

# WETLAND MAPPING AND FERNALD PROPERTY

Summary by Phil Moser  
Conservation Commission Meeting 3/21/2024

## Outline

Recent Construction Activity at Fernald Property

Maps and Reports Have we Relied on in the Past

What Interactions Have Commission Members Had with the Applicant

New Information

What Additional Information Do We Need

RECENT CONSTRUCTION ACTIVITY - MARCH 10, 2024











# Maps and Reports we have Relied on in the Past

1974-1975 Wetlands Map

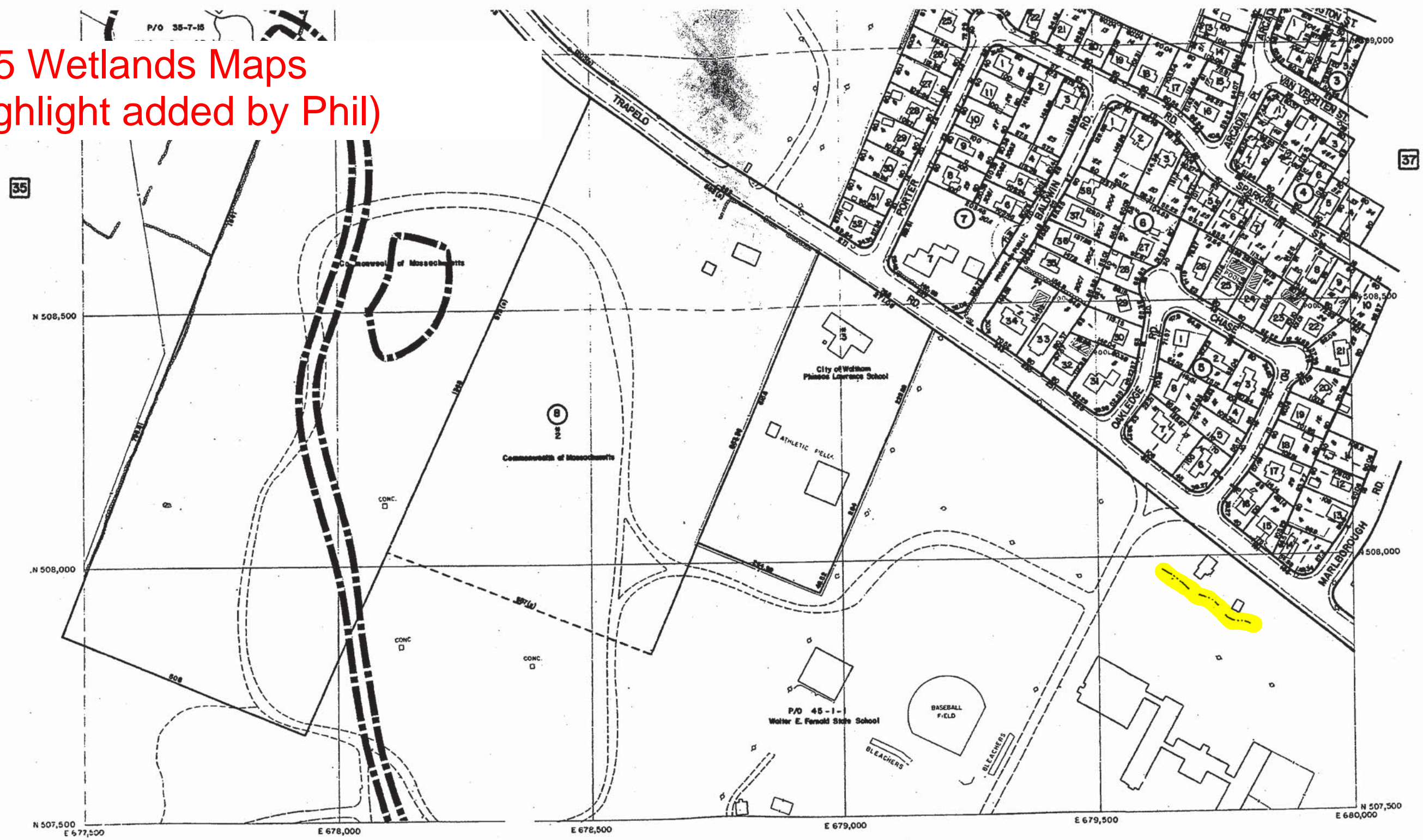
2016 Wetlands Report

Waltham GIS Parcel Viewer

MassDEP Wetlands GIS Layer

Waltham GIS Wetlands Viewer

1974-1975 Wetlands Maps  
(yellow highlight added by Phil)



