COMMITMENT & INTEGRITY
DRIVE RESULTS

250 Royall Street | Suite 200E
Canton, Massachusetts 02021
www.woodardcurran.com

T 800.426.4262
T 781.251.0200
F 781.251.0847

March 30, 2021

Sudbury Conservation Department
275 Old Lancaster Road
Sudbury, MA 01776
Attn: Lori Capone, Conservation Coordinator

**Re: Old Framingham Road Sidewalk Extension and Roadway Realignment NOI**
**Response to Comments**

Dear Ms. Capone:

Thank you for coordinating the review of the proposed sidewalk extension and roadway realignment on Old Framingham Road in Sudbury. The following letter compiles responses to comments received from you via email on March 18, 2021. The comments received are provided below for your reference, and our response follows each comment:

Comment 1: *There is no discussion on how the project meets the Wetlands Bylaw. Unaltered Buffer Zone (Adjacent Upland Resource Area) is a resource area under the Bylaw. Impacts thereto should be mitigated or explain how functions provided by AURA are not being impacted.*

Please see section 4.1 of the updated Technical Memorandum for a discussion of impacts to the AURA.

Comment 2: *Section 2.2 of Tech Memo states stream is both perennial and intermittent.*

The stream is perennial—please see Section 2.2 of the revised Technical Memorandum.

Comment 3: *EcoTec report, second paragraph notes Marlboro Road and Panty Brook project. It also states that engineer should confirm that work is outside Bordering Land Subject to Flooding, which appears to be located on the eastern side of the CSX branch, 1,500 linear feet from the project site. Is there a reason the wetland scientist left this question open?*

Please see the updated NOI form and the FEMA Flood Insurance Rate Map (FIRM) included with the Technical Memorandum as Attachment C. The project is not within the 100-year floodplain according to the FIRM.

Comment 4: *The Riverfront impact calculations in the NOI states that there is 9,069 s.f. of impact, but the Impact Area plan notes 9,069 s.f. of proposed impervious with 5,694, temp disturbance. The NOI should be modified to include with temporary disturbance within the total alteration. The total riverfront calculation in the NOI should include all land within the riverfront area on site. I know this is hard to quantify this this type of project but it should not be the total impervious number. Temp alteration numbers should also be included on the NOI form for inner and outer riparian zones.*

Please see the revised impact area figure with clarified impact square footage calculations.

Comment 5: *Only silt fence is shown for erosion controls, except for the coffer dam and turbidity curtain. No wattles?*

Woodard & Curran recommends using a compostable silt-sock sedimentation barrier. Please refer to the revised sheet C-200 for the Sedimentation Barrier, Dewatering Discharge Sediment Control Device, and Temporary Soil Stock Pile Area details.

Comment 6: *Any tree removal required? Any trees within jurisdiction that are being protected during construction?*

Per the discussion at the March 22nd meeting, it is possible that some small trees behind the existing stone wall on Town-owned land south of #78 may need to be removed. One small tree at the south corner of Nobscot Road and Old Framingham Road will need to be removed to accommodate the new intersection alignment—this tree has been called out on the revised sheet C-101. Tree removal will be limited to only those necessary to facilitate construction, and certain trees within or near the limit of work are called out to be protected on sheet C-101.

Comment 7: *Erosion control matting is called out in construction sequence but detail not shown on plan nor where this will be used.*

Please see the revised sheet C-201. Note 1 of the Erosion Control Matting detail contains application instructions with minimum slopes where use of the matting will be required.

Comment 8: *What seed mix if being used to stabilize disturbed areas?*

Please see the attached seed mix specifications for the New England Conservation/Wildlife mix and the New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites. The New England Conservation/Wildlife Mix will be used to stabilize disturbed upland areas. The New England Erosion Control/Restoration mix will be used to stabilize disturbed wetland areas above the waterline if incidental disturbances to such areas occur.

If you have any questions or require additional information, please do not hesitate to contact me at 781-613-0311 or email me at ssalvucci@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Scott Salvucci, PE
Project Manager

Enclosures: Revised NOI Package

# TECHNICAL MEMORANDUM

TO: Arthur Allen, EcoTec, Inc.

PREPARED BY: Dan Pasquale, Woodard & Curran

REVIEWED BY: Scott Salvucci, Woodard & Curran

DATE: March 4, 2021 (Revised March 30, 2021)

RE: Old Framingham Road Sidewalk Extension and Roadway Realignment

## 1. INTRODUCTION

Woodard & Curran has developed a preliminary-phase design of a sidewalk extension alongside Old Framingham Road in Sudbury, MA. Additionally, the design includes a realignment of Old Framingham Road and a re-configuration of the Old Framingham Road/Nobscot Road intersection. This memorandum is intended to support filing of a Notice of Intent application with the Conservation Commission for authorization to construct the sidewalk extension and roadway improvements. The sidewalk extension would improve pedestrian safety and enhance access between the residential communities along Old Framingham Road and an existing sidewalk along Nobscot Road. An existing reinforced concrete pipe (RCP) culvert carries an unnamed perennial stream beneath Old Framingham Road. To accommodate the sidewalk and adjacent roadway alignment, Woodard & Curran recommends replacing a portion of the existing culvert with new RCP piping. Please refer to Figure 1 for the Site Location Map.

## 2. EXISTING CONDITIONS EVALUATION

### 2.1 Survey and Existing Unnamed Stream Channel Condition

An existing conditions survey of the site was performed by Jarvis Land Survey, with field data collected in November and December 2020. A 43.4-foot long closed-channel/pipe culvert carries an unnamed stream flowing west to east beneath Old Framingham Road. Upstream of the crossing, the stream pools in an area west of the roadway, impounded by a stone masonry headwall. A weir structure forms the outlet of the upstream pool area, discharging into an approximately 12-foot long, 3.5-foot-wide channelized stream section with stone masonry walls. The downstream 6-feet of the channelized section is covered by a concrete slab structure. Refer to Figure 2 for a photo of the closed-channel stream section. The stream then enters a 30" RCP pipe and flows beneath the roadway. Based on information from the Town, a doghouse-style drop inlet structure was built on top of the RCP pipe near the upstream end, with the top half of the pipe within the structure footprint removed to allow direct discharge of stormwater runoff from the roadway into the culvert. The existing pipe culvert is set at a slope of approximately 2.4%. Downstream of the roadway, the RCP culvert discharges into a wooded area. The upstream and downstream properties are both privately owned. An existing condition survey is included as Attachment A.

### 2.2 Wetland Resource Evaluation

A wetland resource evaluation was performed by EcoTec, Inc. on November 4, 2020 to evaluate the presence of resource areas within the project area. Wetland flags were delineated for the boundary of bordering vegetated wetlands (BVW) associated with the upstream and downstream wetland complexes, labeled B1–B5 and A1-A10, respectively. Flags marking the Mean Annual High-water Line (MAHWL) of the perennial stream on the east and west sides of the crossing were also delineated, labeled RA1-RA8 and RB1-RB10/RB1A-RB5A, respectively. The stream continues from the culvert outlet through wooded areas and relatively flat

marshes within farmland before ultimately draining to Landham Brook (also known as Allowance Brook). The Wetland Resource Evaluation is included as Attachment B.

### 2.3 Site Soil Conditions

On December 1, 2020, two test pits (TP-1 and TP-2) were excavated adjacent to the existing roadway near the culvert crossing under the supervision of Woodard & Curran staff. The purpose of the test pit excavation was to gain a general understanding of the soil conditions and groundwater level at the site. Subsurface conditions consisted primarily of poorly sorted silt/sand layers. No significant organic soil layer was discovered. As soil conditions can vary across a given site, Woodard & Curran recommends that soil conditions be monitored during construction activities and that any unsuitable soil materials encountered at the subgrade be removed and replaced with clean fill material. Groundwater was encountered at 6.2-feet below ground surface at TP-1 and at 4.5-feet below ground surface at TP-2, corresponding to elevations ranging from approximately 152.8-154.0.

### 2.4 FEMA FIRM Review

Review of the Federal Emergency Management Agency (FEMA) flood maps indicates that the site is within an Area of Minimal Flood Hazard as mapped on FEMA Flood Insurance Rate Map (FIRM) Panel 25017C0506F. The FIRMette showing the project site is included as Attachment C.

## 3. DESIGN CONSIDERATIONS

The design intent was to provide the minimum required cross-sectional sidewalk and roadway width at the culvert crossing. This ensures pedestrian accessibility and safe vehicular passage while minimizing land disturbance near the stream. Because there is a steep drop-off along the eastern side of the road right-of-way, a line approximately coincidental with the eastern edge of the existing roadway was held for the back of sidewalk line at the culvert crossing. The western edge of the proposed roadway alignment is shifted west of the current alignment by a maximum of 5.83-feet at the crossing location.

Modifications to the culvert are required to accommodate the proposed alignment. The new roadway footprint would cross over the concrete slab enclosing the channelized stream. Because the current structural condition of the concrete slab is unknown and possibly unsuitable for regular vehicle loading, Woodard & Curran recommends removing the concrete slab, as discussed in the Proposed Conditions section below.

Additionally, the existing stormwater drop inlet structure over the pipe culvert would be positioned close to the proposed roadway centerline, which is a non-optimal location for capturing runoff from the road surface. Woodard & Curran recommends removing the existing drop inlet structure.

## 4. PROPOSED CONDITIONS

Please refer to Figure 3 for preliminary-phase project plans. The proposed sidewalk width is 5-feet, and the proposed roadway width is 18-feet. A 0.5-foot-wide vertical granite curb will separate the roadway from the sidewalk. To facilitate construction of the new sidewalk extension and roadway alignment, Woodard & Curran recommends replacing the existing 30” RCP culvert from the current RCP inlet up to and including the cut-open drop inlet pipe with new 30” RCP pipe. Woodard & Curran also recommends replacing the concrete slab-covered portion of the channel with additional 30” RCP pipe to the upstream limit of the existing concrete slab. A concrete headwall will be constructed within the stone masonry channel at the new pipe inlet. The existing stone masonry channel walls and the walls bordering the upstream marsh pool area will receive new mortar as part of the work. The new piping will provide a structurally-sound conveyance for the culvert and allow for the westward shift of the roadway.

Woodard & Curran also recommends constructing a new deep-sump catch basin with a grate inlet at the west edge of the roadway south of the culvert crossing to replace the drop inlet. The new deep-sump catch basin would form the low point along the road surface, which would be cross-pitched to the west similar to the existing roadway cross-slope. The catch basin would connect to an existing drain manhole (DMH) south of the culvert crossing with 12" HDPE pipe. Flow from the existing DMH is conveyed east and discharges to the wooded area immediately downstream of the existing RCP culvert outlet. It is assumed that during extreme precipitation events, any overflow from the catch basin would flow into the open channel section of the stream.

The proposed configuration would replace the current stormwater inlet with a new inlet in an optimal location to capture runoff from the proposed roadway alignment. It would also provide an improvement to water quality—the existing drop inlet structure provides no treatment of runoff before discharge to the brook, while the deep-sump catch basin would provide a small level of treatment before discharging into the drainage system.

The total length of the sidewalk extension is approximately 681-feet, measured from the existing sidewalk at Nobscot Road to the northern terminus of the existing Old Framingham Road sidewalk. Additional work farther from the crossing will be needed to construct the full length of the sidewalk extension. An existing catch basin in front of #78 Old Framingham Road will be removed and re-located within the roadway footprint, and a utility pole west of the roadway will be relocated to provide sufficient clearance between it and the proposed edge of pavement. The Town intends to acquire a walkway easement from the owners of #78 Old Framingham Road, and some re-grading along the frontage of the property will be required. Additional grading is proposed within a Town-owned property south of #78 Old Framingham Road to achieve a more gradual sidewalk slope.

As part of this project, the intersection of Old Framingham Road and Nobscot Road will be re-configured to remove the existing traffic island on Old Framingham Road. This will narrow the Old Framingham Road approach to the intersection, reducing the impervious area associated with the intersection itself. As a result of the re-configuration, the Old Framingham Road approach will be shifted to the south of its current footprint by approximately 19.5-feet. The new Old Framingham Road approach will require additional grading on the private property at the south corner of Old Framingham Road and Nobscot Road. The Town intends to acquire a permanent easement on this property, which has the same ownership as #78 Old Framingham Road.

Design considerations also included utility and roadway elevation constraints. The existing culvert has invert elevations of 154.32 feet and 153.27 feet at the culvert inlet and outlet, respectively. Subsurface gas and water utilities were found near the crossing based a review of available record plans and field utility markings. During construction, it will be the responsibility of the contractor to field locate and protect all subsurface utilities. Overhead electric utilities are present, crossing from the east to the west side of the roadway, and one utility pole is anticipated to be relocated as discussed above, although the electrical utility may require relocation of additional utility poles during construction. It is anticipated that surface elevations will be raised slightly within the proposed sidewalk alignment and lowered slightly within the roadway alignment to accommodate the proposed vertical granite curbing in the vicinity of the crossing area. However, grading patterns near the culvert crossing will be maintained to the maximum extent feasible under the proposed conditions.

## 4.1 Anticipated Impacts to Adjacent Upland Resource Areas (AURAs)

The Town of Sudbury Wetlands Administration Bylaw (Article XXII) and its associated Sudbury Wetlands Administration Bylaw Regulations (revised September 25, 2017) establishes jurisdictional Adjacent Upland Resource Areas (AURAs). The Bylaw defines AURAs as land within 100-feet of wetland resource areas, within 200-feet of top of bank, and with varying extent when adjacent to vernal pools, ponds <10,000-square feet in area, or isolated land subject to flooding. The proposed project includes work within 100-feet of Bordering Vegetated Wetlands, and within 200-feet of Mean Annual High-Water Line (Inland Bank), both considered AURAs under the Bylaw.

The project, which will add a pedestrian sidewalk alongside an existing roadway, was designed to minimize the amount of disruption and alteration to the AURAs within the project limit of work. Because Old Framingham

Road does not currently have a sidewalk in the project area, constructing the sidewalk will add new impervious land coverage to the AURAs. However, the proposed sidewalk width is the narrowest allowable for a continuous-width walkway under applicable pedestrian accessibility regulations. The proposed roadway width is the minimum required to accommodate two 9-foot-wide travel lanes, one in each direction, through the culvert crossing area. The proposed re-configuration of the Old Framingham Road/Nobscot Road intersection will shrink the Old Framingham Road approach and eliminate the existing hardscape traffic island. Reducing the footprint of Old Framingham Road will partially mitigate the impact of the new sidewalk: within the outer riparian zone associated with the unnamed stream crossing beneath Old Framingham Road, the project will eliminate 496-square feet of impervious area.

Temporary land disturbances related to the project will be stabilized and restored to existing conditions. A native New England Conservation/Wildlife seed mix will be applied to temporarily disturbed areas within the AURAs. The blend of species will provide a permanent cover of grasses, forbs, wildflowers, and legumes to control soil erosion and enhance wildlife habitat.

The project objective is to add a new pedestrian sidewalk to a public way without an existing sidewalk. Widths chosen for the proposed roadway and sidewalk cross-sections were minimized, and the footprint of the proposed roadway and sidewalk traverses an existing closed-conduit culvert covered by a concrete slab of unknown structural integrity. Because of this, and because of the space limitations of the upland area surrounding the culvert crossing, there is no reasonable alternative that would reduce or eliminate the permanent impacts associated with the project. Figure 4 contains square footages of impacts to resource areas.

## 5. CONCEPTUAL SEQUENCE OF CONSTRUCTION

Old Framingham Road is a two-lane road. At minimum, temporary closure of the southbound lane of the roadway will be required to facilitate construction, with temporary flaggers or police details posted to direct traffic. During full-depth reconstruction, a temporary complete closure of the roadway between Nobscot Road and #78 Old Framingham Road will be required. The anticipated sequence of construction is as follows:

1. Install temporary erosion and sedimentation control and flow control measures, including cofferdam, flow diffuser, and/or flow diversion;
2. Locate and protect existing utilities;
3. Close the southbound lane of the roadway;
4. Remove and dispose of the existing drop inlet and concrete slab. Partially remove, and dispose, the existing RCP pipe culvert and the stone masonry RCP pipe headwall;
5. Install new culvert piping and headwall;
6. Install new deep-sump catch basin;
7. Backfill new culvert and catch basin to roadway subgrade
8. Completely close roadway between Nobscot Road and #78 Old Framingham Road;
9. Excavate existing traffic island, roadway pavement, and base layers. Store signage to be reused;
10. Grade and prepare roadway and sidewalk subgrade;
11. Install new base layer and pavement binder/wearing courses, and guardrails. Reinstall signage;

12. Reopen roadway;
13. Stabilize side slopes as needed;
14. Install erosion control matting, loam, and seed on all disturbed areas; and
15. Remove temporary erosion and sedimentation control measures.

## 6. ATTACHMENTS

Figures

Figure 1 – Site Location Map

Figure 2 – Photo of Closed-Channel Stream Section and RCP Pipe Inlet

Figure 3 – Preliminary-Phase Project Plans

Figure 4 – Resource Area Impact Figure

Attachments

Attachment A – Existing Conditions Survey

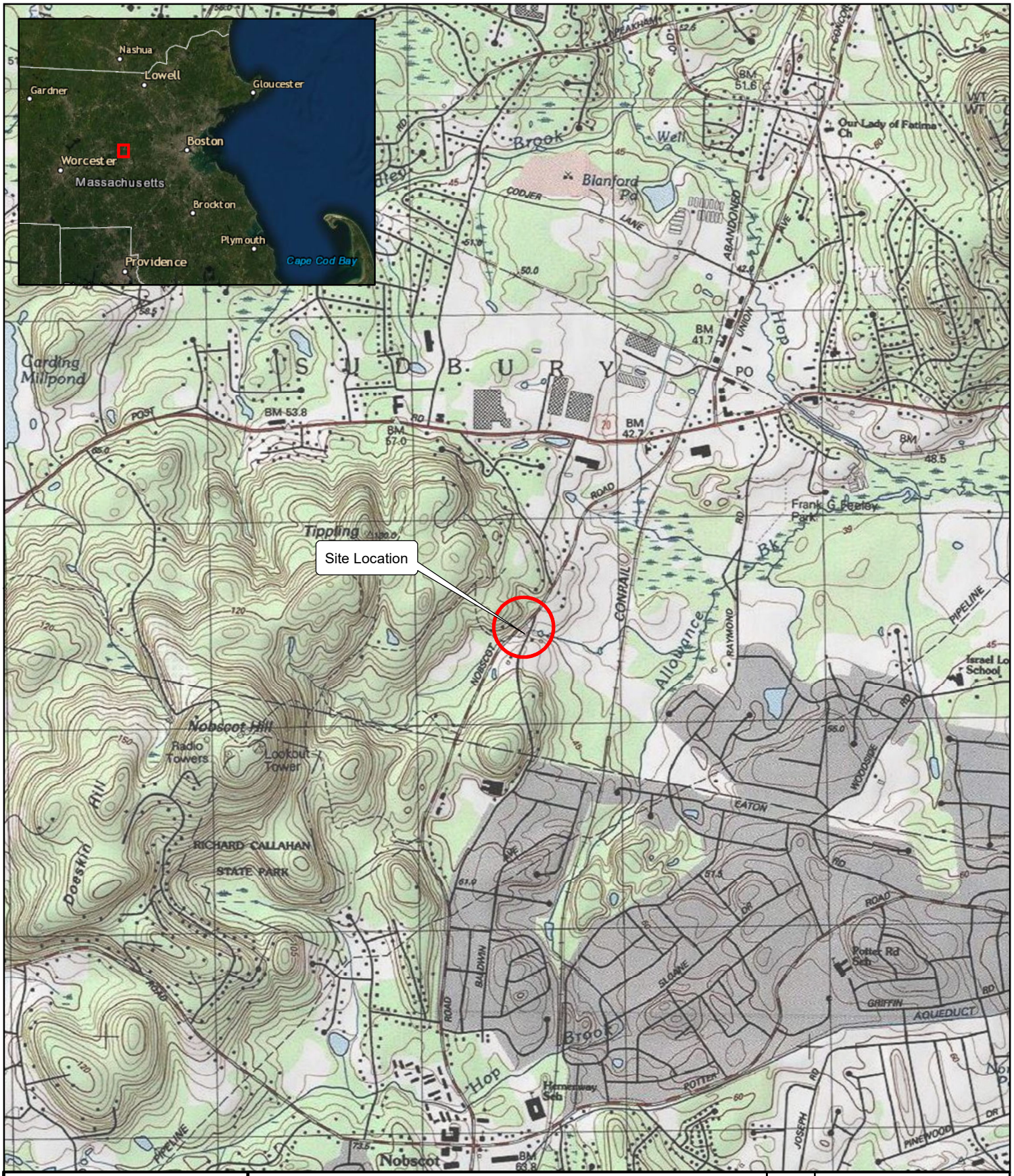
Attachment B – Wetland Resource Evaluation

Attachment C – FEMA FIRMETTE

## 7. REFERENCES

FEMA FIRM Panel 25017C0506F, effective July 7, 2014

## Figure 1: Site Location Map




0 0.1 0.2 0.3 0.4 0.5 Miles

# OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

SUDBURY, MA

**FIGURE 1 - SITE LOCATION MAP**

N

WOODARD &CURRAN

Project #: 0233335.00
Map Created: January 2021

Figure Exported: 1/28/2021 By: dpasquale Using: C:\Users\dpasquale\OneDrive - Woodard & Curran_PCFolders\Documents\HH_Modeling\Washington Drive\GIS\Projects\Old Framingham Rd Site Location.mxd

**Figure 2: Photo of Closed-Channel Stream Section and RCP Pipe Inlet**

## Figure 3: Preliminary-Phase Project Plans

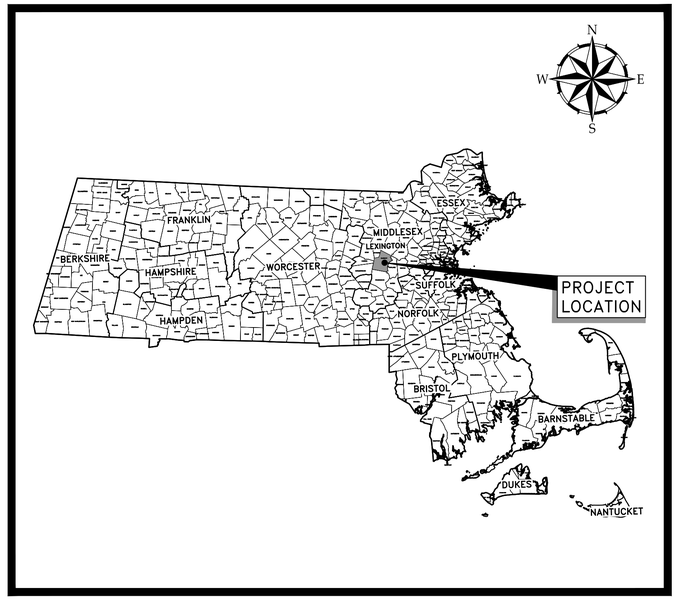
# TOWN OF SUDBURY, MA
# PUBLIC WORKS DEPARTMENT

# OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

**PROJECT NO.**
**0233128.00**

# MARCH 2021

## NOTICE OF INTENT
## PERMITTING ONLY - NOT FOR CONSTRUCTION




**PROJECT LOCATION MAP**

SUDBURY PUBLIC WORKS


WOODARD & CURRAN

250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com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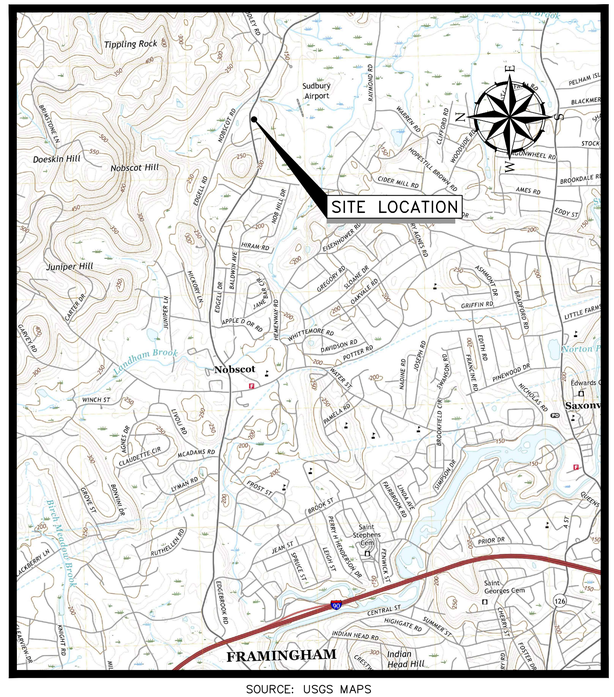


