



**Massachusetts Department of Environmental Protection**  
**Bureau of Resource Protection - Wetlands**  
**WPA Form 4B – Order of Resource Area**  
**Delineation**

Provided by MassDEP:

106-120  
 MassDEP File Number

eDEP Transaction Number

Belmont  
 City/Town

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**A. General Information**

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



**Note:** Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

From: Belmont Conservation Commission  
 1. Conservation Commission

2. This Issuance is for (check one):

- a.  Order of Resource Area Delineation
- b.  Amended Order of Resource Area Delineation

3. Applicant:

Don Chiofaro  
 a. First Name b. Last Name

Belmont MA 02478  
 c. Organization d. Mailing Address e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):

a. First Name b. Last Name

c. Organization

d. Mailing Address

e. City/Town f. State g. Zip Code

5. Project Location:

178 Marsh Street Belmont 02478  
 a. Street Address b. City/Town c. Zip Code

71 7  
 d. Assessors Map/Plat Number e. Parcel/Lot Number

Latitude and Longitude (in degrees, minutes, seconds): 42d3884Nm s -71d1887665mWs  
 f. Latitude g. Longitude

6. Dates: April 22, 2014 November 20, 2014 December 3, 2014  
 a. Date ANRAD filed b. Date Public Hearing Closed c. Date of Issuance

7. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

178 Marsh Road, Belmont, MA rev. 9-24-14  
 a. Title b. Date

Correspondence dated: 11-14-14 (LEC); 10-22-2014, 9-24-14 (Gala Assoc); DEP Data Forms (LEC); Drainage Calculations 9-24-2014 (Gala Assoc) d. Date



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**B. Order of Delineation**

1. The Conservation Commission has determined the following (check whichever is applicable):

a.  **Accurate:** The boundaries described on the referenced plan(s) above and in the Abbreviated Notice of Resource Area Delineation are accurately drawn for the following resource area(s):

1.  Bordering Vegetated Wetlands
2.  Other resource area(s), specifically:

a. \_\_\_\_\_  
\_\_\_\_\_

b.  **Modified:** The boundaries described on the plan(s) referenced above, as modified by the Conservation Commission from the plans contained in the Abbreviated Notice of Resource Area Delineation, are accurately drawn from the following resource area(s):

1.  Bordering Vegetated Wetlands
2.  Other resource area(s), specifically:

a. \_\_\_\_\_  
\_\_\_\_\_

c.  **Inaccurate:** The boundaries described on the referenced plan(s) and in the Abbreviated Notice of Resource Area Delineation were found to be inaccurate and cannot be confirmed for the following resource area(s):

1.  Bordering Vegetated Wetlands
2.  Other resource area(s), specifically:

See attached text from Belmont Conservation Commission dated 12-3-2014  
\_\_\_\_\_  
\_\_\_\_\_

3.  The boundaries were determined to be inaccurate because:

See attached text from Belmont Conservation Commission dated 12-3-2014  
\_\_\_\_\_  
\_\_\_\_\_



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

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### C. Findings

This Order of Resource Area Delineation determines that the boundaries of those resource areas noted above, have been delineated and approved by the Commission and are binding as to all decisions rendered pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c.131, § 40) and its regulations (310 CMR 10.00). This Order does not, however, determine the boundaries of any resource area or Buffer Zone to any resource area not specifically noted above, regardless of whether such boundaries are contained on the plans attached to this Order or to the Abbreviated Notice of Resource Area Delineation.

This Order must be signed by a majority of the Conservation Commission. The Order must be sent by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html>).

### D. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Resource Area Delineation. When requested to issue a Superseding Order of Resource Area Delineation, the Department's review is limited to the objections to the resource area delineation(s) stated in the appeal request. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order of Resource Area Delineation will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order or Determination, or providing written information to the Department prior to issuance of a Superseding Order or Determination.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal bylaw or ordinance, and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.



**Massachusetts Department of Environmental Protection**  
 Bureau of Resource Protection - Wetlands  
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City/Town

**E. Signatures**

12.3.2014  
Date of Issuance

Please indicate the number of members who will sign this form.