**CITY OF WALTHAM, MASSACHUSETTS**

MAPPING PREPARED BY:  
**RAYTHEON** Autometric  
 WAYLAND, MASSACHUSETTS  
 CONTROL BY SCHOFIELD BROTHERS, REGISTERED LAND SURVEYORS  
 AND RAYTHEON COMPANY.  
 COMPILED BY STEREOPHOTOGAMMETRIC METHODS.  
 DATE OF PHOTOGRAPHY, APRIL 1974

**WETLAND RESOURCE AREAS**



**HMM ASSOCIATES**  
 Environmental Consultants, Engineers and Planners  
 336 BAKER AVENUE  
 CONCORD, MASSACHUSETTS 01742  
 (617) 371-1692



GRID BASED ON MASSACHUSETTS STATE PLANE COORDINATE SYSTEM

**WETLAND LEGEND**

--- APPROXIMATE LIMIT OF WETLANDS  
 - - - APPROXIMATE LIMIT OF 100 YEAR FLOODPLAIN

<b>LEGEND:</b>	<b>POLES</b>	<b>CITY BOUNDARY</b>
ROADS	UTILITY	STREETS, DITCHES
PAVED	LIGHT	CULVERT
UNPAVED	BYLOW	LAKES, PONDS
TRACKS OR TRAILS	FENCES	SWAMP
RAILROADS	WALLS	TREES
BRIDGES	STONE	HEDGES
ROAD	RETAINING	UNDER CONSTRUCTION
RAILROAD	OTHER	





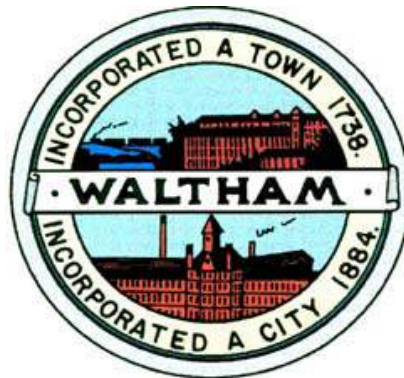
# FERNALD CENTER REHABILITATION WETLAND STUDY REPORT

APRIL 2016



## Prepared For:

**Community Preservation Committee (CPC)**  
**City of Waltham**  
**119 School Street, Room 5**  
**Waltham MA 02451**



## Prepared by:



609 Winter Street  
Framingham, MA 01702



100 Fifth Avenue, 5th Floor  
Waltham, MA 02451

**Phase II - Stormwater Masterplan**

This project could become a part of the Stormwater Masterplan for the entire Fernald Center. Alternatively, if the City initiates a campus-wide utilities master plan, this could be made a part of that Plan.

Based on the results of the hydrologic and hydraulic modeling additional flood storage could be created by an additional pond (Storage Pond 2) near the area of the existing detention basin south of the Chapel Building. To further help attenuate the existing flooding downstream the City could create additional storage (Storage Pond 3) north of the abandoned railroad spur and Clematis Brook wetlands.

As part of the masterplan the City could identify, locate and perform a structural review of the existing culvert crossings and the storm drainage system piping discharging to the unnamed stream, potential stream restoration of the segment south of Pine Street in concert with planned passive recreational features.

**Phase III - Stormwater Utility** The improvements proposed under Phase II could be funded through creation of "Fernald Center Stormwater Utility". The funding could be assessed to any developer/development that will be proposed within Parcel 2. The developer would have to purchase stormwater storage credits per unit area of development proposed or an equivalent metric.

**Phase IV - Alleviate Existing Flooding - Shirley Road Area** There is no existing storm drainage system in the Shirley Road/Upton Road area. Runoff from approximately 8.6 acres of area near the northeast corner of the Fernald Center ultimately drains to this area causing flooding of the residences and also resulting in deterioration of the existing sewer system via excessive infiltration. An H/H model has been setup and included with this study so that the City could utilize this to design an appropriate storm drainage system for the area to alleviate the frequent flooding in this area. A copy of the output from HydroCAD is included in Appendix G.

The existing wetlands east of 180 Trapelo Road can be enhanced to enable infiltration of flows and provide additional storage to assist in mitigation of flooding. In addition, flows from portion of the northern slope of Kelley Hall could be diverted towards the proposed Storage Pond 1 proposed under Phase I. This will reduce the resulting flows to the Shirley Road area while diverting flows towards Storage Pond 1.

