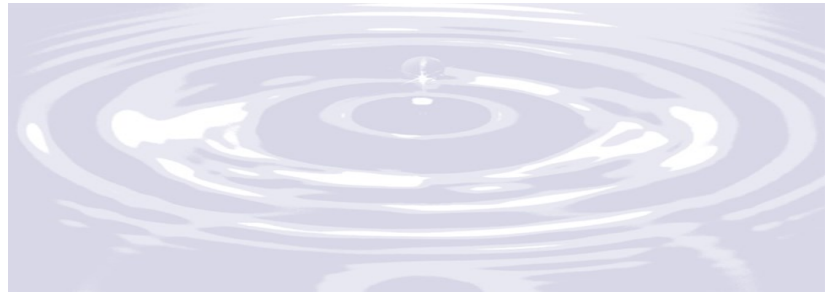




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Notice of Intent Culvert Reconstruction/ Removal and Fire Hydrant

IFarm LLC
55 Towne Road
Boxford MA. 01921

Date: July 2, 2015

PREPARED FOR:

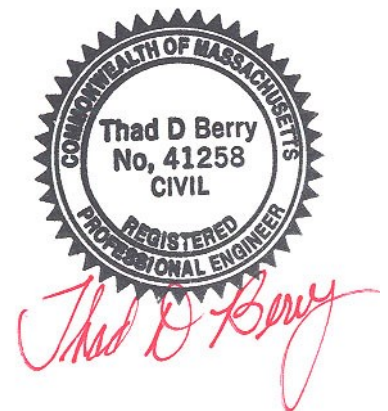
Christine Barenfeld

55 Towne Road
Boxford, MA. 01921

PREPARED BY:

ASB design group, llc

363 Boston Street, Route 1
Topsfield, MA 01983
T- 978-500-8419



July 2, 2015

Project Data Report

i-Farm

55 Town Road

Boxford MA. 01921

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- 2.2 Construction Sequencing
- 2.3 Storm Water Checklist (Appendix A)

APPENDIX A Figures and Photograph's 1-4
Towne Road Discontinued Document

APPENDIX B GZA Geo-environmental, Inc. Soil Report

APPENDIX C Checklist for Stormwater Report





SECTION 1
Existing Conditions



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Project Data Report

i-Farm

55 Town Road

Boxford MA. 01921

INTRODUCTION

The purpose of this report is to document the impacts created by the proposed construction of a single arched aluminum bridge and fire service line at 55 Town Road (i-Farm) in Boxford Massachusetts (see Figure 1).

On September 4 2011 (see Appendix A) Towne Road was discontinued and the limit of the public right of way is shown on Sheet C2. The i-Farm took ownership of the remaining right of way. All of the proposed work will be on i-Farm property.

SECTION I EXISTING CONDITIONS

1.1 EXISTING SITE DESCRIPTION

The 17.548 acre project site location is depicted graphically in **Figure 1** (also refer to Sheet C1). The work will be isolated to the existing 15" culvert crossing and the pond along the northeasterly side property line at the driveway entry to the farm.

The site is predominantly open farm land with woods along the perimeter of the property (also see Sheet C1). A Paved driveway of variable width provides access to the farm. An existing conditions property line and topographic survey was preform at the site by Donohoe and Survey, Inc. The topographic survey was also isolated to the area of concern. Elevations shown are based on the **Vertical Datum NVGD 1929**.

Donohoe Survey Inc. also performed a topographic survey of the existing pond located behind the concrete dam. Based on the field survey the deepest elevation of the pond in the area where the proposed fire line will be installed is approximately 105.

The concrete dam and pond have been in existence since 1971. A spillway controls the out fall for the pond (see Photograph 1 and Sheet C2). There is no information available that would allow us to determine the bottom elevation for the concrete dam. We can see that there is slow seepage from the pond into the existing stream connection to the down gradient 15" culvert inlet. At dry conditions there is still a small continual flow from the pond.

During the 2008 Mother's Day storm event the pond top the dam and washed out the existing roadway and culvert (see Photograph #2). At the time this section was still within a right-of-way owned by the Town of Boxford. The Town of Boxford Department of Public Works (BDPW) rebuilt the existing roadway and culvert to the present condition.