SOURCE: USGS MAPS

**SITE LOCATION MAP**

scale 1/2 0 1/2 1 mile
scale 2000 0 2000 4000 feet

## GENERAL NOTES:

1. EXISTING CONDITIONS ARE BASED ON A SURVEY PREPARED BY JARVIS LAND SURVEY, INC., DATED 1/21/2021.
2. JARVIS LAND SURVEY, INC. IS LOCATED AT THE FOLLOWING ADDRESS:
   29 GRAFTON CIRCLE
   SHREWSBURY, MA 01545
   (508) 842-8087
3. CONTRACTOR SHALL INVESTIGATE EXISTING CONDITIONS AND FIELD VERIFY LOCATIONS, DEPTH, AND SIZE OF UTILITIES AND SUB-SURFACE STRUCTURES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITH THE EXISTING AND PROPOSED UTILITY LOCATIONS.
4. THE HORIZONTAL DATUM DEPICTED ON THE MAPS HEREON IS BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MAINLAND ZONE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983. THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
5. ANY PROPERTY AND RIGHT OF WAY LOCATIONS THAT MAY BE SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
6. WOODARD & CURRAN ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
7. COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES, EMERGENCY SERVICES AND TOWN. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 811, PRIOR TO EXCAVATION.
8. RESTORE ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, GRASS, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF PAVED SURFACES, GRAVEL SURFACES, DRIVEWAYS, AND LAWNS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE PERFORMED AT NO ADDITIONAL COST TO OWNER. ANY CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO TOWN OF SUDBURY AND MASSACHUSETTS DOT SPECIFICATIONS AT NO ADDITIONAL COST TO OWNER.
9. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A LICENSED LAND SURVEYOR ACCEPTABLE TO THE TOWN.
10. EXISTING FACILITIES (I.E. TREES, POLES, LIGHT POSTS, CATCH BASINS, STONE FROM CULVERT, ETC.) SHALL BE REMOVED AND/OR PROTECTED DURING CONSTRUCTION. THE TOWN RETAINS RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES. CONTRACTOR SHALL DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF THE TOWN AT NO ADDITIONAL COST TO OWNER.
11. ALL TREES NOT NOTED TO BE REMOVED OR RELOCATED SHALL BE PROTECTED BY CONTRACTOR DURING CONSTRUCTION.
12. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
13. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS INCLUDING "PERMIT TO CONSTRUCT WITHIN A PUBLIC WAY" FROM THE TOWN. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
14. ALL WORK ASSOCIATED WITH THE PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE TOWN OF SUDBURY BYLAW AND LOCAL REGULATIONS AND MASSACHUSETTS DOT STANDARD SPECIFICATIONS.
15. UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "RECORD" DRAWINGS SHALL BE SUBMITTED TO THE TOWN ENGINEER. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORMAT AS DEFINED IN THE SPECIFICATIONS PRIOR TO PAYMENT OF FINAL RETAINAGE.
16. PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION SHALL BE PROVIDED AT NO ADDITIONAL COST.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR SWEEPING OLD FRAMINGHAM ROAD EVERY FRIDAY AND AS NECESSARY DURING THE DURATION OF THE WORK.
18. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING HELD AT THE PROJECT SITE WITH THE CONTRACTOR, ENGINEER, OWNER, AND CONSERVATION OFFICE TO REVIEW THE CONSTRUCTION SCHEDULE AND SEQUENCING, ORDER OF CONDITIONS, STOCKPILE LOCATIONS AND CRITICAL ASPECTS OF THE PROJECT.
19. ALL DISTURBED UPLAND AREAS SHALL BE BROUGHT TO FINAL GRADE AND SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS AFTER DISTURBANCE. BARE GROUND AND DISTURBED AREAS THAT CANNOT BE PERMANENTLY VEGETATED WITHIN 30 DAYS SHALL BE TEMPORARY STABILIZED BY AN APPROVED METHOD.
20. CONTRACTOR SHALL DEMARCATE CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE AREAS PRIOR TO CONSTRUCTION.
21. THE CONSTRUCTION SITE SHALL BE MAINTAINED IN CLEAN CONDITIONS AT ALL TIMES AND CONSTRUCTION REFUSE AND DEBRIS SHALL BE DISPOSED OF PROMPTLY AND IN A LEGAL MANNER.
22. STORING, SERVICING, OR CLEANING OF TRUCKS OR EQUIPMENT SHALL BE PERFORMED IN AN UPLAND AREA AT A HORIZONTAL DISTANCE GREATER THAN 100 FEET FROM THE WETLAND RESOURCE AREAS.
23. CONTRACTOR SHALL REFER TO SPECIFICATION XXX MASSACHUSETTS COVID ORDER AND CONSTRUCTION GUIDELINES AND EXECUTE CONSTRUCTION IN COMPLIANCE WITH APPLICABLE SOCIAL DISTANCING PROTOCOLS.
24. TEST PITS TP-1 AND TP-2 WERE EXCAVATED UNDER THE SUPERVISION OF WOODARD & CURRAN ON DECEMBER 1, 2020. GROUNDWATER WAS ENCOUNTERED AT APPROXIMATE ELEVATIONS OF 152.8 IN TP-1 AND 154.0 IN TP-2.
25. WETLAND DELINEATION WAS PREPARED BY ECOTEC, INC. 102 GROVE STREET, WORCESTER, MA 01605. THE WETLAND RESOURCE EVALUATION REPORT IS DATED XX XX, 2021 AND WETLAND FIELD INSPECTION WAS CONDUCTED ON NOVEMBER 4, 2020.
26. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT BEYOND LIMIT OF WORK, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.
27. PRIOR TO THE START OF WORK, CONTRACTOR SHALL CONFIRM EXISTING WETLAND FLAGS ARE IN PLACE AND SHALL BE MAINTAINED DURING CONSTRUCTION. MISSING FLAGS SHALL BE RESET PRIOR TO CONSTRUCTION. AN AUTOCAD FILE OF THE WETLAND FLAG LOCATIONS SHALL BE PROVIDED FOR CONTRACTOR'S USE IN RESETTING WETLAND FLAGS.
28. NO EQUIPMENT IS TO CROSS OR ENTER WETLAND RESOURCE AREAS AT ANY TIME UNLESS THE LOCATION OF DISTURBANCE IS MARKED ON THE PLANS REFERENCED IN THE ORDER OF CONDITIONS AND FLAGGED IN THE FIELD (DEP FILE #XXX-XXXX).
29. THE CONTRACTOR, SITE ENGINEER, OR OTHER INDIVIDUAL IN CHARGE OF WORK ON THE SITE SHALL HAVE A COPY OF THE ORDER OF CONDITIONS AT ALL TIMES (DEP FILE #XXX-XXXX).

## EROSION CONTROL NOTES:

1. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE, UNTIL ALL DISTURBED SURFACES HAVE BEEN STABILIZED WITH FINAL VEGETATION COVER OR THE COMMISSION HAS AUTHORIZED THEIR REMOVAL.
2. EROSION CONTROL MEASURES AND BARRIERS SHALL BE MONITORED DAILY AND MAINTAINED, OR REINFORCED AS NECESSARY TO ENSURE AND PREVENT EROSION AND SILTATION OF SOILS TO WETLAND RESOURCE AREAS. ADDITIONAL FILTER FABRIC AND STRAW WATTLES SHALL BE STORED ON SITE FOR EMERGENCY USE.
3. DURING ALL PHASES OF CONSTRUCTION, ALL DISTURBED OR EXPOSED AREAS OUTSIDE THE ROADWAY SHALL BE BROUGHT TO FINISHED GRADE AND EITHER A) LOAMED AND SEEDED FOR PERMANENT STABILIZATION, IN ACCORDANCE WITH U.S. SOIL CONSERVATION SERVICE PROCEDURES, OR B) STABILIZED IN ANOTHER WAY APPROVED BY THE COMMISSION. AREAS THAT CANNOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF DISTURBANCE SHALL BE STABILIZED WITH HAY, STRAW, MULCH OR ANY OTHER PROTECTIVE COVERING AND/OR METHOD APPROVED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE OR BY OTHER TEMPORARY MEASURES ACCEPTABLE TO THE COMMISSION.
4. AN ADEQUATE STOCKPILE OF EROSION AND SEDIMENTATION CONTROL MATERIALS SHALL BE ON SITE AT ALL TIMES FOR EMERGENCY OR ROUTINE REPLACEMENT.
5. ANY DAMAGE CAUSED AS A DIRECT RESULT OF CONSTRUCTION TO THE WETLAND RESOURCE AREAS SHALL BE REPAIRED, RESTORED AND/OR REPLACED. SEDIMENTATION OR EROSION SHALL BE CONSIDERED DAMAGE TO THE WETLAND RESOURCE AREAS. IF SEDIMENTATION REACHES THESE AREAS, THE CONSERVATION COMMISSION SHALL BE CONTACTED AND A PLAN FOR THE PROPOSED RESTORATION SHALL BE SUBMITTED FOR APPROVAL.

## DEWATERING NOTES:

1. THE CONTRACTOR SHALL SUBMIT A WATER CONTROL MANAGEMENT PLAN FOR THE PROJECT LOCATION IN ACCORDANCE WITH THE SPECIFICATIONS. THE PLAN SHALL INCLUDE A DESCRIPTION OF PROPOSED PROCEDURE FOR DEWATERING METHODS.
2. ALL DEWATERING ACTIVITIES SHALL MEET LOCAL, STATE, AND FEDERAL REGULATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL LABOR AND EQUIPMENT REQUIRED TO PERFORM THE WORK INCLUDING BUT NOT LIMITED TO PROPER SHORING, DEWATERING EQUIPMENT, AND WATER TREATMENT EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
4. IN ACCORDANCE WITH THE TIME OF YEAR RESTRICTIONS SET FORTH IN 310 CMR 10.11(5) AND THE US ARMY CORPS OF ENGINEERS GENERAL PERMIT FOR MASSACHUSETTS GENERAL CONDITION 18, ALL SILT-GENERATING, IN-WATER WORK SHALL BE CONDUCTED BETWEEN JULY 1ST AND SEPTEMBER 30TH. WORK BEYOND THE LIMITS OF THE WATER, SUCH AS SEEDING AND INSTALLATION OF RESTORATION PLANTINGS, MAY BE CONDUCTED AFTER SEPTEMBER 30TH, PER CONTRACT TIMES LISTED IN THE PROJECT SPECIFICATIONS.
5. ALL DREDGING OPERATIONS SHALL BE CONDUCTED FROM UPLAND AREAS.
6. ALL DREDGE SPOILS SHALL BE DEWATERED AND DISPOSED OF AT AN UPLAND LOCATION (OR OTHER APPROVED LOCATION).
7. THE REMOVAL OF MATERIAL FROM THE STREAM BOTTOM SHALL BE DONE IN SUCH A MANNER AS TO ENSURE THAT THE RECONFIGURED BOTTOM AREA WILL NOT IMPEDE OR OBSTRUCT FISH MIGRATION, OR INTERFERE WITH THE NATURAL FLOW OF THE BROOK.
8. DEWATERING ACTIVITIES SHALL BE CONDUCTED AS SHOWN ON THE APPROVED PLANS AND SHALL BE MONITORED DAILY TO ENSURE THAT SEDIMENT LADEN WATER IS APPROPRIATELY SETTLED PRIOR TO DISCHARGE TOWARD THE RESOURCE AREAS. NO DISCHARGE OF WATER IS ALLOWED DIRECTLY INTO AN AREA SUBJECT TO JURISDICTION OF THE WETLANDS PROTECTION ACT. SHOULD EMERGENCY DEWATERING REQUIREMENTS ARISE, THE APPLICANT SHALL SUBMIT A CONTINGENCY PLAN TO THE COMMISSION FOR APPROVAL WHICH PROVIDES FOR THE PUMPED WATER TO BE CONTAINED IN A SETTLING BASIN, TO REDUCE TURBIDITY TO DISCHARGE INTO A RESOURCE AREA.

## ABBREVIATIONS

| | |
|---|---|
| & | AND |
| AASHTO | AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS |
| A.G. | ABOVE GROUND |
| BIT | BITUMINOUS |
| B/W | BETWEEN |
| BVW | BORDERING VEGETATED WETLAND |
| CB | CATCH BASIN |
| CI | CAST IRON |
| CMP | CORRUGATED METAL PIPE |
| CONC | CONCRETE |
| D | STORM DRAIN |
| DI | DUCTILE IRON |
| DIA. | DIAMETER |
| DMH | DRAIN MANHOLE |
| DOT | DEPARTMENT OF TRANSPORTATION |
| DTL. | DETAIL |
| DYL | DOUBLE YELLOW LINE |
| E | UNDERGROUND ELECTRICAL |
| EL. | ELEVATION |
| EOP | EDGE OF PAVEMENT |
| EXIST. | EXISTING |
| FF | FINISH FLOOR |
| FT | FOOT/FEET |
| G | GAS MAIN |
| GS | GAS SERVICE |
| GALV. | GALVANIZED |
| GRAN. | GRANITE |
| HDPE | HIGH DENSITY POLYETHYLENE |
| HDPP | HIGH DENSITY POLYPROPYLENE |
| HYD | HYDRANT |
| INV. | INVERT |
| L | LENGTH |
| LF | LINEAR FEET |
| MASSDEP | MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION |
| MADOT | MASSACHUSETTS DEPARTMENT OF TRANSPORTATION |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| MON | MONUMENT |
| N.I.P. | NOT IN CONTRACT |
| NO. | NUMBER |
| NR | NO REFUSAL |
| N.T.S. | NOT TO SCALE |
| OE | OVERHEAD ELECTRIC |
| OH | OVERHEAD |
| ± | PLUS OR MINUS |
| LLS | LICENSED LAND SURVEYOR |
| PROP. | PROPOSED |
| PT. | POINT |
| PVC | POLYVINYL CHLORIDE |
| R | RADIUS |
| R.O.W. | RIGHT-OF-WAY |
| RCP | REINFORCED CONCRETE PIPE |
| REINF. | REINFORCED |
| REQ'D | REQUIRED |
| RPP | RIBBED PLASTIC PIPE |
| S | SLOPE (FT./FT.) |
| S | SEWER |
| SGC | SLOPED GRANITE CURB |
| SMH | SEWER MANHOLE |
| SCH | SCHEDULE |
| STA. | STATION |
| TOWN | TOWN OF SUDBURY |
| TYP. | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| UP | UTILITY POLE |
| VC | VITRIFIED CLAY |
| VGC | VERTICAL GRANITE CURB |
| VIT. | VITRIFIED CLAY |
| W | WEST |
| W | WATER |
| W/ | WITH |
| W | WATERMAIN |
| WS | WATER SERVICE |
| WV | WATER VALVE |

## SYMBOLS

| DESCRIPTION | EXISTING |
|---|---|
| UTILITY POLE | |
| CATCH BASIN | |
| WETLAND FLAG LOCATION | WF/AX |
| BORING | BM-X |
| MANHOLE | |
| MAILBOX | |
| TREE | |

## SHEET INDEX



## RESOURCE AREA LEGEND

- BORDERING VEGETATED WETLAND (BVW)
- 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA)
- MEAN ANNUAL HIGH-WATER LINE (MAHWL) OF PERENNIAL STREAM
- 100' RIVERFRONT AREA (INNER RIPARIAN ZONE)
- 200' RIVERFRONT AREA (OUTER RIPARIAN ZONE)
- COFFERDAM (CD)
- LIMIT OF WORK (LW)
- SEDIMENT BARRIER
- TURBIDITY CURTAIN

## LINE TYPES & HATCHES

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| CONTOUR (1' INTERVAL) | 201 | 201 |
| CONTOUR (INDEX) | 200 | 200 |
| STORM DRAIN | SD | |
| BITUMINOUS CURB | | |
| EDGE OF PAVEMENT | | |
| OVERHEAD ELECTRIC | OE | |
| UNDERGROUND GAS | G | |
| UNDERGROUND TELEPHONE | T | |
| WATER LINE | W | W |
| RIGHT OF WAY/ PROPERTY LINE | | |
| GUARDRAIL | T T T | T T T |
| LIMIT OF WORK | | LW |
| SEDIMENT BARRIER/COFFERDAM | | CD |
| SEDIMENT BARRIER/SILTSOXX/ SILT FENCE | | |
| TURBIDITY CURTAIN | | |
| SAWCUT | | |
| RETAINING WALL | | |
| STONE WALL | | |
| EXISTING FEATURE TO BE REMOVED | | |
| BITUMINOUS PAVEMENT | | |
| CONCRETE SIDEWALK | | |

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|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |

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DRAWN BY: MB
CHECKED BY: HCP/SS
\\woodardcurran.net\shared\Projects\0233128.00 sudbury ma old framingham road\wip\Drawings\General\0233128.00-G-XXX.dwg, Mar 26, 2021 - 11:52am SJUNG

TOWN OF SUDBURY, MA
PUBLIC WORKS DEPARTMENT

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

GENERAL NOTES, ABBREVIATIONS AND LEGEND

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 2 OF 8 |

G-002

22x34 SHEET
1:1

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

OLD FRAMINGHAM ROAD

NOBSCOT ROAD

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

## RESOURCE AREA LEGEND

- BORDERING VEGETATED WETLAND (BVW)
- 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA)
- MEAN ANNUAL HIGH-WATER LINE (MAHWL) OF PERENNIAL STREAM
- 100' RIVERFRONT AREA (INNER RIPARIAN ZONE)
- 200' RIVERFRONT AREA (OUTER RIPARIAN ZONE)

30' 0 30' 60'
BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

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DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00-C-100.dwg

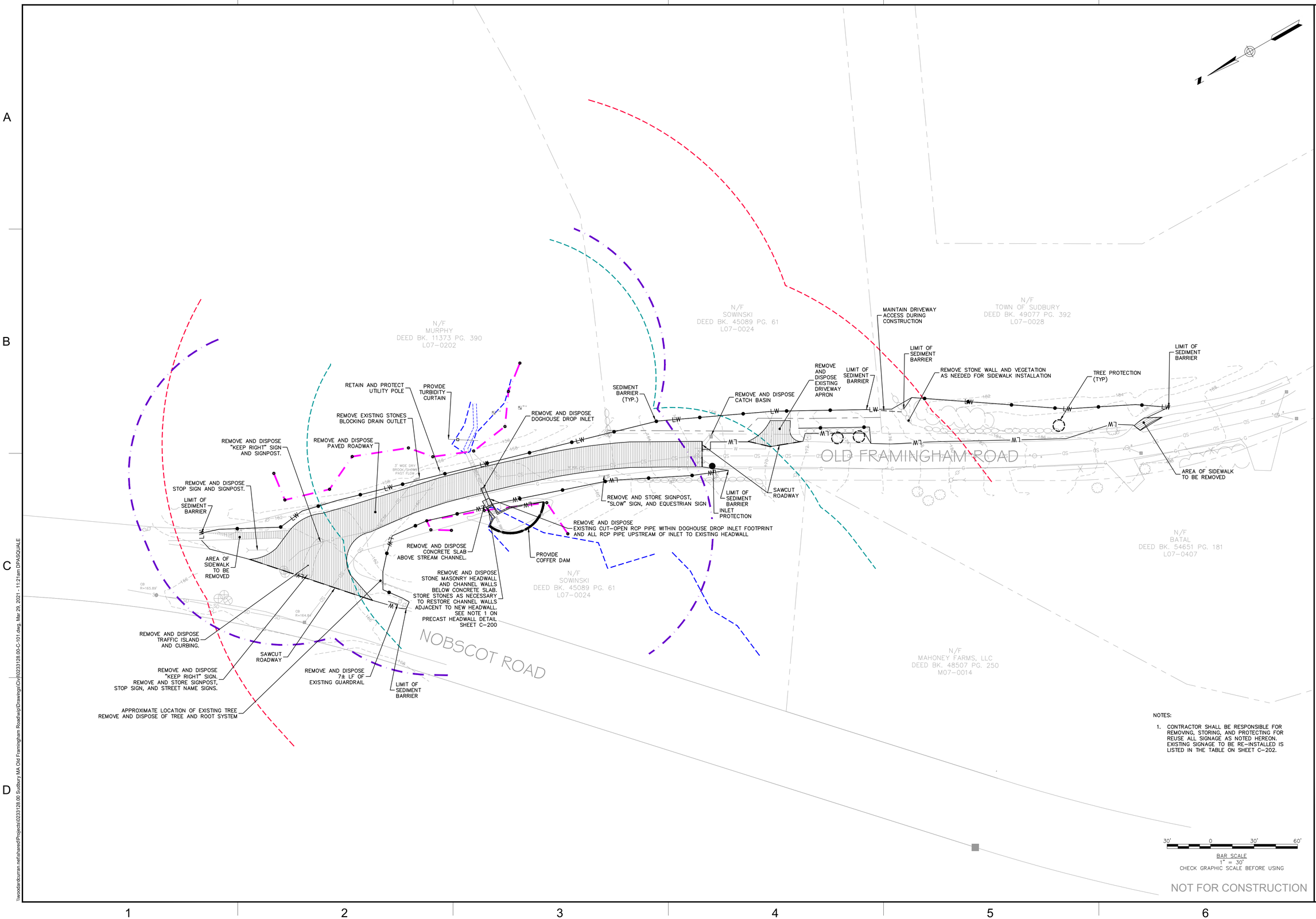
EXISTING CONDITIONS PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD
SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 3 OF 8 |

C-100




NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, STORING, AND PROTECTING FOR REUSE ALL SIGNAGE AS NOTED HEREON. EXISTING SIGNAGE TO BE RE-INSTALLED IS LISTED IN THE TABLE ON SHEET C-202.

30' 0 30' 60'

BAR SCALE
1" = 30'
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| REV. | DESCRIPTION | DATE |
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DRAWN BY: MB
CHECKED BY: HCP/SS
0233128-C-101.dwg

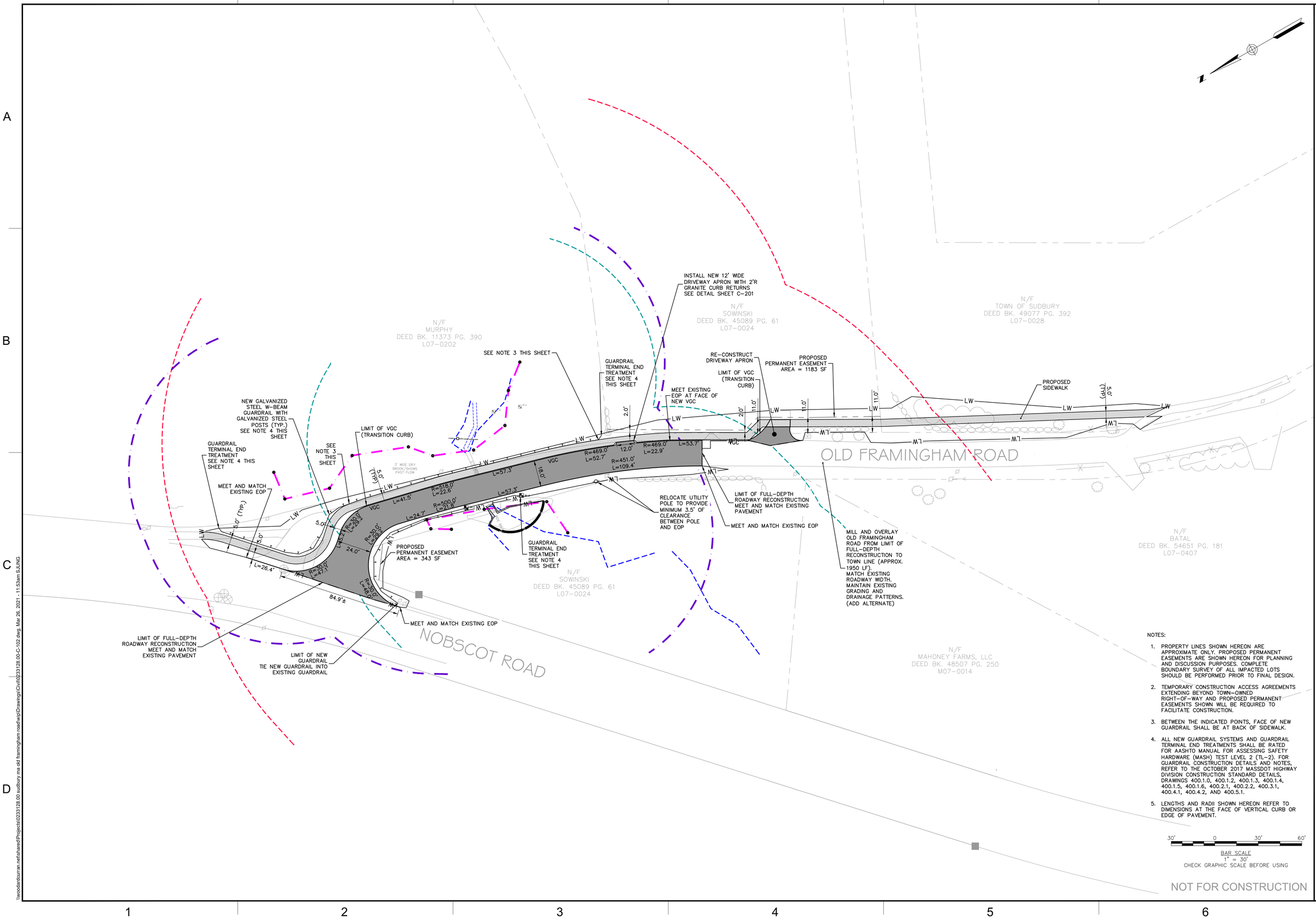
# EROSION CONTROL & DEMOLITION PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 4 OF 8 |

C-101




NOTES:

1. PROPERTY LINES SHOWN HEREON ARE APPROXIMATE ONLY. PROPOSED PERMANENT EASEMENTS ARE SHOWN HEREON FOR PLANNING AND DISCUSSION PURPOSES. COMPLETE BOUNDARY SURVEY OF ALL IMPACTED LOTS SHOULD BE PERFORMED PRIOR TO FINAL DESIGN.
2. TEMPORARY CONSTRUCTION ACCESS AGREEMENTS EXTENDING BEYOND TOWN-OWNED RIGHT-OF-WAY AND PROPOSED PERMANENT EASEMENTS SHOWN WILL BE REQUIRED TO FACILITATE CONSTRUCTION.
3. BETWEEN THE INDICATED POINTS, FACE OF NEW GUARDRAIL SHALL BE AT BACK OF SIDEWALK.
4. ALL NEW GUARDRAIL SYSTEMS AND GUARDRAIL TERMINAL END TREATMENTS SHALL BE RATED FOR AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) TEST LEVEL 2 (TL-2). FOR GUARDRAIL CONSTRUCTION DETAILS AND NOTES, REFER TO THE OCTOBER 2017 MASSDOT HIGHWAY DIVISION CONSTRUCTION STANDARD DETAILS, DRAWINGS 400.1.0, 400.1.2, 400.1.3, 400.1.4, 400.1.5, 400.1.6, 400.2.1, 400.2.2, 400.3.1, 400.4.1, 400.4.2, AND 400.5.1.
5. LENGTHS AND RADII SHOWN HEREON REFER TO DIMENSIONS AT THE FACE OF VERTICAL CURB OR EDGE OF PAVEMENT.