**FERNALD CENTER REHABILITATION**  
**WETLAND STUDY REPORT**

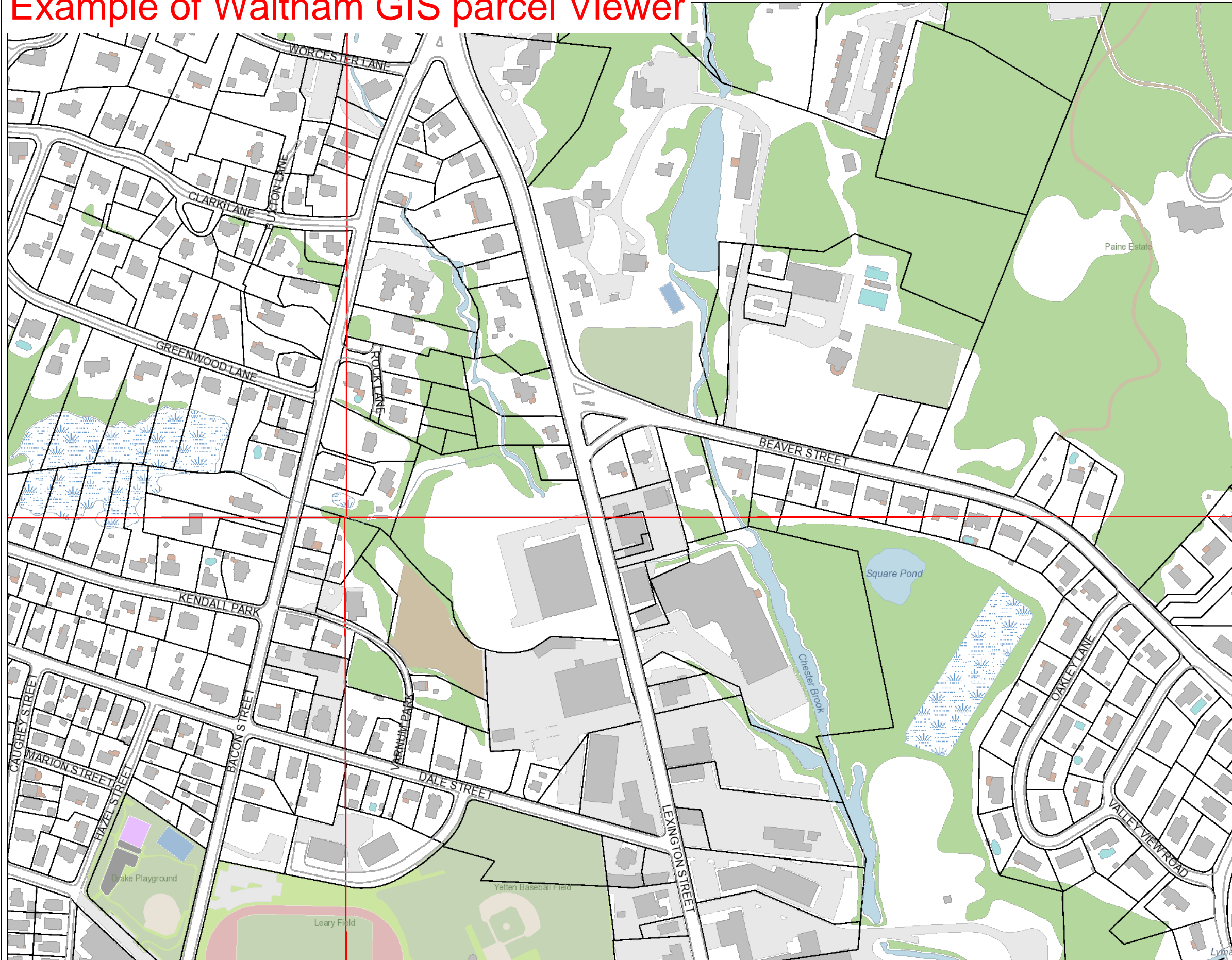
**APRIL 2016**

**APPENDIX F**

**1975 WETLAND RESOURCE AREA MAPS - CITY OF WALTHAM**

**APPENDICES**

# Example of Waltham GIS parcel Viewer



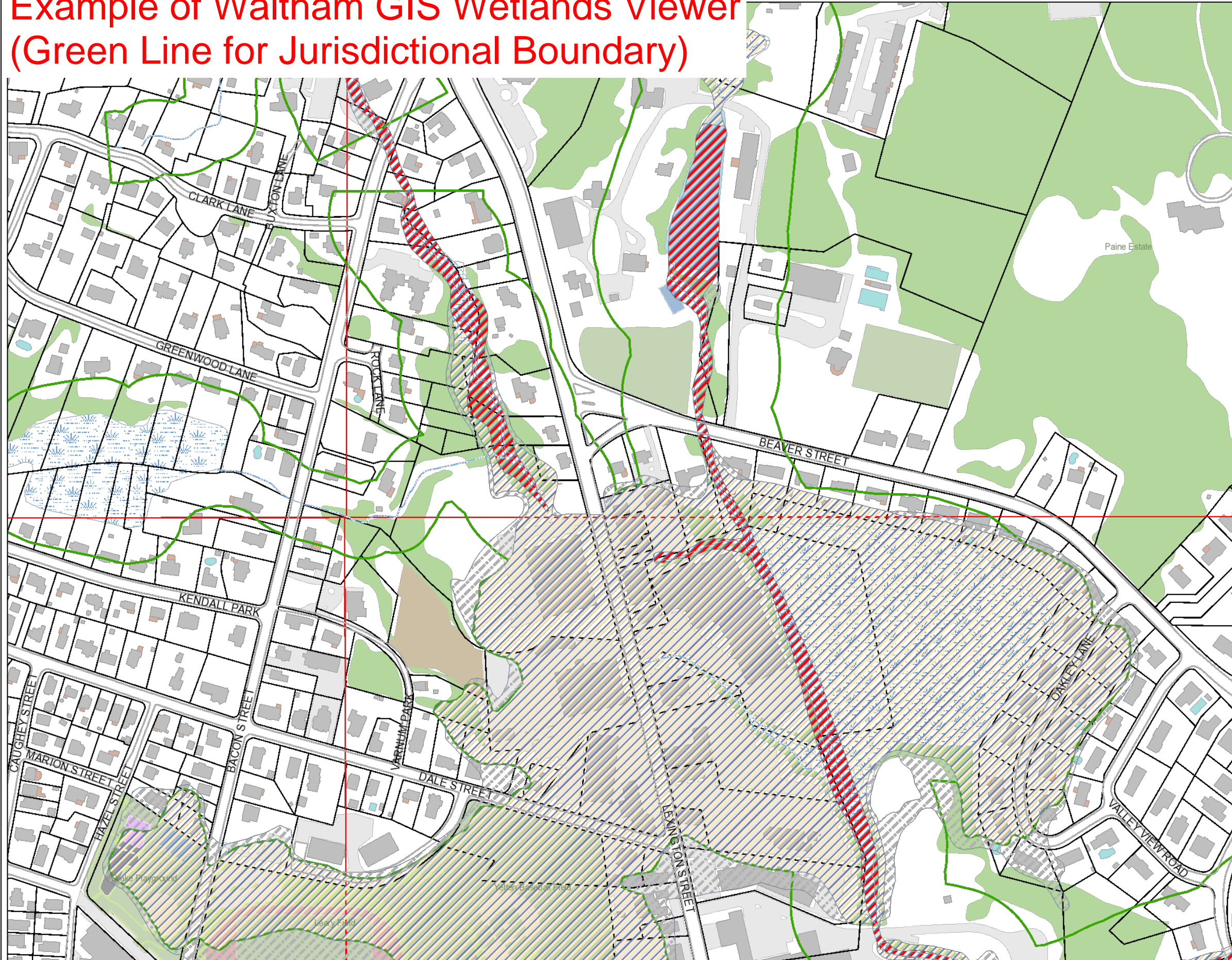
- Rail Lines
- City Boundary
- Swimming Pools
- Parcels
- Buildings
  - Building Footprints
  - Deck
- Parking Lots
  - Paved Area
  - Unpaved Area
- Water Bodies
  - Water Bodies
  - Wetland Area
- Vegetated Areas

All data is provided for graphic representation only. The City of Waltham expressly disclaims all warranties of any type, expressed or implied, including, but not limited to, any warranty as to the accuracy of the data, merchantability, or fitness for a particular purpose.