Project Data Report

i-Farm

55 Town Road

Boxford MA. 01921

1.2 EXISTING WETLAND AREAS

The wetland areas on site were flagged by Rimmer Environmental Consulting, LLC. (see NOI by Rimmer Environmental Consulting, LLC.) Three wetland areas were identified. They are:

- **Wetland Area 1** is identified in the field by wetland flags A1.4 to A5. This wetland area represents the bank along the existing pond and dam (see Sheet C2). Work for fire stand pipe and fire access road will fall within the 25' and 75' buffer zone areas.
- **Wetland Area 2** is identified in the field by wetland flags A5 to A11. This wetland area is located on the northerly side of the driveway between the existing concrete dam boulder/stone spillway and the inlet to the 15" culvert (see Sheet C2). Work for stream restoration, bridge, fire access road and new driveway will fall within the resource area and the 25' and 75' buffer zone areas.
- **Wetland Area 3** is identified in the field by wetland flags B1 to B14 and B1.1 to B1.5. This wetland area is located on the southerly side of the roadway at outlet to the 15" culvert (see Sheet C2). Work for stream restoration, bridge, fire access road and new driveway will fall within the resource area and the 25' and 75' buffer zone areas.

The subject parcel does not fall within hazard zone on Flood Insurance Rate Map 25009C0242F, Dated July 7, 2012.

1.3 EXISTING UTILITIES

There are no underground utilities in the location of the proposed work other than the existing 15" culvert. Power and communications are on overhead utility poles and their locations are shown on Sheet C2. There will be no impact the power and communications utility poles.

1.4 SOILS

GZA Geo-environmental, Inc. conducted on site soil borings. Soil boring one is located in the area of the new 6" fire stand pipe. Boring 2 and 3 were done at the locations for the proposed bridge footing/foundation location. The final GZA report is attached in Appendix B. Also see Sheet C2 - C5 for boring locations and boring logs.



SECTION 2

Proposed Conditions



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SECTION 2 PROPOSED CONDITIONS

INTRODUCTION

The purpose project includes the following:

- Installation of a new 8" fire service line to a 6" fire stand pipe for fire protection.
- Removal of an existing 15" CPP culvert.
- Construction of new 24' wide single arch aluminum bridge with a 14 foot span.
- Approximately 65' of stream restoration - into the bridge, through the bridge and exiting the bridge.
- Construction of gravel fire access roadway to new 6" stand pipe.
- Re-pavement of the existing driveway.
- Tree removal as shown on Sheet C4.
- Final Plantings which will be coordinated By Landscapes by Lillabeth, LLC.

2.1 PROJECT DESCRIPTION

Figure 2 (also refer to Sheets C1-C12) outlines the proposed work for the new 24' wide single arch aluminum bridge. The proposed bridge will replace the existing 15" CPP culvert. During the 2008 Mother's Day storm event the pond top the dam and washed out the existing roadway and culvert. The limit of the washed out area is shown in Photograph #2.

The applicant wishes to install a new fire service line for the protection of the existing buildings on the farm. As part of this work we are proposing replace the 15" CPP culvert with the prefabricated aluminum bridge.

The fire service line will result in a temporary disturbance of 10' of bank along the pond. Figure #3 shows the auto-turn movements for the largest fire truck in the Boxford Fire Department. The fire truck will drive up to the hydrant and then connect to the 6" stand pipe. The fire truck will then back out on the new driveway. Photograph #3 shows the location for the 6" stand pipe.

The spillway for the dam controls the out fall from pond (see Photograph 1 and Sheet C2). ASB has conducted field observations of the overflow spillway since March 2015. Once the flow enters in the existing stream connection to the 15" culvert the velocity is reduced by the:

- boulder/stone overflow,
- level slope of the stream bed (1.5%±),

Project Data Report

i-Farm
55 Town Road
Boxford MA. 01921

- stream vegetation and rocks/stones.

However, it is important to remember the force of the stormwater (volume and velocity) that overtopped the dam and washed out the existing roadway.

With this in mind we wanted to provide for a stream restoration and bridge layout that would accommodate this condition.