30' 0 30' 60'

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

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| REV. | DESCRIPTION | DATE | DESIGNED BY | CHECKED BY |
|---|---|---|---|---|
| 1 | PER MARCH '22 CONSERVATION COMMISSION MEETING | 03/31/2021 | DLP/MB | HCP/SS |

DRAWN BY: MB
\\woodardcurran.net\shared\Projects\0233128.00 sudbury ma old framingham road\wip\Drawings\Civil\0233128.00-C-102.dwg, Mar 26, 2021 - 11:53am SJUNG

SITE LAYOUT PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 5 OF 8 |

C-102

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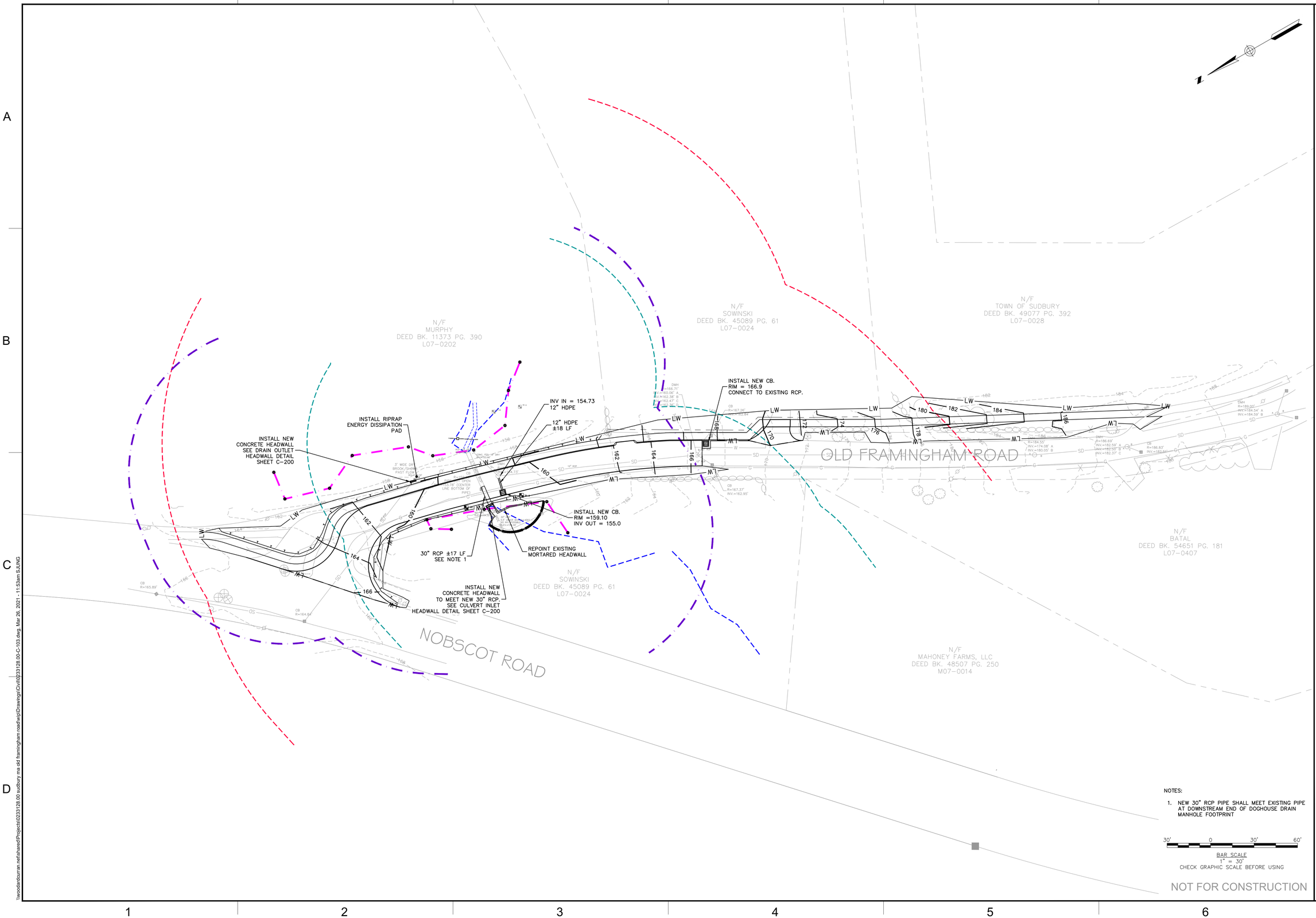
| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| DESIGNED BY: | DLP/MB | CHECKED BY: HCP/SS |
| DRAWN BY: | MB | 0233128.00-C-103.dwg |




NOTES:

1. NEW 30" RCP PIPE SHALL MEET EXISTING PIPE AT DOWNSTREAM END OF DOGHOUSE DRAIN MANHOLE FOOTPRINT

30' 0 30' 60'

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

NOT FOR CONSTRUCTION

# GRADING AND DRAINAGE PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 6 OF 8 |

C-103

N/F
MURPHY
DEED BK. 11373 PG. 390
L07–0202

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07–0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07–0028

CONTINUE DYL TO TOWN LINE
TOTAL LENGTH OF DYL = 2,228± LF

DYL

OLD FRAMINGHAM ROAD

3' WIDE DRY BROOK/SHOWS PAST FLOW

RESET EXISTING SLOW (W20–8) AND EQUESTRIAN CROSSING (W11–7) SIGNS

BEGIN NEW DYL

19.0'

12.0'

12.0'

INSTALL NEW STOP AHEAD (W3–1) SIGN

SEE NOTE 2 THIS SHEET

RESET EXISTING STREET NAME SIGNS (D3–1) AND STOP SIGN (R1–1)

5.0'

1.0'

24.6'±

STOP BAR
12" REFLECTORIZED WHITE LINE

SEE NOTE 1 THIS SHEET

NOBSCOT ROAD

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07–0024

N/F
BATAL
DEED BK. 54651 PG. 181
L07–0407

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07–0014

NOTES:

1. STOP BAR SHALL BE FIVE FEET FROM THE NOBSCOT ROAD GUTTERLINE.
2. INDICATED DIMENSIONS ARE FROM EOP TO ROADWAY CENTERLINE.
3. SEE SHEET C–202 FOR SIGN DETAILS AND NOTES.

30' 0 30' 60'

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

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COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
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CHECKED BY: HCP/SS
0233128.00-C-104.dwg

MARKING AND SIGNAGE PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 7 OF 8 |

C-104

# EROSION AND SEDIMENT CONTROL NOTES

## Temporary Erosion Control

| Measure | Dates For Use | Timing, Activity, and Location |
|---|---|---|
| Sedimentation Barrier | ALL | Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles. |
| Up-slope Diversion | ALL | Before soil disturbance, install uphill of areas to be disturbed and material stockpiles. |
| Catch Basin Protection | ALL | Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements. |
| Dust Control | ALL | During dry weather, apply water and calcium chloride to control dust. |
| Temporary Seeding | April 15 to Oct. 15 | Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket. |
| Mulch | April 15 to Sept. 15 | On all areas of exposed soil prior to rain events apply 100-150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower. |
| Winter Mulch | Sept. 16 to Oct. 31 | On all areas of exposed soil prior to precipitation apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower, Erosion control blanket may be used as a substitute for winter mulch. |
| | Nov. 1 to April 14 | On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting at the end of each working day. Erosion control blanket may be used as a substitute for winter mulch. |
| Inspections | Until site is permanently stabilized | Inspect the erosion and sedimentation control measures daily, and after rainfall of half inch or greater in a 24-hour period, and maintain and repair as necessary. |

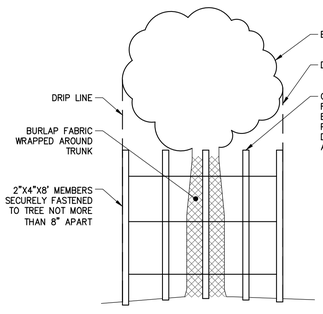
## Permanent Erosion Control:

| Measure | Dates For Use | Timing, Activity, and Location |
|---|---|---|
| Pavement – Base Course – Final Course | When no frost is in ground | Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project. |
| Permanent Seeding | April 15 to Sept. 15 | On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application. |
| Dormant Seeding | Sept. 16 to April 15 | On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch. |
| Ground Cover, Trees, Shrubs | April 15 to Nov. 1 | Install with final landscaping. |
| Permanent Mulch | ALL | Install with final landscaping. |

## Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

| Inspected Item | Look For |
|---|---|
| Mulched Surfaces | Thin mulch or inadequate application. Wind movement. |
| Seeded Surfaces | Poor seed germination. Loss of mulch. Development of rivulets. |
| Sediment Barrier | Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier. |
| Perimeter Diversion | Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked. |
| Catch Basin Protection | Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier. |
| Site Roadways | Sedimentation of roadways. Off-site dust complaints. |

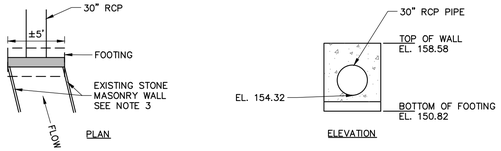



NOTES:

1. LOCATE FENCING AS SHOWN ON PLANS.
2. NO MATERIAL OR EQUIPMENT SHALL BE STORED OR STOCKPILED WITHIN THE AREA SURROUNDED BY TREE PROTECTION FENCING.
3. FENCE MUST REMAIN AND BE MAINTAINED THROUGHOUT ENTIRE BUILDING PHASES DURING WHICH CONSTRUCTION MAY AFFECT TREES.

## TREE PROTECTION

NOT TO SCALE

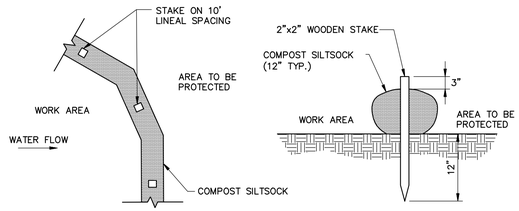



## CULVERT INLET HEADWALL DETAIL

N.T.S.

NOTES:

1. RETAINING WALL SECTIONS ARE CONCEPTUAL IN NATURE AND FOR REFERENCE PURPOSES TO AID IN THE LAYOUT AND DEVELOPMENT OF WALL DESIGN (BY OTHERS). GRAVITY WALL ENGINEER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, INCLUDING BUOYANCY CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS, SUBJECT TO REVIEW BY THE ENGINEER.
2. ELEVATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
3. AFTER INSTALLATION OF HEADWALL, CONTRACTOR SHALL RESTORE EXISTING STONE MASONRY CHANNEL WALLS UP TO THE HEADWALL.

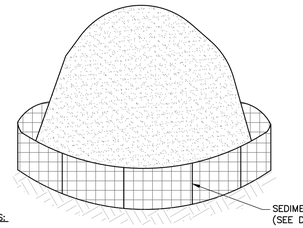



NOTE:

WHEN STAKING IS NOT POSSIBLE, HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SEDIMENT CONTROL TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.

## SEDIMENTATION BARRIER – SILTSOCK

NOT TO SCALE

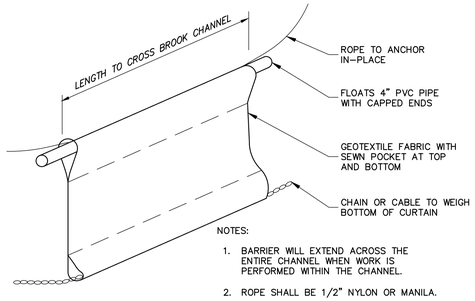



NOTES:

1. STOCKPILES SHALL BE SURROUNDED BY SEDIMENTATION BARRIER.
2. STOCKPILES SHALL HAVE A MAXIMUM 2:1 (H:V) SIDE SLOPE.
3. REPAIR OR REPLACE DAMAGED SEDIMENTATION BARRIER DUE TO CONSTRUCTION ACTIVITIES OR STOCKPILE MITIGATION.
4. STOCKPILE SHALL BE LOCATED IN AREAS AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

## TEMPORARY SOIL STOCK PILE AREA

NOT TO SCALE

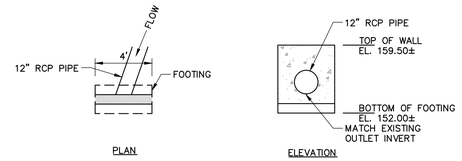



NOTES:

1. BARRIER WILL EXTEND ACROSS THE ENTIRE CHANNEL WHEN WORK IS PERFORMED WITHIN THE CHANNEL.
2. ROPE SHALL BE 1/2" NYLON OR MANILA.

## FLOATING TURBIDITY BARRIER

N.T.S.

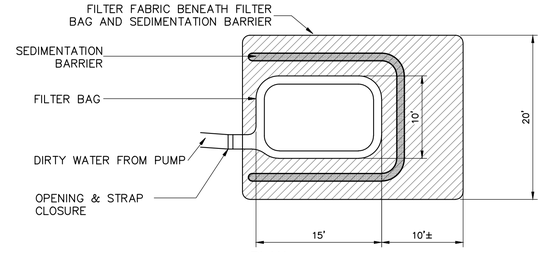



## DRAIN OUTLET HEADWALL DETAIL

N.T.S.

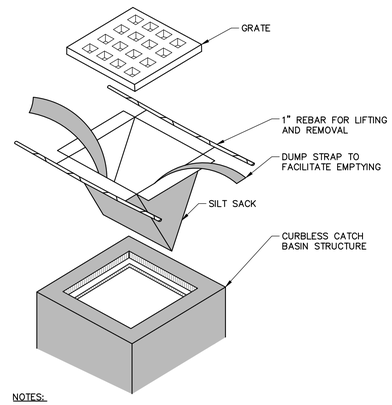
NOTES:

1. RETAINING WALL SECTIONS ARE CONCEPTUAL IN NATURE AND FOR REFERENCE PURPOSES TO AID IN THE LAYOUT AND DEVELOPMENT OF WALL DESIGN (BY OTHERS). GRAVITY WALL ENGINEER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, INCLUDING BUOYANCY CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS, SUBJECT TO REVIEW BY THE ENGINEER.
2. ELEVATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.




## DEWATERING DISCHARGE SEDIMENT CONTROL DEVICE

NOT TO SCALE

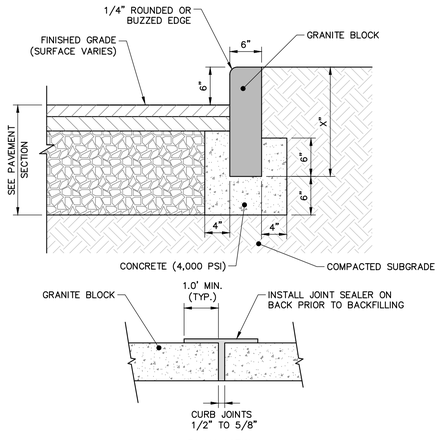



NOTES:

1. INSTALL SILTSACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
2. EMPTY OR REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.
3. SILT SACKS TO BE INSTALLED WHEN THE POTENTIAL FOR SEDIMENT TO ENTER EXISTING & PROPOSED BASINS EXISTS.

## SILTSACK– CURBLESS INLET

NOT TO SCALE

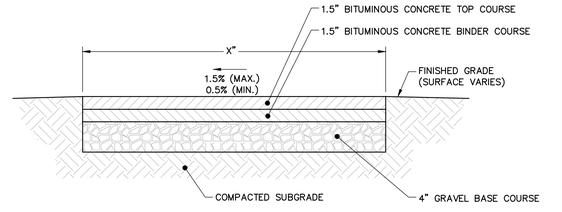



## VERTICAL GRANITE CURB

NOT TO SCALE

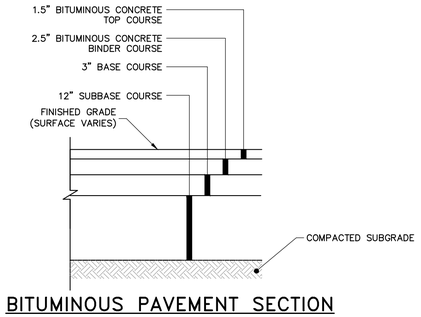
# DEWATERING NOTES

1. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
2. DOWNGRADIENT RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, I.E. FOREST FLOOR OR COARSE GRAVEL/STONE.
3. NEVER DISCHARGE TO AREAS THAT ARE BARE OR NEWLY VEGETATED.
4. DIRT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E., FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
5. DO NOT OVER PRESSURIZE DIRT BAG OR USE BEYOND CAPACITY.
6. CHANNELS DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA NEED TO BE STABLE. IF FLOW VELOCITIES CAUSE EROSION WITHIN THE CHANNEL THEN A DITCH LINING SHOULD BE USED.
7. BUCKETED WATER SHOULD BE DISCHARGED IN A STABLE MANNER TO THE SEDIMENT REMOVAL AREA. A SPLASH PAD OF RIPRAP UNDERLAIN WITH GEOTEXTILE MAY BE NECESSARY TO PREVENT SCOURING OF SOIL.
8. DEWATERING IN PERIODS OF INTENSE, HEAVY RAIN, WHEN THE INFILTRATIVE CAPACITY OF THE SOIL IS EXCEEDED, SHOULD BE AVOIDED.
9. INSTALL DIVERSION DITCHES OR BERMS TO MINIMIZE THE AMOUNT OF CLEAN STORMWATER RUNOFF ALLOWED INTO THE EXCAVATED AREA.
10. DURING THE ACTIVE DEWATERING PROCESS, INSPECTION OF THE DEWATERING FACILITY SHOULD BE REVIEWED FREQUENTLY. SPECIAL ATTENTION SHOULD BE PAID TO THE BUFFER AREA FOR ANY SIGN OF EROSION AND CONCENTRATION OF FLOW THAT MAY COMPROMISE THE BUFFER AREA. OBSERVE WHERE POSSIBLE THE VISUAL QUALITY OF THE EFFLUENT AND DETERMINE IF ADDITIONAL TREATMENT CAN BE PROVIDED.
11. EROSION CONTROL REQUIRED AROUND DEWATERING DISCHARGE SEDIMENT CONTROL DEVICE.



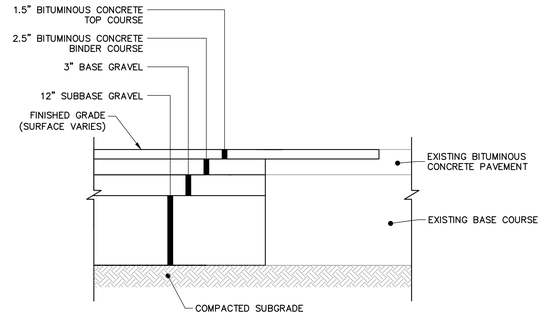

## BITUMINOUS CONCRETE SIDEWALK

NOT TO SCALE




## BITUMINOUS PAVEMENT SECTION

N.T.S.




## BITUMINOUS PAVEMENT BUTT JOINT

N.T.S.

NOT FOR CONSTRUCTION


WOODARD & CURRAN
COMMITMENT & INTEGRITY DRIVE RESULTS
250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com




| REV | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 27 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| DESIGNED BY: | DLP/MB | CHECKED BY: HCP/SS |
| DRAWN BY: | MB | 02/23/28.00-C-20X.dwg |

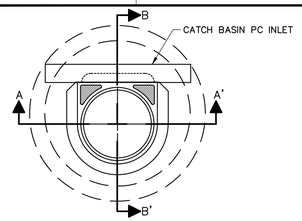
CIVIL DETAILS 1

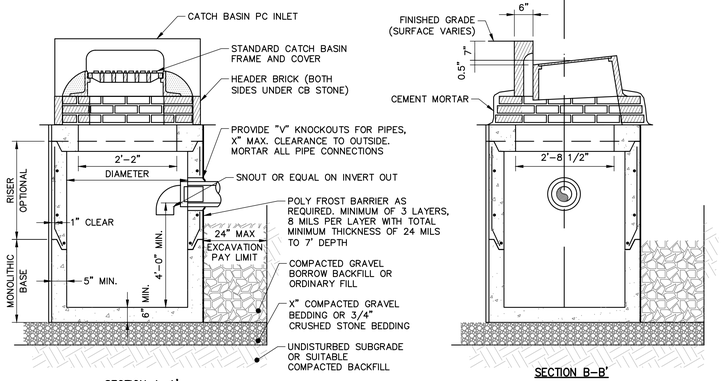
TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 8 OF 8 |

C-200



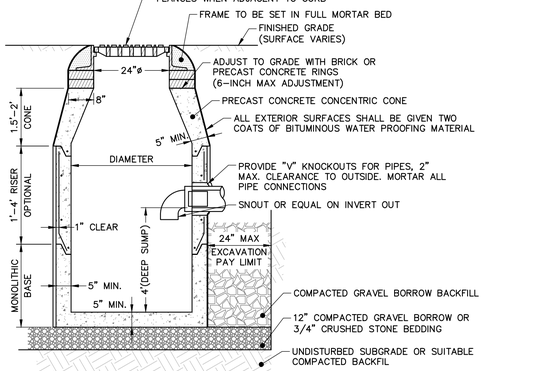

SECTION A–A' SECTION B–B'

NOTE:

1. CATCH BASIN FRAME AND GRATE(S) SHALL MEET MUNICIPAL AND STATE SPECIFICATIONS WHEN APPLICABLE.

## PRECAST CONCRETE CATCH BASIN WITH CURB INLET

NOT TO SCALE

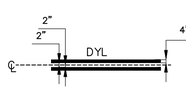



NOTES:

1. PRECAST CONCRETE STRUCTURES AND CASTINGS SHALL BE SUITABLE FOR HS20 LOADINGS AND 4000 PSI CONCRETE.
2. PRECAST CONCRETE STRUCTURES SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478.
3. ALTERNATE TOP SLAB MAY BE USED AS DICTATED BY DESIGN AND/OR FIELD CONDITIONS.
4. ALL SECTION JOINTS SHALL RECEIVE BUTYL RUBBER JOINT SEALANT. TOP SLAB ON SHALLOW MH SHALL RECEIVE DOUBLE BUTYL RUBBER JOINT SEALANT.
5. CATCH BASIN FRAME AND GRATE(S) SHALL MEET MUNICIPAL AND STATE SPECIFICATIONS WHEN APPLICABLE.

## PRECAST CONCRETE CATCH BASIN WITHOUT CURB INLET

NOT TO SCALE



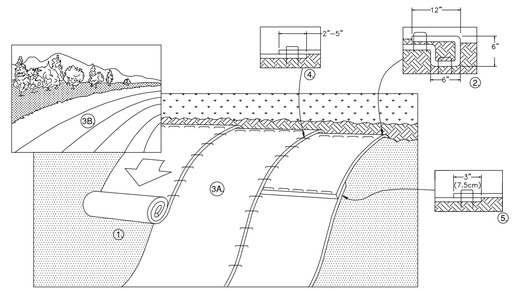

2–4" WIDE YELLOW PAVEMENT MARKING

## DOUBLE YELLOW LINE (DYL) CENTERLINE MARKINGS

NOT TO SCALE

NOTE:

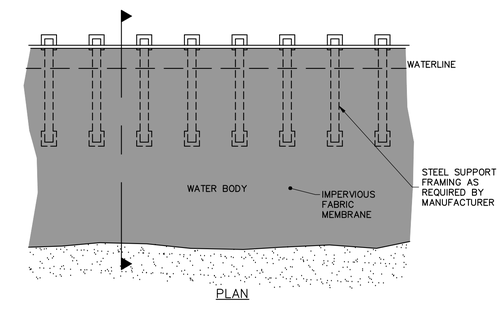
1. SEE SPECIFICATIONS FOR PAINT REQUIREMENTS.



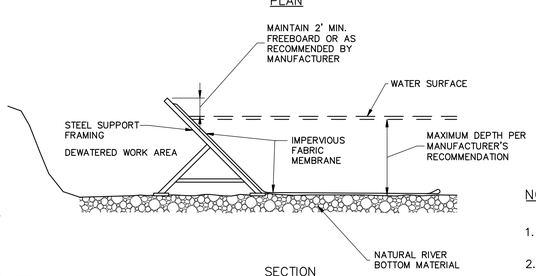

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, STUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15 – SEPTEMBER 15) USE RECP'S ON SLOPES HAVING A GRADE GREATER THAT 15%, OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE. FOR OVER WINTER PROTECTION, APPLY RECP'S ON SLOPES STEEPER THAN AN 8% GRADE.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH (USE OF METAL STAPLES IS PROHIBITED). BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP's WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
6. UNTIL GRASS HAS GOOD COVERAGE, INSPECT PERIODICALLY AND AFTER EACH RAINSTORM TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED. DO NOT MOW THE FIRST YEAR.
7. EROSION CONTROL MATTING AND GROUND FASTENERS SHALL BE 100% BIODEGRADABLE.

## EROSION CONTROL MATTING

N.T.S.




PLAN




SECTION

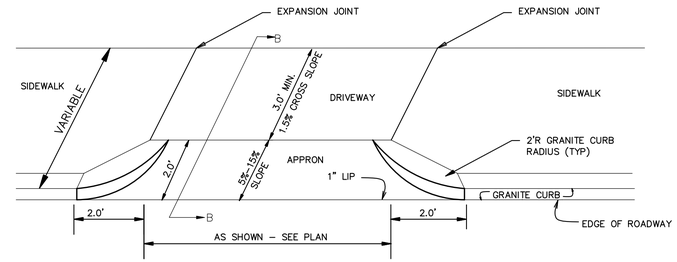
NOTE:

COFFERDAM DETAIL SHOWN FOR REFERENCE PURPOSES. CONTRACTOR SHALL PROVIDE DESIGN OF TEMPORARY COFFERDAMS, STAMPED BY A LICENSED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF MASSACHUSETTS.

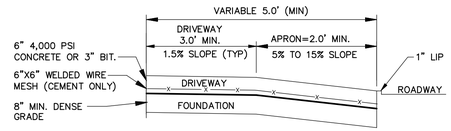
## COFFER DAM DETAIL

N.T.S.

TO BE INSTALLED AROUND WORK AREA IN ACCORDANCE WITH CONTRACTOR'S WORK PLAN



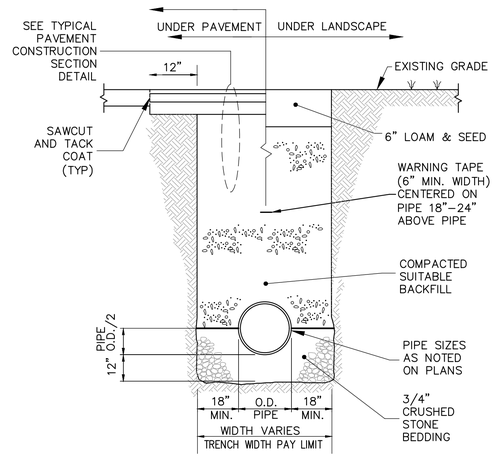

WITH CURB RETURNS (2–FT RADIUS)




SECTION B–B

## TYPICAL BITUMINOUS / CEMENT CONCRETE DRIVEWAY/APPRON

NOT TO SCALE




| TRENCH WIDTHS (a) | |
|---|---|
| PIPE SIZE | MAX (ONE PIPE) (b) |
| 24" OR LESS | 5'–0" |
| 30" | 6'–0" |
| MANHOLES | 10' X 10' |

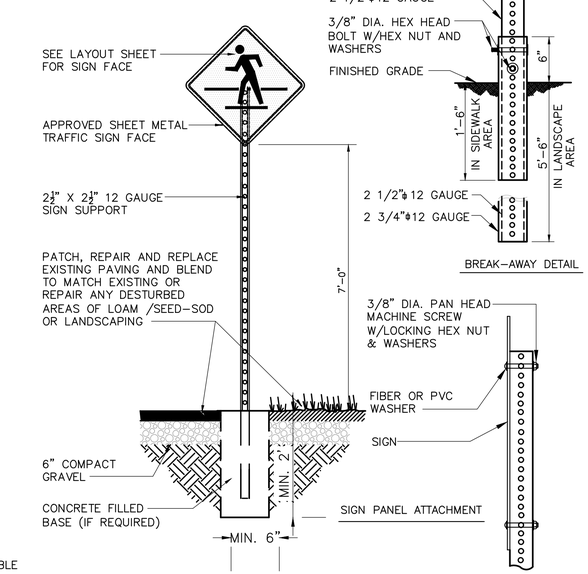
a. REPRESENTS TRENCH WIDTH PAY LIMIT
b. FOR ROCK EXCAVATION SUBTRACT 1'–0"

NOTES:

1. MAINTAIN UNIFORM TRENCH WIDTH TO 6" OVER PIPE.
2. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE O.S.H.A. SAFETY REGULATIONS. ALL SUCH TRENCH PROTECTION TO BE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF TRENCH SUPPORT SYSTEMS ENDORSED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS.
3. CONTRACTOR SHALL OBTAIN TRENCHING PERMIT AND SATISFY ALL PERMITTING REQUIREMENTS.
4. ALL TRENCHING SUPPORT SHALL BE REMOVED FROM TRENCH AS INSTALLATION PROGRESSES. NO SUPPORTS SHALL REMAIN WITHIN THE R.O.W.