1" = 278 ft

# Example of Waltham GIS Wetlands Viewer (Green Line for Jurisdictional Boundary)



- Rail Lines
- Intermittent Streams
- FEMA Floodway
- FEMA Flood Zones
  - X: 0.2% Chance of Flooding
  - A: 1% Chance of Flooding
  - AE: 1% Chance of Flooding
  - AH: 1% Chance of 1-3ft P
  - AO: 1% Chance of 1-3ft S
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- Resource Buffers
- Swimming Pools
- Parcels
- Buildings
  - Building Footprints
  - Deck
- Sports
  - Basketball Court
  - Dirt
  - Athletic Field
  - Other
  - Playground
  - Spray Park
  - Tennis Court
  - Track
- DEP Wetlands
  - Open Water
  - Wetland Area
- Parks
  - Cemetery
  - Park

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# Example of Wetlands and Stream missing from MassDEP Map

maps.massgis.digital.mass.gov/images/dep/omv/wetviewer.htm

Native Plants for ca... Outlook GIS Wetlands Viewer Google Maps Gmail Dropbox Rachel and Chris | C... BibleGateway Boston Globe eBird LinkedIn Weather.com Walth... Stone Wall Initiative

MassDEP Online Map Viewer  
**Wetland and Wetland Change Areas Map**

Map Tools  
Overview Map Layers Legend Map Help Contact

337-1020  
316-0316  
468

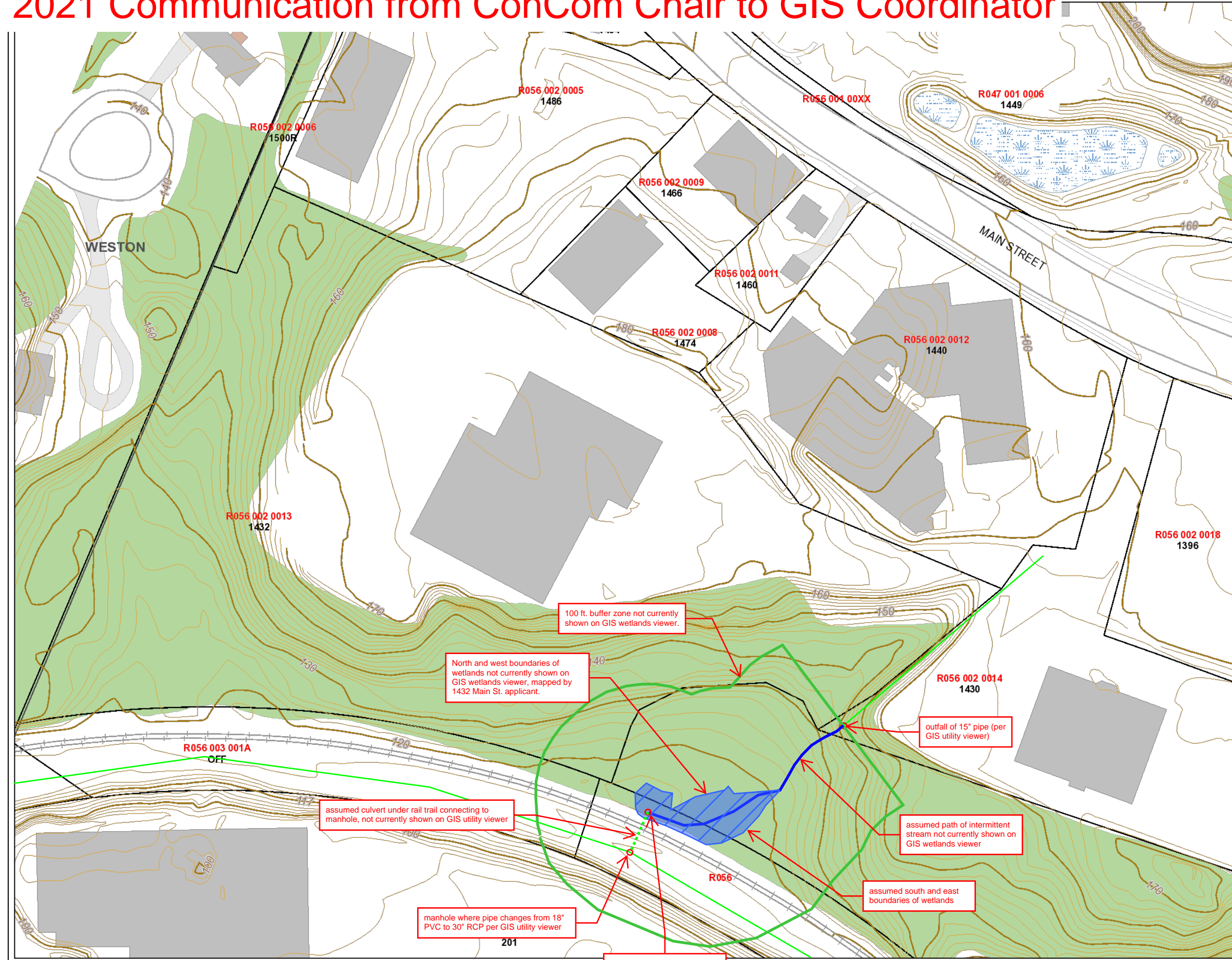
MAIN STREET  
JONES ROAD

2019 Imagery USGS

50 m  
100 ft  
42°22'37.5"N, 71°16'08.2"W  
(42.3771, -71.269)

7:14 PM  
3/21/2024

# 2021 Communication from ConCom Chair to GIS Coordinator



- Contour Lines
  - Index Contours
  - Index Depression Contour
  - Intermediate Contour
- Parcels
- Buildings
  - Building Footprints
  - Deck
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1" = 100 ft

100 ft. buffer zone not currently shown on GIS wetlands viewer.

