SUTTON CONSERVATION COMMISSION
June 4, 2014
MINUTES

Approved:

Present: Joyce Smith, Co-Chair, Daniel Moroney, Robert Tefft
Unavailable: Mark Briggs, Chairman
Staff: Wanda M. Bien, Secretary
Unavailable: Brandon Faneuf, Consultant

NEW PUBLIC HEARING
11.5 Marsh Road
DEP#303-07

The Public Hearing was opened at 7:00pm. J. Smith read the hearing notice as it appeared in the Millbury Sutton Chronicle.
The project consists of installation of a septic system tight tank.
Present: Jason Dubois, Bertin Eng., for Joyce Cardin, owner.

J. Dubois explained the revised plans for this meeting, for the failed septic system to be replaced. They will abandon the existing cesspool.

R. Tefft is concerned with any cesspool that may be up-hill from this new septic. They need to verify if there is any.

B. Faneuf sent his report from the site visit on this property.
See Attachment #1 Ecosystem Solutions

Motion: To close the Public Hearing, by D. Moroney
2nd: R. Tefft
Vote: 3-0-0

Motion: To issue an Order of Conditions verifying that the pipe is contiguous from the house to the new tank and verifying there is no second cesspool. If there is it would be abandoned, by D. Moroney
2nd: R. Tefft
Vote: 3-0-0

Project Updates
7:15pm 187 W. Sutton Road/Adam Pond Dam
Present: Craig MacDonald, MA Div. of Fisheries & Wildlife

C. MacDonald explained they are getting started with the work. They have seen a lot of debris coming into the spillway area and the water level has been fluctuating because of the structure. They want to reconstruct the structure of the embankment instead of the original plan. They want to protect it against the flow of water over it to continue the way it's functioning now. The intent is to maintain the water levels.
See attachment #2 Tighe & Bond letter.

Conservation has concerns of the long term approach and water levels. They request a letter with sketches and start dates.

R. Tefft questioned the benchmark that they are using for the water level. He feels they should be using the elevation of the existing asphalt spillway as the high water mark. He asked what the historical height of the water level should be on this dam.

C. MacDonald replied that within the concrete structure, there are two concrete beams where the water level has been with the debris in place. Right now the water is higher than it's ever been, based on the earthen dyke. It is only a few inches above the water surface levels at the lowest point. There is a concrete embankment that slopes downward. He feels that the water is too high right now, but they would like to use this level as it is.

J. Smith would like to see the invasive Phragmites removed from the ponds before they spread further.

C. MacDonald said that was another project that he spoke to the habitat biologist about. They have the license for the cutting and treatment of Phragmites.

This is a field change, a sketch of the changes with the elevations are needed for the records.

280 W. Sutton Road
DEP#303-07

The Public Hearing was opened a 7:35pm. J. Smith read the hearing notice as it appeared in the Millbury Sutton Chronicle.

The project consists of removal of vegetation along and within 20-feet of the dam, clearing of vegetation, construction of a rock filled buttress, removal of portions of the downstream wall, and repair of a sink-hole on dam crest.

Present: Craig MacDonald, MA Div. of Fisheries & Wildlife

C. MacDonald explained the revised plans. They want to remove and cut trees to get the equipment through the area to the dam, varying in some spots between 8' - 9' wide to 10' - 12'. He explained how they do the stone and gravel,, the erosion controls that they will use, and the timber mats for the crossing. They may be doing this work in the fall, depending on the funding received for this project. He reviewed the changes on the plan to leave the stumps of the trees. They will backfill with gravel and rip rap on top of the wall to stabilize it. They were asked to change the color on the map with the major changes to be more noticeable, per Mr. Fancuf.

See attachment #3 Tighe & Bond letter.

R. Tefft is concerned with the heavy equipment going down the cart path leaving 3 & 4" ruts when they are done.

Motion: To close the Public Hearing, by D. Moroney
2nd: R. Tefft
Vote: 3-0-0

CONTINUATIONS

39 W. Millbury Road

DEP#303-0776 from 02-19-14

The continuation was opened at 8:00pm. J. Smith read the hearing notice as it appeared in the Millbury Sutton Chronicle.

The project consists of construction of a single family home with associated septic system, well, grading, driveway, and wetland crossing, a portion in the BVW and adjacent the Buffer Zone.

Not Present: Brian MacEwen, Graz Eng., Tamam & Zena Jaber, owners NOI filed

This has been continued, with the applicant's permission to June 25, 2014.

Motion: To continue, with the applicant's permission, to June 25, 2014, by D. Moroney
2nd: R. Tefft
Vote: 3-0-0

33 W. Millbury Road

DEP#303-0777 from 2-19-14

The continuation was opened at 8:05pm. J. Smith read the hearing notice as it appeared in the Millbury Sutton Chronicle.

The project consists of construction of a single family home with associated septic system, well, grading, and driveway, a portion in the Buffer Zone to a BVW.

Not Present: Brian MacEwen, Graz Eng., Tamam & Zena Jaber, owners NOI filed

This has been continued, with the applicant's permission to June 25, 2014.

Motion: To continue, with the applicant's permission, to June 25, 2014, by D. Moroney
2nd: R. Tefft
Vote: 3-0-0

BOARD BUSINESS

Wetland Concerns and Updates:

42 Bond Hollow Road - ***this area is stable until further work commences.***

219 Manchaug Road/Steve Strassner - this was continued to June 25, 2014.

The Board voted on the minutes of May 21, 2014.

Motion: To accept the minutes of May 21, 2014, by D. Moroney
2nd: J. Smith
Vote: 3-0-0

The Board Endorse Permits for **60 Lackey Road** and **420 Putnam Hill Road.**
The Board didn't sign any Routing Slips at this meeting.

These discussions were continued to June 18, 2014 when the Consultant will return:
191 Hartness Road – letter sent out and was returned with no forwarding address.
19 Depot Street - A letter to Poly Vinyl telling them that there is still work to be done and they can't receive a full COC without it.
9 Point Way/Arthur Remillard - A pre-construction meeting will be done on June 6, 2014. This was continued to the June 25th meeting.

Anyone interested in purchasing the DVD for any public hearing at this meeting, please contact Pam Nichols in the Cable office or you can view the minutes and video at www.suttonma.org.

Motion:	To adjourn, by D. Moroney
2nd:	R. Tefft
Vote:	3-0-0

Adjourned at 8:30pm.