## TRENCH DETAIL

NOT TO SCALE




NOTES:

1. ALL 2½" POSTS SHALL BE BLACK POWDER COATED.
2. ALL 2¾" DIRECT GROUND CONTACT POSTS SHALL BE HOT DIPPED GAVANIZED.
3. ALL HARDWARE SHALL BE 304 STAINLESS STEEL (SS).
4. ALL SIGN POSTS SHALL BE SQUARE CHANNEL IN ACCORDANCE MASS DOT SPECIFICATION 840

## TRAFFIC SIGN POST

NOT TO SCALE

NOT FOR CONSTRUCTION


250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com


COMMITTMENT & INTEGRITY DRIVE RESULTS



| REV | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| | DESIGNED BY: DLP/MB | CHECKED BY: HCP/SS |
| | DRAWN BY: MB | 0233128.00-C-20X.dwg |

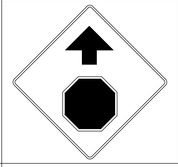
CIVIL DETAILS 2

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 9 OF 8 |

C-201

| I.D. NUMBER | SIZE OF SIGN | | TEXT | NUMBER OF NEW SIGNS REQ'D | AREA IN SQUARE FEET | COMMENTS |
|---|---|---|---|---|---|---|
| | WIDTH (IN) | WIDTH (IN) | | | | |
| W3-1 | 30 | 30 |  | 1 | 6.25 | INSTALL FACING NORTHBOUND TRAFFIC ON OLD FRAMINGHAM ROAD |
| W20-8 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| W11-7 | EXISTING | EXISTING |  | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| R1-1 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| D3-1 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| D3-1 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |

NOTES:

1. SEE MUTCD STANDARDS FOR TEXT DIMENSIONS INCLUDING LETTER HEIGHT, VERTICAL SPACING, AND COLORS INCLUDING BACKGROUND, LEGEND AND BORDER.
2. SEE MARKING AND SIGNAGE PLAN (SHEET C-104) FOR ALL SIGN LOCATIONS.

PERMITTING ONLY - NOT FOR CONSTRUCTION

250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH '21 CONSERVATION COMMISSION MEETING | 03/31/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
\\woodardcurran.net\shared\Projects\0233128.00 sudbury, ma old framingham road\wip\Drawings\Civil\0233128.00-C-20X.dwg, Mar 26, 2021 - 11:54am SJUNG

SIGN DETAILS

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 10 OF 8 |

C-202

## Figure 4: Resource Area Impact Figure

## RESOURCE AREA LEGEND

- BORDERING VEGETATED WETLAND (BVW)
- 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA)
- MEAN ANNUAL HIGH-WATER LINE (MAHWL) OF PERENNIAL STREAM
- 100' RIVERFRONT AREA (INNER RIPARIAN ZONE) (ADJACENT UPLAND RESOURCE AREA)
- 200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) (ADJACENT UPLAND RESOURCE AREA)
- 100' BVW BUFFER ZONE (AURA) PERMANENT IMPACT
- 100' BVW BUFFER ZONE (AURA) TEMPORARY IMPACT
- 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) EXISTING IMPERVIOUS AREA
- 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) PROPOSED IMPERVIOUS AREA
- 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) TEMPORARY IMPACT
- 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) EXISTING IMPERVIOUS AREA
- 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) PROPOSED IMPERVIOUS AREA
- 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) TEMPORARY IMPACT

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

OLD FRAMINGHAM ROAD

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

NOBSCOT ROAD

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

## RESOURCE AREA IMPACT TABLE

| | PERMANENT | TEMPORARY | |
|---|---|---|---|
| 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA) | 9005 S.F. | 3042 S.F. | |
| BANK* (PERMANENT IMPACT DUE TO REPLACEMENT OF 6± LF OF CLOSED-CHANNEL CULVERT WITH RCP. TEMPORARY IMPACT DUE TO REPLACEMENT OF 11± LF OF EXISTING RCP IN-KIND.) | 12± L.F. | 22± L.F. | *NOTE: REPOINTING OF EXISTING HEADWALL NOT INCLUDED IN BANK IMPACT COMPUTATION |
| LAND UNDER WATER BODIES AND WATERWAYS (PERMANENT IMPACT DUE TO REPLACEMENT OF 6± LF OF 3.5'W CLOSED-CHANNEL CULVERT WITH 2.5'W RCP.) | 6± S.F. | 0 S.F. | |

RIVERFRONT AREA (ADJACENT UPLAND RESOURCE AREA)
(NOTE: AREAS BELOW WERE COMPUTED WITHIN LIMIT OF WORK SHOWN HEREON)

| | EXISTING IMPERVIOUS AREA | PROPOSED IMPERVIOUS AREA | NET CHANGE IN IMPERVIOUS AREA | TEMPORARY DISTURBANCE TO BE RESTORED & IMPERVIOUS AREA CONVERTED TO PERVIOUS AREA | TOTAL DISTURBANCE WITHIN RIVERFRONT AREA | TOTAL RIVERFRONT AREA WITHIN LIMIT OF WORK |
|---|---|---|---|---|---|---|
| 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) | 4960 S.F. | 7004 S.F. | +2044 S.F. | 3106 S.F. | 10110 S.F. | 10110 S.F. |
| 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) | 2561 S.F. | 2065 S.F. | -496 S.F. | 3981 S.F. | 6046 S.F. | 6046 S.F. |
| TOTAL RIVERFRONT AREA | 7521 S.F. | 9069 S.F. | +1548 S.F. | 7087 S.F. | 16156 S.F. | 16156 S.F. |

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

PERMITTING ONLY - NOT FOR CONSTRUCTION

WOODARD & CURRAN
250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 22 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| 0 | NOI PERMIT SUBMITTAL | 03/12/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00-IMPACT AREAS.dwg

# IMPACT AREAS

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

JOB NO: 0233350.00
DATE: MARCH 2021
SCALE: AS SHOWN
SHEET: OF

FIG-4

# ATTACHMENT A: EXISTING CONDITIONS SURVEY

NAD83
NAVD88

## LEGEND

These standard symbols will be found in the drawing.

- UTILITY POLE WITH GUY
- SIGN
- DRAIN MANHOLE
- DRILL HOLE
- TREE
- MAILBOX
- BENCHMARK
- TP-XX TEST PIT
- GAS GATE
- STONE BOUND
- WETLANDS
- WETLAND FLAGS
- UTILITY POLE
- CATCH BASIN
- WATER GATE

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

OLD FRAMINGHAM ROAD

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

NOBSCOTT ROAD

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

## ZONING DATA:

SINGLE RESIDENCE -C (SRC)
LOT AREA = 60,000 S.F.
LOT FRONTAGE = 210'
FRONT YARD SETBACK = 40'
SIDE YARD SETBACK = 20'
REAR YARD SETBACK = 30'

## PLAN REFERENCE:

PLAN BOOK 1963 PLAN 921
PLAN BOOK 1991 PLAN 772
PLAN BOOK 2002 PLAN 225
PLAN BOOK 2005 PLAN 1465
PLAN BOOK 2007 PLAN 804
PLAN BOOK 2006 PLAN 1459
PLAN BOOK 2014 PLAN 891
PLAN BOOK 2019 PLAN 171
1951 STREET LAYOUT 21

## OWNER OF RECORD:

CITY OF SUDBURY

## LOCATION:

OLD FRAMINGHAM ROAD &
NOBSCOTT ROAD
SUDBURY, MA



FIELD SURVEY WAS CONDUCTED 11/10/2020, 11/17/2020 & 12/2/2020

1. THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE FINDINGS SUCH A REPORT MIGHT DISCLOSE.
**2. THIS PLAN HAS NOT BEEN PREPARED FOR RECORDING PURPOSES.**
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**JARVIS LAND SURVEY, INC**
29 Grafton Circle
Shrewsbury, MA 01545
Tel. (508) 842-8087 ~ Fax. (508) 842-0661

1-21-2021

*NOT FOR RECORD USE

KEVIN J. JARVIS NO. 40044 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

Kevin J. Jarvis
P.L.S. #40044

PLAN OF PROPERTY
SURVEYED FOR
**SCOTT SALVUCCI**
WOODARD & CURRAN
OLD FRAMINGHAM ROAD
SUDBURY, MASSACHUSETTS

| DATE: | CHECK: | CALC: | FIELD: | N.B. # | PLAN: |
|---|---|---|---|---|---|
| 1/21/2021 | K.J.J. | K.J.J. | CS/SM | 321/68 | 20-149 |

0' 30' 60' 90'

SCALE: 1 INCH = 30 FEET

# ATTACHMENT B: WETLAND RESOURCE EVALUATION

# EcoTec, Inc.

ENVIRONMENTAL CONSULTING SERVICES
102 Grove Street
Worcester, MA 01605-2629
508-752-9666 – Fax: 508-752-9494


November 5, 2020

Scott Salvucci, P.E.
Woodard & Curran, Inc.
980 Washington St., Suite 325
Dedham, MA 02026

RE: Wetland Resource Evaluation, Old Framingham Road Culvert, Sudbury, MA

Dear Scott:

On November 4, 2020, EcoTec, Inc. inspected the above-referenced property for the presence of wetland resources as defined by: (1) the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, § 40; the "Act") and its implementing regulations (310 CMR 10.00 *et seq.*; the "Regulations"); and (2) the U.S. Clean Water Act (i.e., Section 404 and 401 wetlands). Arthur Allen, CPSS, CWS conducted the inspection.

The subject site consists of the vicinity of an existing culvert carrying Pantry Brook under Marlboro Road in Sudbury. The upland portions of the site consist of a public roadway and wooded road shoulder slopes. The wetland resources observed on the site are described below.

**Methodology**

The site was inspected, and areas suspected to qualify as wetland resources were identified. The boundary of Bordering Vegetated Wetlands was delineated in the field in accordance with the definition set forth in the regulations at 310 CMR 10.55(2)(c). Section 10.55(2)(c) states that "The boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist." The methodology used to delineate Bordering Vegetated Wetlands is further described in: (1) the BVW Policy "*BVW: Bordering Vegetated Wetlands Delineation Criteria and Methodology*," issued March 1, 1995; and (2) "*Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act: A Handbook*," produced by the Massachusetts Department of Environmental Protection, dated March 1995. The plant taxonomy used in this report is based on the *National List of Plant Species that Occur in Wetlands: Massachusetts* (Fish and Wildlife Service, U.S. Department of the Interior, 1988). Federal wetlands were presumed to have boundaries conterminous with the delineated Bordering Vegetated Wetlands. One set of DEP Bordering Vegetated Wetland Delineation Field Data Forms completed for observation plots located in the wetlands and uplands near flag A-3

is attached. The table below provides the Flag Numbers, Flag Type, and Wetland Types and Locations for the delineated wetland resources.

| Flag Numbers | Flag Type | Wetland Types and Locations |
|---|---|---|
| A-1 to A-10<br>(Test Plots at A-3) | Blue Flags | Boundary of Bordering Vegetated Wetlands located on the east side of Old Framingham Road that is associated with a perennial stream. Flags A-4 & A-5 connect to stream culvert outfall. |
| B-1 to B-5 | Blue Flags | Boundary of Bordering Vegetated Wetlands located on the west side of Old Framingham Road that is associated with a perennial stream. Flag B-3 connects to stream culvert inlet. |
| RA-1 to RA-8 | Red Flags | Mean Annual High-water Line (MAHWL) of perennial stream on the east side of Old Framingham Road. |
| RB-1 to RB-10 & RB-1A to RB-5A | Red Flags | Mean Annual High-water Line (MAHWL) of perennial stream on the west side of Old Framingham Road. |

**Findings**

Wetland A/B consists of a wooded swamp fringing on a marsh and wet meadow that is associated with an unnamed, perennial stream. Plant species observed include red maple (*Acer rubrum*) and American elm (*Ulmus americana*) trees and/or saplings; poison ivy (*Toxicodendron radicans*) climbing woody vines; highbush blueberry (*Vaccinium corymbosum*), common winterberry (*Ilex verticillata*), arrow-wood (*Viburnum dentatum*), withe-rod (*Viburnum cassinoides*), swamp rose (*Rosa palustris*), speckled alder (*Alnus rugosa*), silky dogwood (*Cornus amomum*), maleberry (*Lyonia ligustrina*), glossy buckthorn (*Rhamnus frangula*), sweet pepper-bush (*Clethra alnifolia*), swamp azalea (*Rhododendron viscosum*), and American elderberry (*Sambucus canadensis*) shrubs; and sheep-laurel (*Kalmia angustifolia*), bristly blackberry (*Rubus hispidus*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), sensitive fern (*Onoclea sensibilis*), subarctic lady fern (*Athyrium filix-femina*), marsh fern (*Thelypteris thelypteroides*), Massachusetts fern (*Thelypteris simulata*), spinulose woodfern (*Dryopteris spinulosa*), skunk-cabbage (*Symplocarpus foetidus*), swamp Jack-in-the-pulpit (*Arisaema triphyllum*), spotted touch-me-not (*Impatiens capensis*) and sphagnum moss (*Sphagnum sp*.) ground cover. Evidence of wetland hydrology, including hydric soils, high groundwater, saturated soils, pore linings, evidence of flooding, and drainage patterns, was observed within the delineated wetland. This vegetated wetland borders a perennial stream; accordingly, the vegetated wetlands would be regulated as Bordering Vegetated Wetlands and the perennial stream would be regulated as Bank and Land Under Water Bodies and Waterways under the Act. A 100-foot Buffer Zone extends horizontally outward from the edge of Bordering Vegetated Wetlands under the Act.

Bordering Land Subject to Flooding is an area that floods due to a rise in floodwaters from a bordering waterway or water body. Where flood studies have been completed, the boundary of Bordering Land Subject to Flooding is based upon flood profile data prepared by the National

Flood Insurance Program. Section 10.57(2)(a)3. states that "The boundary of Bordering Land Subject to Flooding is the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm." The project engineer should evaluate the most recent National Flood Insurance Program flood profile data to confirm the absence of Bordering Land Subject to Flooding on the site. Bordering Land Subject to Flooding would occur in areas where the 100-year flood elevation is located outside of or upgradient of the delineated Bordering Vegetated Wetlands boundary. Bordering Land Subject to Flooding does not have a Buffer Zone under the Act.

The Massachusetts Rivers Protection Act amended the Act to establish an additional wetland resource area: Riverfront Area. Based upon a review of the current USGS Map (attached), a stream that is shown as intermittent is located within the delineated wetland. The watershed area for this stream at the site was determined to be 0.51 square miles, which is at least one-half square miles but less than one square mile (see attached watershed map). The USGS StreamStats method printout for the stream (attached) shows a predicted flow rate of 0.0119 cubic feet per second, which is greater than than 0.01 cubic feet per second at the 99% flow duration. As such, the stream would be designated perennial under the Massachusetts Wetlands Protection Act regulations. Unless this perennial designation is overcome, Riverfront Area is presumed to extend 200 feet horizontally upgradient from the mean annual high-water line of the stream. Section 10.58(2)(a)2. states that the "Mean annual high-water line of a river is the line that is apparent from visible markings or changes in the character of soils or vegetation due to prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land. Field indicators of bankfull conditions shall be used to determine the mean annual high-water line. Bankfull field indicators include but are not limited to: changes in slope, changes in vegetation, stain lines, top of pointbars, changes in bank materials, or bank undercuts." Section 10.58(2)(a)2.a. states that "In most rivers, the first observable break in slope is coincident with bankfull conditions and the mean annual high-water line." The mean annual high-water line of the stream was delineated in the field with flag series RA and RB based upon the above-referenced regulation. Furthermore, based upon a review of the current USGS Map and observations made during the site inspection, there are no other mapped or unmapped streams located within 200 feet of the site. Accordingly, except as noted above, Riverfront Area would not occur on the site. Riverfront Area does not have a Buffer Zone under the Act, but may overlap other wetland resources and their Buffer Zones.

The Regulations require that no project may be permitted that will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures set forth at 310 CMR 10.59. Based upon a review of the *Massachusetts Natural Heritage Atlas*, 14th edition, Priority Habitats and Estimated Habitats from the NHESP Interactive Viewer, valid from August 1, 2017, and Certified Vernal Pools from MassGIS, there are no Estimated Habitats [for use with the Act and Regulations (310 CMR 10.00 *et seq*.)], Priority Habitats [for use with Massachusetts Endangered Species Act (M.G.L. Ch. 131A; "MESA") and MESA Regulations (321 CMR 10.00 *et seq*.)], or Certified Vernal Pools on or in the immediate vicinity of the site. A copy of this map is attached.

The reader should be aware that the regulatory authority for determining wetland jurisdiction rests with local, state, and federal authorities. A brief description of my experience and qualifications is attached. If you have any questions, please feel free to contact me at any time.

Cordially,
ECOTEC, INC.

Arthur Allen, CWS, CPSS
Vice President

Attachments (6, 10 pages)

AA/NOI/Sudbury Marlboro EcoTec Wet Report 9.12.2019

# EcoTec, Inc.

ENVIRONMENTAL CONSULTING SERVICES
102 Grove Street
Worcester, MA 01605-2629
508-752-9666 / Fax: 508-752-9494


**Arthur Allen, CPSS, CWS, CESSWI**
**Vice President**
**Soil & Wetland Scientist**

Arthur Allen is the Vice President of EcoTec, Inc. and has been a senior environmental scientist there since 1995. His work with EcoTec has involved wetland delineation, wildlife habitat evaluation, environmental permitting (federal, state and local), environmental monitoring, expert testimony, peer reviews, contaminated site assessment and the description, mapping and interpretation of soils. His clients have included private landowners, developers, major corporations and regulatory agencies. Prior to joining EcoTec, Mr. Allen mapped and interpreted soils in Franklin County, MA for the U.S.D.A. Natural Resources Conservation Service (formerly Soil Conservation Service) and was a research soil scientist at Harvard University's Harvard Forest. Since 1994, Mr. Allen has assisted the Massachusetts Department of Environmental Protection and the Massachusetts Association of Conservation Commissions as an instructor in the interpretation of soils for wetland delineation and for the Title V Soil Evaluator program.

Mr. Allen has a civil service rating as a soil scientist, an undergraduate degree in Natural Resource Studies and a graduate certificate in Soil Studies. His work on the Franklin County soil survey involved interpretation of landscape-soil-water relationships, classifying soils and drainage, and determining use and limitation of the soil units that he delineated. As a soil scientist at the Harvard Forest, Mr. Allen was involved in identifying the legacies of historical land-use in modern soil and vegetation at a number of study sites across southern New England. He has a working knowledge of the chemical and physical properties of soil and water and how these properties interact with the plants that grow on a given site. While at Harvard Forest he authored and presented several papers describing his research results which were later published. In addition to his aforementioned experience, Mr. Allen was previously employed by the Trustees of Reservations as a land manager and by the Town of North Andover, MA as a conservation commission intern.

**Education:**
1993-Graduate Certificate in Soil Studies, University of New Hampshire
1982-Bachelor of Science in Natural Resource Studies, University of Massachusetts

**Professional Affiliations:**
Certified Professional Soil Scientist (ARCPACS CPSS #22529)
New Hampshire Certified Wetland Scientist (#19)
Registered Professional Soil Scientist – Society of Soil Scientists of SNE [Board Member (2000-2006)]
Certified Erosion, Sediment & Stormwater Inspector (#965)
Massachusetts Approved Soil Evaluator (#13764)
Massachusetts Arborists Association-Certified Arborist (1982 – 1998)
New England Hydric Soils Technical Committee member
Massachusetts Association of Conservation Commissions member
Society of Wetland Scientists member

**Refereed Publications:**
*Soil Science and Survey at Harvard Forest*. A.Allen. *In*: Soil Survey Horizons. Vol. 36, No. 4, 1995, pp. 133-142.
*Controlling Site to Evaluate History: Vegetation Patterns of a New England Sand Plain.* G.Motzkin, D.Foster, A.Allen, J.Harrod, & R.Boone. *In*: Ecological Monographs 66(3), 1996, pp. 345-365.
*Vegetation Patterns in Heterogeneous Landscapes: The Importance of History and Environment*. G.Motzkin, P.Wilson, D.R.Foster & A.Allen. In: Journal of Vegetation Science 10, 1999, pp. 903-920.

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section I. Vegetation** | Number: TPU | Transect # A-3 | Date of Delin: 11/4/2020

| A. Sample layer and plant species (Enter largest to smallest % cover by layer) | | | Percent Cover (or basal area) | Percent Dominance | Dominant Plant? | Wetland Indicator Category | |
|---|---|---|---|---|---|---|---|
| Tree | Sugar Maple | Acer saccharum | 20 | 20.0 | YES | FACU- | |
| | Red Maple | Acer rubrum | 80 | 80.0 | YES | FAC | * |
| Sapling | Sugar Maple | Acer saccharum | 30 | 100.0 | YES | FACU- | |
| Shrub | Multi-Flora Rose | Rosa multiflora | 20 | 66.7 | YES | FACU | |
| | Tartarian Honeysuckle | Lonicera tatarica | 10 | 33.3 | YES | FACU | |
| Ground | none | | | | | | |
| Vine | | | | | | | |

**Vegetation Conclusions**

Number of dominant wetland indicator plants **1** | Number of dominant non-wetland indicator plants **4**

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

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section II. Indicators of Hydrology** | Number: TPU | Transect # A-3 | Date of Delin: 11/4/2020

**1. Soil Survey**

Is there a published soil survey for this site?

title/date

map number

soil type mapped

hydric soil inclusions

Are field observarions consistent with soil survey?

Remarks:

**2. Soil Description**

| Horizon | Depth (inches) | Matrix Color | Mottle Color |
|---|---|---|---|
| Litter | 2 | | |
| A | 0-14 | 10YR 3/2 | |
| Bw | 14-20 | 10YR 5/6 | |

Remarks Stony fine sandy loams

**3. Other**

**Conclusion: Is the soil hydric?** No

**Other Indicators of hydrology (check all that apply):**

- ☐ Site Inundated
- ☐ Depth to free water in observation hole
- ☐ Depth to soil saturation in observation hole
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in BVWs
- ☐ Oxidized rhizospheres
- ☐ Water stained leaves
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- ☐ Other:

**Vegetation and Hydrology Conclusion**

| | Yes | No |
|---|---|---|
| Number of wetland indicator plants ≥ number of non-wetland indicator plants | ☐ | ☑ |
| Wetland hydrology present: | | |
| Hydric soil present | ☐ | ☑ |
| Other indicators of hydrology present | ☐ | ☑ |
| Sample Location is in a BVW | ☐ | ☑ |

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section I. Vegetation** | Number: TPW | Transect # A-3 | Date of Delin: 11/4/2020

| A. Sample layer and plant species (Enter largest to smallest % cover by layer) | | | Percent Cover (or basal area) | Percent Dominance | Dominant Plant? | Wetland Indicator Category | |
|---|---|---|---|---|---|---|---|
| Tree | Green Ash | Fraxinus pennsylvanica | 20 | 25.0 | YES | FACW | * |
| | Red Maple | Acer rubrum | 60 | 75.0 | YES | FAC | * |
| Sapling | none | | | | | | |
| Shrub | Multi-Flora Rose | Rosa multiflora | 20 | 50.0 | YES | FACU | |
| | Silky Dogwood | Cornus amomum | 20 | 50.0 | YES | FACW | * |
| Ground | Jewelweed | Impatiens capensis | 30 | 75.0 | YES | FACW | * |
| | Virginia Wild Rye | Elymus virginicus | 10 | 25.0 | YES | FACW- | * |
| Vine | | | | | | | |

**Vegetation Conclusions**

Number of dominant wetland indicator plants **5** | Number of dominant non-wetland indicator plants **1**

Is the number of dominant wetland plants equal or greater than the number of dominant non-wetland plants? YES

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section II. Indicators of Hydrology** | Number: TPW | Transect # A-3 | Date of Delin: 11/4/2020

**1. Soil Survey**

Is there a published soil survey for this site?

title/date

map number

soil type mapped

hydric soil inclusions

Are field observarions consistent with soil survey?