North and west boundaries of wetlands not currently shown on GIS wetlands viewer, mapped by 1432 Main St. applicant.

outfall of 15" pipe (per GIS utility viewer)

assumed path of intermittent stream not currently shown on GIS wetlands viewer

assumed south and east boundaries of wetlands

manhole where pipe changes from 18" PVC to 30" RCP per GIS utility viewer

intermittent stream observed running parallel to rail trail and disappearing into culvert here

assumed culvert under rail trail connecting to manhole, not currently shown on GIS utility viewer

# Field-Flagged Wetlands and Stream missing from MassDEP Wetlands Map Added to Waltham GIS Wetlands Viewer in 2021



- Rail Lines
- Intermittent Streams
- FEMA Floodway
- FEMA Flood Zones
  - X: 0.2% Chance of Flooding
  - A: 1% Chance of Flooding
  - AE: 1% Chance of Flooding
  - AH: 1% Chance of 1-3ft P
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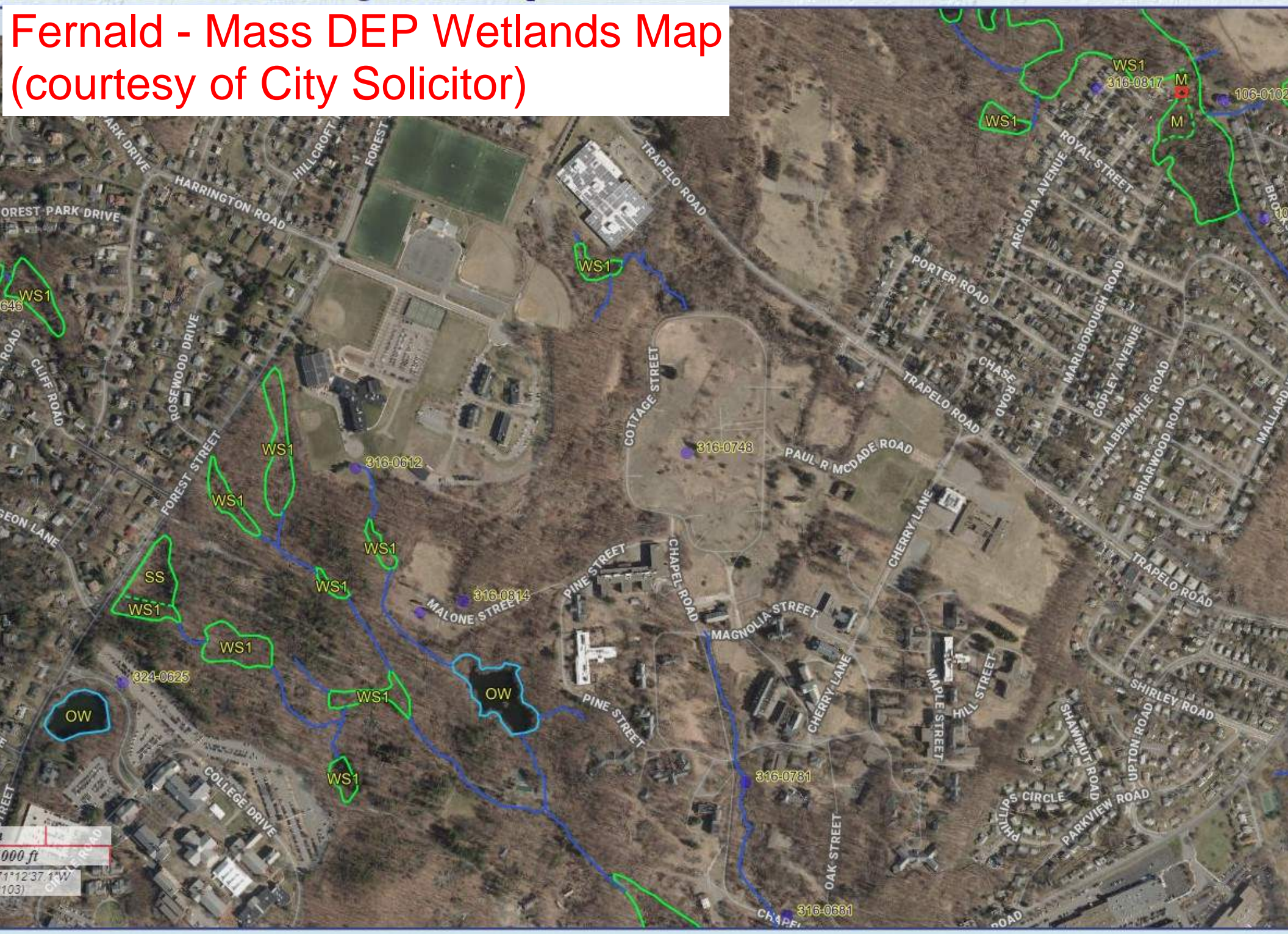