ATTACHMENT #1

Brandon B. Faneuf, Conservation Consultant
Sutton Conservation Commission

Application Type:	Notice of Intent
Project Location:	11.5 Marsh Road Map 8, Parcel 82
Applicant:	Joyce Cardin
Owner:	Same
Representative:	Jason Dubois, P.E.; Bertin Engineering Associates, Inc.
Inspection Date:	5/13/14
Memo Date:	5/31/14

Introduction

The location is 11.5 Marsh Road. It abuts Lake Singletary on a cove in the west-central part of the lake. There is a moderately steep hill leading down to the house. BOH has determined that this site is applicable for a tight tank

WPA Wetland Resource Areas On-Site

1. Inland Bank and associated 100' Buffer Zone (BZ)

Additional Resource Areas Under the Sutton Bylaw

1. 200' Riverfront District assoc. with the bank of Lake Singletary
2. Adjacent Upland Resource Area assoc. w/ Inland Bank

Additional Public Interests Protected Under the Sutton Bylaw

1. Erosion and Sedimentation Control
2. Aquatic Life Habitat (Lake Singletary)
3. Recreation & Aesthetics

The retaining wall at the edge of the water at Lake Singletary is the top of the Inland Bank for most of its length on-site. A mean-annual high water line (MAHW) has been depicted on the plan in the northeast corner of the Property.

Current Proposal

To replace an existing septic tank in the ground on the east side of the house and replace it with a 2,000 gallon "tight tank." It will involve excavation work in a small footprint, and temporarily stockpiling soils. Access will be from the existing paved driveway, going between the house and an existing retaining wall.

Comments

I have included a red-lined version of the site plan. Specific comments include:

1. Replace the haybale detail with a straw wattle detail. I agree that the wattles should be combined with silt fence at the bottom of the hill on the

east side of the house where excavation work will be conducted. Silt fence isn't required in other areas.

2. Because access will be from the driveway, I added straw wattles a) at the end of the driveway, and b) on either side of the driveway. This is a precautionary measure in the case of sediment getting inadvertently tracked to that area as machines come and go from the site.

3. There is going to be a temporary stockpile of dirt from excavation. It makes sense to me that it should be depicted on the site plan. This is likely to be a 1-2 day job, but in the unlikely case that the stockpile sits, a note should be put on the plan that a ring of wattles should be put on the downhill side of the stockpile, and that if left for >14 days, should be covered or seeded.

4. A Limit of Work should be noted on the site plan. I have it depicted on the red-line plan.

5. Although not a mandatory requirement, the Applicant should take extra care working and traveling around the existing well.

6. A note on the plan should note: "Equipment will be parked and refueled above the retaining wall on the south side of the house as far away from the lake as possible."

7. If there is an existing leaching field or cesspool, please depict its approximate location on the plan.

Sincerely,
Ecosystem Solutions, Inc.
Brandon B. Faneuf, M.S., Principal
PWS, RPSS, CPESC, CWB

Attachment #2

Tighe&Bond
www.tighebond.com

M-0944-9A-03-04
June 4, 2014

Mr. Mark Briggs, Chair
Sutton Conservation Commission
4 Uxbridge Road
Sutton, Massachusetts 01590

RECEIVED
JUN 04 2014
By Conservation

Re: **Design Modification**
Adams Pond Dam Repair Project
West Sutton Road

Dear Chairman Briggs and Members of the Commission:

As you may know, Tighe & Bond has developed a design modification for the repair of the Adams Pond Dam embankment. The modification includes armoring the existing eroded areas of the embankment on either side of the existing spillway in lieu of filling these areas to match the surrounding crest elevation. These areas have eroded over time likely due to historic overtopping events, which suggests the spillway is undersized.

Armoring these areas instead of filling them allows flows through these areas to supplement the spillway's hydraulic capacity with reduced risk of a breach due to erosion. Supplementing the spillway's hydraulic capacity reduces the risk of overtopping the remainder of embankment during storm events that could also lead to an uncontrolled breach.

The armoring consists of placement of a geotextile, followed by 6-inches of crushed stone, and two feet of rip-rap. Prior to placement of the geotextile, the woody debris that is partially maintaining the impoundment elevation will be removed and supplemental fill will be placed to raise the subgrade.

To allay concerns regarding future water levels, the subgrade below the 1-1/2" crushed stone layer will be raised to the elevation of the concrete cross beams within the outlet structure. During the past few weeks, the water level has been generally observed to be within 2 inches of those cross beams. A cross section of the proposed changes is shown on the attached sketch. As-built plans will be prepared at the completion of the project.

These design changes are not intended to change water levels in Adams Pond. Currently, water levels are controlled by the debris within the spillway and on the eroded embankment on either side of the spillway.If the debris were to become dislodged and wash away, the pond level could drop unexpectedly and drastically, resulting in a significant environmental impact.

It is also important to note that, within the few weeks that the contractor has been visiting the site on a regular basis, the water level has been observed to fluctuate by as much as six to eight inches as a result of the variability of the debris and weather conditions.

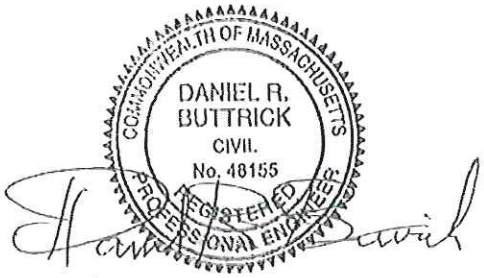
In the proposed state, the crushed stone and riprap will perform a similar function to the debris in maintaining the water level. Water will flow through the stone similarly to the way it flows through the debris currently, but in a more consistent and reliable fashion. Once the repairs are completed, the resulting normal water levels is expected to be within the range of normal water levels observed since the project began, and will be less subject to short term and long term fluctuations than existing conditions. If the water level is

observed outside of its typical range, it may be raised or lowered through adjustments within the spillway structure following the completion of the project.

We look forward to discussing this project with you. If you have any questions or require any additional information, please call Dan Buttrick at 413-572-3225.