Remarks:

**2. Soil Description**

| Horizon | Depth (inches) | Matrix Color | Mottle Color |
|---|---|---|---|
| Litter | 1 | | |
| A | 0-3 | 10YR 2/1 | |
| Cg | 3-14 | 10YR 6/2 | 10% 7.5YR 4/6 |

Remarks A-Mucky Sand; Cg-Coarse Sand

**3. Other**

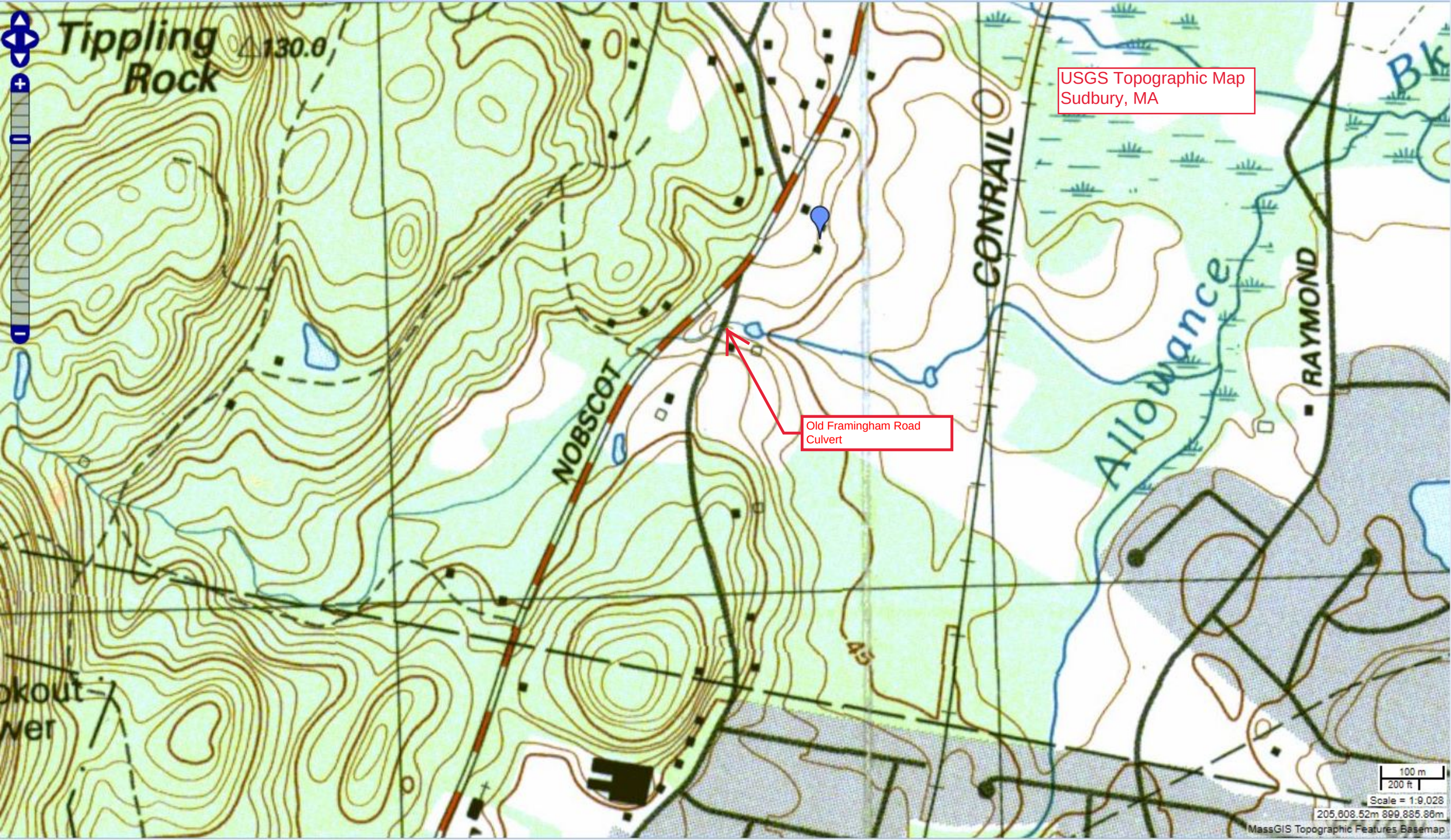
**Conclusion: Is the soil hydric?** Yes

**Other Indicators of hydrology (check all that apply):**

- ☐ Site Inundated
- ☑ Depth to free water in observation hole 4"
- ☑ Depth to soil saturation in observation hole 0"
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in BVWs
- ☐ Oxidized rhizospheres
- ☑ Water stained leaves
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- ☐ Other:

**Vegetation and Hydrology Conclusion**

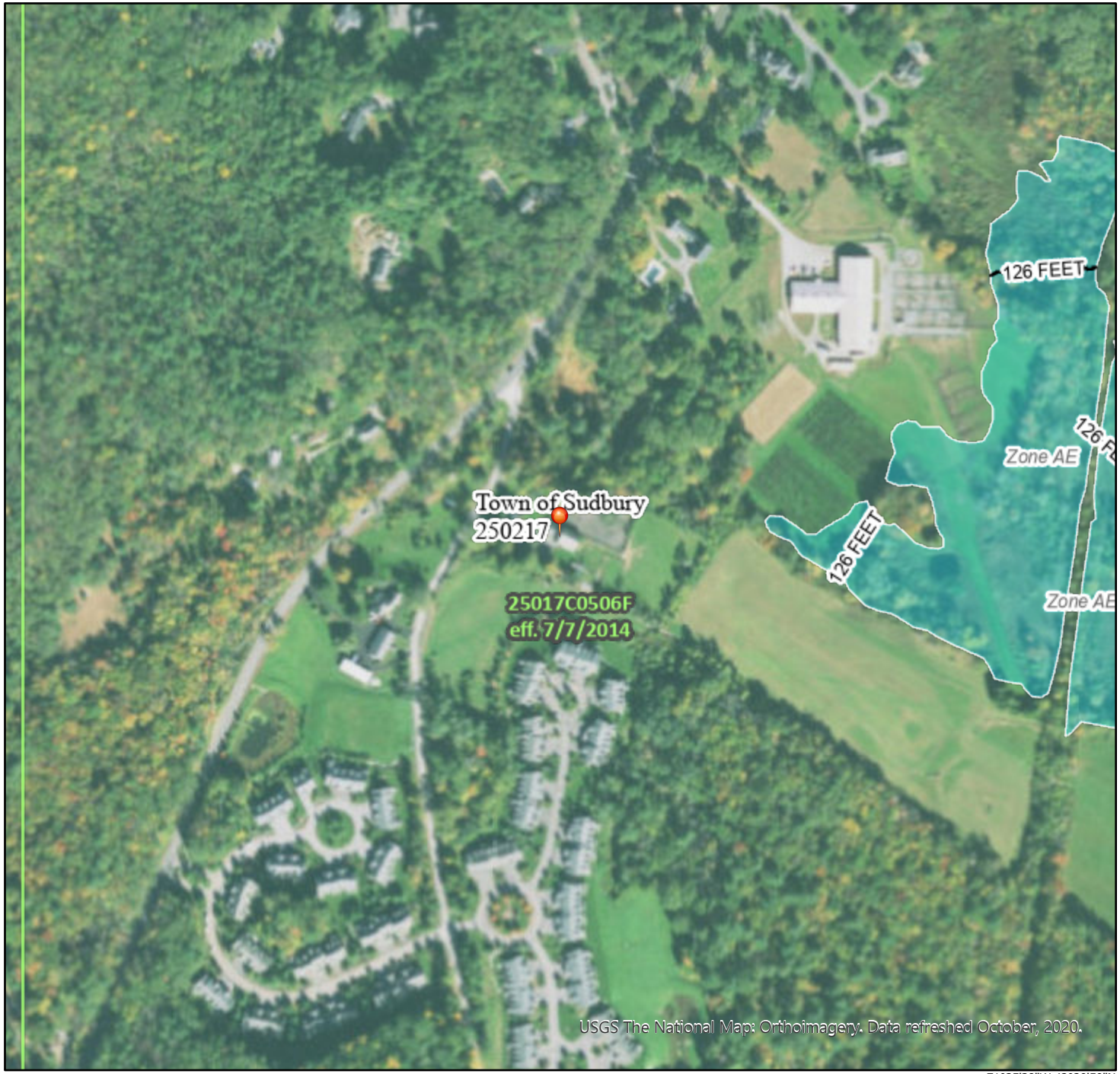
| | Yes | No |
|---|---|---|
| Number of wetland indicator plants ≥ number of non-wetland indicator plants | ☑ | ☐ |
| Wetland hydrology present: | | |
| Hydric soil present | ☑ | ☐ |
| Other indicators of hydrology present | ☑ | ☐ |
| Sample Location is in a BVW | ☑ | ☐ |


USGS Topographic Map
Sudbury, MA
Old Framingham Road
Culvert
Tippling
Rock
130.0
NOBSCOT
CONRAIL
Allowance
RAYMOND
100 m
200 ft
Scale = 1:9,028
205,608.52m 899,885.86m
MassGIS Topographic Features Basemap

# National Flood Hazard Layer FIRMette

FEMA

71°26'16"W 42°21'17"N




71°25'38"W 42°20'50"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

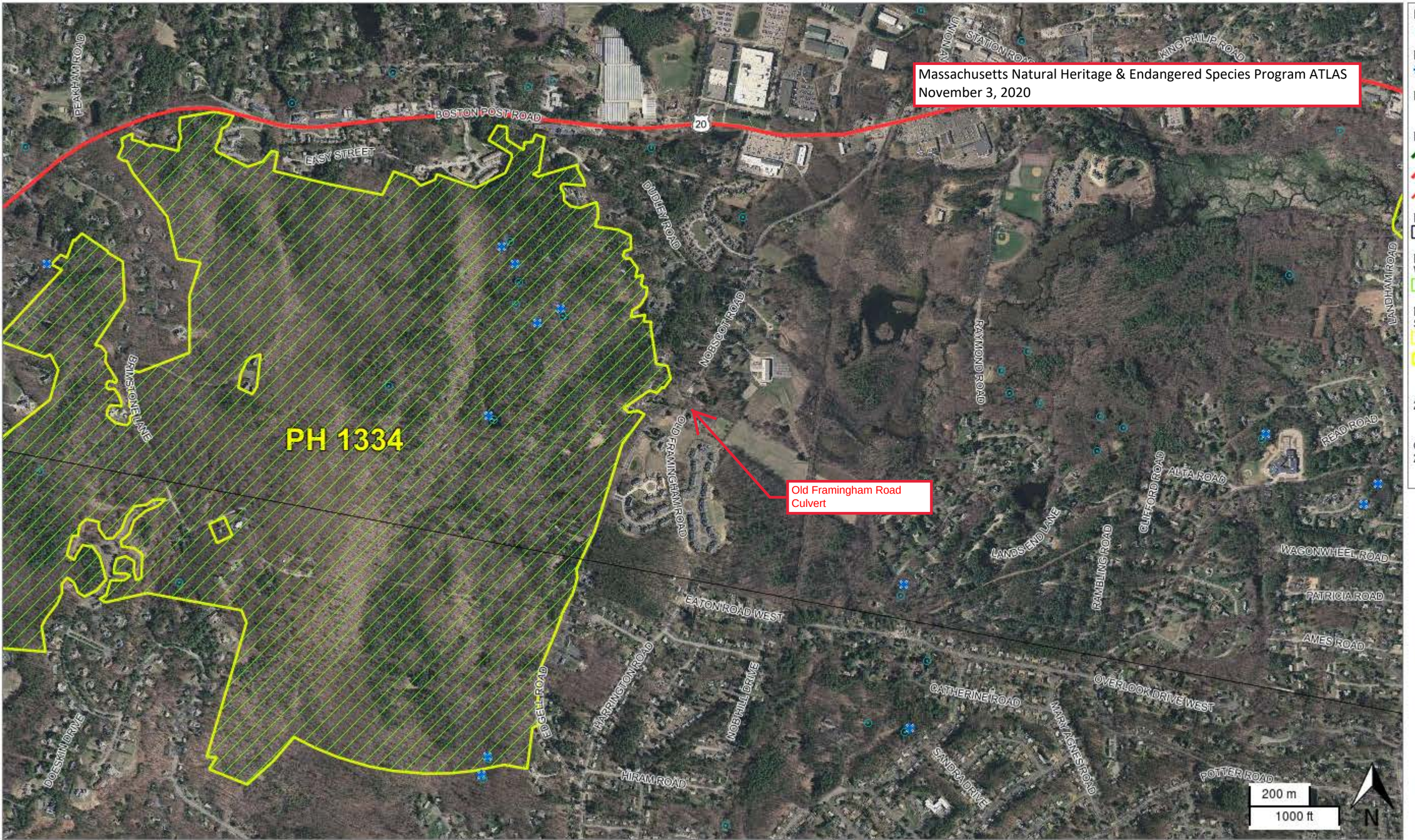
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/3/2020 at 4:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# NHESP - 11.3.2020




Potential Vernal Pools

NHESP Certified Vernal Pools

MassDOT Roads Street Names

Major MassDOT Routes
- Interstate Highways
- US Roads
- State

Massachusetts Towns

NHESP Estimated Habitats of Rare Wildlife

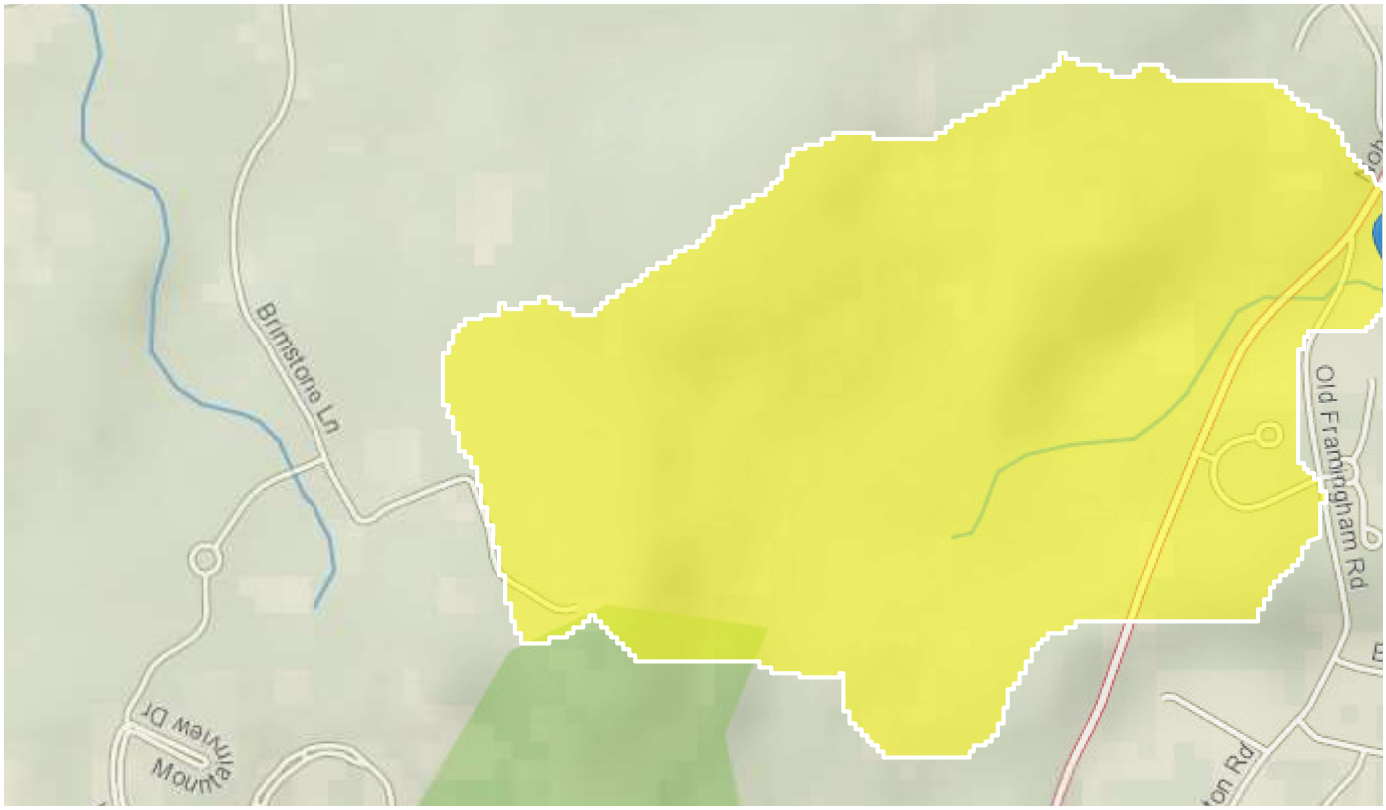
NHESP Priority Habitats of Rare Species

2013-2014 Color Orthos (USGS)

Orthos 2019
2019 Color Orthos (USGS)

# StreamStats Report

**Region ID:** MA
**Workspace ID:** MA20210105154012609000
**Clicked Point (Latitude, Longitude):** 42.35123, -71.43178
**Time:** 2021-01-05 10:35:08 -0500




Old Framingham Road, Sudbury, MA

Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 0.51 | square miles |
| BSLDEM250 | Mean basin slope computed from 1:250K DEM | 8.599 | percent |
| DRFTPERSTR | Area of stratified drift per unit of stream length | 0.0522 | square mile per mile |
| MAREGION | Region of Massachusetts 0 for Eastern 1 for Western | 0 | dimensionless |

Low-Flow Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.51 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 8.599 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.0522 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 0 | dimensionless | 0 | 1 |

Low-Flow Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|---|---|---|
| 7 Day 2 Year Low Flow | 0.0289 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.0119 | ft^3/s |

*Low-Flow Statistics Citations*

**Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)**

# ATTACHMENT C: FEMA FIRMETTE

# National Flood Hazard Layer FIRMette

FEMA

71°26'17"W 42°21'19"N


71°25'40"W 42°20'53"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/27/2021 at 9:47 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

COMMITMENT & INTEGRITY
DRIVE RESULTS

250 Royall Street | Suite 200E
Canton, Massachusetts 02021
www.woodardcurran.com

T 800.426.4262
T 781.251.0200
F 781.251.0847

March 30, 2021

Sudbury Conservation Department
275 Old Lancaster Road
Sudbury, MA 01776
Attn: Lori Capone, Conservation Coordinator

Re: Old Framingham Road Sidewalk Extension and Roadway Realignment NOI
Response to Comments

Dear Ms. Capone:

Thank you for coordinating the review of the proposed sidewalk extension and roadway realignment on Old Framingham Road in Sudbury. The following letter compiles responses to comments received from you via email on March 18, 2021. The comments received are provided below for your reference, and our response follows each comment:

Comment 1: *There is no discussion on how the project meets the Wetlands Bylaw. Unaltered Buffer Zone (Adjacent Upland Resource Area) is a resource area under the Bylaw. Impacts thereto should be mitigated or explain how functions provided by AURA are not being impacted.*

Please see section 4.1 of the updated Technical Memorandum for a discussion of impacts to the AURA.

Comment 2: *Section 2.2 of Tech Memo states stream is both perennial and intermittent.*

The stream is perennial—please see Section 2.2 of the revised Technical Memorandum.

Comment 3: *EcoTec report, second paragraph notes Marlboro Road and Panty Brook project. It also states that engineer should confirm that work is outside Bordering Land Subject to Flooding, which appears to be located on the eastern side of the CSX branch, 1,500 linear feet from the project site. Is there a reason the wetland scientist left this question open?*

Please see the updated NOI form and the FEMA Flood Insurance Rate Map (FIRM) included with the Technical Memorandum as Attachment C. The project is not within the 100-year floodplain according to the FIRM.

Comment 4: *The Riverfront impact calculations in the NOI states that there is 9,069 s.f. of impact, but the Impact Area plan notes 9,069 s.f. of proposed impervious with 5,694, temp disturbance. The NOI should be modified to include with temporary disturbance within the total alteration. The total riverfront calculation in the NOI should include all land within the riverfront area on site. I know this is hard to quantify this this type of project but it should not be the total impervious number. Temp alteration numbers should also be included on the NOI form for inner and outer riparian zones.*

Please see the revised impact area figure with clarified impact square footage calculations.

Comment 5: *Only silt fence is shown for erosion controls, except for the coffer dam and turbidity curtain. No wattles?*

Woodard & Curran recommends using a compostable silt-sock sedimentation barrier. Please refer to the revised sheet C-200 for the Sedimentation Barrier, Dewatering Discharge Sediment Control Device, and Temporary Soil Stock Pile Area details.

Comment 6: *Any tree removal required? Any trees within jurisdiction that are being protected during construction?*

Per the discussion at the March 22nd meeting, it is possible that some small trees behind the existing stone wall on Town-owned land south of #78 may need to be removed. One small tree at the south corner of Nobscot Road and Old Framingham Road will need to be removed to accommodate the new intersection alignment—this tree has been called out on the revised sheet C-101. Tree removal will be limited to only those necessary to facilitate construction, and certain trees within or near the limit of work are called out to be protected on sheet C-101.

Comment 7: *Erosion control matting is called out in construction sequence but detail not shown on plan nor where this will be used.*

Please see the revised sheet C-201. Note 1 of the Erosion Control Matting detail contains application instructions with minimum slopes where use of the matting will be required.

Comment 8: *What seed mix if being used to stabilize disturbed areas?*

Please see the attached seed mix specifications for the New England Conservation/Wildlife mix and the New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites. The New England Conservation/Wildlife Mix will be used to stabilize disturbed upland areas. The New England Erosion Control/Restoration mix will be used to stabilize disturbed wetland areas above the waterline if incidental disturbances to such areas occur.

If you have any questions or require additional information, please do not hesitate to contact me at 781-613-0311 or email me at ssalvucci@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Scott Salvucci, PE
Project Manager

Enclosures: Revised NOI Package

# TECHNICAL MEMORANDUM

TO: Arthur Allen, EcoTec, Inc.

PREPARED BY: Dan Pasquale, Woodard & Curran

REVIEWED BY: Scott Salvucci, Woodard & Curran

DATE: March 4, 2021 (Revised March 30, 2021)

RE: Old Framingham Road Sidewalk Extension and Roadway Realignment

## 1. INTRODUCTION

Woodard & Curran has developed a preliminary-phase design of a sidewalk extension alongside Old Framingham Road in Sudbury, MA. Additionally, the design includes a realignment of Old Framingham Road and a re-configuration of the Old Framingham Road/Nobscot Road intersection. This memorandum is intended to support filing of a Notice of Intent application with the Conservation Commission for authorization to construct the sidewalk extension and roadway improvements. The sidewalk extension would improve pedestrian safety and enhance access between the residential communities along Old Framingham Road and an existing sidewalk along Nobscot Road. An existing reinforced concrete pipe (RCP) culvert carries an unnamed perennial stream beneath Old Framingham Road. To accommodate the sidewalk and adjacent roadway alignment, Woodard & Curran recommends replacing a portion of the existing culvert with new RCP piping. Please refer to Figure 1 for the Site Location Map.

## 2. EXISTING CONDITIONS EVALUATION

### 2.1 Survey and Existing Unnamed Stream Channel Condition

An existing conditions survey of the site was performed by Jarvis Land Survey, with field data collected in November and December 2020. A 43.4-foot long closed-channel/pipe culvert carries an unnamed stream flowing west to east beneath Old Framingham Road. Upstream of the crossing, the stream pools in an area west of the roadway, impounded by a stone masonry headwall. A weir structure forms the outlet of the upstream pool area, discharging into an approximately 12-foot long, 3.5-foot-wide channelized stream section with stone masonry walls. The downstream 6-feet of the channelized section is covered by a concrete slab structure. Refer to Figure 2 for a photo of the closed-channel stream section. The stream then enters a 30" RCP pipe and flows beneath the roadway. Based on information from the Town, a doghouse-style drop inlet structure was built on top of the RCP pipe near the upstream end, with the top half of the pipe within the structure footprint removed to allow direct discharge of stormwater runoff from the roadway into the culvert. The existing pipe culvert is set at a slope of approximately 2.4%. Downstream of the roadway, the RCP culvert discharges into a wooded area. The upstream and downstream properties are both privately owned. An existing condition survey is included as Attachment A.

### 2.2 Wetland Resource Evaluation

A wetland resource evaluation was performed by EcoTec, Inc. on November 4, 2020 to evaluate the presence of resource areas within the project area. Wetland flags were delineated for the boundary of bordering vegetated wetlands (BVW) associated with the upstream and downstream wetland complexes, labeled B1–B5 and A1-A10, respectively. Flags marking the Mean Annual High-water Line (MAHWL) of the perennial stream on the east and west sides of the crossing were also delineated, labeled RA1-RA8 and RB1-RB10/RB1A-RB5A, respectively. The stream continues from the culvert outlet through wooded areas and relatively flat

marshes within farmland before ultimately draining to Landham Brook (also known as Allowance Brook). The Wetland Resource Evaluation is included as Attachment B.

### 2.3 Site Soil Conditions

On December 1, 2020, two test pits (TP-1 and TP-2) were excavated adjacent to the existing roadway near the culvert crossing under the supervision of Woodard & Curran staff. The purpose of the test pit excavation was to gain a general understanding of the soil conditions and groundwater level at the site. Subsurface conditions consisted primarily of poorly sorted silt/sand layers. No significant organic soil layer was discovered. As soil conditions can vary across a given site, Woodard & Curran recommends that soil conditions be monitored during construction activities and that any unsuitable soil materials encountered at the subgrade be removed and replaced with clean fill material. Groundwater was encountered at 6.2-feet below ground surface at TP-1 and at 4.5-feet below ground surface at TP-2, corresponding to elevations ranging from approximately 152.8-154.0.

### 2.4 FEMA FIRM Review

Review of the Federal Emergency Management Agency (FEMA) flood maps indicates that the site is within an Area of Minimal Flood Hazard as mapped on FEMA Flood Insurance Rate Map (FIRM) Panel 25017C0506F. The FIRMette showing the project site is included as Attachment C.

## 3. DESIGN CONSIDERATIONS

The design intent was to provide the minimum required cross-sectional sidewalk and roadway width at the culvert crossing. This ensures pedestrian accessibility and safe vehicular passage while minimizing land disturbance near the stream. Because there is a steep drop-off along the eastern side of the road right-of-way, a line approximately coincidental with the eastern edge of the existing roadway was held for the back of sidewalk line at the culvert crossing. The western edge of the proposed roadway alignment is shifted west of the current alignment by a maximum of 5.83-feet at the crossing location.

Modifications to the culvert are required to accommodate the proposed alignment. The new roadway footprint would cross over the concrete slab enclosing the channelized stream. Because the current structural condition of the concrete slab is unknown and possibly unsuitable for regular vehicle loading, Woodard & Curran recommends removing the concrete slab, as discussed in the Proposed Conditions section below.

Additionally, the existing stormwater drop inlet structure over the pipe culvert would be positioned close to the proposed roadway centerline, which is a non-optimal location for capturing runoff from the road surface. Woodard & Curran recommends removing the existing drop inlet structure.

## 4. PROPOSED CONDITIONS

Please refer to Figure 3 for preliminary-phase project plans. The proposed sidewalk width is 5-feet, and the proposed roadway width is 18-feet. A 0.5-foot-wide vertical granite curb will separate the roadway from the sidewalk. To facilitate construction of the new sidewalk extension and roadway alignment, Woodard & Curran recommends replacing the existing 30” RCP culvert from the current RCP inlet up to and including the cut-open drop inlet pipe with new 30” RCP pipe. Woodard & Curran also recommends replacing the concrete slab-covered portion of the channel with additional 30” RCP pipe to the upstream limit of the existing concrete slab. A concrete headwall will be constructed within the stone masonry channel at the new pipe inlet. The existing stone masonry channel walls and the walls bordering the upstream marsh pool area will receive new mortar as part of the work. The new piping will provide a structurally-sound conveyance for the culvert and allow for the westward shift of the roadway.

Woodard & Curran also recommends constructing a new deep-sump catch basin with a grate inlet at the west edge of the roadway south of the culvert crossing to replace the drop inlet. The new deep-sump catch basin would form the low point along the road surface, which would be cross-pitched to the west similar to the existing roadway cross-slope. The catch basin would connect to an existing drain manhole (DMH) south of the culvert crossing with 12" HDPE pipe. Flow from the existing DMH is conveyed east and discharges to the wooded area immediately downstream of the existing RCP culvert outlet. It is assumed that during extreme precipitation events, any overflow from the catch basin would flow into the open channel section of the stream.

