### GODDARD CONSULTING Strategic Wetland Permitting

August 26, 2020

Avon Conservation Commission 65 East Main St Avon. MA 02322

Re: Antone Road, Avon ANRAD Filing; DEP #099-0178

Dear Commission:

The purpose of this report is to show that the connections made during the June 11, 2020 peer review, which connected the isolated wetland to the on-site Bordering Vegetated Wetland was not supported with 50% or more wetland vegetation in several areas.

During the first BETA peer review inspection with Goddard Consulting (which occurred on June 11, 2020) two potential wetland connections were identified in the field that would connect the original Isolated Vegetated Wetland (IVW flagged with series AA1-33) to the onsite Bordering Vegetated Wetland (BVW, flagged with "GC" series). These potential connections were delineated in the field with flag series 51-1 through 51-4 and 53-1 through 53-3 (western connection) and series AA23R to GC86 and AA25 to GC88 (eastern connection) (see figures below).

Figure 1. Original wetland delineation showing isolated wetland.

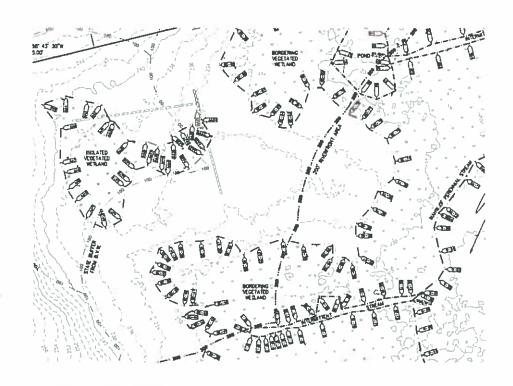
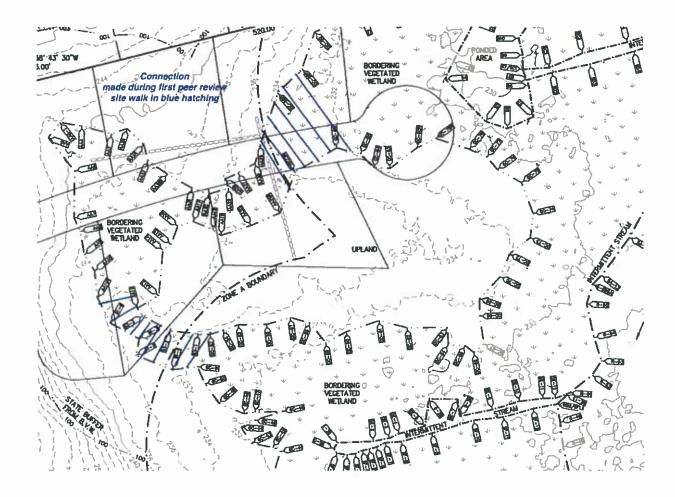


Figure 2. Wetland connected after peer review inspection on June 11, 2020



Field conditions at the time of the June inspection included pockets of surface water amongst these two extremely stony areas; however, no defined Bank channel was identified within these areas during this inspection or during any other field inspections. Vegetation within these areas consisted of both upland and wetland species. According to the Accuweather website rain fall prior to the June 11, 2020 site walk for Avon Massachusetts was 0.14 inches on June 5, 1.12 inches on June 6 and 0.64 inches on June 11, 2020 (see attached data). This high amount of concentrated rain fall (1.9 inches) accounts for the ponded water observed during the June 11, 2020 site visit. No water within these two areas was observed during the initial delineation in October and November of 2020 or during the August 20, 2020 site visit.

After the June peer review inspection, Goddard Consulting re-visited the site in August to further inspect these two potential wetland connections. During this inspection, Goddard Consulting identified several upland area "breaks". These breaks continued across the entire width of the potential connections; which would cause this wetland to be isolated from the on-site BVW (and therefore the wetland delineation that occurred in October and November of 2019 would stand, see attached ANRAD plan).