Very truly yours,

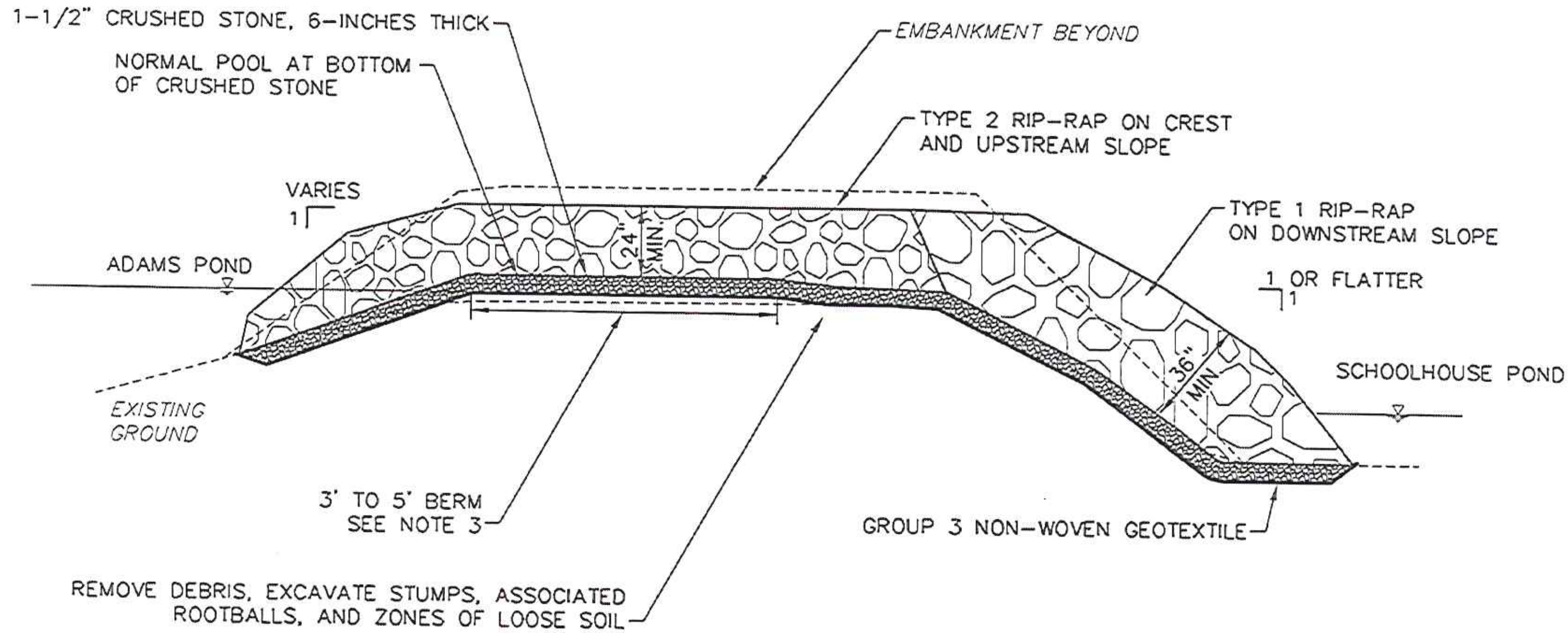
TIGHE & BOND, INC.



Daniel R. Buttrick, P.E.
Project Engineer

Enclosure

Tighe&Bond



EMBANKMENT RECONSTRUCTION AND SLOPE PROTECTION NOTES:

1. EXISTING STUMPS SHALL BE REMOVED ALONG WITH ASSOCIATED ROOTBALLS. THE RESULTING VOIDS SHALL BE BACKFILLED WITH STRUCTURAL FILL OR LOW PERMEABILITY BORROW.
2. MINIMIZE CUTTING INTO EMBANKMENT TO BED TOE OF RIPRAP.
3. PROVIDE 3' TO 5' WIDE BERM OF STRUCTURAL FILL OR LOW PERMEABILITY BORROW AS NEEDED TO ACHIEVE A MAXIMUM CRUSHED STONE ELEVATION EQUAL TO THE ADAMS POND NORMAL POOL. NORMAL POOL IS ASSUMED TO BE THE ELEVATION OF THE CONCRETE CROSS BEAMS WITHIN THE SPILLWAY STRUCTURE
4. BLEND RIGHT AND LEFT ENDS OF RIPRAP TO MEET ADJACENT EMBANKMENT CREST ELEVATION.

REVISED EMBANKMENT REPAIR SKETCH	
ADAMS POND DAM REPAIR PROJECT SUTTON, MASSACHUSETTS	
DATE: JUNE 2014	Tighe&Bond www.tighebond.com
SCALE: NO SCALE	

06/03/2014

ATTAchment #3

Tighe&Bond
www.tighebond.com

M-09449A-04-01
June 4, 2014

Mr. Mark Briggs, Chair
Sutton Conservation Commission
4 Uxbridge Road
Sutton, Massachusetts 01590

RECEIVED
JUN 04 2014
By Conservation

Re: **Response to Comments**
Notice of Intent
Town Farm Pond Dam Repair Project
West Sutton Road

Dear Chairman Briggs and Members of the Commission:

We appreciate the timely receipt of comments from Brandon B. Faneuf, P.W.S. on your behalf, dated June 1, 2014. Below is our response to the comments, submitted on behalf of the MA Department of Fisheries & Wildlife. Mr. Faneuf's comments are in italics, followed by our response. Revised plans and pages from the submission package are attached.

Delineation and Identification Comment: The waterway at the stream crossing as delineated by flags 3A-1 through 3A-6 and 3B-1 through 3B-6 is an intermittent stream and not a perennial river. The USGS map depicts it as a light blue waterway and not a dark blue waterway. Further, its total watershed is less than 1 acre, allowing the presumption that it is intermittent and not perennial. It doesn't mean that there should be a change in BMPs at the crossing; this is just a clarification in jurisdiction. Plans should be modified accordingly. The same applies to the unnamed waterway that runs more or less parallel to the access route and discharges to Town Farm Pond.

Tighe & Bond Response: The access route figure, site plans, and pertinent sections of the WPA Form 3 and associated narrative have been modified. Revised pages are attached and revised drawings are included under separate cover.

Delineation and Identification Comment: The Existing Conditions and Demolition Plan and Proposed Site Plan depict a non-jurisdictional ditch between flags A-05 through A16. The Access Plan omits those flags, as well as the D-Series flags on the north side of Singletary Brook. Per Section 3.3.4, it states that the A series flags (1A-1 through 1A-17-southern bank of Singletary Brook, including outflow channel) are Riverfront Area flags. The way the flag numbers are depicted on the site plans and the way that they are described in Section 3.3.4 don't align (flags on the plans are depicted as A-01 through A-17). The same goes for the other flags in general. My main comment here, however, is that by just looking at the plans and regardless of the hatching, it appears that the area in which the 'non-jurisdictional ditch' is depicted is part of the Riverfront Area by looking at the flag configuration and by reading Section 3.3.4. My recommendation here is that flag A-05 be connected to flag A-16 as the MAHW line of Singletary Brook, and outright remove A-06 through A-15.

Tighe & Bond Response: We have attempted to revise the flag references in the text in favor of the plans. The plans have been revised as indicated, with removal of flags A-06 through A-15 and connection of flag A-05 to A-16.

Comment 1: Are there any Historical Society interests in preserving the stone retaining wall? Some portions will be demolished and replaced with Type 2 riprap.

Tighe & Bond Response: A number of dams are listed as contributing structures in the West Sutton Historic District. However, these dams are all located south of the Merrill Ponds Wildlife Management Area where Town Farm Pond Dam is located.

Comment 2. Please explain how the process by which the embankment and non-jurisdictional ditch will be excavated "to a stable slope," and how the riprap will be laid. What equipment will be used, where will it be positioned, where will excess materials be taken or stored?