6  
1. Number of Signers

[Signature]  
Signature of Conservation Commission Member  
[Signature]  
Signature of Conservation Commission Member  
[Signature]  
Signature of Conservation Commission Member  
[Signature]  
Signature of Conservation Commission Member

[Signature]  
Signature of Conservation Commission Member  
[Signature]  
Signature of Conservation Commission Member  
[Signature]  
Signature of Conservation Commission Member

**This Order is valid for three years from the date of issuance.**

If this Order constitutes an Amended Order of Resource Area Delineation, this Order does not extend the issuance date of the original Final Order, which expires on \_\_\_\_\_ unless extended in writing by the issuing authority.

This Order is issued to the applicant and the property owner (if different) as follows:

2.  By hand delivery on \_\_\_\_\_

3.  By certified mail, return receipt requested on \_\_\_\_\_

a. Date

a. Date

12.3.2014



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands  
**Request for Departmental Action Fee Transmittal Form**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

## A. Request Information

**Important:**  
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

Project Location

Mailing Address

City/Town

State

Zip Code

2. Applicant (as shown on Notice of Intent (Form 3), Abbreviated Notice of Resource Area Delineation (Form 4A); or Request for Determination of Applicability (Form 1)):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

3. DEP File Number:

## B. Instructions

1. When the Departmental action request is for (check one):

- Superseding Order of Conditions
- Superseding Determination of Applicability
- Superseding Order of Resource Area Delineation

Send this form and check or money order for \$120.00 (single family house projects) or \$245.00 (all other projects), payable to the *Commonwealth of Massachusetts* to:

Department of Environmental Protection  
Box 4062  
Boston, MA 02211



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands  
**Request for Departmental Action Fee Transmittal Form**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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**B. Instructions (cont.)**

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

1 ORAD for 178 Marsh Street (DEP File Number 106-120)  
2 Parcel 71-1  
3 December 3, 2014  
4

5 The Belmont Conservation Commission (the "Commission") finds this Abbreviated  
6 Notice of Resource Area Delineation (ANRAD) as inaccurate based on both non-persuasive  
7 arguments and evidence presented by the Applicant, as well as the Applicant's denial of the  
8 Commission's request for support of an independent review of the delineation pursuant to 44  
9 MGL 53G.

10 The Commission feels strongly that its review of the Applicant's Abbreviated Notice  
11 of Resources Area Delineation (ANRAD) would have been facilitated by an assessment by  
12 an independent consultant in several areas of the ANRAD. The Commission did not find the  
13 soils analysis performed by the applicant's consultant to be persuasive, and questioned some  
14 of the drainage analysis done by the project engineer and the resulting conclusions in the  
15 ANRAD. The Commission believes that there are additional Bordering Vegetated Wetland  
16 resource areas on the site, and that the use of professional judgment by the Applicant's  
17 representative in determining soil characteristics has resulted in an inaccurate delineation of  
18 the Bordering Vegetated Wetlands on the site. Specifically, the Commission believes that at  
19 least one of the areas proposed to be an Isolated Land Subject to Flooding in the ANRAD is  
20 connected hydraulically to the down gradient system of Bordering Vegetated  
21 Wetland.. Additionally, the Commission is concerned that portions of the hydrological  
22 analysis done to calculate the presence and extent of Isolate Land Subject to Flooding  
23 resource area may have been incorrectly done, and inconsistent with the DEP guidance on  
24 this subject. The Commission asserts that questions to the project engineer were not  
25 satisfactorily answered during the review of the ANRAD, and that a "third party" opinion  
26 was necessary to resolve the disputed issues. At issue in this analysis is the presence of  
27 annual flow between areas dominated by wetlands vegetation. The Commission contends  
28 that the central "Isolated Land Subject to Flooding" resource area overflows during a one  
29 year storm event, and that these overland flows provide intermittent connections to the down  
30 gradient Bordering Vegetated Wetland. As this overflow occurs during a one year storm  
31 event, the Commission believes that the "Isolated Land Subject to Flooding" , located in the  
32 center of the site, is a Bordering Vegetated Wetland.



1           The Applicant originally filed the ANRAD on April 22, 2014. The Commission held  
2 a public hearing on May 13, 2014 and visited the site on May 27, 2014. At the next four  
3 Commission meetings, on June 3, June 24, September 16, and October 7, the Applicant  
4 submitted requests for continuances of the public hearing, which the Commission granted. At  
5 the applicant's request, and upon the submission of information requested by the Commission  
6 during the site visit, the Commission reopened the public hearing on October 28, 2014, and at  
7 the applicants request, posted , scheduled, and held a continued hearing on November 20,  
8 2014. At the applicants request, the public hearing was closed on the evening of November  
9 20, 2014, despite the repeated requests by the Commission for a "third party review" of the  
10 filing.