The proposed bridge structure has been designed to provide for:

- A minimum entrance elevation of 6' (108 at steam bed to 114 at arch).
- Bank width of 12'. The existing bank full width is approximately 8' wide (average).
- Proposed stream restoration slope of .75%.
- The bridge inlet side will be stabilized with boulders and rock for velocity reduction during high flow times. The side slopes will also be vegetated (see Sheets C7 and C8).
- Sheets C7 provides typical cross-section of the stream restoration elevations and final surface conditions. The site presently has a large mixture of boulders, rocks and stones that will be utilized in the stream bed restoration (see Photograph #4).
- Settling pool at the stream restoration outlet.
- Extended concrete footing/foundation walls for stream restoration stability.

2.2 CONSTRUCTION SEQUENCE


Sheets C10-12 outlines a suggested construction sequence for the project. The work will be performed during the driest times of the year (July-September). All excavated material will be reused on site. All existing boulders, rock, and stone will be stored on site for reuse for the stream restoration along with the additional boulders, rock, and stone shown in Photograph #4. The stream restoration will be supervised Rimmer Environmental Consulting, LLC.

The construction may be phased. This year the fire service line may be installed and the bridge structure and stream restoration taking place in 2016. Construction will depend on:

- Time required for permitting and final approvals.
- Time for bridge prefabrication and delivery to the site.

2.3 STORMWATER CHECKLIST

See Appendix A for the Stormwater Checklist.



Appendix A
Figures
Roadway Discontinuance



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Traffic Engineering
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project title:
**CULVERT RECONSTRUCTION
 & HYDRANT INSTALLATION**

prepared for:
**CHRISTINE BARENSFELD
 IFARM LLC
 55 TOWNE ROAD
 BOXFORD, MA 01921**

revisions

no.	date	description
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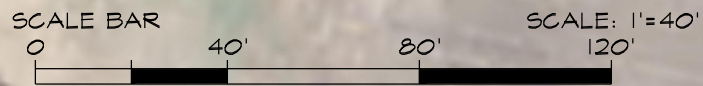
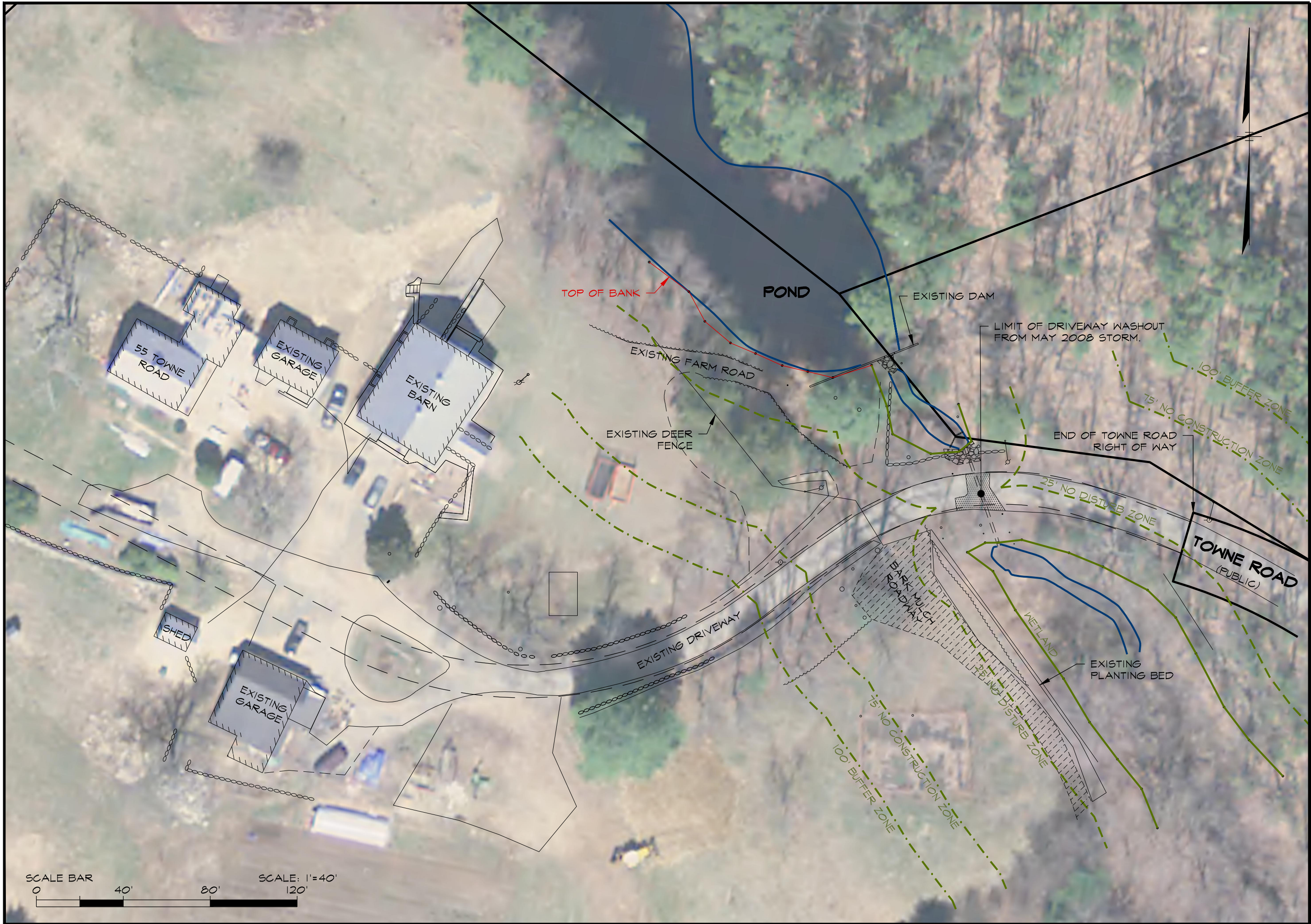
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 scale: 1"=40'
 job no: 2015-08 / 2367
 DEP no: T.B.D.