Tighe & Bond Response: Heavy machinery, such as an excavator, will work from either adjacent higher ground, reaching into the ditch to remove loose and unsuitable materials, such as boulders and woody debris to a firm granular subgrade. The ditch will then be backfilled with a free-draining granular soil, which will be compacted in lifts, up to an appropriate subgrade level. The filter fabric, crushed stone, and rip-rap will then be laid on top. Excavated materials that meet project material specifications can be reused. Other materials will be removed from the site for reuse or disposal. DFW is coordinating with the owner of an abutting parcel for the use of a corner of a hayfield for a stockpiling and laydown area. Stockpiles will be managed in accordance with the erosion and sediment control notes on the last page of the project drawings.

Comment 3. Compost socks are sturdy. However, I suggest complementing them with silt fence (if soil conditions allow) at the bottom of the ditch/swale. Otherwise, due to the proximity of the work to Singletary Brook and the potential for some significant sedimentation, I recommend the creation of a compost sock 'pyramid' for additional protection at the bottom of the slope.

Tighe & Bond Response: We have incorporated this comment in the plans, including calling for a compost sock pyramid and adding a detail. We prefer the use of compost socks to avoid the need for trenching in the rocky soils that are present in close proximity to the stream.

Comment 4. There is a twin "V" 36" oak tree on the east side of the ditch to be riprapped. It is within the "on-going" limit of disturbance area where trees are allowed to be cut. This tree is on a different slope from the dam and >20' away from the dam. It is, in my opinion, a high value tree and should be preserved. The rest can be cut.

Tighe & Bond Response: We have indicated on the plans that the tree be protected.

Comment 5. On page 4-3 of the Tighe & Bond project narrative, it gives a seed mix for upland areas. The species listed in Table 4-3 is an erosion control mix for detention basins and moist sites. My question is whether the mix for dry sites is more appropriate given the fact that the seeding is to be performed in upland areas. Please comment.

Tighe & Bond Response: The seed mix shown in the narrative was an error. The erosion control mix for dry sites was intended and is shown on the last sheet of the project drawings.

Comment 6. Invasive plants, especially Oriental bittersweet, which is pervasive on the dam, should be completely eradicated.

Tighe & Bond Response: The project drawings have been updated to indicate eradication of invasive plants.

Comment 7. Is there a dam safety permit in place? If not, what is the status?

Tighe & Bond Response: DFW will be applying for a dam safety permit later in June.

Comment 8. Is there a long term management plan in place for this site?

Tighe & Bond Response: There is no long term management plan in place for the site relative to the dam. Similar to Adams Pond Dam, DFW is planning to maintain this dam for the foreseeable future for the habitat value and passive recreational opportunities that it provides.

Comment 9. Is there a formalized O&M Plan for the dam's maintenance?

Tighe & Bond Response: Currently, there is no formalized Operation and Maintenance Plan for Town Farm Pond Dam. The NOI narrative Section 4.3.4 has been updated to include anticipated regular operation and maintenance measures.

In addition to the response to comments, other minor design revisions have been included in the revised plans. These include:

- *Elimination of the turf reinforcement mats and replacement with a modified rockfill overtopping protection.* This change was made since the turf reinforcement mats may be subject to damage by tires of maintenance equipment.
- *Design change relative to trees and roots growing from the downstream masonry wall.* Trees growing from the downstream dry laid stone masonry wall will be cut, but the stumps and roots will now be left in place and the rockfill buttress placed over them. This change will reduce the potential for destabilization of the wall during construction.

We look forward to discussing this project with you. If you have any questions or require any additional information, please contact me at 413-875-1312/ DPRukakoski@tighebond.com.

Very truly yours,

TIGHE & BOND, INC.

Daniel P. Rukakoski, PWS, CWS, PSS
Principle Environmental Scientist - Associate

Enclosures

Copy: MassDEP, Central Regional Office
Craig MacDonnell - MA Department of Fisheries & Wildlife
Laila Helgerson – property owner
Jeff Helgerson – property owner

Attachment A
Revised WPA Form 3 Pages

A. General Information (continued)

6. General Project Description:

The proposed project will involve the removal of vegetation along and within 20-feet of the dam, clearing of some vegetation along the access route, matting over a failed stream culvert on the access road, construction of a rock filled butress along the downstream face of the wall, removing any unstable portions of the downstream wall, repair of a sink hole on dam crest.

7a. Project Type Checklist:

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Limited Project Driveway Crossing
4. ☐ Commercial/Industrial
5. ☐ Dock/Pier
6. ☐ Utilities
7. ☐ Coastal Engineering Structure
8. ☐ Agriculture (e.g., cranberries, forestry)
9. ☐ Transportation
10. ☒ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project:

310 CMR 10.53 3(1) - Maintenance, repair and improvement to structures...Dam
2. Limited Project

8. Property recorded at the Registry of Deeds for:

Worcester
a. County
b. Certificate # (if registered land)
3084
c. Book
229
d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	20 1. linear feet	0 2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☒ Riverfront Area	Singletary Brook 1. Name of Waterway (if available)	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 431,000 (approx.) square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
4,200	4,200	0

5. Has an alternatives analysis been done and is it attached to this NOI? ☒ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet	
	2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Attachment B
Revised Narrative Pages

3.3.3 Inland Bank (310 CMR 10.54)

The limits of Inland Bank were delineated for Town Farm Pond Dam along Town Farm Pond and Singletary Brook with the following flag series:

- **A Series:** 3A-1 through 3A-6 (east bank of unnamed intermittent stream);
- **B series:** B-1 through B-12, 1B-1.1 through B-1.14 (Town Farm Pond, southern Bank of dam), and 3B-1 through 3B-6 (west bank of unnamed intermittent stream)

1B Series: Flags B-01 through B-12 and 1B-1.1 through 1B-1.14 represent the southern/eastern bank of Town Farm Pond along the upstream section of the dam. The bank was delineated using first topographic break in slope as well as changes in vegetative cover. Town Farm Pond was frozen at the time of delineation but there was still flow though the spillway. The bank along the dam is defined by a concrete wall that extends the length of the dam embankment. Flags C-08 (BVW flag) and B-04 tie to the structure. General vegetation along the southwest bank was limited to the areas other than the dam embankment itself. Vegetation includes red maple (*Acer rubrum*), white pine, grey birch (*Betula populifolia*), speckled alder (*Alnus incana*), and mountain laurel (*Kalmia latifolia*), located on the north bank of the pond.

3A Series and 3B Series: Flags 3A-1 through 3A-6 and 3B-1 through 3B-6 represent the east and west banks of the unnamed intermittent stream along the access road. This area crosses the access road flowing west to east. There is a failed culvert across the cart path and a majority of the water bypasses the culvert. The dominant species along the banks are red maple, yellow birch (*Betula allagheniensis*), Ironwood, Japanese barberry (*Berberis thunbergii*), cinnamon fern (*Osmunda cinnamomea*), and skunk cabbage.