11           At the first hearing, on May 13, 2014, the Commission requested a third-party review  
12 pursuant to §53G. In response, the Applicant requested that the initiation of such a review  
13 be delayed to allow the Applicant to submit additional information requested by the  
14 Conservation Commission. At the May 27, 2014 site visit, the applicants representative and  
15 the Commission reviewed the wetlands flagging on the site, making numerous adjustments to  
16 accommodate observed conditions. The applicant's consultant agreed to submit revised plans  
17 showing the new flag locations, and to present data forms and soil logs for areas of  
18 disagreement, in particular, areas to the south of wetland flags I25; I26; I27; and I28. At the  
19 second hearing, upon receipt of these materials, the Commission repeated the request for a  
20 third party review to be conducted. Once again, the Applicant sought to postpone any such  
21 review until further additional information requested by the Commission could be submitted.  
22 This information included clarification of drainage calculations, as well as submission of  
23 missing pages from a drainage report. At what turned out to be the final hearing, the  
24 Commission repeated the request for the third time. The request was accompanied by a list of  
25 concerns, including the evaluation of the soils between the I25 through I28 flags, and the  
26 potential for an intermittent flow between the Bordering Vegetated Wetland to the south and  
27 the "Isolated Land Subject to Flooding" delineated by the I10 through I32 flagging. However,  
28 in this case, the Applicant declined to participate in a third-party review process, and  
29 requested that the hearing be closed. The Commission stated that they remained unsatisfied  
30 with the interpretation of the resource areas proposed in the ANRAD, but the applicant  
31 continued to insist that adequate information had been provided to the Commission. The  
32 request by the Applicant to close the public review of the ANRAD cut off any possibility of  
33 obtaining further information describing the site as required by 310 CMR 10.05(6)).



1 As described below, the ANRAD raises several unanswered questions and calls for  
2 numerous subjective judgments, which the Commission had wished to resolve with an  
3 independent second technical opinion to confirm or modify the Applicant's proposed  
4 delineation.

5 The parties agree on the following facts.

- 6 • A Bordering Vegetated Wetland (BVW) at the southern boundary of the  
7 property extends southerly into at least one other bordering property.
- 8 • Two depressions containing vegetated wetlands exist on the site: the "Site  
9 Depression" to the northeast and the "Woodbine Depression" to the northwest.
- 10 • When and if each of these depressions fill with rainfall, snowmelt, runoff  
11 and/or groundwater they would overflow into the BVW at the southern portion  
12 of the property.
- 13 • During a statistical 1-year storm event, both depressions will overflow, and  
14 drain into the Bordering Vegetated Wetland.

15 Further, the Applicant does not dispute testimony supporting the fact that the two  
16 depressions are vernal pools. In particular, at the May 13, 2014 hearing, Roger Wrubel,  
17 representing the abutting Massachusetts Audubon Society, testified that that he had heard  
18 choruses of wood frogs (*Rana sylvatica*) from both the Site Depression and from the  
19 Woodbine Depression in 2013. Mr. Wrubel indicated that he had documented the presence  
20 of wood frogs within these two ponded depressions by providing appropriate notice to the  
21 Natural Heritage & Endangered Species Program (NHESP). Thus, there exists evidence that  
22 the two depressions provide habitats for at least one species with a seasonal dependence on  
23 standing water. During the public review, the applicant did not contest the assertion that  
24 these areas function as vernal pools.

25 The parties do not, however, agree on whether there exists a connection between the  
26 Bordering Vegetated Wetland and either of the two depressions. The Applicant claims that  
27 both the Site Depression and Woodbine Depression are hydraulically isolated and that there  
28 is no connecting hydric soil between the Depressions and the Bordering Vegetated Wetlands.  
29 The Commission finds that the evidence provided by the Applicant to establish the

1 proposition that the two depressions are Isolated Lands Subject to Flooding (ILSF) and not  
2 part of the Bordering Vegetated Wetland is inconclusive at best, and that additional  
3 information is needed to sufficiently describe the site. Thus, the evidence presented does not  
4 comply with Rule 10.05(6)(c). It was to assess this evidence that the Commission sought  
5 independent review pursuant to §53G. Resolution of this factual question is important  
6 because if the depressions are in fact connected to the Bordering Vegetated Wetland, they  
7 would no longer be Isolated Land Subject to Flooding and/or Isolated Vegetated Wetlands  
8 (IVW). Instead, they would become part of the system of Bordering Vegetated Wetlands in  
9 the locus. The information that is lacking and why it is necessary is specified below.