drawing name
**EXISTING
 CONDITIONS**

drawing number

FIGURE #1



project title:
**CULVERT RECONSTRUCTION
 & HYDRANT INSTALLATION**

prepared for:
**CHRISTINE BARENSFELD
 IFARM LLC
 55 TOWNE ROAD
 BOXFORD, MA 01921**

revisions

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plan submission
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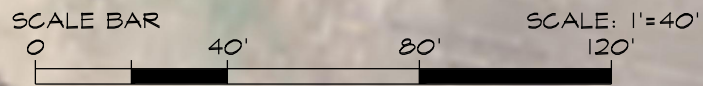
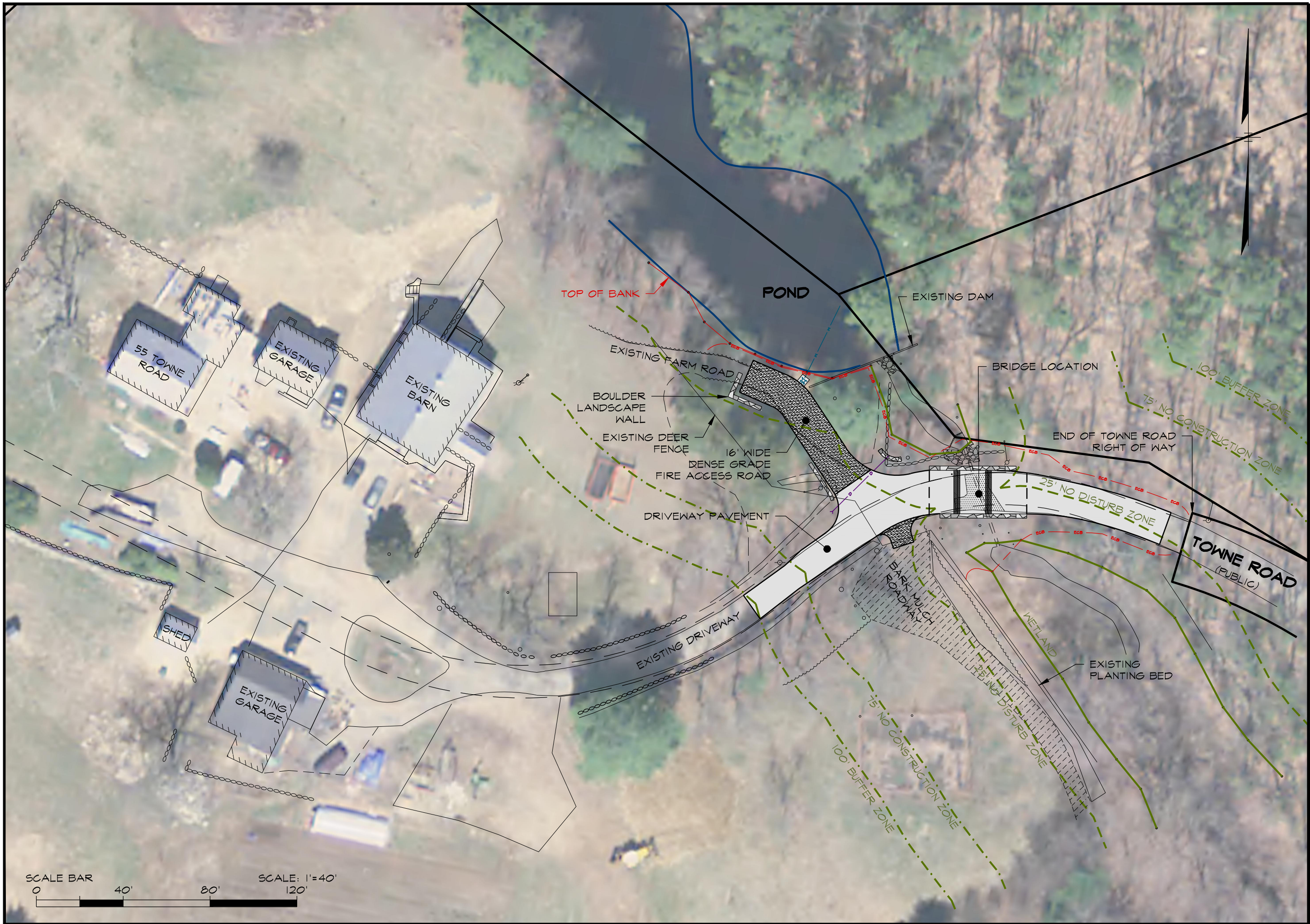
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drawing name