The proposed configuration would replace the current stormwater inlet with a new inlet in an optimal location to capture runoff from the proposed roadway alignment. It would also provide an improvement to water quality—the existing drop inlet structure provides no treatment of runoff before discharge to the brook, while the deep-sump catch basin would provide a small level of treatment before discharging into the drainage system.

The total length of the sidewalk extension is approximately 681-feet, measured from the existing sidewalk at Nobscot Road to the northern terminus of the existing Old Framingham Road sidewalk. Additional work farther from the crossing will be needed to construct the full length of the sidewalk extension. An existing catch basin in front of #78 Old Framingham Road will be removed and re-located within the roadway footprint, and a utility pole west of the roadway will be relocated to provide sufficient clearance between it and the proposed edge of pavement. The Town intends to acquire a walkway easement from the owners of #78 Old Framingham Road, and some re-grading along the frontage of the property will be required. Additional grading is proposed within a Town-owned property south of #78 Old Framingham Road to achieve a more gradual sidewalk slope.

As part of this project, the intersection of Old Framingham Road and Nobscot Road will be re-configured to remove the existing traffic island on Old Framingham Road. This will narrow the Old Framingham Road approach to the intersection, reducing the impervious area associated with the intersection itself. As a result of the re-configuration, the Old Framingham Road approach will be shifted to the south of its current footprint by approximately 19.5-feet. The new Old Framingham Road approach will require additional grading on the private property at the south corner of Old Framingham Road and Nobscot Road. The Town intends to acquire a permanent easement on this property, which has the same ownership as #78 Old Framingham Road.

Design considerations also included utility and roadway elevation constraints. The existing culvert has invert elevations of 154.32 feet and 153.27 feet at the culvert inlet and outlet, respectively. Subsurface gas and water utilities were found near the crossing based a review of available record plans and field utility markings. During construction, it will be the responsibility of the contractor to field locate and protect all subsurface utilities. Overhead electric utilities are present, crossing from the east to the west side of the roadway, and one utility pole is anticipated to be relocated as discussed above, although the electrical utility may require relocation of additional utility poles during construction. It is anticipated that surface elevations will be raised slightly within the proposed sidewalk alignment and lowered slightly within the roadway alignment to accommodate the proposed vertical granite curbing in the vicinity of the crossing area. However, grading patterns near the culvert crossing will be maintained to the maximum extent feasible under the proposed conditions.

## 4.1 Anticipated Impacts to Adjacent Upland Resource Areas (AURAs)

The Town of Sudbury Wetlands Administration Bylaw (Article XXII) and its associated Sudbury Wetlands Administration Bylaw Regulations (revised September 25, 2017) establishes jurisdictional Adjacent Upland Resource Areas (AURAs). The Bylaw defines AURAs as land within 100-feet of wetland resource areas, within 200-feet of top of bank, and with varying extent when adjacent to vernal pools, ponds <10,000-square feet in area, or isolated land subject to flooding. The proposed project includes work within 100-feet of Bordering Vegetated Wetlands, and within 200-feet of Mean Annual High-Water Line (Inland Bank), both considered AURAs under the Bylaw.

The project, which will add a pedestrian sidewalk alongside an existing roadway, was designed to minimize the amount of disruption and alteration to the AURAs within the project limit of work. Because Old Framingham

Road does not currently have a sidewalk in the project area, constructing the sidewalk will add new impervious land coverage to the AURAs. However, the proposed sidewalk width is the narrowest allowable for a continuous-width walkway under applicable pedestrian accessibility regulations. The proposed roadway width is the minimum required to accommodate two 9-foot-wide travel lanes, one in each direction, through the culvert crossing area. The proposed re-configuration of the Old Framingham Road/Nobscot Road intersection will shrink the Old Framingham Road approach and eliminate the existing hardscape traffic island. Reducing the footprint of Old Framingham Road will partially mitigate the impact of the new sidewalk: within the outer riparian zone associated with the unnamed stream crossing beneath Old Framingham Road, the project will eliminate 496-square feet of impervious area.

Temporary land disturbances related to the project will be stabilized and restored to existing conditions. A native New England Conservation/Wildlife seed mix will be applied to temporarily disturbed areas within the AURAs. The blend of species will provide a permanent cover of grasses, forbs, wildflowers, and legumes to control soil erosion and enhance wildlife habitat.

The project objective is to add a new pedestrian sidewalk to a public way without an existing sidewalk. Widths chosen for the proposed roadway and sidewalk cross-sections were minimized, and the footprint of the proposed roadway and sidewalk traverses an existing closed-conduit culvert covered by a concrete slab of unknown structural integrity. Because of this, and because of the space limitations of the upland area surrounding the culvert crossing, there is no reasonable alternative that would reduce or eliminate the permanent impacts associated with the project. Figure 4 contains square footages of impacts to resource areas.

## 5. CONCEPTUAL SEQUENCE OF CONSTRUCTION

Old Framingham Road is a two-lane road. At minimum, temporary closure of the southbound lane of the roadway will be required to facilitate construction, with temporary flaggers or police details posted to direct traffic. During full-depth reconstruction, a temporary complete closure of the roadway between Nobscot Road and #78 Old Framingham Road will be required. The anticipated sequence of construction is as follows:

1. Install temporary erosion and sedimentation control and flow control measures, including cofferdam, flow diffuser, and/or flow diversion;
2. Locate and protect existing utilities;
3. Close the southbound lane of the roadway;
4. Remove and dispose of the existing drop inlet and concrete slab. Partially remove, and dispose, the existing RCP pipe culvert and the stone masonry RCP pipe headwall;
5. Install new culvert piping and headwall;
6. Install new deep-sump catch basin;
7. Backfill new culvert and catch basin to roadway subgrade
8. Completely close roadway between Nobscot Road and #78 Old Framingham Road;
9. Excavate existing traffic island, roadway pavement, and base layers. Store signage to be reused;
10. Grade and prepare roadway and sidewalk subgrade;
11. Install new base layer and pavement binder/wearing courses, and guardrails. Reinstall signage;

12. Reopen roadway;
13. Stabilize side slopes as needed;
14. Install erosion control matting, loam, and seed on all disturbed areas; and
15. Remove temporary erosion and sedimentation control measures.

## 6. ATTACHMENTS

Figures

Figure 1 – Site Location Map

Figure 2 – Photo of Closed-Channel Stream Section and RCP Pipe Inlet

Figure 3 – Preliminary-Phase Project Plans

Figure 4 – Resource Area Impact Figure

Attachments

Attachment A – Existing Conditions Survey

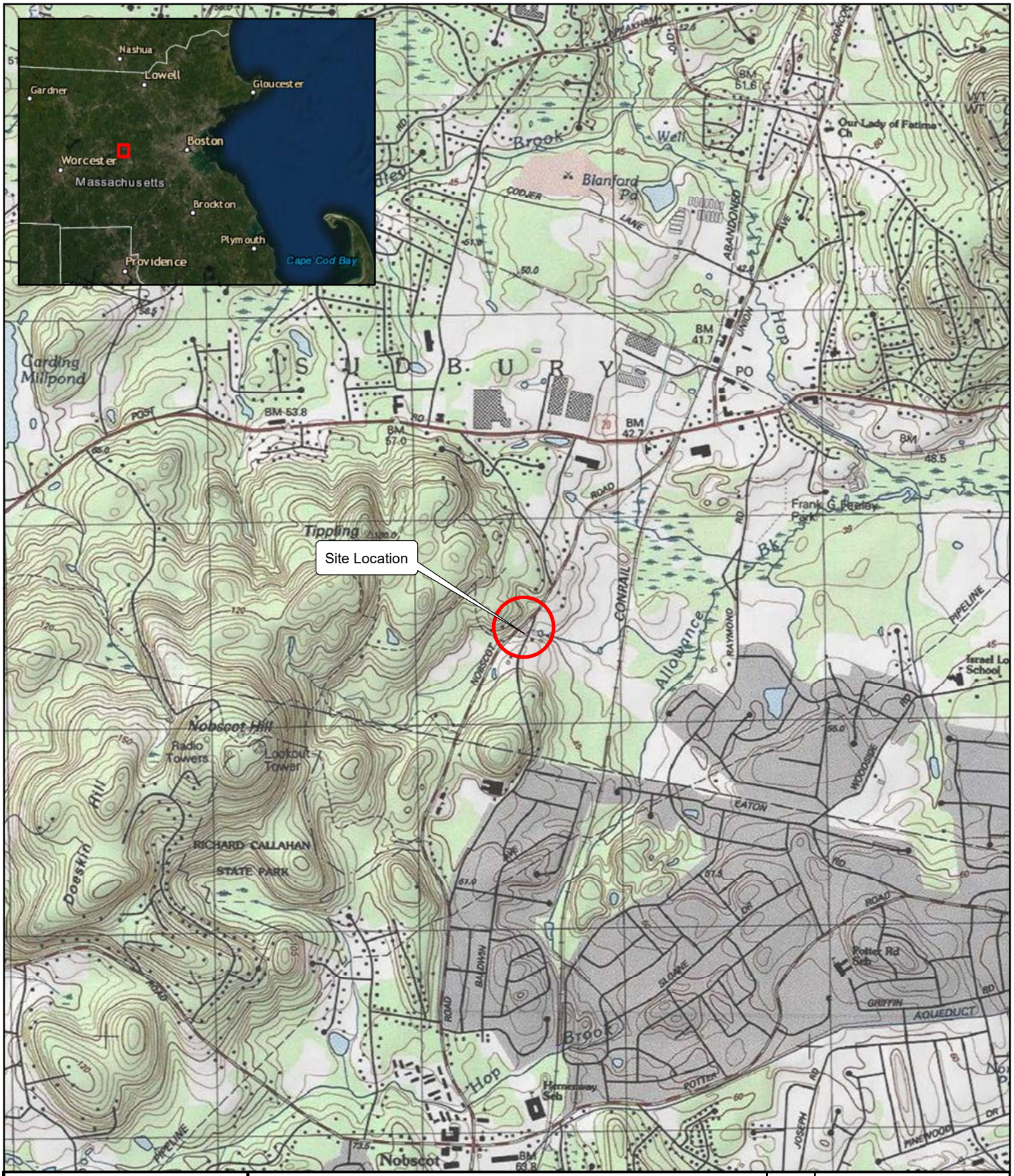
Attachment B – Wetland Resource Evaluation

Attachment C – FEMA FIRMETTE

## 7. REFERENCES

FEMA FIRM Panel 25017C0506F, effective July 7, 2014

## Figure 1: Site Location Map




# OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

SUDBURY, MA

**FIGURE 1 - SITE LOCATION MAP**

WOODARD &CURRAN

Project #: 0233335.00
Map Created: January 2021

Figure Exported: 1/28/2021 By: dpasquale Using: C:\Users\dpasquale\OneDrive - Woodard & Curran_PCFolders\Documents\HH_Modeling\Washington Drive\GIS\Projects\Old Framingham Rd Site Location.mxd

**Figure 2: Photo of Closed-Channel Stream Section and RCP Pipe Inlet**

## Figure 3: Preliminary-Phase Project Plans

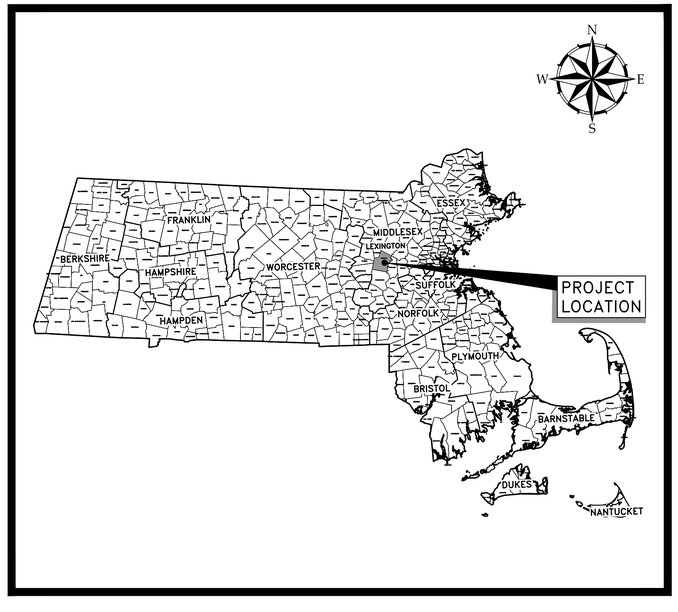
# TOWN OF SUDBURY, MA
# PUBLIC WORKS DEPARTMENT

# OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

**PROJECT NO.**
**0233128.00**

# MARCH 2021

## NOTICE OF INTENT
## PERMITTING ONLY - NOT FOR CONSTRUCTION



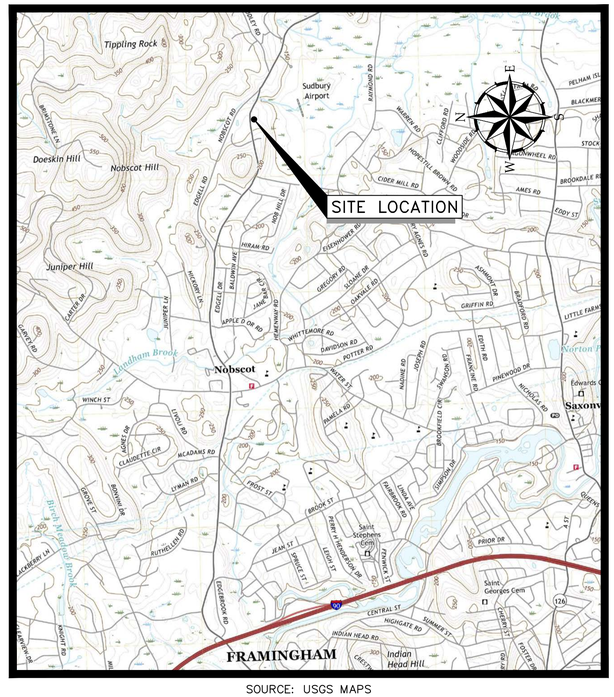

**PROJECT LOCATION MAP**

SUDBURY PUBLIC WORKS


WOODARD & CURRAN

250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS


SOURCE: USGS MAPS

**SITE LOCATION MAP**

scale 0 1 mile

scale 2000 0 2000 4000 feet

## GENERAL NOTES:

1. EXISTING CONDITIONS ARE BASED ON A SURVEY PREPARED BY JARVIS LAND SURVEY, INC., DATED 1/21/2021.
2. JARVIS LAND SURVEY, INC. IS LOCATED AT THE FOLLOWING ADDRESS:
   29 GRAFTON CIRCLE
   SHREWSBURY, MA 01545
   (508) 842-8087
3. CONTRACTOR SHALL INVESTIGATE EXISTING CONDITIONS AND FIELD VERIFY LOCATIONS, DEPTH, AND SIZE OF UTILITIES AND SUB-SURFACE STRUCTURES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITH THE EXISTING AND PROPOSED UTILITY LOCATIONS.
4. THE HORIZONTAL DATUM DEPICTED ON THE MAPS HEREON IS BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MAINLAND ZONE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983. THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
5. ANY PROPERTY AND RIGHT OF WAY LOCATIONS THAT MAY BE SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
6. WOODARD & CURRAN ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
7. COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES, EMERGENCY SERVICES AND TOWN. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 811, PRIOR TO EXCAVATION.
8. RESTORE ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, GRASS, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF PAVED SURFACES, GRAVEL SURFACES, DRIVEWAYS, AND LAWNS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE PERFORMED AT NO ADDITIONAL COST TO OWNER. ANY CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO TOWN OF SUDBURY AND MASSACHUSETTS DOT SPECIFICATIONS AT NO ADDITIONAL COST TO OWNER.
9. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A LICENSED LAND SURVEYOR ACCEPTABLE TO THE TOWN.
10. EXISTING FACILITIES (I.E. TREES, POLES, LIGHT POSTS, CATCH BASINS, STONE FROM CULVERT, ETC.) SHALL BE REMOVED AND/OR PROTECTED DURING CONSTRUCTION. THE TOWN RETAINS RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES. CONTRACTOR SHALL DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF THE TOWN AT NO ADDITIONAL COST TO OWNER.
11. ALL TREES NOT NOTED TO BE REMOVED OR RELOCATED SHALL BE PROTECTED BY CONTRACTOR DURING CONSTRUCTION.
12. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
13. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS INCLUDING "PERMIT TO CONSTRUCT WITHIN A PUBLIC WAY" FROM THE TOWN. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
14. ALL WORK ASSOCIATED WITH THE PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE TOWN OF SUDBURY BYLAW AND LOCAL REGULATIONS AND MASSACHUSETTS DOT STANDARD SPECIFICATIONS.
15. UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "RECORD" DRAWINGS SHALL BE SUBMITTED TO THE TOWN ENGINEER. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORMAT AS DEFINED IN THE SPECIFICATIONS PRIOR TO PAYMENT OF FINAL RETAINAGE.
16. PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION SHALL BE PROVIDED AT NO ADDITIONAL COST.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR SWEEPING OLD FRAMINGHAM ROAD EVERY FRIDAY AND AS NECESSARY DURING THE DURATION OF THE WORK.
18. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING HELD AT THE PROJECT SITE WITH THE CONTRACTOR, ENGINEER, OWNER, AND CONSERVATION OFFICE TO REVIEW THE CONSTRUCTION SCHEDULE AND SEQUENCING, ORDER OF CONDITIONS, STOCKPILE LOCATIONS AND CRITICAL ASPECTS OF THE PROJECT.
19. ALL DISTURBED UPLAND AREAS SHALL BE BROUGHT TO FINAL GRADE AND SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS AFTER DISTURBANCE. BARE GROUND AND DISTURBED AREAS THAT CANNOT BE PERMANENTLY VEGETATED WITHIN 30 DAYS SHALL BE TEMPORARY STABILIZED BY AN APPROVED METHOD.
20. CONTRACTOR SHALL DEMARCATE CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE AREAS PRIOR TO CONSTRUCTION.
21. THE CONSTRUCTION SITE SHALL BE MAINTAINED IN CLEAN CONDITIONS AT ALL TIMES AND CONSTRUCTION REFUSE AND DEBRIS SHALL BE DISPOSED OF PROMPTLY AND IN A LEGAL MANNER.
22. STORING, SERVICING, OR CLEANING OF TRUCKS OR EQUIPMENT SHALL BE PERFORMED IN AN UPLAND AREA AT A HORIZONTAL DISTANCE GREATER THAN 100 FEET FROM THE WETLAND RESOURCE AREAS.
23. CONTRACTOR SHALL REFER TO SPECIFICATION XXX MASSACHUSETTS COVID ORDER AND CONSTRUCTION GUIDELINES AND EXECUTE CONSTRUCTION IN COMPLIANCE WITH APPLICABLE SOCIAL DISTANCING PROTOCOLS.
24. TEST PITS TP-1 AND TP-2 WERE EXCAVATED UNDER THE SUPERVISION OF WOODARD & CURRAN ON DECEMBER 1, 2020. GROUNDWATER WAS ENCOUNTERED AT APPROXIMATE ELEVATIONS OF 152.8 IN TP-1 AND 154.0 IN TP-2.
25. WETLAND DELINEATION WAS PREPARED BY ECOTEC, INC. 102 GROVE STREET, WORCESTER, MA 01605. THE WETLAND RESOURCE EVALUATION REPORT IS DATED XX XX, 2021 AND WETLAND FIELD INSPECTION WAS CONDUCTED ON NOVEMBER 4, 2020.
26. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT BEYOND LIMIT OF WORK, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.
27. PRIOR TO THE START OF WORK, CONTRACTOR SHALL CONFIRM EXISTING WETLAND FLAGS ARE IN PLACE AND SHALL BE MAINTAINED DURING CONSTRUCTION. MISSING FLAGS SHALL BE RESET PRIOR TO CONSTRUCTION. AN AUTOCAD FILE OF THE WETLAND FLAG LOCATIONS SHALL BE PROVIDED FOR CONTRACTOR'S USE IN RESETTING WETLAND FLAGS.
28. NO EQUIPMENT IS TO CROSS OR ENTER WETLAND RESOURCE AREAS AT ANY TIME UNLESS THE LOCATION OF DISTURBANCE IS MARKED ON THE PLANS REFERENCED IN THE ORDER OF CONDITIONS AND FLAGGED IN THE FIELD (DEP FILE #XXX-XXXX).
29. THE CONTRACTOR, SITE ENGINEER, OR OTHER INDIVIDUAL IN CHARGE OF WORK ON THE SITE SHALL HAVE A COPY OF THE ORDER OF CONDITIONS AT ALL TIMES (DEP FILE #XXX-XXXX).

## EROSION CONTROL NOTES:

1. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE, UNTIL ALL DISTURBED SURFACES HAVE BEEN STABILIZED WITH FINAL VEGETATION COVER OR THE COMMISSION HAS AUTHORIZED THEIR REMOVAL.
2. EROSION CONTROL MEASURES AND BARRIERS SHALL BE MONITORED DAILY AND MAINTAINED, OR REINFORCED AS NECESSARY TO ENSURE AND PREVENT EROSION AND SILTATION OF SOILS TO WETLAND RESOURCE AREAS. ADDITIONAL FILTER FABRIC AND STRAW WATTLES SHALL BE STORED ON SITE FOR EMERGENCY USE.
3. DURING ALL PHASES OF CONSTRUCTION, ALL DISTURBED OR EXPOSED AREAS OUTSIDE THE ROADWAY SHALL BE BROUGHT TO FINISHED GRADE AND EITHER A) LOAMED AND SEEDED FOR PERMANENT STABILIZATION, IN ACCORDANCE WITH U.S. SOIL CONSERVATION SERVICE PROCEDURES, OR B) STABILIZED IN ANOTHER WAY APPROVED BY THE COMMISSION. AREAS THAT CANNOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF DISTURBANCE SHALL BE STABILIZED WITH HAY, STRAW, MULCH OR ANY OTHER PROTECTIVE COVERING AND/OR METHOD APPROVED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE OR BY OTHER TEMPORARY MEASURES ACCEPTABLE TO THE COMMISSION.
4. AN ADEQUATE STOCKPILE OF EROSION AND SEDIMENTATION CONTROL MATERIALS SHALL BE ON SITE AT ALL TIMES FOR EMERGENCY OR ROUTINE REPLACEMENT.
5. ANY DAMAGE CAUSED AS A DIRECT RESULT OF CONSTRUCTION TO THE WETLAND RESOURCE AREAS SHALL BE REPAIRED, RESTORED AND/OR REPLACED. SEDIMENTATION OR EROSION SHALL BE CONSIDERED DAMAGE TO THE WETLAND RESOURCE AREAS. IF SEDIMENTATION REACHES THESE AREAS, THE CONSERVATION COMMISSION SHALL BE CONTACTED AND A PLAN FOR THE PROPOSED RESTORATION SHALL BE SUBMITTED FOR APPROVAL.

## DEWATERING NOTES:

1. THE CONTRACTOR SHALL SUBMIT A WATER CONTROL MANAGEMENT PLAN FOR THE PROJECT LOCATION IN ACCORDANCE WITH THE SPECIFICATIONS. THE PLAN SHALL INCLUDE A DESCRIPTION OF PROPOSED PROCEDURE FOR DEWATERING METHODS.
2. ALL DEWATERING ACTIVITIES SHALL MEET LOCAL, STATE, AND FEDERAL REGULATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL LABOR AND EQUIPMENT REQUIRED TO PERFORM THE WORK INCLUDING BUT NOT LIMITED TO PROPER SHORING, DEWATERING EQUIPMENT, AND WATER TREATMENT EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
4. IN ACCORDANCE WITH THE TIME OF YEAR RESTRICTIONS SET FORTH IN 310 CMR 10.11(5) AND THE US ARMY CORPS OF ENGINEERS GENERAL PERMIT FOR MASSACHUSETTS GENERAL CONDITION 18, ALL SILT-GENERATING, IN-WATER WORK SHALL BE CONDUCTED BETWEEN JULY 1ST AND SEPTEMBER 30TH. WORK BEYOND THE LIMITS OF THE WATER, SUCH AS SEEDING AND INSTALLATION OF RESTORATION PLANTINGS, MAY BE CONDUCTED AFTER SEPTEMBER 30TH, PER CONTRACT TIMES LISTED IN THE PROJECT SPECIFICATIONS.
5. ALL DREDGING OPERATIONS SHALL BE CONDUCTED FROM UPLAND AREAS.
6. ALL DREDGE SPOILS SHALL BE DEWATERED AND DISPOSED OF AT AN UPLAND LOCATION (OR OTHER APPROVED LOCATION).
7. THE REMOVAL OF MATERIAL FROM THE STREAM BOTTOM SHALL BE DONE IN SUCH A MANNER AS TO ENSURE THAT THE RECONFIGURED BOTTOM AREA WILL NOT IMPEDE OR OBSTRUCT FISH MIGRATION, OR INTERFERE WITH THE NATURAL FLOW OF THE BROOK.
8. DEWATERING ACTIVITIES SHALL BE CONDUCTED AS SHOWN ON THE APPROVED PLANS AND SHALL BE MONITORED DAILY TO ENSURE THAT SEDIMENT LADEN WATER IS APPROPRIATELY SETTLED PRIOR TO DISCHARGE TOWARD THE RESOURCE AREAS. NO DISCHARGE OF WATER IS ALLOWED DIRECTLY INTO AN AREA SUBJECT TO JURISDICTION OF THE WETLANDS PROTECTION ACT. SHOULD EMERGENCY DEWATERING REQUIREMENTS ARISE, THE APPLICANT SHALL SUBMIT A CONTINGENCY PLAN TO THE COMMISSION FOR APPROVAL WHICH PROVIDES FOR THE PUMPED WATER TO BE CONTAINED IN A SETTLING BASIN, TO REDUCE TURBIDITY TO DISCHARGE INTO A RESOURCE AREA.