10 First, while not a definitive source, the State's Mass GIS has mapped this area as a  
11 wetlands system (see Attachment A). The map shows a connection between the Site  
12 Depression (ILSF) and the Bordering Vegetated Wetland.  
13 ([http://maps.massgis.state.ma.us/map\\_ol/oliver.php](http://maps.massgis.state.ma.us/map_ol/oliver.php)). This map confirms the Commission's  
14 on site finding that a continuous band of wetlands vegetation connects the Depressions to the  
15 Bordering Vegetated Wetland.

16 Additionally, a second map, "Map of the Town of Belmont," obtained from the Town  
17 Clerk, shows two streams in the subject area joining to form Atkins Brook, with these two  
18 tributaries oriented towards the Site Depression and Woodbine Depression. (Belmont Town  
19 Map, 1944, Thomas G. Gatzunis: Town Engineer with 14 corrections, the latest being  
20 January 1, 1994. A copy of this map is attached as Attachment B). Both maps contradict the  
21 Applicant's conclusion that no hydraulic connection exists between the Depressions and the  
22 Bordering Vegetated Wetland. Based on this mapping, it is clear that at some points in time,  
23 a surficial water connection does exist, and has been mapped by the Town since at least 1944.

24 A second item of information needed is whether or not a connection between the  
25 larger "Isolated Land Subject to Flooding" exists across an adjacent property. The MassGIS  
26 Map indicates that the apparent vegetative connection may through an abutting property. The  
27 Applicant's consultant did not have access to investigate the adjacent property. Thus, the  
28 Applicant's consultant provided no evidence concerning this possibility of an off-site  
29 connection between the Site Depression and the Bordering Vegetated Wetland. This  
30 information is necessary because the extent of the BVW area depends on whether a  
31 connection exists between the resource area, and not on where it exists.

1 As further evidence to support the existence of a connection, the Commission draws  
2 attention to a video provided by the Applicant. In that video, which was filmed on October  
3 23, the narrator referred several times to the existence of a connection. In particular, when  
4 moving through the area between the Site Depression and the BVW, the narrator refers to the  
5 “connection between the two” at 4:01. Then, at 4:47, the narrator again refers to the  
6 “connection to the BVW.” While it is unclear exactly what the narrator is referring to, and  
7 where they were geographically located at the time of the comments, it is apparent that a  
8 connection was viewed.

9 In this case, the Commission believes that the Bordering Vegetative Wetland borders  
10 on a swale, an intermittent stream, a line of wetland vegetation and/or a connection of hydric  
11 soils between the Site Depression and the Bordering Vegetated Wetland. As described below,  
12 any one of these connecting features could establish a connection and a far more extensive  
13 BVW.

14 One question of fact revolves around whether or not an intermittent stream exists  
15 between the Site Depression and the Bordering Vegetated Wetland. According to Rule 10.04,  
16 a stream must move “in a definite channel in the ground due to a hydraulic gradient.” The  
17 Applicant’s position appears to be that the connection referred to in the video would not be a  
18 “stream” because, to the extent a channel connecting the two features exists, it would only  
19 qualify as an “indefinite” channel and not a “definite” channel.

20 The regulations do not set forth how to distinguish between a definite channel and an  
21 indefinite channel. However, the case law does.

22 According to *Bucko*,<sup>1</sup> “[t]he significance of the phrase ‘a definite channel’ in the  
23 wetlands regulations is functional and relates to whether the feature has the ability to serve as  
24 a regular conduit and connection.” Thus, according to *Bucko*, all that is required is that the  
25 feature have the ability to conduct water. There is no requirement that the feature actually be  
26 observed conducting water.

27 In this case, the Applicant has presented evidence that water will overflow the Site  
28 Depression during a 1-year storm and thus flow towards the BVW. The Applicant urges the  
29 Commission to ignore this evidence because the computer model upon which the Applicant

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<sup>1</sup> *Bucko Family Realty Trust*, Docket #DEP 04-530.