**PROPOSED
 CONDITIONS**

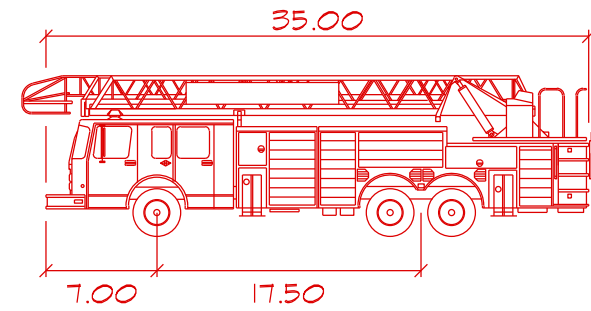
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FIGURE #2



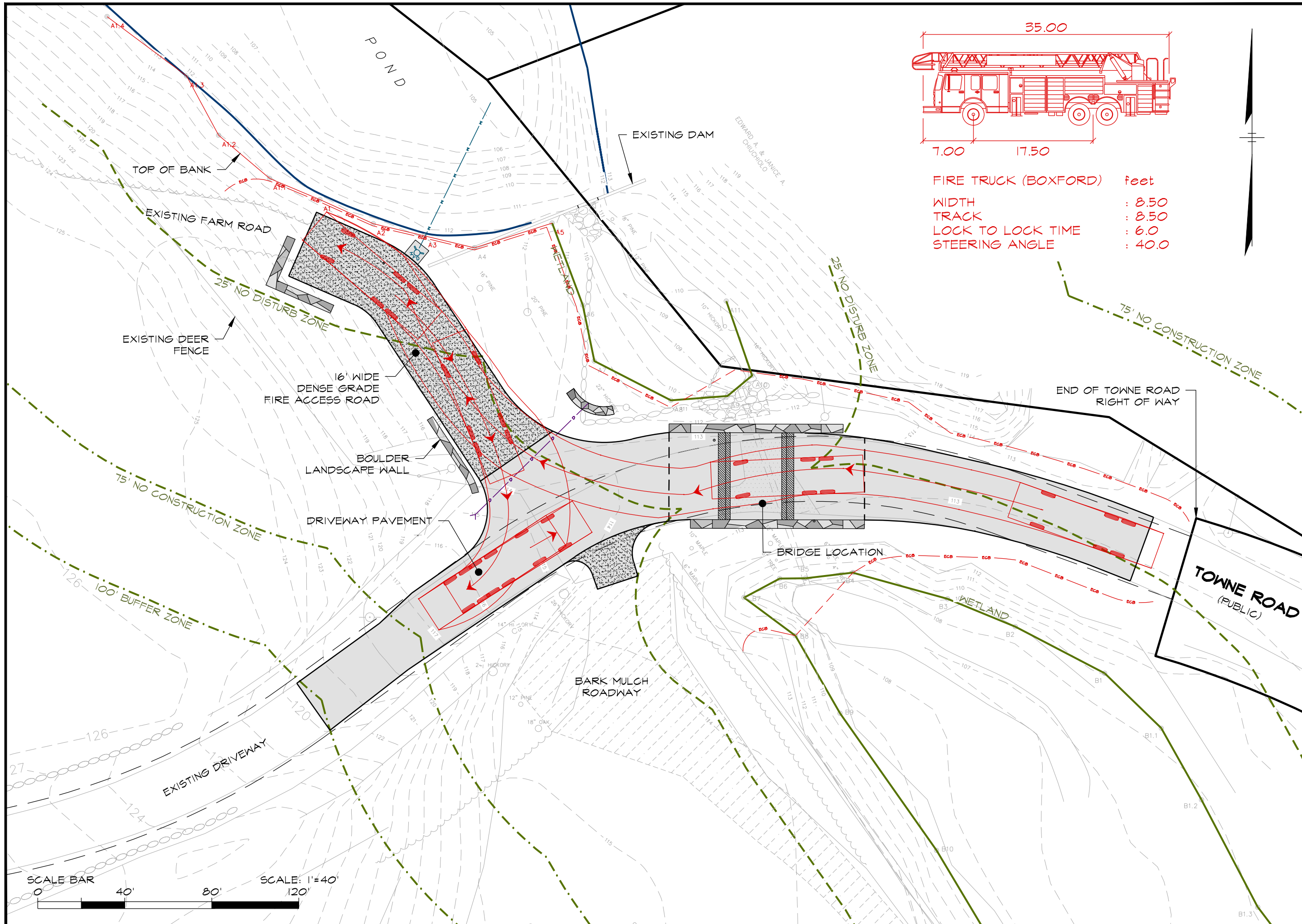
revisions

no.	date	description
0	06.30.15	ISSUED FOR REVIEW



FIRE TRUCK (BOXFORD) feet

WIDTH	: 8.50
TRACK	: 8.50
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 40.0



Photograph #1

Dam Spillway (also see Sheet C2)