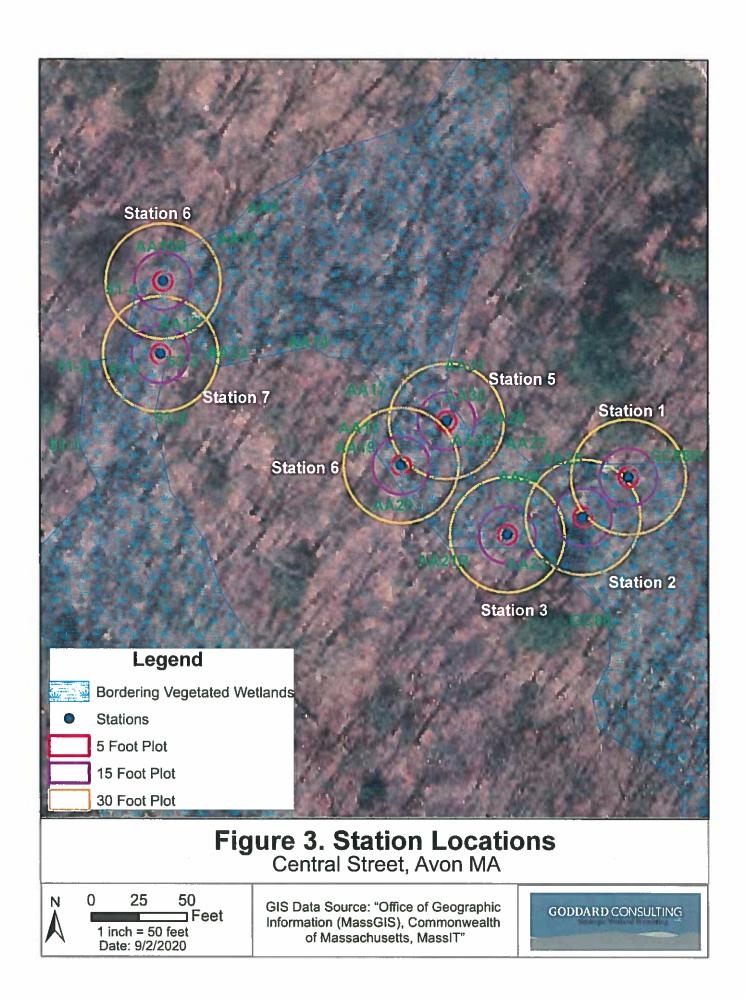
With this new information Goddard Consulting requested a second peer review site walk with Beta Group. This second site walk occurred on August 20, 2020. In attendance was Scott Goddard and Nicole Hayes of Goddard Consulting LLC, Marta Nova and Julie Stearns from Beta Group, Kevin Mooney (Avon Conservation Chairman), and Muhammad Itani (applicant). The goal of this site walk was to show Beta Group these upland area breaks that would isolate this wetland area. Beta Group observed these areas and agreed to reinspect and re-analyze these potential breaks as identified by Goddard Consulting. During the site walk Beta Group requested that Goddard Consulting submit further data (in the form of DEP field data sheets and photographs) on these identified "upland break areas" for their review. This document is the data collected on these upland breaks.

The first series of upland breaks which were documented at stations 1, 2, and 3 (all stations were flagged with pink labeled ribbons) occurred across the eastern connected section between wetland flags AA23R and GC88R (see attached figure 3 for locations). This upland swath resembles an old upland cart path (see photograph 1). Vegetation recorded at Station 1, 2 and 3 (see attached DEP sheets and photographs) consists of more than 50% upland species and therefore causes an upland break between the flagged isolated wetland (series "AA") and the on-site BVW wetland. (flagged with series "GC").

The second series of upland breaks which were documented at stations 4 and 5 occurred between wetland flags AA18 and A24/A30 (see attached figure 1 for location). Vegetation recorded at Station 4 and 5 (see attached DEP sheets and photographs) consists of more than 50% upland species and therefore causes an upland break within this second area.

The third series of upland breaks which were documented at stations 6 and 7 occurred across the western connected IVW to BVW flagged area; between flags 51-4 and 53-3 (see attached figure 1). Vegetation recorded at Station 6 and 7 (see attached DEP sheets and photographs) consists of more than 50% upland species and therefore causes an upland break within this third area.

In conclusion, the areas identified herein cause several continuous breaks of upland dominant vegetation within the potential IVW to BVW connection areas. Since these identified areas do not meet the requirements of a wetland (which requires the presence of 50% or more wetland indicator species and the presence of wetland hydrology/hydric soils) these areas cause the AA series wetland to be isolated. Furthermore, the two potential connections lack a defined bank channel of an intermittent stream.



Very truly yours,

Scott Goddard, Principal & PWS

And

Nicole Hayes, PWS

Senior Wetland Scientist

Muche Houses

| Accı      | uWeather       | RADAR & MAPS | NEWS | WEED | SEVERE WEATHER | MO            | RE |
|-----------|----------------|--------------|------|------|----------------|---------------|----|
| Fri<br>5  | 80% 64"        | Actual Temp  |      |      |                | ecip<br>(4 in | v  |
| Sat<br>6  | 86%57*         | Actual Temp  |      |      |                | ecip<br>IZ in | v  |
| Sun<br>7  | 68% 543        | Actual Temp  |      |      |                | ecip<br>10 in | ~  |
| Mon<br>6  | 76% 514        | Actual Temp  |      |      |                | ecip<br>10 In | V  |
| Tue<br>9  | 77°/60°        | Actual Temp  |      |      |                | ecip<br>30 in | V  |
| Wed<br>10 | 70%58*         | Actual Temp  |      |      |                | ecip<br>10 in | ~  |
| Thu<br>H  | 71% 63"        | Actual Temp  |      |      |                | ecip<br>64 in | V  |
| Fri<br>12 | <b>82%</b> 62° | Actual Temp  |      |      |                | ecīp<br>30 in | V  |
| Sat<br>13 | 71% 52°        | Actual Temp  |      |      |                | ecip<br>30 in | V  |
| Sun<br>14 | 66% 50*        | Actual Temp  |      |      |                | ecip<br>30 ln | ¥  |

Applicant: ANRAD extra data

Prepared by: Goddard Consulting LLC

Project location: Aven Antone Road

Check all that apply:

Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

Method other than dominance test used (attach additional information)

DEP File #

Red Oak Red Maple Number of dominant wetland indicator plants: 3 Sweet Pepperbush Witch Hazel Sample Layer and Plant Species Eastern poison ivy Ground Cover Green brier Shrub Layer Section I. Vegetation Vegetation conclusion: Morphological Adaptations: 0 Virginia-creeper Eastern poison ivy Virginia-creeper Climbing Wooth Vine Sapling Layer ree Laver An asterisk after indicator status denotes wetlands plants listed in the Wellands Protection Act (MGL c 131, s 40), plants in the genus Sphagnum, or plants listed as FAC. FACW, or OBL Remarks: \* An asterisk after common plant name indicates stunted growth, \*\* indicates extremely stunted growth Scientific name Smilax rotundifolia Parthenocissus quinquefolia Hamamelis virginiana Clethra alnifolia Quercus rubra Toxicodendron radicans Parthenocissus quinquefolia Acer rubrum Taxicodendron radicans Observation Plot Number: Station I Description: Number of dominant non-wetland indicator plants: 4 % Cover Transect Number: Upgradient 20% 63°0 36% 3% % Dominance 86.3% 13.7% 33.3% 50.0% 30.3% 9.1% 60.6% Dominant Plant yes or no) Date of Delineation ន៍ ន៍ 2 2 8 8 X & X 20-Aug-20 Wetland Indicator Category\* FAC<sup>\*</sup> FACU FAC\* FACU FAC\* FACU FAC\*

If vegetation alone is presumes adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? no

| Sa W  | 3. Other:  | <b>.</b> 3 |
|-------|--|------------|
| Y Z < | Remarks: refusal at 6 inches   | m 1111     |
|       | 2. Soil Description  Horizon Depth (inches) Matrix Color Mottles Color or Texture  A 0-6" 10YR2/2 loamy sand   | I 1×1=10   |
|       | Are field observations consistent with soil survey?  Remarks:  Extremely stony   | 71 1       |
|       | Is there a published soil survey for this site?  title/date: Soil Survey of Norfolk and Suffolk Counties - 1989 map number: soil type mapped: Scituate fine sandy loam hydric soil inclusions: | <b>—</b>   |
|       | 1. Soil Survey   | _          |
| c     | Hydric Soil Interpretation   | <b>T</b> 7 |

| ×             | Sample location is in a BVW  Submit his form with the Request for Determination of Applicability or Notice of Intent |
|---------------|--|
| ×             | other indicators of hydrology present  |
| ×             | Wetland hydrology present: hydric soils present  |
| ×             | Number of wetland indicator plants >= number of non-wetland plants   |
| 130           | Vegetation and Hydrology Conclusion for Upgradient of Station 1  |
|               | Other:   |
| hoto; other): | Recorded data (stream, lake, or tidal gauge; aerial photo; other):   |
|               | Water-stained leaves:  |
|               | Oxidized rhizoshperes:   |
|               | Drainage patterns in BVW:  |
|               | Sediment deposits:   |
|               | Drift Lines:   |
|               | Water marks:   |
|               | Depth to soil saturation in observation hole:  |
|               | Depth to free water in observation hole:   |
|               | Other Indicators of Hydrology: (check all that apply and describe)  Site inundated:                                  |

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form
Applicant: ANRAD extra data

Prepared by: Goddard Consulting LLC
Project location: Avon Antone Road

Prepared by: Goddard Consulting LLC
Project location: Avon Antone Road

Prepared by: Goddard Consulting LLC
Project location: Avon Antone Road

Poly: Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

DEP File #

Check all that apply: Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II Method other than dominance test used (attach additional information)

Ground Cover Hay-scented fem Number of dominant wetland indicator plants: 3 Sweet Pepperbush Witch Hazel Red Maple Sample Layer and Plant Species Section I. Vegetation Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? no Morphological Adaptations: 0 Eastern poison ivy Green brier Eastern poison ivy Virginia-creeper Climbing Woody Vine Shrub Layer Sapling Layer Tree Laver Virginia-creeper egetation conclusion: An asterisk after indicator status denotes wetlands plants plants listed in the Wellands Protection Act (NIGL c 131, s.40); plants in the genus Sphagnum, or plants listed as FAC. FACW, or OBL Remarks: \* An asterisk after common plant name indicates stunted growth, \*\* indicates extremely stunted growth Smilax rotundifolia Clethra alnifolia Demistaedtia punctilobula Parthenocissus quinquefolia Hamamelis virginiana Scientific name Taxicodendron radicans Parthenocissus quinquefolia Taxicodendron radicans Acer rubrum Observation Plot Number: Station 2 Description: Number of dominant non-wetland indicator plants: % Cover Transect Number: Upgradient 20% 63% 36% 10% 36% % Dominance 21.5% 67.7% 08 01 43.5% 43.5% 13.0% 50.0% 100.0% Dominant Plant yes or no) Date of Delineation: 7 6 6 ន័ន Yes 8 6 6 20-Aug-20 Wetland Indicator Category\* FACU UPL FACU FAC\* FAC\* FAC.