1 relied predicted that the Site Depression would only overflow by a small amount during such  
2 a storm. The Commission believes that under certain conditions, this annual discharge  
3 predicted by the computer model, will flow from the Depression to the Bordering Vegetated  
4 Wetland, establishing a hydraulic connection.

5 The Applicant has drawn attention to *Tassinari*<sup>2</sup> as establishing that a prediction by a  
6 computer model is not enough. Applicant urges that even if a stream could theoretically flow,  
7 no stream actually exists unless it has actually been caught in the act of flowing or unless it  
8 has left behind physical evidence of flow. According to the Applicant, the possibility of flow  
9 during a 1-year, storm, as predicted by the Applicant's elevation survey and computer model,  
10 is not enough. Actual flow or physical evidence thereof is required.

11 *Tassinari* does not support this conclusion. In *Tassinari*, the administrative judge said  
12 that “[s]ince the channel in question was definite enough in nature to be susceptible of  
13 observation, measurement, and description by the parties, I find it to be a definite channel.”  
14 *Tassinari* is consistent with *Bucko* because observation of running water is merely evidence  
15 that the standard of *Bucko*, i.e. the ability to conduct water, had been satisfied.

16 According to *Bradshaw*, there are many ways to establish that *Bucko*'s standard has  
17 been met. Actual observation of moving water is not the only way to establish that an  
18 intermittent stream exists. *Bradshaw* provides several examples of ways to establish that  
19 *Bucko*'s standard is met. The list is non-exhaustive. Thus, there is no reason why a  
20 calculation or computer-model that predicts flow based on an underlying topography should  
21 not be available as evidence for the presence of an intermittent stream.

22 *Bradshaw* also says that a definite channel “need not be a distinct cut in the earth, nor  
23 need it be evidenced by a break in vegetation.” In fact, *Bradshaw* says that a swale can  
24 qualify as a channel in certain circumstances where there is a continuous line of observable  
25 features. In this case the swale between the Site Depression and the BVW serves as a  
26 continuous line of connection and is sufficient evidence of the connection between the two  
27 areas. This continuous line of an observable features qualifies the swale as an intermittent  
28 stream even in the absence of observed flow.

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<sup>2</sup> *Joan Francis and Victoria Tassinari*, DEP Docket 83-39.

1           Among the explicitly-listed ways to establish the existence of a “definite channel of a  
2 stream” in the field is by identifying “a thin or narrow band of wetland indicator species.”

3           The parties agree that wetland indicator species cover the area extending between the  
4 Site Depression/IVW and the BVW forming a continuous line. One disagreement arises over  
5 whether or not the distribution of vegetation defines “a thin or narrow band of wetland  
6 indicator species.” The Applicant’s position is that there is not enough upland vegetation  
7 nearby to make this band of wetland indicator species “thin or narrow.” Stated differently, the  
8 Applicant takes the position that the ratio of wetland to upland species does not change  
9 rapidly enough as one walks perpendicular to the alleged channel. Thus, the Applicant takes  
10 the position that the band of wetland indicator species is not “thin or narrow” but “broad and  
11 wide.”

12           In fact, this line of wetlands indicator species serves as a continuous line of  
13 connection and is sufficient evidence of the connection between the Site Depression/ and the  
14 Bordering Vegetated Wetland. This continuous line of an observable feature qualifies the  
15 swale as an intermittent stream even in the absence of observed flow. The Applicant’s  
16 ORAD delineation is therefore inaccurate because it depicts the two depressions as being two  
17 discrete isolated lands subject to flooding (and IVWs) rather than two salient features of a  
18 single irregularly-shaped Bordering Vegetated Wetland.

19           The parties also disagree on the northern boundary of the Bordering Vegetated  
20 Wetland. The dominance of wetland indicator species suggests that the Bordering Vegetated  
21 Wetland boundary should extend to the Site Depression. However, the Applicant contends  
22 that the swale and the line of lowest elevation that connects the Site Depression to the  
23 Bordering Vegetated Wetland do not contain hydric soils, and thus is not included in the  
24 Bordering Vegetated Wetland delineation. This assertion was not accepted by the  
25 Commission since a soil-dependent delineation depends on sound sample methods and at  
26 least three subjective technical field judgments. The first one concerns where the soil is  
27 sampled. The second concerns the method used to obtain soil samples. The third concerns  
28 identifying the soil type. At the site visit on May 27, 2014, the Commission and their agent  
29 viewed several soil samples augered by the applicant’s representative. It was apparent that  
30 the soils were, at best, transitional in characteristics and contained evidence of redoximorphic  
31 features and, arguably, a low chroma matrix. The Commission determined that it would find

1 an independent professional opinion to be useful to evaluate the soundness of these  
2 judgments in areas where the soil characteristics are marginal or difficult to analyze.