3.3.2 Bordering Vegetated Wetlands (310 CMR 10.55)

Bordering Vegetated Wetlands were delineated for the areas adjacent to Town Farm Pond Dam and along the proposed access road. These areas are identified with the following flag series:

- **A series:** 2A-1 through 2A-4 (Bordering Vegetated Wetland along access road); and
- **C series:** C-01 through C-08 (Bordering Vegetated Wetland connected to northeastern bank of Town Farm Pond) & 3C-1 through 3C-3 (Bordering Vegetated Wetland connected to unnamed intermittent stream)

2A Series: Flags 2A-01 through 2A-04 represent a bordering vegetated wetland located along a cart path that is proposed for use as a construction access road. This area is south of Town Farm Pond and located within close proximity of the access road. The dominant plant species includes red maple, speckled alder, Ironwood (*Carpinus caroliniana*), skunk cabbage (*Symplocarpus foetidus*), and false soloman seal (*Malanthemum racemosum*).

1C Series: Flag series C-01 through C-08 represent a small forested wetland associated with a portion of the northeastern bank of Town Farm Pond. The observed elevation of this wetland coincides with that of the pond and may explain the level of saturation. It is also in a low lying topographic position in relation to the surrounding uplands were overland flow may accumulate in this area from the uplands. Dominant vegetation

within Wetland C includes red maple, green ash (*Fraxinus pennsylvanica*), bristly dewberry (*Rubus hispidus*), and sphagnum moss (*Sphagnum spp.*).

3C Series: Flags 3C-1 through 3C-3 represent a forested Bordering Vegetated Wetland that is connected to the unnamed intermittent stream that crosses the access road. The dominant vegetation included eastern hemlock (*Tsuga canadensis*), red maple, speckled alder, and silky dogwood (*Cornus amomum*).

3.3.3 Land Under Waterbodies and Waterways (310 CMR 10.56)

The area below Bank of the unnamed intermittent stream, located across the access road, at flags series 3A and 3B, below the Bank of Town Farm Pond, and below the Mean Annual High Water Line of Singletary Brook is regulated as LUWW.

3.3.4 Riverfront Area (310 CMR 10.58)

The Mean Annual High Water Mark was delineated for Singletary Brook and the unnamed perennial stream with the following flag series:

- **A series:** A-01 to A-05 and A-16 to A-17 (southern bank of Singletary Brook, including outflow channel)
- **D series:** D-01 to D-06 (northern bank of Singletary Brook).

A and D series: Flags A-01 to A-05, A-16 to A-17 and D-01 to D-06 represent the top of bank for Singletary Brook as it leaves the Town Farm Pond Dam. The bank was primarily delineated using the first observable break in slope. Singletary Book is approximately 5 feet wide, fast flowing, and has a large stone and coble substrate. General vegetation along the banks is comprised of species such as red maple, eastern hemlock, northern arrowwood (*Viburnum recognitum*) and spicebush (*Lindera benzoin*). The upland associated with both the eastern and western banks of this reach of Singletary Brook is forested with a mix of red oak (*Quercus rubra*), eastern white pine (*Pinus strobus*), and black birch (*Betula lenta*).

A ditch is oriented parallel to the downstream side of the dam, connecting to Singletary Brook between Flags 1A-5 and 1A-16. The ditch has formed as a result of erosion. This ditch may receive flow on rare occasions when storms cause flows to discharge over the low area of the dam embankment, or from flow from the adjacent farm field, but it does not meet the definition of a jurisdictional resource area under the WPA.

3.4 Rare Species

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas, 13th edition, effective October 1, 2008, and MassGIS online mapping data updated 2008, were consulted during the preparation of this NOI. The project site not located within mapped priority habitat or estimated habitat as shown on the Priority Resource Map provided as Figure 3 in Appendix A.

Section 4
Project Description

The proposed dam repair project will address the major deficiencies identified at Town Farm Pond Dam. Overall, the project aims to meet the following goals to address the deficiencies:

Town Farm Pond Dam:

1. Remove woody vegetation from the dam embankments and areas within 20 feet of the dam as required by the Massachusetts Office of Dam Safety *Policy on Trees on Dams*.
2. Remove stumps and roots from areas shown on the plans.
3. Cut the 10-inch diameter tree adjacent to the culvert discharge.
4. Demolish areas of the downstream masonry wall that are deemed unstable, if any.
5. Excavate loose soils, boulders, and debris from the ditch.
6. Install rockfill buttress along the downstream wall & slope of the dam. Form the toe of the buttress into a riprap swale to replace the function of the ditch.
7. Install the area of modified rockfill overtopping protection at the southern end of the dam embankment.
8. Excavate and repair a sinkhole located on the crest of the dam near the spillway inlet.
9. If budget allows as a result of bid prices received, remove the 10-inch tree stump and rebuild the stone masonry wall between the discharge outlet and rockfill buttress.

4.1 Anticipated Sequence of Construction

The section below provides the anticipated sequence of construction based on Tighe & Bond's experience with past similar projects. Please note that the intent of the sequence is to provide guidance to the contractor towards meeting the terms and conditions of environmental permits and best management practices.

Anticipated Construction Sequence:

1. Notify the Owners, Engineer and Conservation Commission.
2. Mobilize to the site. Begin tree and vegetation cutting if needed to install temporary sediment and erosion control measures, then install perimeter barriers and other BMPs.
3. Schedule and conduct a site walk to inspect sediment and erosion control measures.
4. Modify sediment and erosion control barriers, as directed by the Owner, Engineer and/or Conservation Commission, as necessary.
5. Improve the access route, including preparing the hay field surfaces, performing limited widening and grading of the cart path, and installing the temporary wooden construction mat bridge.

6. Clear trees and vegetation from the dam embankment and adjacent areas within the ongoing limit of work.
7. Grub vegetation only where identified on the Project Drawings. Fill voids from grubbing with a low permeability or granular borrow material as shown on the drawings.
8. Demo areas of the downstream masonry wall that are unstable, if any.
9. Excavate loose soils, boulders, and debris from the ditch.
10. Install the rockfill buttress and rip-rap swale.
11. Regrade the crest of the dam to a uniform elevation.
12. Loam and seed with a New England Erosion Control seed mix by New England Wetland Plants, Inc.
13. Install the rockfill overtopping protection.
14. Restore all disturbed areas within the limits of work and establish permanent vegetative cover in accordance with vegetative cover listed in Section 4.4.4 below, using hydroseeding, broadcasting or an approved equivalent technique.
15. Notify the Owner, Engineer and Conservation Commission of final stabilization. Schedule and conduct site walk to inspect the site.
16. Modify stabilization measures as required.
17. Demobilize from the site.
18. Remove erosion controls after vegetation has established, estimated to be within six (6) months of planting.

Please note that the above sequence may change and some tasks may be performed concurrently. The contractor who performs the work will determine the actual sequencing based on their means and methods of construction.