| Conclusion: Is soil hydric? | 3. Other: | Remarks: refusal at 4 inches |   | 2. Soil Description  Horizon Depth (inches) Matrix Color Mottles Color or Texture  A 0-4" 10YR2/2 loamy sand | Are field observations consistent with soil survey?  Remarks:  Extremely stony | map number: soil type mapped: Scituate fine sandy loam hydric soil inclusions: | Is there a published soil survey for this site?  title/date: Soil Survey of Norfolk and Suffolk Counties - 1989 | 1. Soil Survey | Hydric Soil Interpretation |   |
|-----------------------------|-----------|------------------------------|---|--|--|--|---|----------------|----------------------------|---|
| is is                       |           | < v z                        | < |  |  |  |   |                |                            | , |

| ability or Notice of Intent  | Submit this form with the Request for Determination of Applicability or Notice of Intent   |
|--|--|
| ×  | Sample location is in a BVW  |
| ogy X  | other indicators of hydrology present  |
| ×  | Wetland hydrology present: hydric soils present  |
| ×  | >= number of non-wetland plants  |
| r Upgradient of Station 2 <u>Yes</u> <u>no</u>                     | Vegetation and Hydrology Conclusion for Upgradient of Station 2  Yes   |
|  | Other:   |
| Recorded data (stream, lake, or tidal gauge; aerial photo; other): | Recorded data (stream, lake  |
|  | Water-stained leaves:  |
|  | Oxidized rhizoshperes:   |
|  | ☐ Drainage patterns in BVW:  |
|  | Sediment deposits:   |
| (2)  | Drift Lines:   |
|  | Water marks:   |
| observation hole:  | Depth to soil saturation in observation hole:  |
| ervation hole:   | Depth to free water in observation hole:   |
| (check all that apply and describe)                                | Other Indicators of Hydrology: (check all the state of th |

Check all that apply: Applicant: ANRAD extra data

Prepared by Goddard Consulting LLC

Project location: Avon Antone Road

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Prepared by Goddard Consulting LLC

Project location: A

DEP File #

Ground Cover Hay-scented fem Number of dominant wetland indicator plants: 3 Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? no Shrub Laver Sweet Pepperbush Sample Layer and Plant Species Section I. Vegetation Vegetation conclusion: Morphological Adaptations: 0 Canada mayflower Eastern poison ivy Virginia-creeper Fox grape Green bner Virginia-creeper American hazelnut Witch Hazel Sapling Layer Red Maple White pine Tree Layer Climbing Woody Vine An asterisk after indicator status denotes wetlands plants listed in the Wetlands Protection Act (MGL c 131, s.40); plants in the genus Sphagnum, or plants listed as FAC FACW or OBI Remarks: \* An asterisk after common plant name indicates stunted growth, \*\* indicates extremely stunted growth Demistaedtia punctilobula Smilax rotundifolia Corytus americana Scientific name Maianthemum canadense Parthenocissus quinquefolia Vitis labrusca Parthenocissus quinquefolia Pinus strobus Hamamelis virginiana Clethra alnifolia Taxicodendron radicans Acer rubrum Observation Plot Number: Station 3 Description: Number of dominant non-wetland indicator plants: 6 % Cover Fransect Number: Upgradient 20 63° 10° 10% 10% 20% 0000 36% % Dominance 9700 25 0% 25 0% 25 0% 25 0% 19.4% 25 0% 25 0% 50 0% 9 700 100.0% Dominant Plant yes or no) Date of Delineation: 8 8 8 8 ជ្ជន៍ន ř 20-Aug-20 Wetland Indicator Category\* FACU FACT FACT FACU FACU FACU FACU FAC\* FAC\*

| Remarks: refusal at 2 inches  3. Other: | 2. Soil Description  Horizon Depth (inches) Matrix Color Mottles Color or Texture  A 0-2" 10YR2/2 loamy sand | soil type mapped: Scituate fine sandy loam hydric soil inclusions:  Are field observations consistent with soil survey?  Remarks:  Extremely stony | Hydric Soil Interpretation  1. Soil Survey  Is there a published soil survey for this site?  Soil Survey of Norfolk and Suffolk Counties - 1989 |
|---|--|--|---|
|---|--|--|---|

| ty or Notice of Intent   | Submit this form with the Request for Determination of Applicability or Notice of Intent |
|--|--|
| ×  | Sample location is in a BVW  |
| ×  | other indicators of hydrology<br>present   |
| ×  | Wetland hydrology present: hydric soils present  |
| ×  | Number of wetland indicator plants >= number of non-wetland plants                       |
| pgradient of Station 3  yes no                                     | Vegetation and Hydrology Conclusion for Upgradient of Station 3                          |
| 3.   | Other:   |
| Recorded data (stream, lake, or tidal gauge; aerial photo; other): | Recorded data (stream, lake, o   |
|  | ☐ Water-stained leaves:  |
|  | Oxidized rhizoshperes:   |
| 2  | Drainage patterns in BVW:  |
|  | Sediment deposits:   |
|  | Drift Lines:   |
|  | Water marks:   |
| servation hole:  | Depth to soil saturation in observation hole:  |
| ation hole:  | Depth to free water in observation hole:   |
| (check all that apply and describe)                                | Other Indicators of Hydrology: (check all that   |