3 With regard to the first subjective field judgment, the Applicant's consultant located a  
4 series of five soil test sites, STP-1, STP-2, STP-3, STP-4, and STP-5, based on a judgment  
5 concerning where the low points were between the Site Depression and the BVW. The  
6 Commission would like a second opinion on the placement of these sites, particularly STP-1  
7 which would appear to be east of the lowest point of this transect.

8 With regard to the second subjective field judgment, the Commission notes that a  
9 sample must provide a clear undisturbed view of the applicable soil horizons. This is most  
10 accurately done with a test pit or other vertical excavation. The Applicant's consultant used  
11 an augur to retrieve a core sample. However, it would appear that an augur will inevitably  
12 compress and distort the layers in the process of extracting a core sample. The soil profile  
13 generated by a spade is a far more accurate depiction of the characteristics of a test pit. In  
14 areas that have marginal soils, the Commission believes a proper evaluation will include test  
15 pits. The Commission seeks independent evaluation of the adequacy of the method used to  
16 obtain soil samples.

17 With regard to the third subjective field judgment, classification of soil as being  
18 hydric or non-hydric depends on slight variations in the soil's color. This involves matching  
19 extremely slight color variations to the correct picture among those in the soils handbook.  
20 This requires professional subjective determinations. The Commission would like a second  
21 opinion on the soil identification. However, the possibility of such a second opinion was  
22 frustrated when the Applicant declined to fund an independent review pursuant to §53G.

23 At the November 20 public hearing, the Applicant presented a video to demonstrate  
24 that, at least on the afternoon of October 23 when the video was taken, there was no flow or  
25 distinct channel between the two site depressions and the Bordering Vegetated Wetland.  
26 However, for several reasons the Commission found the video was not conclusive.

27 First, the views in the video looking down at the ground were not optimal for showing  
28 any topographic evidence of a swale or other channel features. Second, given the relatively  
29 dry antecedent months, one would not expect ponding and overflowing conditions. Early fall  
30 is generally when one would expect a low water table and infiltration, and one would not  
31 expect to see a great deal of flowing water. Third, recent leaf deposition would cover all but

1 the most obvious evidence of water flow. And fourth, the video depicted the incorrect  
2 transect between the Site Depression and the BVW. As described below the path taken by the  
3 camera wandered relatively far away from the line of blue flags that marked the locations  
4 from which samples were taken, and thus, from the Applicant's own estimate of the lowest  
5 line between the Site Depression and the Bordering Vegetated Wetland.

6 As mentioned, there were a number of apparent errors and inconsistencies in  
7 comparing the video taken on October 23, 2014 with other records of site features. For one  
8 thing, the video did not traverse the mapped line between the Site Depression and the  
9 Bordering Vegetated Wetland. The video purported to follow the lowest "connection to the  
10 Bordering Vegetated Wetland," although the transect shown in the video clearly was not the  
11 transect previously identified by the Applicant on the site with a series of five blue flags  
12 marked STP-1, STP-2, STP-3, STP-4, and STP-5.

13 The first flag identified in the video was an orange flag identified as I-28. There is no  
14 point on the most recent site plan identified as I-28, and this more likely marks a location that  
15 was later corrected with a vegetated boundary change. Thus, it is not likely to be the  
16 "boundary" as described in the video.

17 The second flag encountered on the video transect was a blue and orange double flag  
18 at I-28B. This was incorrectly identified as a test pit site on the video. First, there were no test  
19 pits developed for this project. Second, the flag is actually 80 feet east of STP-1, which is the  
20 auger location closest to the Site Depression and to I-28B.

21 The next flag encountered was a blue and orange double flag identified as I-28A. The  
22 line between I-28B and I-28A defines the beginning of the video's transect about 40 feet way  
23 from the swale and the line of blue flags identifying the auger locations previously identified  
24 by the Applicant's consultant as the low points connecting the Site Depression to the BVW.