4.2 Site Access

Access to the site is from Town Farm Road to Lovette Road (a private way), the edge of a farm field, and then along an existing cart path that leads to the dam. Due to the limited width of the access road at this site, some tree removal will be required to facilitate construction equipment access and to prepare a staging area. The access route is located on adjoining property and DFW is working with the affected landowners for access permission. The access road is within Riverfront Area and the 100- foot Buffer Zone to BVW. There is a small perennial stream that crosses the roadway, and a wooden construction mat bridge will be placed over the stream to protect the areas during construction. Construction access and staging areas are depicted on the Project Drawings in Appendix A.

4.3 Protective Measures

This section below describes the various protective measures that will be implemented prior to and during construction activities. These measures are depicted on the Project Drawings provided in Appendix A.

4.3.1 Erosion and Sedimentation Plan

Erosion control barriers will consist of compost filled wattles or an approved equivalent (mulch logs, straw wattles, etc.) that are 100% biodegradable along the down gradient limits of work as depicted on the Project Drawings. Orange snow fencing will be used to establish the upgradient limits of work to ensure the contractor is restricted to the project area. Erosion and sediment controls will be removed once the site is stabilized with vegetative cover.

4.3.2 Surface Water Control

Though work is close to Town Farm Pond and Singletary Brook, there is no in-water work anticipated for this project. Erosion and sediment control structures are to be placed downgradient of the work proposed near the banks of Singletary Brook as well as along the impoundment side of the dam.

4.3.3 Mitigation Plan

Through project planning, efforts have been made to avoid and minimize impacts to resource areas to the extent feasible. Upon completion of construction activities, disturbed upland areas within the limits of work will be restored. Replacement of topsoil or placement of imported loam as needed such that six inches of suitable material is present and appropriately fertilized, graded and scarified. These areas shall be seeded with an appropriate seed mix at the rate recommended by the manufacturer. DFW and the Contractor will work to avoid the important of invasive species. If invasive species appear to have been inadvertently introduced by the project, the plants will be removed.

Affected areas of hay field will be regraded, plowed, harrowed, and seeded with a pasture seed mix. The seed mix for other areas disturbed shall include the New England Erosion Control/Restoration Mix for dry sites available through New England Wetland Plants, Inc. This seed mix includes the following species.

TABLE 4-3
Seed Mix for Disturbed Upland Areas

Common Name	Scientific Name
Creeping Red Fescue	*Festuca rubra*
Canada Wild Rye	*Elymus canadensis*
Annual Ryegrass	*Lolium multiflorum*
Perennial Ryegrass	*Lolium perenne*
Blue Gamma	*Bouteloua gracilis*
Little Bluestem	*Schizachyrium scoparium*
Indian Grass	*Sorghastrum nutans*
Rough Bentgrass/Ticklegrass	*Agrostis scabia*
Upland Bentgrass	*Agrostis perennans*

4.3.4 Operation and Maintenance

After the completion of this project DFW will provide continued operation and maintenance of Town Farm Pond Dam. Maintenance of the site will include cutting vegetation at least once a year and removal of debris from the spillway approach and outlet as needed.

Reestablishment of woody vegetation will be deterred through annual cutting, hand pulling, and, if necessary, herbicide application. If herbicides are needed, application will be completed by a Massachusetts state licensed pesticide applicator. A cut - dab method of application will be used to avoid herbicide drift onto non-target species and into wetland resources.

The cut-dab/cut-stump method can be used any time the plant is translocating sugars through the cambium down to the roots. The general period for this activity is from early July through November, although evidence shows that fall application is more effective. Herbicides used should be those that are approved for use in or near water resources by the Massachusetts Department of Agricultural Resources

Section 5
Regulatory Compliance

This section summarizes the project's relationship to and compliance with the MAWPA and regulations, the Sutton Town Bylaw and its regulations as well as other pertinent state and federal regulatory programs.

5.1 Massachusetts Wetland Protection Act

Work associated with repairs to the dam will occur within Inland Bank, Riverfront Area, and the 100-foot Buffer Zone.

5.1.1 Limited Project Status

The proposed activities qualify for consideration as a Limited Project per 310 CMR 10.53(3l).

*"**The maintenance, repair, or improvement (but not substantial enlargement) of structures, including dams** and reservoirs and appurtenant works to such dams and reservoirs, buildings, piers, towers, headwalls, bridges, and culverts which existed on the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983). When water levels are drawn down for the maintenance, repair, or improvements of dams or reservoirs or appurtenant works to such dams or reservoirs under 310 CMR 10.53(3l), water levels that existed immediately prior to such projects being undertaken shall be restored upon completion of the work, and a new Notice of Intent need not be filed for such restoration."*

To attain the intended goal of this project, work within wetland resource areas is unavoidable. Work within resource areas, however, can be completed in accordance with established performance standards for each resource area, and Limited Project Status will not be invoked.

5.1.2 Summary of MAWPA Jurisdictional Alterations

Table 5-1 presents a summary of anticipated impacts to jurisdictional areas relative to the proposed project.

Table 5-1
Summary of MAWPA Jurisdictional Alteration

Activity	Bank (lf)	Riverfront area (sf)
Vegetation Removal along embankments	20	100
Installation of rockfill buttress and rip-rap swale	0	4,100
Access Road Improvements	0	0
Total:	20 lf	4,200 sf

5.1.3 MAWPA Performance Standards

As noted in Table 4-1, the proposed project will result in alterations to Inland Bank and Riverfront Area. The following sections present the MAWPA Performance Standards for each wetland resource area (presented in *italic* font) and the compliance of the proposed activities with those standards (normal font).

5.1.1.1 Inland Bank

Table 4-1 tabulates the impacts associated with Inland Bank. The Performance Standards for Inland Bank, which are set forth at 310 CMR 10.54 (4a), are outlined below.

1. *The physical stability of the Bank*

The project will result in approximately 20 linear feet of impacts to the Inland Bank. These impacts are related to the cutting of three trees downstream of the dam near the limit of the rockfill buttress and temporary shading of the stream flowing over the cart path from the placement of construction mats. The construction mats will span the stream, however, and will not destabilize the bank, and the roots of the three trees to be cut will be left in place, and as such this standard has been satisfied.

2. *The water carrying capacity of the existing channel within the bank;*

The water carrying capacity will not be impacted as a result of impacts to the Bank. The water carrying capacity of the system will remain the same as pre-construction conditions. As such this standard has been satisfied.

3. *Ground and surface water quality;*

The proposed project will not adversely affect ground and/or surface water quality. Construction phase erosion control measures have been described in this NOI and will be implemented to minimize the potential for adverse effects on water quality. Therefore this standard has been met.