Section I. Vegetation Applicant: ANRAD extra data

Applicant: ANRAD extra data

Prepared by: Goddard Consulting LLC

Project location: Avon Antone Road

Check all that apply:

Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Section I only

Method other than dominance test used (attach additional information) Observation Plot Number: Station 4 Transect Number: Upgradient Date of Delineation: 20-Aug-20

| Sample Layer and Plant Species   | Scientific name   | % Cover                  | % Dominance                    | Dominant Plant (yes or no) | Wetland Indicator Category* |
|--|---|--------------------------|--------------------------------|----------------------------|-----------------------------|
| Tree Laver   | Ouercus rubra   | 63°6                     | 63 6%                          | Yes                        | FACU                        |
| Red Maple  | Acer rubrum   | 36%                      | 36.4%                          | Yes                        | FAC*                        |
|  |   |                          |                                |                            |                             |
| Sapling Laver  |   |                          |                                |                            |                             |
|  |   |                          |                                |                            |                             |
| Shrub Layer  |   | Date:                    | 1000                           | Z                          | FACW.                       |
| Witch Hazel  | Linaera venzom<br>Hamamelis virginiana  | 36%                      | 39,1%                          | rg.                        | FACU                        |
| Ironwood   | Carpinus caroliniana  | 36%                      | 39 10                          | Yes                        | FAC.                        |
| American hazelnut  | Corylus americana   | 10%                      | 10.9%                          | No                         | FACU                        |
|  |   |                          |                                |                            |                             |
| Climbing Woody Vine  |   |                          |                                | ę.                         | 1                           |
| Virginia-creeper   | Parthenocissus quinquefolia   | 10%                      | 30.3%                          | Y CS                       | FACU                        |
| Green bner   | Smilax roundifolia  | 30%                      | 9                              | : 2                        | FAC                         |
| Fox grape  | Vitis labrusca  | 20%                      | 60,6%                          | Œ                          | FACU                        |
| Hay-scented fem  | Demstaedtia punctilobula  | 36%                      | 28.1%                          | Yes                        | UPL                         |
| Virginia-creeper   | Parthenocissus quinquefolia   | 10%                      | 7.8%                           | No                         | FACU                        |
| Eastern poison IVY   | Taxicodendron radicans  | 10%                      | 7.8%                           | No                         | FAC                         |
| Canada mayflower   | Maianthemum canadense   | 3%                       | 2.30                           | No                         | FACU                        |
| Cinnamon fem   | Osmundastrum cinnamomeum  | 10%                      | 7,8%                           | No                         | FACW*                       |
| White pine   | Pinus strobus   | 10%                      | 7.8%                           | No                         | FACU                        |
| Winterberry  | llex verticillata   | 3%                       | 2.3%                           | No                         | FACW*                       |
| New York fern  | Parathelypteris noveboracensis  | 10%                      | 7 8%                           | Z Z                        | FAC*                        |
| жпу  | Rubus flagellaris   | 36%                      | 28 1%                          | YES                        | FALU                        |
| Remarks: *   | An asterisk after common plant name indicates stunted growth, ** indicates extremely stunted growth                                 | ed growth                |                                |                            |                             |
| Morphological Adaptations: 0   | Description:  |                          |                                |                            |                             |
| <ul> <li>An asterisk after indicator status denotes wetlands plants plant</li> </ul> | s listed in the Wetlands Protection Act (NIGL c.131, s.40); plants in   | the genus Sphagnum; or p | plants listed as FAC, FACW, or | 081_                       |                             |
|  |   |                          |                                |                            |                             |
| denotes wetlands plants  | plants listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; or plants listed as FAC, FACW, or OBL | the genus Sphagnum; or p | viants listed as FAC FACW, or  | 081,                       |                             |

Number of dominant wetland indicator plants: 2

Number of dominant non-wetland indicator plants: 6

| or or Texture | 3. Other: | Remarks: refusal at 4 inches | 2. Soil Description  Horizon Depth (inches) Matrix Color Mottles Colo A 0-4" 10YR2/2 loamy sand | Are field observations consistent with soil survey?  Remarks:  Extremely stony | Is there a published soil survey for this site?  title/date: Soil Survey of Norfolk and Suffolk Counties - 1989  map number:  soil type mapped: Scituate fine sandy loam  hydric soil inclusions: | Hydric Soil Interpretation  1. Soil Survey |
|---------------|-----------|------------------------------|---|--|---|--|
|               |           |                              | Mottles Color or Texture  | Jyes ☐no   | ☑yes ☐no<br>uffolk Counties - 1989  |  |

| Submit this form with the Request for Determination of Applicability or Notice of Intent | Submit this form w |
|--|--------------------|
| Sample location is in a BVW X  | Sample locat       |
| other indicators of hydrology present X  |                    |
| Wetland hydrology present:  hydric soils present  X                                      | Wetland hyd        |
| Number of wetland indicator plants >= number of non-wetland plants X                     | Number of w        |
| Vegetation and Hydrology Conclusion for Upgradient of Station 4 <u>yes</u> <u>no</u>     | Vegetation a       |
| Other:   |                    |
| Recorded data (stream, lake, or tidal gauge; aerial photo; other):                       |                    |
| Water-stained leaves:  |                    |
| Oxidized rhizoshperes:   |                    |
| Drainage patterns in BVW:  |                    |
| Sediment deposits:   |                    |
| Drift Lines:   |                    |
| Water marks:   |                    |
| Depth to soil saturation in observation hole:  |                    |
| Depth to free water in observation hole:   |                    |
| Other Indicators of Hydrology: (check all that apply and describe)  Site inundated:      | Other Indica       |

# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Project location: Avon Antone Road

DEP File #

Check all that apply:

Applicant: ANRAD extra data

Prepared by: Goddard Consulting LLC

Project location pply:

Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

Method other than dominance test used (attach additional information)

Red Oak Red maple Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? no Number of dominant wetland indicator plants: 4 Morphological Adaptations: 0 Whiplash dewberry Canada mayflower Eastern poison ivy Green brier Virginia-creeper Amencan hazelnut White pine Spicebush Sapling Layer Sample Layer and Plant Species Section I. Vegetation Vegetation conclusion: Virginia-creeper Hay-scented fem Ground Cover Climbing Woods Vine Ironwood Shrub Layer ree Layer An asterisk after indicator status denotes wetlands plants: plants listed in the Wetlands Protection Act (MGL c 131, s 40), plants in the genus Sphagnum, or plants listed as FAC, FACW, or OBL Remarks: An asterisk after common plant name indicates stunted growth, \* indicates extremely stunted growth Quercus rubra Corytus americana Carpinus caroliniana Rubus flagellaris Maianthemum canadeuse Taxicodendron radicans Parthenocissus quinquefolia Demistaedtia punctilobula Smilax roundifolia Parthenocissus quinquefolia Pinus strobus Lindera benzoin dcer rubrum Scientific name Observation Plot Number: Station 5 Description: Number of dominant non-wetland indicator plants: % Cover Fransect Number: Upgradient 36°6 10% 20% 36% 10% 10% 3% 10% % Dominance 23 3% 23 3% 23 3% 7 0% 23 3% 50 0% 13.2% 26.3% 47.4% 13.2% 64 3% 35 7% Dominant Plant yes or no) Date of Delineation: ន្តន ត្រូវ ត្រូវ ដ្ឋ ដ 766 20-Aug-20 Wetland Indicator Category\* FACW FACU FAC\* FAC\* FACU FACU FACU FACU FAC\*

If regetation alone is presumes adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

| Hydric Soil Interpretation  1. Soil Survey  Is there a published soil survey for this site?  Is there a published soil survey for this site?  It | Conclusion: Is soil hydric? | 3. Other: | Remarks:           | 2. Soil Description Horizon A 0     | Are field observat<br>Remarks: | hydi  | Is there a publishe              | 1. Soil Survey | Hydric Soil Interpretation |
|---|-----------------------------|-----------|--------------------|-------------------------------------|--------------------------------|---|----------------------------------|----------------|----------------------------|
| this site?  Soil Survey of Norfolk and Suffolk Counties - 19  Scituate fine sandy loam  th soil survey?  Matrix Color   Mottles Color or Texture loamy sand                             | il hydric?                  |           | refusal at 4 inche | n<br>Depth (inches)<br>0-4"         | ions consistent wi             | map number:<br>soil type mapped:<br>ic soil inclusions: | d soil survey for<br>title/date: |                | pretation                  |
| Mottles Color or Texture loamy sand   | ye                          |           |                    | Matrix Color<br>10YR2/2             | ith soil survey?               | Scituate fine sar                                       | this site? Soil Survey of No     |                |                            |
|   |                             |           |                    | Mottles Color or Texture loamy sand |                                | ndy loam  | yes ho                           |                |                            |

| Vegetation and Hydrology Conclusion for Upgradient of Station 5         Number of wetland indicator plants         >= number of non-wetland plants       X         Wetland hydrology present:       X |
|---|
|   |

Sample location is in a BVW

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP File #

Applicant: ANRAD extra data

Prepared by: Goddard Consulting LLC

Check all that apply:

Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

Method other than dominance test used (attach additional information)