1" = 100 ft

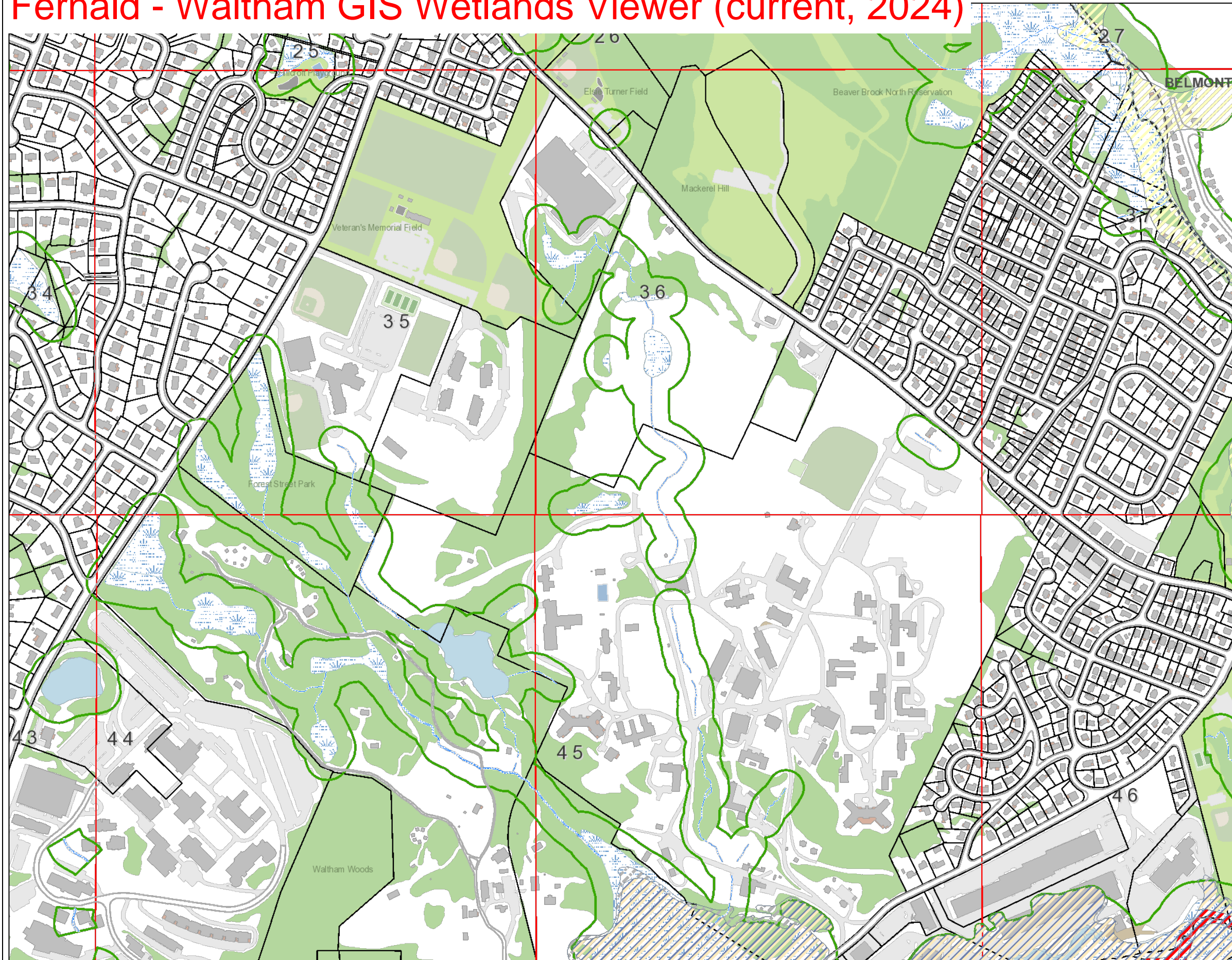


# Wetland and Wetland Change Areas Map

## Fernald - Mass DEP Wetlands Map (courtesy of City Solicitor)



# Fernald - Waltham GIS Wetlands Viewer (current, 2024)

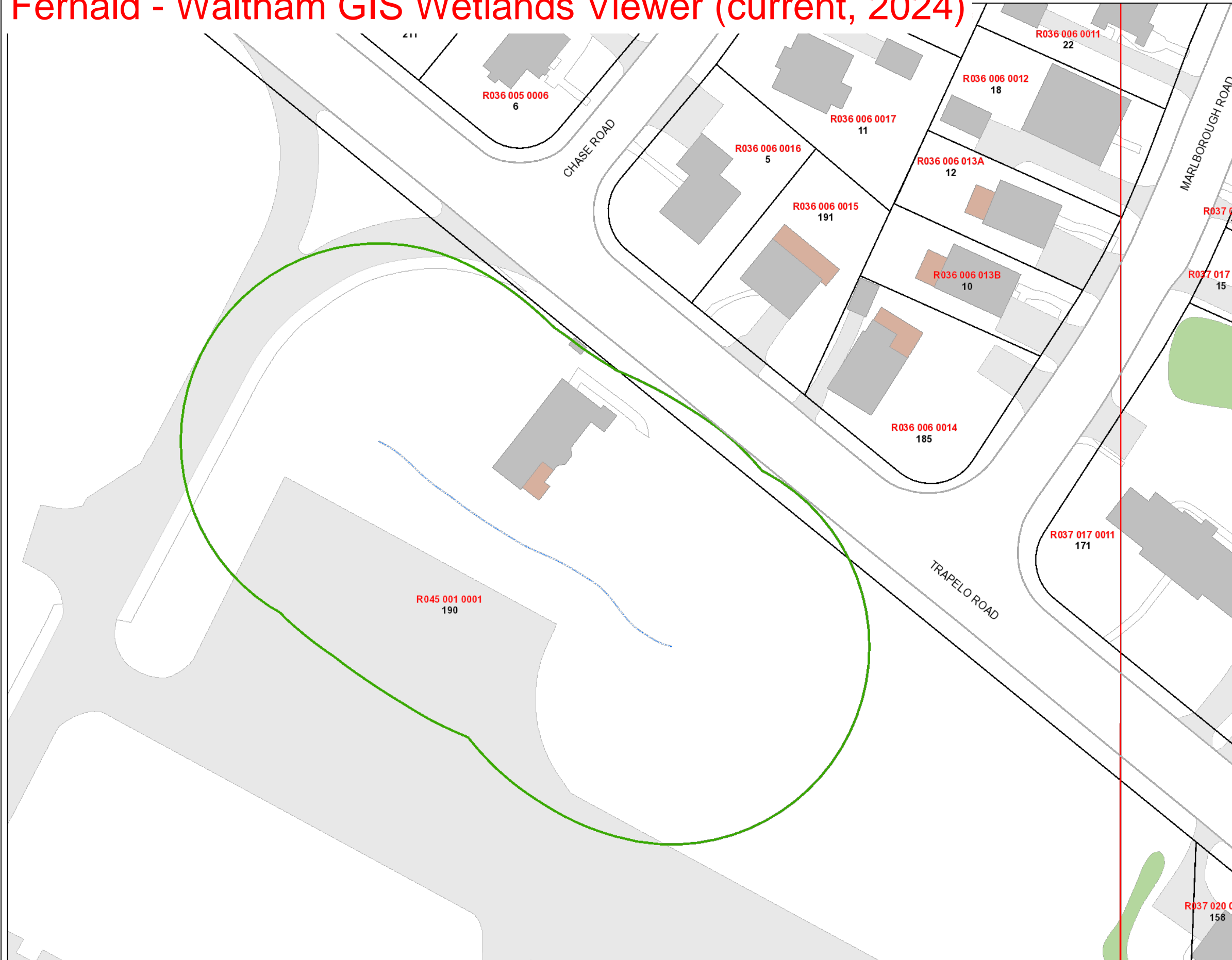


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1" = 556 ft

# Fernald - Waltham GIS Wetlands Viewer (current, 2024)



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1" = 50 ft

# Interactions Between Commission Members and Applicant