25 The narrator next identified a blue flag off the video transect as a "pit site." This blue  
26 flag is actually at some distance to the right, or west, of the photographer's path. Based on the  
27 camera angle, the narrator appeared to referring to an observation not in the immediate  
28 vicinity of the camera, but rather perhaps thirty feet away. If it were one of the STP markers,  
29 which is likely, it would indicate the video transect was at some distance from the line of blue  
30 flags identifying the auger locations. Unlike the other flags encountered, the video did not  
31 approach and identify this flag by number.



1           The next location identified in the video was identified as the “property line.” If so,  
2 this would have been between thirty and sixty feet from the line of blue flags identifying the  
3 auger locations.

4           The final two locations identified in the video were orange flags 7 and 6 marking the  
5 Applicant’s marked boundary of the Bordering Vegetated Wetland. The fact that the  
6 approach to flag 7 approximated the same direction as moving on to flag 6, coupled with the  
7 fact that STP 5 or STP 4 were not directly encountered, strongly suggests that the video  
8 transect when far to the east of the series of five blue flags marked STP-1, STP-2, STP-3,  
9 STP-4, and STP-5.

10           The Conservation Commission is not contesting that the footage in the video does not  
11 show flow of water between the Bordering Vegetated Wetland and either the Woodbine  
12 Depression or the Site Depression. However, any such flow would be most evident in the  
13 spring wet season, not in the fall. Further, if there were evidence of a definite channel on  
14 October 23<sup>rd</sup>, the recent leaf deposition, the camera angle, and the inaccurate transect location  
15 would render the video inconclusive in even providing negative evidence.

16           The Commission also notes the possibility that springtime accumulation and runoff of  
17 water from the Site Depression/Vernal Pool is being affected by structures in the Site  
18 Depression. In the lowest area of the Site Depression, members of the Conservation  
19 Commission observed two vertical standing PVC pipes. The first standing pipe was white  
20 with a diameter of about 10 inches, a visible height of about 5 feet, and extended to an  
21 indeterminate depth below the surface of the ground and or the surface of standing water. The  
22 second standing pipe, which was located to the south of the first standing pipe, was light  
23 green with a diameter of about 6 inches, a visible height of about 3.5 feet, and extended to an  
24 indeterminate depth below the surface of the ground and or the surface of standing water.

25           When asked about these two standing pipes during the November 20, 2014 hearing,  
26 Mr. Kirby, Mr. Gala, and Mr. Chiofaro did not acknowledge their presence and could not  
27 provide an answer about what they were or when they were installed. The Commission is  
28 concerned that these pipes may be artificially draining the Site Depression.