| Method other than d  | Method other than dominance test used (attach additional information)  |                         |  |                                |                              |
|--|--|-------------------------|--|--------------------------------|------------------------------|
| Section I. Vegetation  | Observation Plot Number: Station 6   | Transect Num            | umber: Upgradient                                  | Date of Delineation: 20-Aug-20 | on: 20-Aug-20                |
| Sample Layer and Plant Species   | Scientific name  | % Cover                 | % Dominance  | Dominant Plant<br>(yes or no)  | Category*                    |
| Tree Laver   |  | :                       |  | :                              |                              |
| Red maple  | Acer rubrum  | 36%                     | 100.0%   | Yes                            | FAC•                         |
| Sapling Laver<br>Hop Hombeam   | Ostrja virginiana  | 35%                     | 100 0%   | Yes                            | FACU                         |
| Shrub Layer Hop Hombeam White pine Ironwood American hazelnut  | Osirya virginiana<br>Pinus strobus<br>Carpinus caroliniana<br>Corylus americana  | 10%<br>10%<br>3%        | 30.3%<br>30.3%<br>30.3%                            | Yes<br>Yes                     | FACU<br>FACU<br>FAC*<br>FACU |
| Climbing Woody Ving Virginia-creeper Eastern poison ivy  | Parthenocissus quinquefolia<br>Toxicodendron radicans  | 9°01                    | 33.3%<br>66.7%                                     | ž ž                            | FACU<br>FAC*                 |
| Ground Cover New York fem Virginia-creeper Eastern poison ivy Canada mayflower   | Parathelypteris noveboracensis<br>Parthenocissus quinquefolia<br>Toxicodendron radicans<br>Maianthemum canadense   | 10%<br>36%<br>20%<br>3% | 14.5%<br>52.2%<br>29.0%<br>4.3%                    | N K K N                        | FAC*<br>FACU<br>FAC*<br>FACU |
| Remarks: * An asterisk after com   | An asterisk after common plant name indicates stunted growth, ** indicates extremely stunted growth  Description:  Art (ACC) = 131 (ACC) plants in the groups  | y stunted growth        | ornlants listed as FAC FACW                        | or OHI                         |                              |
| <ul> <li>An asterisk after indicator status denotes wetlands plants plants:</li> <li>Vegetation conclusion:</li> <li>Number of dominant wetland indicator plants:</li> </ul> | <ul> <li>An asterisk after indicator status denotes weitlands plants: plants insted in the Weitlands Protection Act (NKIL c 131, 5.40); plants in the genus appragnum; or plants it sted as FAC. FAC.W. OF CASE.</li> <li>Vegetation conclusion:</li> <li>Number of dominant wetland indicator plants: 3</li> </ul> Number of dominant wetland indicator plants: 3 | Number of dom           | Number of dominant non-wetland indicator plants: 6 | cator plants: 6                |                              |
| Is the number of dominant wetland plants   | Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? no  | on-wetland plants? no   | Intent.  | :                              | MA DEP, 3/95                 |

| ice of Intent                          | Submit this form with the Request for Determination of Applicability or Notice of Interes |
|--|---|
| ×                                      | Sample location is in a BVW   |
| ×                                      | other indicators of hydrology present   |
| ×                                      | Wetland hydrology present: hydric soils present   |
| ×                                      | >= number of non-wetland plants   |
| ient of Station 6 <u>yes</u> <u>no</u> | Vegetation and Hydrology Conclusion for Upgradient of Station 6 <u>Yes</u>                |
|  | Other:  |
| l gauge; aerial photo; other):         | Recorded data (stream, lake, or tidal gauge; aerial photo; other):                        |
|  | ☐ Water-stained leaves:   |
|  | Oxidized rhizoshperes:  |
|  | Drainage patterns in BVW:   |
|  | Sediment deposits:  |
|  | Drift Lines:  |
|  | Water marks:  |
| on hole:                               | Depth to soil saturation in observation hole:   |
| iole:                                  | Depth to free water in observation hole:  |
| y and describe)                        | Other Indicators of Hydrology: (check all that apply and describe)  Site inundated:       |

DEP File #

Applicant: ANRAD extra data

Prepared by: Goddard Consulting LLC

Project location: Aven Antone Road

Check all that apply:

Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Section I only

Method other than dominance test used (attach additional information) N E

| Observation Plot Number: Station 7                                 | Transect Num  | ber: Upgradient  | Date of Delineati  | ion: 20-Aug-20  |
|--|---|--|--|---|
| Scientific name  | % Cover   | % Dominance  | Dominant Plant   | Wetland Indicator   |
|  |   |  |  |   |
| Acer rubrum  | 36%   | 9.0 001  | Yes  | FAC*  |
|  |   |  |  |   |
| Ostrya virginiana  | 10%   | \$60.001   | Yes  | FACU  |
|  |   |  |  |   |
| Ostrya virginiana  | 36%   | 52.2%  | S Z  | FACU  |
| Hamamelis virginiana   | 20°°  | 29 0%  | <b>₹</b>   | FAC*  |
| Constas americana  | 0.01  | 14.5%  | No :   | FACU  |
|  |   |  |  |   |
| Parthenacissus avinaur(o)lia                                       | 10%   | 50 0%  | Yes  | FACU  |
| Taxicodendron radicans   | 10%   | 50.0%  | Yes  | FAC*  |
|  |   |  |  | 3   |
| Parathelypteris noveboracensis                                     | 10%   | 21 7%  | 2 C  | FACT  |
| Parthenocissus quinquefolia  | 10%   | 21 7%  | Yes  | FACU  |
| Toxicodendron radicans   | 10%   | 21 700   | : œ  | FAC*  |
| Maianthemum canadense  | 300   | 65%  | Z o  | FACU  |
| Pinus strobus  | 10%   | 21.7%  | SOL  | FACU  |
| Aralia mudicaulis  | 300   | 6.5%   | No   | FACU  |
|  |   |  |  |   |
| non plant name indicates stunted growth; ** indicates extremel     | ly stunted growth   |  |  |   |
| Description:   |   |  |  |   |
| plants listed in the Wetlands Protection Act (MGL c.131, s.40); pl | lants in the genus Sphagnum; o  | or plants listed as FAC, FACW.   | or OBL.  |   |
|  |   |  |  |   |
| Number of dominant wetland indicator plants: 4                     | Number of dom   | inant non-wetland indi   | cator plants: 6  |   |
|  | Scientific name  Acer rubrum  Acer rubrum  Ostrya virginiana  Ostrya virginiana  Carpinus caroliniana  Carpinus caroliniana  Carpinus caroliniana  Corylus americana  Parthenocissus quinquefolia  Toxicodendron radicans  Parathelypteris noveboracensis  Parathenocissus quinquefolia  Toxicodendron radicans  Atianthemum canadense  Parthus strobus  Atainthemum canadense  Pinus strobus  Aralia nudicaulis  Description:  plant name indicates stunted growth; ** indicates extreme  Description:  plant name indicates stunted growth; ** indicates extreme  Parthenocissus quinquefolia  Toxicodendron radicans  Atianthemum canadense  Pinus strobus  Atianthemum canadense  Atianthemum | Scientific name  Scientific name  Ostrya virginiana  Ostrya virginiana  Ostrya virginiana  Ostrya virginiana  Carpinus carolintana  Corylus americana  Corylus americana  Corylus americana  Corylus americana  Parthenocissus quinquefolia  Toxicodendron radicans  Asianthenum canadense  Plants strobus  Astianthenum canadense  Plants strobus  Aralia nudicates stunted growth; ** indicates extremely stunted  Description:  Is listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in t | Scientific name  Scientific name  Ostrya virginiana  Ostrya virginiana  Ostrya virginiana  Ostrya virginiana  Carpinus carolintana  Corylus americana  Corylus americana  Corylus americana  Corylus americana  Parthenocissus quinquefolia  Toxicodendron radicans  Asianthenum canadense  Plants strobus  Astianthenum canadense  Plants strobus  Aralia nudicates stunted growth; ** indicates extremely stunted  Description:  Is listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in t | Observation Plot Number: Station 7 Transcet Number: Upgradient Scientific name  Acer robram  Acer robram  Outrou virginiana  Outrou virginiana  Outrou virginiana  Corylia virginiana  Corylia sinericana  Outrou virginiana  10% 10% 52.2%  Carpinia caroliniana  Corylia sinericana  10% 29.0%  Carpinia sinericana  10% 29.0%  Carpinia sinericana  10% 50.0%  Taxicodendron radicans  Acianhelynieris noneboraccusisi  Paralhelynieris noneboraccusis  Paralhelynieris noneboraccusis  Paralhelynieris noneboraccusis  Paralhelynieris noneboraccusis  Acianhelynieris noneboraccusis  Paralhelynieris noneboraccusis  Paralhelynieris noneboraccusis  Acianhelynieris noneboraccusis  Paralhelynieris noneboraccusis  Acianhelynieris noneboraccusis  Number of dominant non-weeland indicator  Number of dominant non-weeland indicator |

| Conclusion: Is soil hydric? | 3. Other: | Remarks: refusal at 2 inches | 2. Soil Description  Horizon Depth (inches) Matrix Color  A 0-2" 10YR2/2 | Are field observations consistent with soil survey?  Remarks:  Extremely stony | map number: soil type mapped: Scituate fine sandy loam hydric soil inclusions: | Is there a published soil survey for this site?  title/date: Soil Survey of Nor    | 1. Soil Survey | Hydric Soil Interpretation |
|-----------------------------|-----------|------------------------------|--|--|--|--|----------------|----------------------------|
| es                          |           |                              | Mottles Color or Texture loamy sand                                      | yes Ino  | andy loam  | rvey for this site?  itle/date: Soil Survey of Norfolk and Suffolk Counties - 1989 |                |                            |

|                       | Submit this form with the Request for Determination of Applicability or Notice of Intent |
|-----------------------|--|
| ×                     | Sample location is in a BVW  |
| ×                     | other indicators of hydrology present  |
| ×                     | Wetland hydrology present: hydric soils present  |
| *                     | Number of wetland indicator plants >= number of non-wetland plants                       |
| tation 7              | Vegetation and Hydrology Conclusion for Upgradient of Station 7 <u>yes</u>               |
|                       | Other:   |
| aerial photo; other): | Recorded data (stream, lake, or tidal gauge; aerial photo; other):                       |
|                       | Water-stained leaves:  |
|                       | Oxidized rhizoshperes:   |
|                       | Drainage patterns in BVW:  |
|                       | Sediment deposits:   |
|                       | Drift Lines:   |
|                       | Water marks:   |
|                       | Depth to soil saturation in observation hole:  |
|                       | Depth to free water in observation hole:   |
| scribe)               | Other Indicators of Hydrology: (check all that apply and describe)  Site inundated:      |