## ABBREVIATIONS

| | |
|---|---|
| & | AND |
| AASHTO | AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS |
| A.G. | ABOVE GROUND |
| BIT | BITUMINOUS |
| B/W | BETWEEN |
| BVW | BORDERING VEGETATED WETLAND |
| CB | CATCH BASIN |
| CI | CAST IRON |
| CMP | CORRUGATED METAL PIPE |
| CONC | CONCRETE |
| D | STORM DRAIN |
| DI | DUCTILE IRON |
| DIA. | DIAMETER |
| DMH | DRAIN MANHOLE |
| DOT | DEPARTMENT OF TRANSPORTATION |
| DTL. | DETAIL |
| DYL | DOUBLE YELLOW LINE |
| E | UNDERGROUND ELECTRICAL |
| EL. | ELEVATION |
| EOP | EDGE OF PAVEMENT |
| EXIST. | EXISTING |
| FF | FINISH FLOOR |
| FT | FOOT/FEET |
| G | GAS MAIN |
| GS | GAS SERVICE |
| GALV. | GALVANIZED |
| GRAN. | GRANITE |
| HDPE | HIGH DENSITY POLYETHYLENE |
| HDPP | HIGH DENSITY POLYPROPYLENE |
| HYD | HYDRANT |
| INV. | INVERT |
| L | LENGTH |
| LF | LINEAR FEET |
| MASSDEP | MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION |
| MADOT | MASSACHUSETTS DEPARTMENT OF TRANSPORTATION |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| MON | MONUMENT |
| N.I.P. | NOT IN CONTRACT |
| NO. | NUMBER |
| NR | NO REFUSAL |
| N.T.S. | NOT TO SCALE |
| OE | OVERHEAD ELECTRIC |
| OH | OVERHEAD |
| ± | PLUS OR MINUS |
| LLS | LICENSED LAND SURVEYOR |
| PROP. | PROPOSED |
| PT. | POINT |
| PVC | POLYVINYL CHLORIDE |
| R | RADIUS |
| R.O.W. | RIGHT-OF-WAY |
| RCP | REINFORCED CONCRETE PIPE |
| REINF. | REINFORCED |
| REQ'D | REQUIRED |
| RPP | RIBBED PLASTIC PIPE |
| S | SLOPE (FT./FT.) |
| S | SEWER |
| SGC | SLOPED GRANITE CURB |
| SMH | SEWER MANHOLE |
| SCH | SCHEDULE |
| STA. | STATION |
| TOWN | TOWN OF SUDBURY |
| TYP. | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| UP | UTILITY POLE |
| VC | VITRIFIED CLAY |
| VGC | VERTICAL GRANITE CURB |
| VIT. | VITRIFIED CLAY |
| W | WEST |
| W | WATER |
| W/ | WITH |
| W | WATERMAIN |
| WS | WATER SERVICE |
| WV | WATER VALVE |

## SYMBOLS

| DESCRIPTION | EXISTING |
|---|---|
| UTILITY POLE | |
| CATCH BASIN | |
| WETLAND FLAG LOCATION | WF/AX |
| BORING | BM-X |
| MANHOLE | |
| MAILBOX | |
| TREE | |

## SHEET INDEX



## RESOURCE AREA LEGEND

- BORDERING VEGETATED WETLAND (BVW)
- 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA)
- MEAN ANNUAL HIGH-WATER LINE (MAHWL) OF PERENNIAL STREAM
- 100' RIVERFRONT AREA (INNER RIPARIAN ZONE)
- 200' RIVERFRONT AREA (OUTER RIPARIAN ZONE)
- COFFERDAM (CD)
- LIMIT OF WORK (LW)
- SEDIMENT BARRIER
- TURBIDITY CURTAIN

## LINE TYPES & HATCHES

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| CONTOUR (1' INTERVAL) | 201 | 201 |
| CONTOUR (INDEX) | 200 | 200 |
| STORM DRAIN | SD | |
| BITUMINOUS CURB | | |
| EDGE OF PAVEMENT | | |
| OVERHEAD ELECTRIC | OE | |
| UNDERGROUND GAS | G | |
| UNDERGROUND TELEPHONE | T | |
| WATER LINE | W | W |
| RIGHT OF WAY/ PROPERTY LINE | | |
| GUARDRAIL | T T T | T T T |
| LIMIT OF WORK | | LW |
| SEDIMENT BARRIER/COFFERDAM | | CD |
| SEDIMENT BARRIER/SILTSOXX/ SILT FENCE | | |
| TURBIDITY CURTAIN | | |
| SAWCUT | | |
| RETAINING WALL | | |
| STONE WALL | | |
| EXISTING FEATURE TO BE REMOVED | | |
| BITUMINOUS PAVEMENT | | |
| CONCRETE SIDEWALK | | |

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COMMITTMENT & INTEGRITY DRIVE RESULTS



| REV | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH '21 CONSERVATION COMMISSION MEETING | 03/30/2021 |

DESIGNED BY: MB/DLP
DRAWN BY: MB
CHECKED BY: HCP/SS
\\woodardcurran.net\shared\Projects\0233128.00 sudbury ma old framingham road\wip\Drawings\General\0233128.00-G-XXX.dwg, Mar 26, 2021 - 11:52am SJUNG

GENERAL NOTES, ABBREVIATIONS AND LEGEND

TOWN OF SUDBURY, MA
PUBLIC WORKS DEPARTMENT

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 2 OF 8 |

G-002

PERMITTING ONLY - NOT FOR CONSTRUCTION

22x34 SHEET
1:1

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

OLD FRAMINGHAM ROAD

NOBSCOT ROAD

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

## RESOURCE AREA LEGEND

- BORDERING VEGETATED WETLAND (BVW)
- 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA)
- MEAN ANNUAL HIGH-WATER LINE (MAHWL) OF PERENNIAL STREAM
- 100' RIVERFRONT AREA (INNER RIPARIAN ZONE)
- 200' RIVERFRONT AREA (OUTER RIPARIAN ZONE)

30' 0 30' 60'
BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

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Canton, MA 02021
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00-C-100.dwg

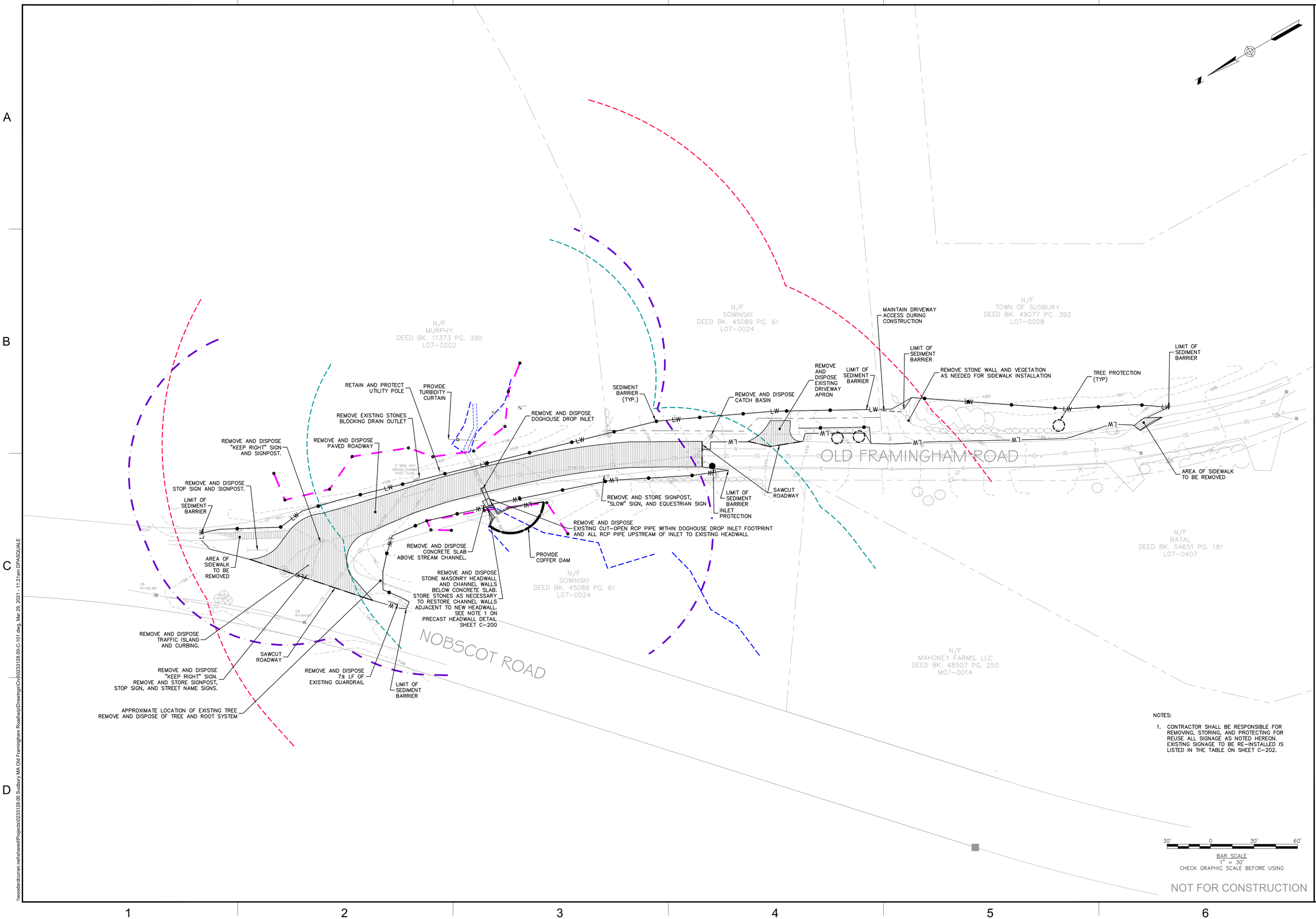
EXISTING CONDITIONS PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 3 OF 8 |

C-100




NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, STORING, AND PROTECTING FOR REUSE ALL SIGNAGE AS NOTED HEREON. EXISTING SIGNAGE TO BE RE-INSTALLED IS LISTED IN THE TABLE ON SHEET C-202.

30' 0 30' 60'

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

NOT FOR CONSTRUCTION

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COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128-C-101.dwg

# EROSION CONTROL & DEMOLITION PLAN

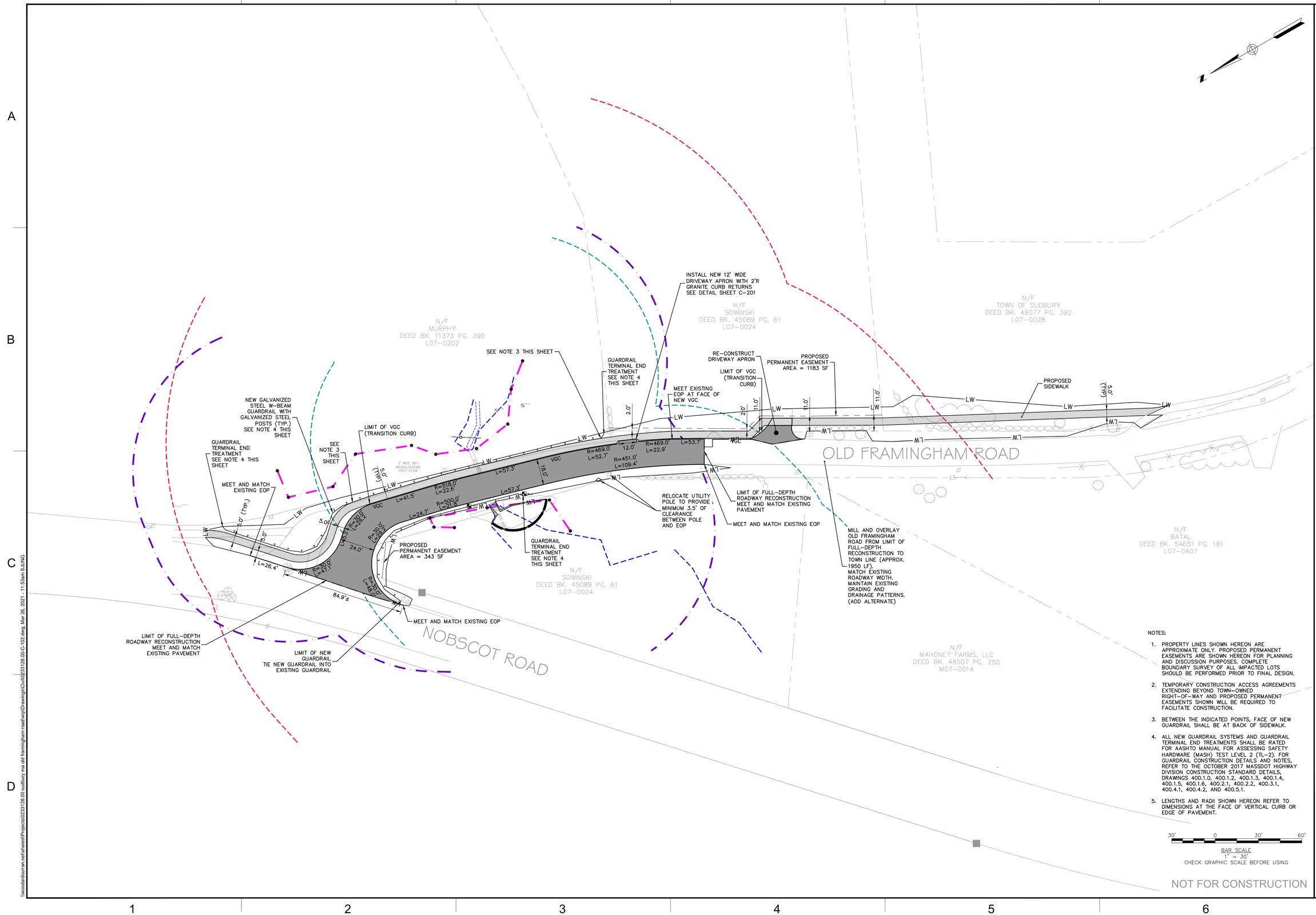
TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 4 OF 8 |

C-101

22x34 SHEET
1:1




NOTES:

1. PROPERTY LINES SHOWN HEREON ARE APPROXIMATE ONLY. PROPOSED PERMANENT EASEMENTS ARE SHOWN HEREON FOR PLANNING AND DISCUSSION PURPOSES. COMPLETE BOUNDARY SURVEY OF ALL IMPACTED LOTS SHOULD BE PERFORMED PRIOR TO FINAL DESIGN.
2. TEMPORARY CONSTRUCTION ACCESS AGREEMENTS EXTENDING BEYOND TOWN-OWNED RIGHT-OF-WAY AND PROPOSED PERMANENT EASEMENTS SHOWN WILL BE REQUIRED TO FACILITATE CONSTRUCTION.
3. BETWEEN THE INDICATED POINTS, FACE OF NEW GUARDRAIL SHALL BE AT BACK OF SIDEWALK.
4. ALL NEW GUARDRAIL SYSTEMS AND GUARDRAIL TERMINAL END TREATMENTS SHALL BE RATED FOR AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) TEST LEVEL 2 (TL-2). FOR GUARDRAIL CONSTRUCTION DETAILS AND NOTES, REFER TO THE OCTOBER 2017 MASSDOT HIGHWAY DIVISION CONSTRUCTION STANDARD DETAILS, DRAWINGS 400.1.0, 400.1.2, 400.1.3, 400.1.4, 400.1.5, 400.1.6, 400.2.1, 400.2.2, 400.3.1, 400.4.1, 400.4.2, AND 400.5.1.
5. LENGTHS AND RADII SHOWN HEREON REFER TO DIMENSIONS AT THE FACE OF VERTICAL CURB OR EDGE OF PAVEMENT.

30' 0 30' 60'
BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING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COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 22 CONSERVATION COMMISSION MEETING | 03/31/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00-C-102.dwg

SITE LAYOUT PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 5 OF 8 |

C-102

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WOODARD & CURRAN

COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| DESIGNED BY: | DLP/MB | CHECKED BY: HCP/SS |
| DRAWN BY: | MB | 0233128.00-C-103.dwg |

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

OLD FRAMINGHAM ROAD

INSTALL NEW CB.
RIM = 166.9
CONNECT TO EXISTING RCP.

INV IN = 154.73
12" HDPE

12" HDPE
±18 LF

INSTALL RIPRAP
ENERGY DISSIPATION
PAD

INSTALL NEW
CONCRETE HEADWALL
SEE DRAIN OUTLET
HEADWALL DETAIL
SHEET C-200

INSTALL NEW CB.
RIM =159.10
INV OUT = 155.0

REPOINT EXISTING
MORTARED HEADWALL

30" RCP ±17 LF
SEE NOTE 1

INSTALL NEW
CONCRETE HEADWALL
TO MEET NEW 30" RCP.
SEE CULVERT INLET
HEADWALL DETAIL SHEET C-200

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

NOBSCOT ROAD

NOTES:

1. NEW 30" RCP PIPE SHALL MEET EXISTING PIPE AT DOWNSTREAM END OF DOGHOUSE DRAIN MANHOLE FOOTPRINT

30' 0 30' 60'
BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

NOT FOR CONSTRUCTION

GRADING AND DRAINAGE PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD
SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 6 OF 8 |

C-103

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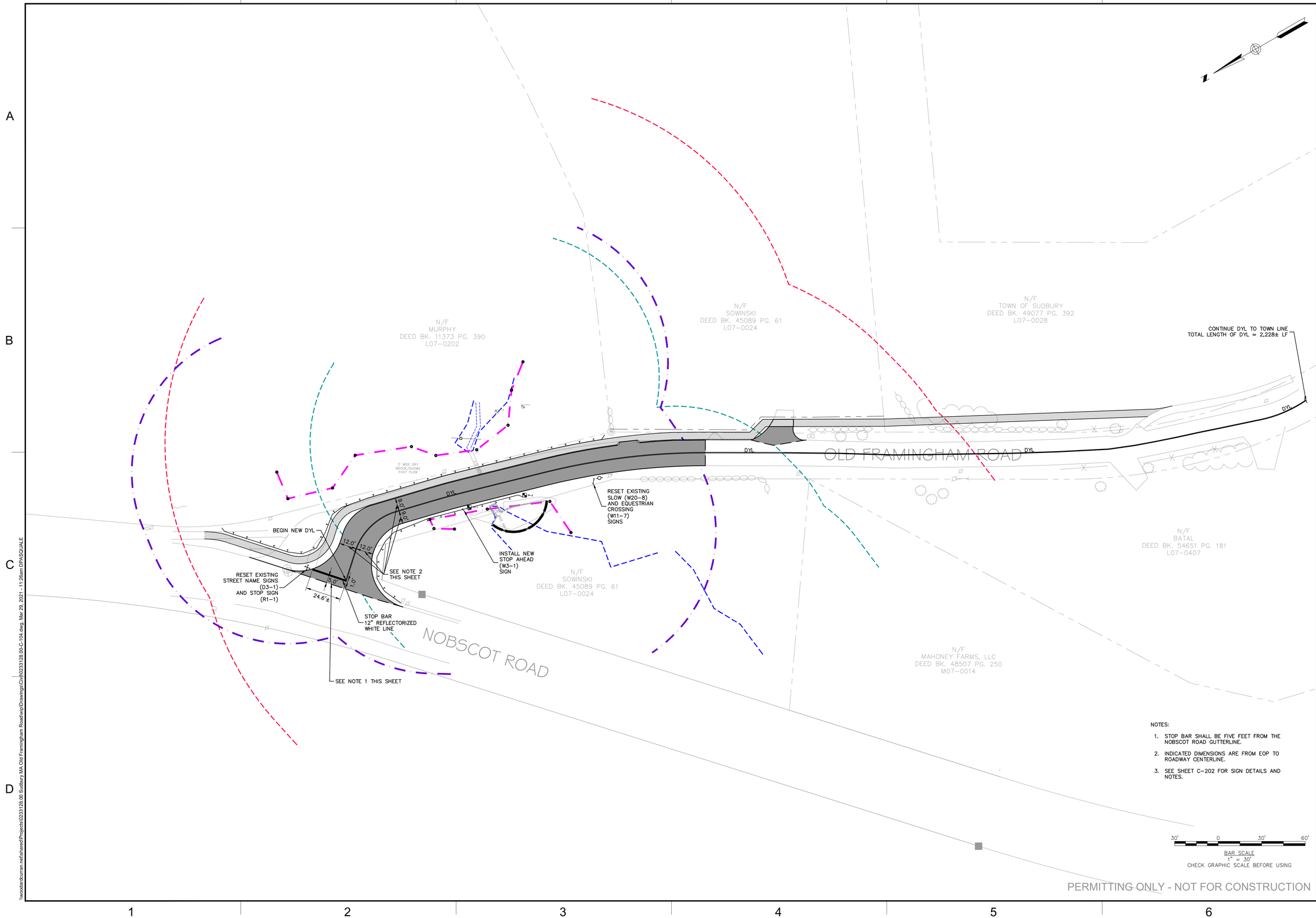
COMMITMENT & INTEGRITY DRIVE RESULTS



| REV | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 22 CONSERVATION COMMISSION MEETING | 03/31/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00-C-104.dwg




NOTES:

1. STOP BAR SHALL BE FIVE FEET FROM THE NOBSCOT ROAD GUTTERLINE.
2. INDICATED DIMENSIONS ARE FROM EOP TO ROADWAY CENTERLINE.
3. SEE SHEET C–202 FOR SIGN DETAILS AND NOTES.

30' 0 30' 60'
BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

PERMITTING ONLY - NOT FOR CONSTRUCTION

# MARKING AND SIGNAGE PLAN

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 7 OF 8 |

C-104

# EROSION AND SEDIMENT CONTROL NOTES

## Temporary Erosion Control

| Measure | Dates For Use | Timing, Activity, and Location |
|---|---|---|
| Sedimentation Barrier | ALL | Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles. |
| Up-slope Diversion | ALL | Before soil disturbance, install uphill of areas to be disturbed and material stockpiles. |
| Catch Basin Protection | ALL | Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements. |
| Dust Control | ALL | During dry weather, apply water and calcium chloride to control dust. |
| Temporary Seeding | April 15 to Oct. 15 | Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket. |
| Mulch | April 15 to Sept. 15 | On all areas of exposed soil prior to rain events apply 100-150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower. |
| Winter Mulch | Sept. 16 to Oct. 31 | On all areas of exposed soil prior to precipitation apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower, Erosion control blanket may be used as a substitute for winter mulch. |
| | Nov. 1 to April 14 | On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting at the end of each working day. Erosion control blanket may be used as a substitute for winter mulch. |
| Inspections | Until site is permanently stabilized | Inspect the erosion and sedimentation control measures daily, and after rainfall of half inch or greater in a 24-hour period, and maintain and repair as necessary. |

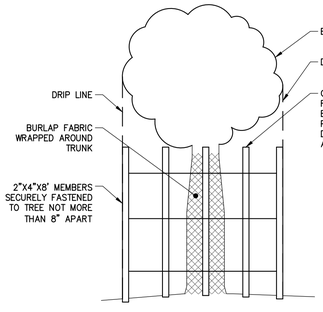
## Permanent Erosion Control:

| Measure | Dates For Use | Timing, Activity, and Location |
|---|---|---|
| Pavement - Base Course - Final Course | When no frost is in ground | Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project. |
| Permanent Seeding | April 15 to Sept. 15 | On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application. |
| Dormant Seeding | Sept. 16 to April 15 | On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch. |
| Ground Cover, Trees, Shrubs | April 15 to Nov. 1 | Install with final landscaping. |
| Permanent Mulch | ALL | Install with final landscaping. |

## Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

| Inspected Item | Look For |
|---|---|
| Mulched Surfaces | Thin mulch or inadequate application. Wind movement. |
| Seeded Surfaces | Poor seed germination. Loss of mulch. Development of rivulets. |
| Sediment Barrier | Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier. |
| Perimeter Diversion | Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked. |
| Catch Basin Protection | Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier. |
| Site Roadways | Sedimentation of roadways. Off-site dust complaints. |

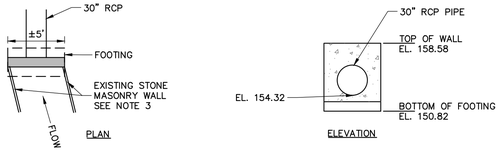



NOTES:

1. LOCATE FENCING AS SHOWN ON PLANS.
2. NO MATERIAL OR EQUIPMENT SHALL BE STORED OR STOCKPILED WITHIN THE AREA SURROUNDED BY TREE PROTECTION FENCING.
3. FENCE MUST REMAIN AND BE MAINTAINED THROUGHOUT ENTIRE BUILDING PHASES DURING WHICH CONSTRUCTION MAY AFFECT TREES.

## TREE PROTECTION

NOT TO SCALE

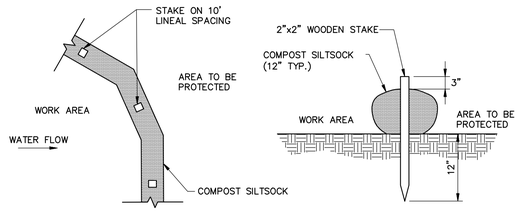



## CULVERT INLET HEADWALL DETAIL

N.T.S.

NOTES:

1. RETAINING WALL SECTIONS ARE CONCEPTUAL IN NATURE AND FOR REFERENCE PURPOSES TO AID IN THE LAYOUT AND DEVELOPMENT OF WALL DESIGN (BY OTHERS). GRAVITY WALL ENGINEER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, INCLUDING BUOYANCY CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS, SUBJECT TO REVIEW BY THE ENGINEER.
2. ELEVATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
3. AFTER INSTALLATION OF HEADWALL, CONTRACTOR SHALL RESTORE EXISTING STONE MASONRY CHANNEL WALLS UP TO THE HEADWALL.

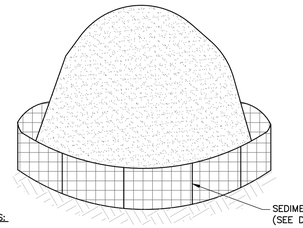



NOTE:

WHEN STAKING IS NOT POSSIBLE, HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SEDIMENT CONTROL TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.

## SEDIMENTATION BARRIER - SILTSOCK

NOT TO SCALE

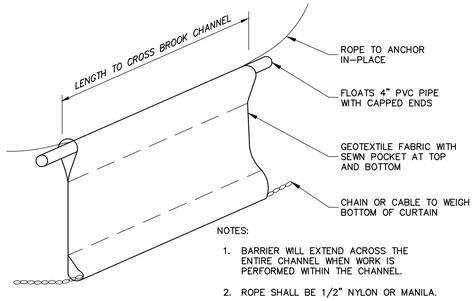



NOTES:

1. STOCKPILES SHALL BE SURROUNDED BY SEDIMENTATION BARRIER.
2. STOCKPILES SHALL HAVE A MAXIMUM 2:1 (H:V) SIDE SLOPE.
3. REPAIR OR REPLACE DAMAGED SEDIMENTATION BARRIER DUE TO CONSTRUCTION ACTIVITIES OR STOCKPILE MITIGATION.
4. STOCKPILE SHALL BE LOCATED IN AREAS AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

## TEMPORARY SOIL STOCK PILE AREA

NOT TO SCALE

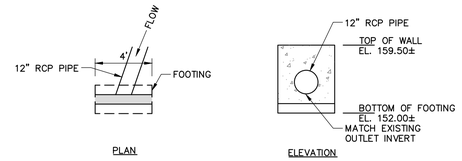



NOTES:

1. BARRIER WILL EXTEND ACROSS THE ENTIRE CHANNEL WHEN WORK IS PERFORMED WITHIN THE CHANNEL.
2. ROPE SHALL BE 1/2" NYLON OR MANILA.