4. *The capacity of the Bank to provide breeding habitat, escape cover and food for fisheries; and wildlife.*

The banks of Town Farm Pond and Singletary Brook will only have minor alteration in the form of vegetation removal. Tree removal is required to comply with MADCR Office of Dam Safety policy. As a result of the proposed dam improvements, existing habitat in the vicinity of the dam embankments will be altered slightly, but is unavoidable to maintain the structural integrity of the dam. Similar habitat is present within the system of ponds that will not be impacted as a result of the rehabilitation activities.

5. *The capacity of the Bank to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of land in the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted in they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.*

The proposed project will impact approximately 20 linear feet of Inland Bank, and is required to maintain the structural integrity of the dam and to cross the perennial stream with limited to no impacts. Repair of the dam is also being conducted to maintain the passive recreational opportunities that the Merrill Pond Wildlife Management Area provides. Because of the Limited Project status, we are requesting

the Commission consider the nature of the alterations (i.e. dam repair and maintenance) and not require the completion of a Detailed Wildlife Habitat Evaluation for this project.

5.1.1.2 Riverfront Area

The entire project area downstream of the Town Farm Pond Dam is within the Riverfront Area. Outlined below are the performance standards for Riverfront Area as set forth in 310 CMR 10.58(4).

> *Where the presumption set forth in 310 CMR 10.58(3) is not overcome, the applicant shall prove by a preponderance of the evidence that there are no practicable and substantially equivalent economic alternatives to the proposed project with less adverse effects on the interests identified in M.G.L. c.131 § 40 and that the work, including proposed mitigation, will have no significant adverse impact on the riverfront area to protect the interests identified in M.G.L. c. 131 § 40. In the event that the presumption is partially overcome, the issuing authority shall make a written determination setting forth its grounds in the Order of Conditions and the partial rebuttal shall be taken into account in the application of 310 CMR 10.58 (4)(d)1.a. and c.; the issuing authority shall impose conditions in the Order that contribute to the protection of interests for which the riverfront area is significant.*

Alternative Analysis

In accordance with the Limited Project provisions set forth at 310 CMR 10.53(3), an alternatives analysis was prepared for the proposed activities. Alternatives were evaluated for the combination of activities and are described below:

Alternative No. 1: No Action

This alternative explores the option of not conducting needed improvements to the Dams. As previously mentioned, Adams Pond Dam is currently in Poor condition, and it is the responsibility of DFW to improve the structural integrity of this structure. This action will not comply with the Office of Dam Safety issued Certificate of Non-Compliance and Dam Safety Order issue for this dam. As such, this alternative is not feasible.

Alternative No. 2: Dam Removal

Another alternative to the proposed repairs is removal of the dam. Removing the dam will negatively impact the passive recreation opportunities that the wildlife management area currently provides. Further, the cost to remove the dam is currently prohibitive due to limited funding resources through MADFW. As such, this alternative is not feasible.

Alternative No. 3: Repair of the Dam Proposed in Project Description

The project as proposed is a safe, cost-effective, and reasonable option as it involves the improvement of the existing structure as required per current dam safety regulations. The project has been designed to limit environmental impacts while making the necessary repairs to the dams to protect public safety and improve the recreational value and the aesthetics of the site.

(a) Protection of Other Resource Areas. The work shall meet the performance standards for all other resource areas within the riverfront area, as identified in 310 CMR 10.30 (coastal bank), 10.32 (salt marsh), 10.55 (Bordering Vegetated Wetland), and 10.57 (Land Subject to Flooding). When work in the riverfront area is also within the

Attachment C
Revised Drawings

ATTAchment # 4

Brandon B. Faneuf, Conservation Consultant
Sutton Conservation Commission

Application Type: Notice of Intent
Project Location: 355 Boston Road / Map 23, Parcel 49
Applicant: James B. Brigham
Owner: Same
Representative: Andrews Survey & Engineering, Inc.
Inspection Date: 6/18/14
Memo Date: 6/20/14

Introduction

The location is 355 Boston Rd. It is the site of a single family home, bituminous driveway, well, septic system, and lawn areas around the house. The land slopes to the south starting at Boston Rd. toward an intermittent stream. The wetland and stream are part of a system that flows to Casey Brook.

Wetland Resource Areas

1. Bordering Vegetated Wetlands w/ 100' AURA / Buffer Zone (BZ)
2. Inland Bank w/ 100' AURA/BZ associated with an intermittent stream. At this location the stream flows in an WNW to ESE direction.
3. Potential Vernal Pool off-site but within 100' of the west property line.

Comments on Wetland Delineation

There was no on-site delineation associated with wetland Resource Areas. The site plan outlines "Centerline of Brook." The brook is depicted as starting at a stone box culvert ±35' from the western property boundary. I spoke with Mr. Brigham during the site visit who gave me a thorough history of the land, and he told me that the stone culvert is part of a wider crossing that is associated with a 20' wide easement to property located to the south. The stream passes through the culvert from points north and west. The northern bank of the stream should be marked as such, and is roughly equal with the 96 el. line and the section of the 97 el. that runs parallel with the stream.

The stream and wetland system exist on Lot 89 to the west and make a northerly turn that likely extends the 100' AURA/BZ into the western portions of the Property. Although off-site wetlands cannot be delineated, the boundaries must be at least estimated and an approximate 100' AURA/BZ depicted on the plan associated with it.

There is an old irrigation/cow pond on Lot 89 near Boston Rd. that is marked by NHESP as a Potential Vernal Pool. The depression it sits in was visible from Boston Rd. and well defined. I measured ±55ft. from the eastern bank to the stone wall that makes up the western Property boundary. That means that ±45'

of the AURA associated with the PVP extends onto the Property. The AURA associated with this feature should be depicted on the plan *separate from that associated with the BVW.*

There is wetland on the south side of the stream. In fact, if the more level ground near the stream wasn't actively maintained as lawn since the 1950's (per Mr. Brigham), it would also be classified as wetland. This includes areas within elevation 97 and portions of the lawn within elevation 98, which comes right up to the Limit of Disturbance. This doesn't have to be delineated but should be marked on the plan.

I have red-lined the plan commensurate with the comments above.

Current Proposal

The project purpose is to convert a cesspool to a Title V compliant septic system to replace an existing cesspool. The cesspool is behind the house. The proposed septic is also located behind the house.

Mr. Brigham showed me the location of the existing cesspool, and is marked on the plan as "Approx. Location of Existing Septic Tank," which, according to my conversation, is a cesspool because there isn't a leaching field associated with it.

The current layout seems to take the 100' well radius, gravity-feed,. and existing plumbing into consideration. A small corner of the leaching field incurs into the 50' buffer from the bank of the stream.