Concrete Dam

Dam Spillway
Elevation = 112.2

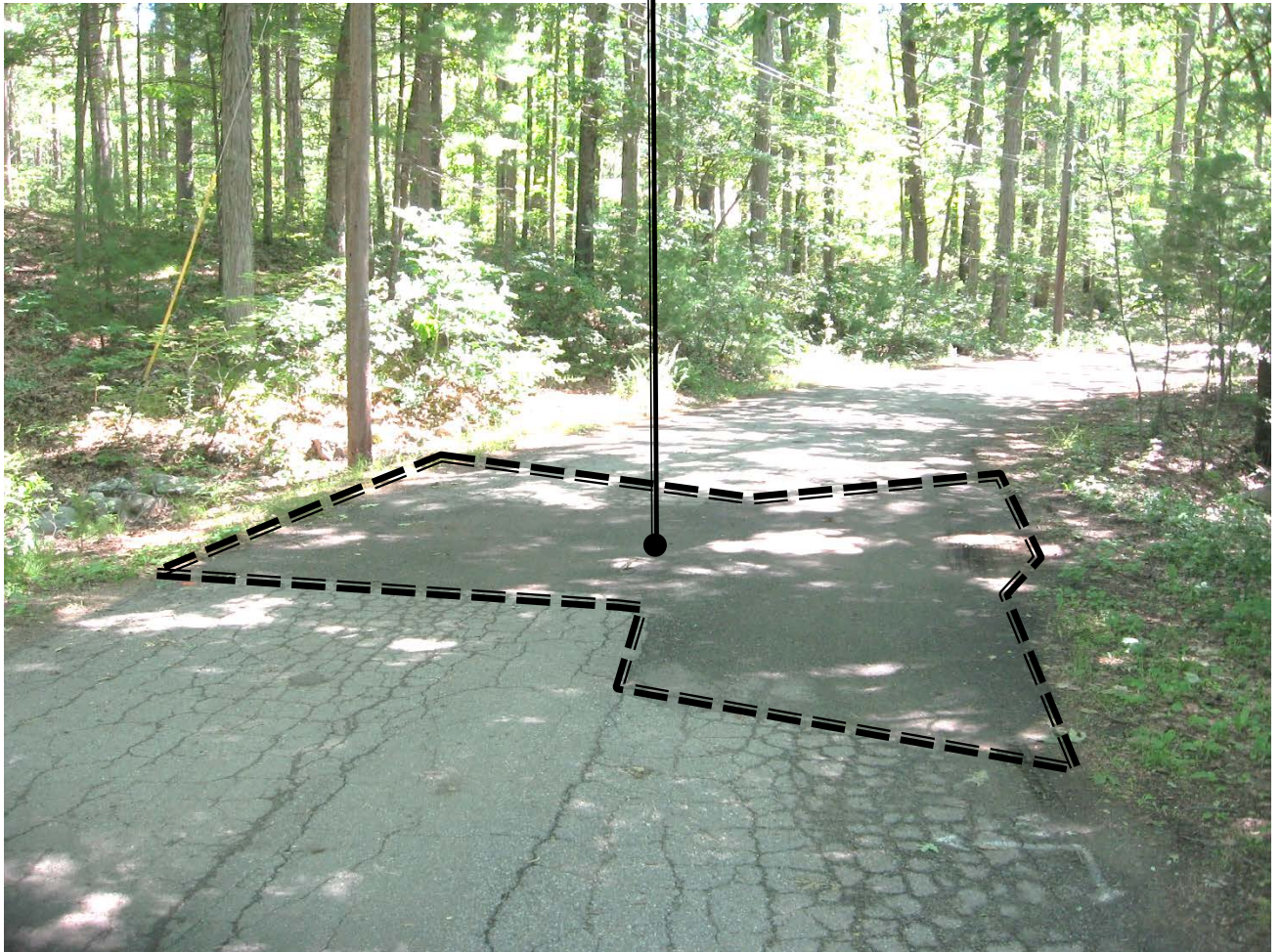


Rock/Stone Spillway
Out Fall

Photograph #2

Roadway Washout (also see Sheet C2)

Limit of roadway
wash out - 2008
storm event



Photograph #3

6" Fire Stand Pipe Location
(also see Sheet C3 and C4)

Location of
Proposed 6" fire
stand pipe.



Pine trees to be
removed

Pine trees to be
removed

Photograph #4

6" Fire Stand Pipe Location
(also see Sheet C3 C5 and C6)

Boulders, Rock, Stone
to be used in stream
restoration

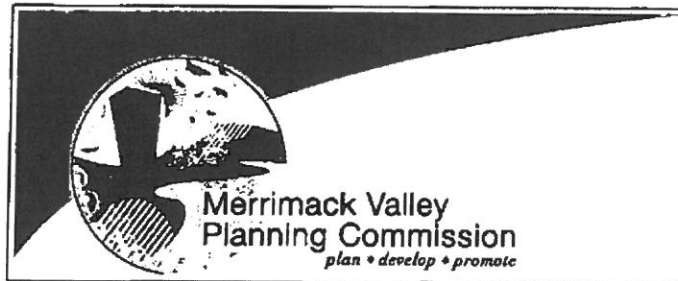


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10/12/2011 09:47 ORDER Pg 1/3



Commonwealth of Massachusetts

**Merrimack Valley Planning Commission
Adjudicatory Board**

ORDER OF DISCONTINUANCE OF LAYOUT

**Portion of Towne Road
Boxford, Docket No. 11-01**

At a meeting of the Merrimack Valley Planning Commission Adjudicatory Board (hereinafter the "Board") of the Merrimack Valley Planning Commission (hereinafter "MVPC"), held at Boxford, Massachusetts on September 14, 2011.

A PETITION from the Town of Boxford was presented to the Board, stating that public convenience and necessity require the discontinuance of the layout of a portion of Towne Road, in the Town of Boxford, both as a county highway and as a public way.

VIEW AND LAYOUT

The Board, deeming a view of the premises expedient, appointed the parking lot of the property of iFarm, LLC, having an address of 55 Towne Road, in Boxford, Massachusetts, on September 14, 2011, at 1:00 p.m. as the place and time for said view, and appointed the Barn at iFarm, LLC, 55 Towne Road, Boxford, Massachusetts, on September 14, 2011, at 2:00 p.m. as the place and time to hear the parties thereon; and also caused a copy of said petition to be served upon the Clerk of the Town of Boxford fifteen (15) days at least before the time appointed for said view; and also gave notice to all persons interested by causing a like copy to be published once in *The Newburyport Daily News*, and the *Lawrence Eagle Tribune*, newspapers published in said County of Essex, said posting and publication of said copy having been seven (7) days at least before the time appointed for said view; and before said view was had, said Board gave notice in like manner as described in the foregoing notice of the petition to all persons interested of the time and place for commencing said view.

