and discloses that the mitigation required by the Department of the Army Permit [is] [is not] in full compliance with the terms and conditions of that permit.

CORRECTIVE ACTION: A need for corrective action [is] [is not] identified in the attached report.

CONSULTATION: I [do] [do not] request consultation with the Corps of Engineers to discuss a corrective strategy or permit modification.

**CERTIFIED:** 

(FOR JAY PEAK INC.)

1-10-14

(Signature of permittee)

Date