Compliance w/ Bylaw

The Bylaw does not specifically exempt new septic systems from the provisions of the Bylaw. The only outright exemptions or exceptions from the Bylaw include those associated with agriculture. Conditional exceptions are given for existing structures under Section 3.1. In this case, the septic system, including the leach field are replacing a cesspool, which is technically not an 'antecedent of record' under Section 3.1.1 under the definition of "existing." As such, the Commission has the right to enforce the full weight of the performance standards for work. The above being said, it has been the *practice* of the Commission to give flexibility with the Bylaw's performance standards associated with Title V upgrades, including those associated with cesspool to septic system upgrades.

Compliance with 310CMR 10.00

The best guidance for this kind of project exists in 310 CMR 10.03(3): "Presumption Concerning 310 CMR 15.000: Subsurface Disposal of Sanitary Sewage." This section states that you can't construct a system in a resource area, and makes statements on setbacks from resource areas. In this case, we will consider bank of the intermittent stream as the resource area.

Per 310 CMR 10.03(3), Title V compliant septic systems are presumed to protect the eight interests of the Wetlands Protection Act ('Act') *if* the soil absorption system (i.e. leaching field) is set back at least **50 ft.** horizontally from a the BVW boundary. This applies to *new* construction. I would agree that this system consists of new construction because there is no existing leach field (i.e. this is a brand new system).

Recommendations

1. Although the Commission has the right to keep the leach field as much as 100' away from wetland resource areas, this is not practical due to constraints associated with setbacks to the well. In this case, the leach field is exactly 100' away from the well. The Commission *could* go as far as making the Applicant move the well, but I have yet to see this Commission put that kind of burden on an applicant (even though the burden is on the Applicant). It should not be counted out for future applications, but I don't see it as necessary here. However:

2. Have the Applicant explain why a variance could not be gained for placing the well within 100' of the well and therefore gain additional distance to the stream by placing the system closer to the house. The Applicant states that the current septic system was already approved by BOH. Applications under the Wetlands Protection Act and Bylaw must be made concurrently with other Boards and Commissions, per Section 4 of the Bylaw and stated below:

"Any such application must be filed concurrently with any application(s) for variances and approvals required by any other Town Board or Commission or their Regulations, or after such are issued, if the Commission so decides to waive this requirement."

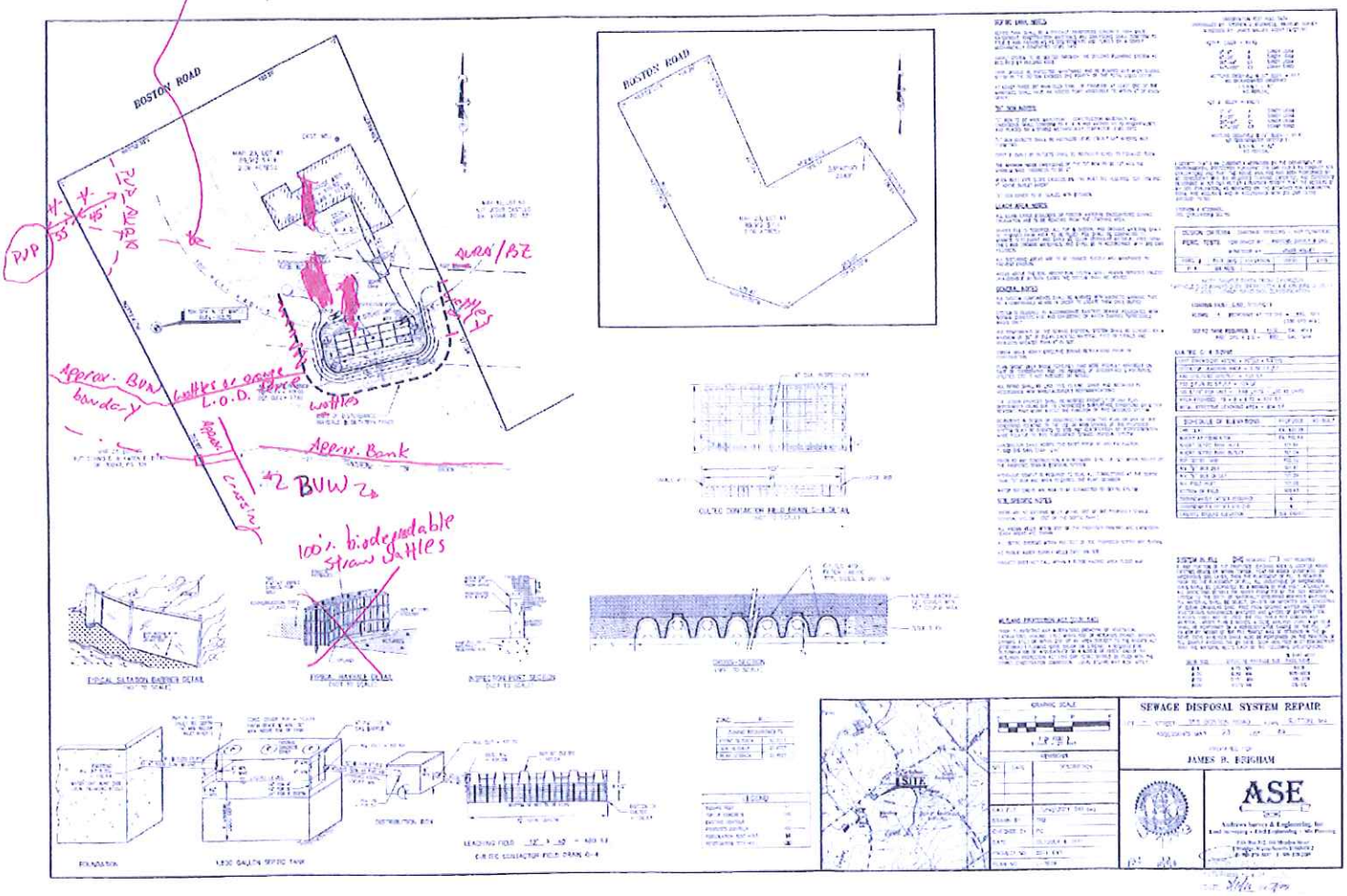
By not filing concurrently, it potentially affects the Commission's ability to enforce the Bylaw. With that:

3. Have the Applicant explain why the leach field could not be moved into another area of the yard that is a) farther away from wetland resource areas and b) >100' from the well.

Sincerely,
Ecosystem Solutions, Inc.
Brandon B. Faneuf
PWS, RPSS, CPESC, CWB
Principal

Extend AURA/BZ assoc. w/ BVW

* Make sure L.O.D. gets extended to property lines so there are no open ends.



Conservation Sign in Sheet

Date: 6-4-14

Name	Address & or Email	Agenda Address
Jason D. Dubois	jdubois@bertmengineering.net	11.5 Main St Rd
BILL DAVIS	Bill.davis@state.ma.us	211 Temple St West Boylston (W Sutton Ln)
Daniel R Buttrick	drbuttrick@tightbond.com	West Sutton Rd