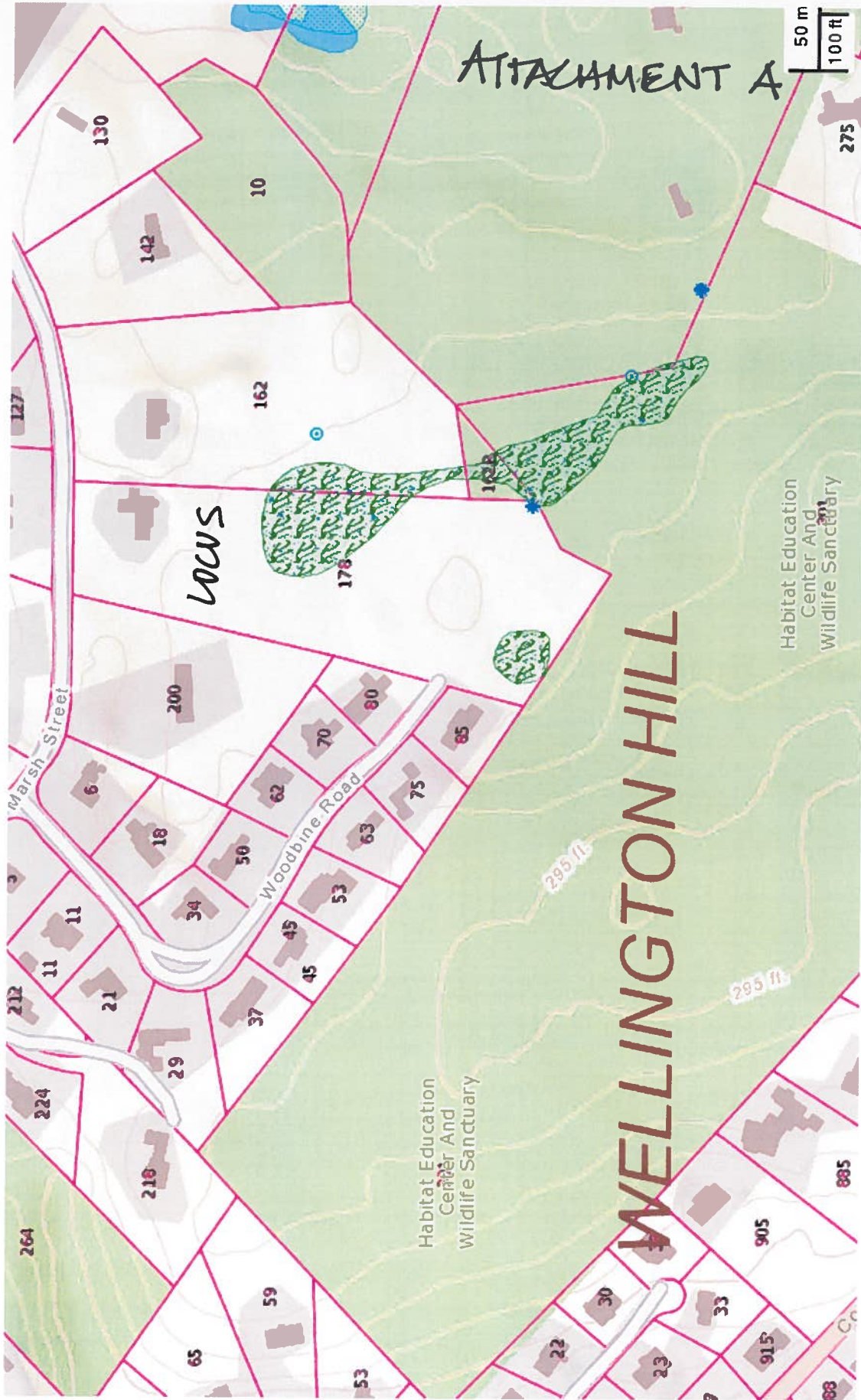
29           In summary, the Belmont Conservation Commission finds the information presented  
30 by the Applicant inconclusive and potentially inaccurate. In several areas it is dependent on  
31 the subjective technical judgment of the Applicant consultants. These areas include

- 1           • the placement of the soils tests,
- 2           • the depth and the clarity of the soil horizons in the soils test,
- 3           • the color and interpretations of the soil horizons of the excavated augured core
- 4           sample,
- 5           • the sufficiency of the line of wetlands indicator species between the Site
- 6           Depression and the Bordering Vegetated Wetland to serve as a continuous
- 7           delineation of Bordering Vegetated Wetland,
- 8           • the extent to which the line of wetlands indicator species indicate an
- 9           intermittent stream, and
- 10          • the presence of a swale connecting the Site Depression to the Bordering
- 11          Vegetated Wetland.

12           The Commission had proposed that an independent consultant be provided for under  
13 §53G to provide a second opinion on these technical judgments and on the resource area  
14 delineation. However, the Applicant refused to cooperate in such an independent assessment.  
15 As a result, the Commission lacks information needed to evaluate Applicant’s proposed  
16 resource area delineation and does not approve of the Applicant’s proposed resource area  
17 delineation. The Commission is left only with the option of finding the Applicant’s ORAD  
18 delineation to be inaccurate in depicting the two depressions as Isolated Land Subject to  
19 Flooding resource areas, rather than as part of the Bordering Vegetated Wetland system.

20           The Commission continues to desire to have an independent second opinion assist in  
21 evaluating the delineation. In particular, objectives of a second professional opinion would  
22 include assessing the presence of a swale and/or hydric soils connecting the Site Depression  
23 with the Bordering Vegetated Wetland, and assessing the extent to which the spatial  
24 distribution of wetlands indicator species indicates a continuation of the Bordering Vegetated  
25 Wetland and the existence of an intermittent stream.

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ATTACHMENT B  
 BELMONT TOWN MAP  
 JANUARY 1, 1994

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