And on the said September 14, 2011, the Board met at the time and place appointed, and having viewed the premises and heard the parties interested; and after due consideration, said Board did adjudge that public convenience and necessity required that said petition be granted and forthwith proceeded to hereby discontinue a portion of Towne Road in the Town of Boxford within the limits specified in said petition, under the provisions of Chapter 82 of the General Laws of the Commonwealth of Massachusetts, as a county highway and as a public way, to wit, as follows:

**DESCRIPTION OF
THE DISCONTINUANCE OF A PORTION OF TOWNE ROAD IN
THE TOWN OF BOXFORD**

The discontinuance of the portion of Towne Road is shown as on a plan entitled "Plan of Land in Boxford, MA" prepared for i-FARM, LLC, Boxford, MA 01921 and prepared by Donohoe and Parkhurst, Inc., dated November 30, 2010, recorded in the Essex South District Registry of Deeds herewith (the "Plan") with the names of property owners verified at the Essex South District Registry of Deeds. The description of Towne Road now being discontinued, in part, is more particularly described as follows:

DESCRIPTION OF THE DISCONTINUED PORTION OF TOWNE ROAD

The location of the discontinued portion of Towne Road is more fully shown on the above plan, which is made part of this adjudication and reference may be had to it for a more particular description.

DAMAGES

And said Commissioners having heard the proprietors of said lands, by themselves or their agents, on the subject of damages, by them sustained by reason of the discontinuance of said highway, have estimated the same as follows, to wit: no damages claimed and none awarded.

ASSIGNMENT OF COSTS

It is ordered that the Town of Boxford shall reimburse the said MVPC the total amount of any damages which may be recovered by any person or corporation by reason of said discontinuance. In addition, any costs incurred by said MVPC as a result of further action by any person by reason of the discontinuance of said highway, whether or not further damages are awarded, shall be reimbursed by the Town of Boxford to said MVPC.

BOUNDS

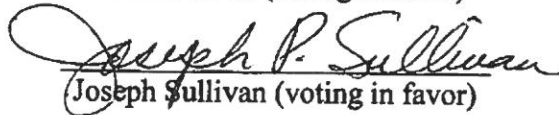
The Board of Selectmen of the Town of Boxford is directed to cause permanent markers of stone to be erected and maintained at those locations designated on said plan as "Bounds" in order that the location of the remaining portion of said highway may be readily ascertained.

Dated this 14th day of September, 2011.

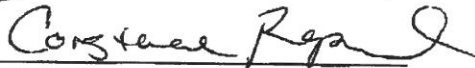
**MERRIMACK VALLEY PLANNING COMMISSION
ADJUDICATORY BOARD**



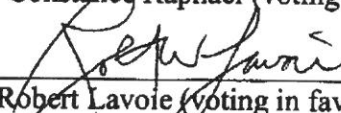
David Powell (voting in favor)



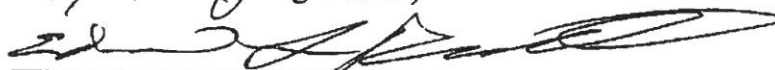
Joseph Sullivan (voting in favor)



Constance Raphael (voting in opposition)



Robert Lavoie (voting in favor)

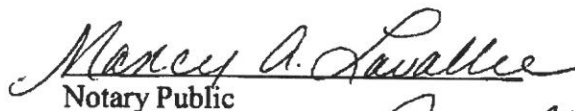


Ed Ramsdell (voting in favor)

COMMONWEALTH OF MASSACHUSETTS

Essex, ss.

On this 16 day of Sept, 2011, before me, the undersigned notary public, personally appeared Anthony Kaminich as aforesaid, proved to me through satisfactory evidence of identification, which was License ID, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose on behalf of the Merrimack Valley Planning Commission Adjudicatory Board.



Notary Public

My Commission Expires: Jan 20, 2017