## FLOATING TURBIDITY BARRIER

N.T.S.

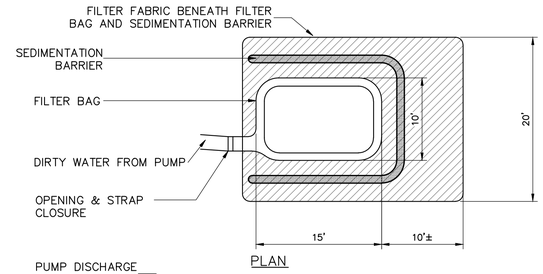



## DRAIN OUTLET HEADWALL DETAIL

N.T.S.

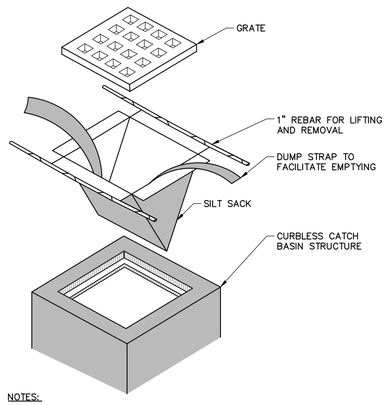
NOTES:

1. RETAINING WALL SECTIONS ARE CONCEPTUAL IN NATURE AND FOR REFERENCE PURPOSES TO AID IN THE LAYOUT AND DEVELOPMENT OF WALL DESIGN (BY OTHERS). GRAVITY WALL ENGINEER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, INCLUDING BUOYANCY CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS, SUBJECT TO REVIEW BY THE ENGINEER.
2. ELEVATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.




## DEWATERING DISCHARGE SEDIMENT CONTROL DEVICE

NOT TO SCALE

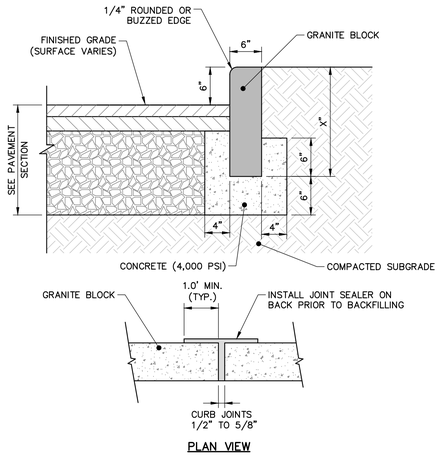



NOTES:

1. INSTALL SILTSACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
2. EMPTY OR REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.
3. SILT SACKS TO BE INSTALLED WHEN THE POTENTIAL FOR SEDIMENT TO ENTER EXISTING & PROPOSED BASINS EXISTS.

## SILTSACK- CURBLESS INLET

NOT TO SCALE

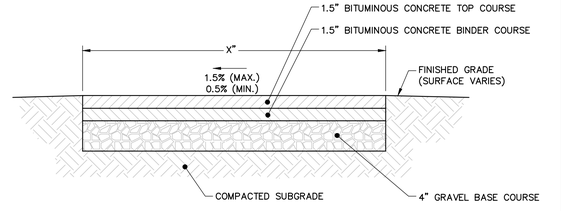



## VERTICAL GRANITE CURB

NOT TO SCALE

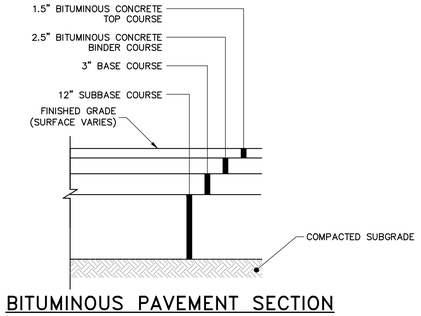
# DEWATERING NOTES

1. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
2. DOWNGRADIENT RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, I.E. FOREST FLOOR OR COARSE GRAVEL/STONE.
3. NEVER DISCHARGE TO AREAS THAT ARE BARE OR NEWLY VEGETATED.
4. DIRT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E., FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
5. DO NOT OVER PRESSURIZE DIRT BAG OR USE BEYOND CAPACITY.
6. CHANNELS DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA NEED TO BE STABLE. IF FLOW VELOCITIES CAUSE EROSION WITHIN THE CHANNEL THEN A DITCH LINING SHOULD BE USED.
7. BUCKETED WATER SHOULD BE DISCHARGED IN A STABLE MANNER TO THE SEDIMENT REMOVAL AREA. A SPLASH PAD OF RIPRAP UNDERLAIN WITH GEOTEXTILE MAY BE NECESSARY TO PREVENT SCOURING OF SOIL.
8. DEWATERING IN PERIODS OF INTENSE, HEAVY RAIN, WHEN THE INFILTRATIVE CAPACITY OF THE SOIL IS EXCEEDED, SHOULD BE AVOIDED.
9. INSTALL DIVERSION DITCHES OR BERMS TO MINIMIZE THE AMOUNT OF CLEAN STORMWATER RUNOFF ALLOWED INTO THE EXCAVATED AREA.
10. DURING THE ACTIVE DEWATERING PROCESS, INSPECTION OF THE DEWATERING FACILITY SHOULD BE REVIEWED FREQUENTLY. SPECIAL ATTENTION SHOULD BE PAID TO THE BUFFER AREA FOR ANY SIGN OF EROSION AND CONCENTRATION OF FLOW THAT MAY COMPROMISE THE BUFFER AREA. OBSERVE WHERE POSSIBLE THE VISUAL QUALITY OF THE EFFLUENT AND DETERMINE IF ADDITIONAL TREATMENT CAN BE PROVIDED.
11. EROSION CONTROL REQUIRED AROUND DEWATERING DISCHARGE SEDIMENT CONTROL DEVICE.



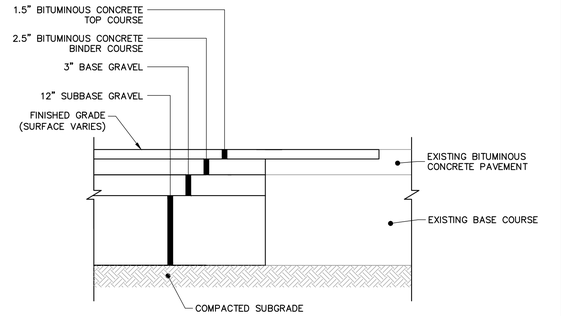

## BITUMINOUS CONCRETE SIDEWALK

NOT TO SCALE




## BITUMINOUS PAVEMENT SECTION

N.T.S.




## BITUMINOUS PAVEMENT BUTT JOINT

N.T.S.

NOT FOR CONSTRUCTION


WOODARD & CURRAN
COMMITMENT & INTEGRITY DRIVE RESULTS
250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com




| REV | DESCRIPTION | DATE | DESIGNED BY: DLP/MB | CHECKED BY: HCP/SS |
|---|---|---|---|---|
| 1 | PER MARCH 27 CONSERVATION COMMISSION MEETING | 03/30/2021 | DRAWN BY: MB | 0233128.00-C-200.dwg |

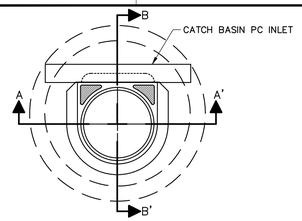
CIVIL DETAILS 1

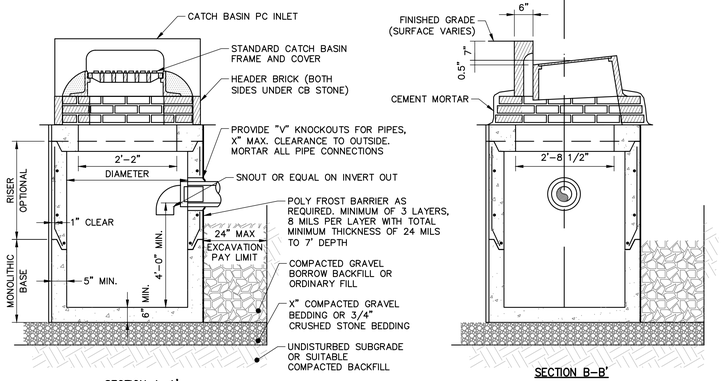
TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 8 OF 8 |

C-200




SECTION A–A'

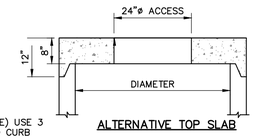
SECTION B–B'

NOTE:

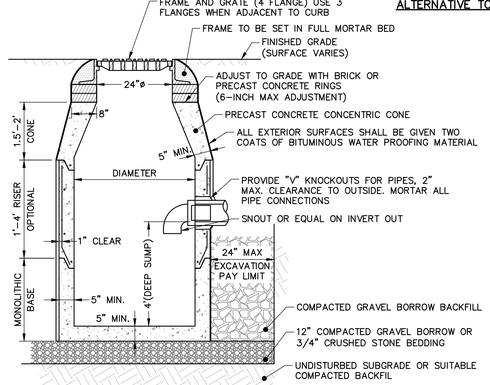
1. CATCH BASIN FRAME AND GRATE(S) SHALL MEET MUNICIPAL AND STATE SPECIFICATIONS WHEN APPLICABLE.

## PRECAST CONCRETE CATCH BASIN WITH CURB INLET

NOT TO SCALE




ALTERNATIVE TOP SLAB

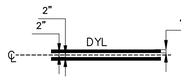



NOTES:

1. PRECAST CONCRETE STRUCTURES AND CASTINGS SHALL BE SUITABLE FOR HS20 LOADINGS AND 4000 PSI CONCRETE.
2. PRECAST CONCRETE STRUCTURES SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478.
3. ALTERNATE TOP SLAB MAY BE USED AS DICTATED BY DESIGN AND/OR FIELD CONDITIONS.
4. ALL SECTION JOINTS SHALL RECEIVE BUTYL RUBBER JOINT SEALANT. TOP SLAB ON SHALLOW MH SHALL RECEIVE DOUBLE BUTYL RUBBER JOINT SEALANT.
5. CATCH BASIN FRAME AND GRATE(S) SHALL MEET MUNICIPAL AND STATE SPECIFICATIONS WHEN APPLICABLE.

## PRECAST CONCRETE CATCH BASIN WITHOUT CURB INLET

NOT TO SCALE



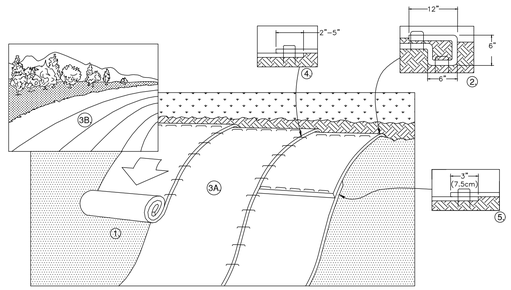

2–4" WIDE YELLOW PAVEMENT MARKING

## DOUBLE YELLOW LINE (DYL) CENTERLINE MARKINGS

NOT TO SCALE

NOTE:

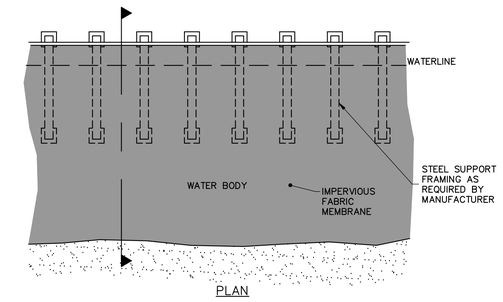
1. SEE SPECIFICATIONS FOR PAINT REQUIREMENTS.



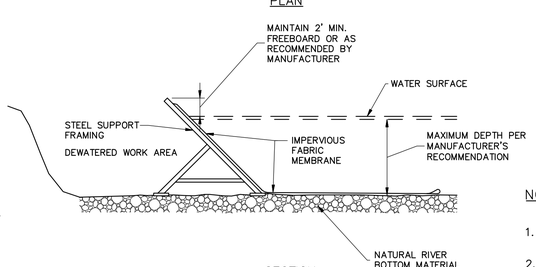

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, STUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15 – SEPTEMBER 15) USE RECP'S ON SLOPES HAVING A GRADE GREATER THAT 15%, OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE. FOR OVER WINTER PROTECTION, APPLY RECP'S ON SLOPES STEEPER THAN AN 8% GRADE.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH (USE OF METAL STAPLES IS PROHIBITED). BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP's WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
6. UNTIL GRASS HAS GOOD COVERAGE, INSPECT PERIODICALLY AND AFTER EACH RAINSTORM TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED. DO NOT MOW THE FIRST YEAR.
7. EROSION CONTROL MATTING AND GROUND FASTENERS SHALL BE 100% BIODEGRADABLE.

## EROSION CONTROL MATTING

N.T.S.




PLAN




SECTION

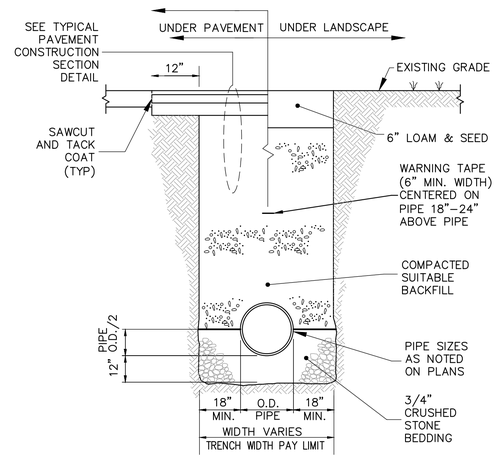
NOTE:

COFFERDAM DETAIL SHOWN FOR REFERENCE PURPOSES. CONTRACTOR SHALL PROVIDE DESIGN OF TEMPORARY COFFERDAMS, STAMPED BY A LICENSED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF MASSACHUSETTS.

## COFFER DAM DETAIL

N.T.S.

TO BE INSTALLED AROUND WORK AREA IN ACCORDANCE WITH CONTRACTOR'S WORK PLAN




| TRENCH WIDTHS (a) | |
|---|---|
| PIPE SIZE | MAX (ONE PIPE) (b) |
| 24" OR LESS | 5'–0" |
| 30" | 6'–0" |
| MANHOLES | 10' X 10' |

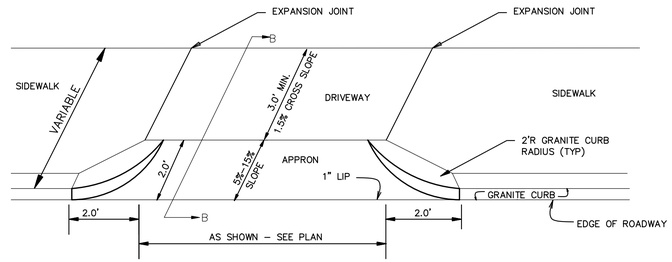
a. REPRESENTS TRENCH WIDTH PAY LIMIT
b. FOR ROCK EXCAVATION SUBTRACT 1'–0"

NOTES:

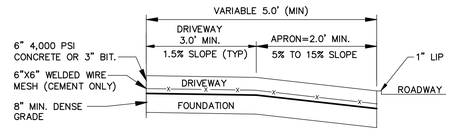
1. MAINTAIN UNIFORM TRENCH WIDTH TO 6" OVER PIPE.
2. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE O.S.H.A. SAFETY REGULATIONS. ALL SUCH TRENCH PROTECTION TO BE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF TRENCH SUPPORT SYSTEMS ENDORSED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS.
3. CONTRACTOR SHALL OBTAIN TRENCHING PERMIT AND SATISFY ALL PERMITTING REQUIREMENTS.
4. ALL TRENCHING SUPPORT SHALL BE REMOVED FROM TRENCH AS INSTALLATION PROGRESSES. NO SUPPORTS SHALL REMAIN WITHIN THE R.O.W.

## TRENCH DETAIL

NOT TO SCALE



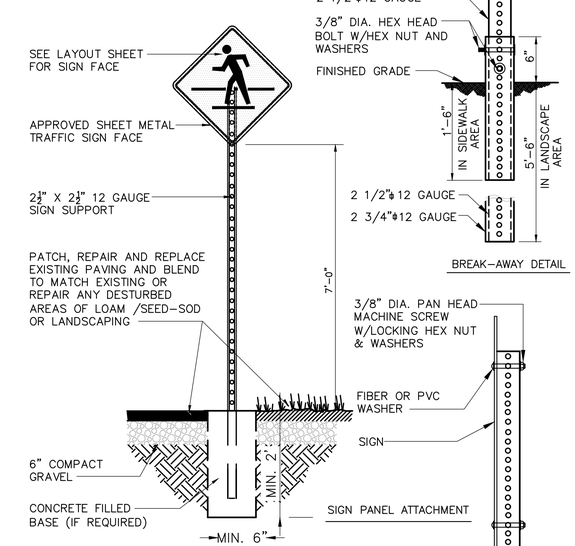

WITH CURB RETURNS (2–FT RADIUS)




SECTION B–B

## TYPICAL BITUMINOUS / CEMENT CONCRETE DRIVEWAY/APPRON

NOT TO SCALE




NOTES:

1. ALL 2½" POSTS SHALL BE BLACK POWDER COATED.
2. ALL 2¾" DIRECT GROUND CONTACT POSTS SHALL BE HOT DIPPED GAVANIZED.
3. ALL HARDWARE SHALL BE 304 STAINLESS STEEL (SS).
4. ALL SIGN POSTS SHALL BE SQUARE CHANNEL IN ACCORDANCE MASS DOT SPECIFICATION 840

## TRAFFIC SIGN POST

NOT TO SCALE

NOT FOR CONSTRUCTION

250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com
COMMITTMENT & INTEGRITY DRIVE RESULTS



| REV | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH '21 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| DESIGNED BY: | DLP/MB | CHECKED BY: HCP/SS |
| DRAWN BY: | MB | 0233128.00-C-20X.dwg |

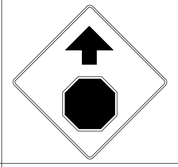
CIVIL DETAILS 2

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

| | |
|---|---|
| JOB NO: | 0233128.00 |
| DATE: | MARCH 2021 |
| SCALE: | AS SHOWN |
| SHEET: | 9 OF 9 |

C-201

| I.D. NUMBER | SIZE OF SIGN | | TEXT | NUMBER OF NEW SIGNS REQ'D | AREA IN SQUARE FEET | COMMENTS |
|---|---|---|---|---|---|---|
| | WIDTH (IN) | WIDTH (IN) | | | | |
| W3-1 | 30 | 30 |  | 1 | 6.25 | INSTALL FACING NORTHBOUND TRAFFIC ON OLD FRAMINGHAM ROAD |
| W20-8 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| W11-7 | EXISTING | EXISTING |  | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| R1-1 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| D3-1 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |
| D3-1 | EXISTING | EXISTING |   | 0 | EXISTING | REMOVE, STORE, AND RESET EXISTING SIGN |

NOTES:

1. SEE MUTCD STANDARDS FOR TEXT DIMENSIONS INCLUDING LETTER HEIGHT, VERTICAL SPACING, AND COLORS INCLUDING BACKGROUND, LEGEND AND BORDER.
2. SEE MARKING AND SIGNAGE PLAN (SHEET C-104) FOR ALL SIGN LOCATIONS.

PERMITTING ONLY - NOT FOR CONSTRUCTION

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Canton, MA 02021
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 23 CONSERVATION COMMISSION MEETING | 03/30/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00-C-20X.dwg

SIGN DETAILS

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

JOB NO: 0233128.00
DATE: MARCH 2021
SCALE: AS SHOWN
SHEET: 10 OF 8

C-202

## Figure 4: Resource Area Impact Figure

## RESOURCE AREA LEGEND

- BORDERING VEGETATED WETLAND (BVW)
- 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA)
- MEAN ANNUAL HIGH-WATER LINE (MAHWL) OF PERENNIAL STREAM
- 100' RIVERFRONT AREA (INNER RIPARIAN ZONE) (ADJACENT UPLAND RESOURCE AREA)
- 200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) (ADJACENT UPLAND RESOURCE AREA)
- 100' BVW BUFFER ZONE (AURA) PERMANENT IMPACT
- 100' BVW BUFFER ZONE (AURA) TEMPORARY IMPACT
- 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) EXISTING IMPERVIOUS AREA
- 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) PROPOSED IMPERVIOUS AREA
- 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) TEMPORARY IMPACT
- 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) EXISTING IMPERVIOUS AREA
- 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) PROPOSED IMPERVIOUS AREA
- 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) TEMPORARY IMPACT

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

OLD FRAMINGHAM ROAD

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

NOBSCOT ROAD

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

## RESOURCE AREA IMPACT TABLE

| | PERMANENT | TEMPORARY | |
|---|---|---|---|
| 100' BORDERING VEGETATED WETLAND (BVW) BUFFER (ADJACENT UPLAND RESOURCE AREA) | 9005 S.F. | 3042 S.F. | |
| BANK* (PERMANENT IMPACT DUE TO REPLACEMENT OF 6± LF OF CLOSED-CHANNEL CULVERT WITH RCP. TEMPORARY IMPACT DUE TO REPLACEMENT OF 11± LF OF EXISTING RCP IN-KIND.) | 12± L.F. | 22± L.F. | *NOTE: REPOINTING OF EXISTING HEADWALL NOT INCLUDED IN BANK IMPACT COMPUTATION |
| LAND UNDER WATER BODIES AND WATERWAYS (PERMANENT IMPACT DUE TO REPLACEMENT OF 6± LF OF 3.5'W CLOSED-CHANNEL CULVERT WITH 2.5'W RCP.) | 6± S.F. | 0 S.F. | |

RIVERFRONT AREA (ADJACENT UPLAND RESOURCE AREA)
(NOTE: AREAS BELOW WERE COMPUTED WITHIN LIMIT OF WORK SHOWN HEREON)

| | EXISTING IMPERVIOUS AREA | PROPOSED IMPERVIOUS AREA | NET CHANGE IN IMPERVIOUS AREA | TEMPORARY DISTURBANCE TO BE RESTORED & IMPERVIOUS AREA CONVERTED TO PERVIOUS AREA | TOTAL DISTURBANCE WITHIN RIVERFRONT AREA | TOTAL RIVERFRONT AREA WITHIN LIMIT OF WORK |
|---|---|---|---|---|---|---|
| 0'-100' RIVERFRONT AREA (INNER RIPARIAN ZONE) | 4960 S.F. | 7004 S.F. | +2044 S.F. | 3106 S.F. | 10110 S.F. | 10110 S.F. |
| 100'-200' RIVERFRONT AREA (OUTER RIPARIAN ZONE) | 2561 S.F. | 2065 S.F. | -496 S.F. | 3981 S.F. | 6046 S.F. | 6046 S.F. |
| TOTAL RIVERFRONT AREA | 7521 S.F. | 9069 S.F. | +1548 S.F. | 7087 S.F. | 16156 S.F. | 16156 S.F. |

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

PERMITTING ONLY - NOT FOR CONSTRUCTION

WOODARD & CURRAN
250 Royall Street, Suite 200E
Canton, MA 02021
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS



| REV. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PER MARCH 22 CONSERVATION COMMISSION MEETING | 03/30/2021 |
| 0 | NOI PERMIT SUBMITTAL | 03/12/2021 |

DESIGNED BY: DLP/MB
DRAWN BY: MB
CHECKED BY: HCP/SS
0233128.00 IMPACT AREAS.dwg

IMPACT AREAS

TOWN OF SUDBURY, MA

OLD FRAMINGHAM ROAD SIDEWALK EXTENSION

JOB NO: 0233350.00
DATE: MARCH 2021
SCALE: AS SHOWN
SHEET: OF

FIG-4

# ATTACHMENT A: EXISTING CONDITIONS SURVEY

NAD83
NAVD88

## LEGEND

These standard symbols will be found in the drawing.

- UTILITY POLE WITH GUY
- SIGN
- DRAIN MANHOLE
- DRILL HOLE
- TREE
- MAILBOX
- BENCHMARK
- TP-XX TEST PIT
- GAS GATE
- STONE BOUND
- WETLANDS
- WETLAND FLAGS
- UTILITY POLE
- CATCH BASIN
- WATER GATE

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

N/F
TOWN OF SUDBURY
DEED BK. 49077 PG. 392
L07-0028

N/F
MURPHY
DEED BK. 11373 PG. 390
L07-0202

OLD FRAMINGHAM ROAD

N/F
BATAL
DEED BK. 54651 PG. 181
L07-0407

N/F
SOWINSKI
DEED BK. 45089 PG. 61
L07-0024

NOBSCOTT ROAD

N/F
MAHONEY FARMS, LLC
DEED BK. 48507 PG. 250
M07-0014

## ZONING DATA:

SINGLE RESIDENCE -C (SRC)
LOT AREA = 60,000 S.F.
LOT FRONTAGE = 210'
FRONT YARD SETBACK = 40'
SIDE YARD SETBACK = 20'
REAR YARD SETBACK = 30'

## PLAN REFERENCE:

PLAN BOOK 1963 PLAN 921
PLAN BOOK 1991 PLAN 772
PLAN BOOK 2002 PLAN 225
PLAN BOOK 2005 PLAN 1465
PLAN BOOK 2007 PLAN 804
PLAN BOOK 2006 PLAN 1459
PLAN BOOK 2014 PLAN 891
PLAN BOOK 2019 PLAN 171
1951 STREET LAYOUT 21

## OWNER OF RECORD:

CITY OF SUDBURY

## LOCATION:

OLD FRAMINGHAM ROAD &
NOBSCOTT ROAD
SUDBURY, MA



FIELD SURVEY WAS CONDUCTED 11/10/2020, 11/17/2020 & 12/2/2020

1. THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE FINDINGS SUCH A REPORT MIGHT DISCLOSE.
**2. THIS PLAN HAS NOT BEEN PREPARED FOR RECORDING PURPOSES.**
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**JARVIS LAND SURVEY, INC**
29 Grafton Circle
Shrewsbury, MA 01545
Tel. (508) 842-8087 ~ Fax. (508) 842-0661

1-21-2021

*NOT FOR RECORD USE

KEVIN J. JARVIS NO. 40044 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

Kevin J. Jarvis
P.L.S. #40044

PLAN OF PROPERTY
SURVEYED FOR
**SCOTT SALVUCCI**
WOODARD & CURRAN
OLD FRAMINGHAM ROAD
SUDBURY, MASSACHUSETTS

| DATE: | CHECK: | CALC: | FIELD: | N.B. # | PLAN: |
|---|---|---|---|---|---|
| 1/21/2021 | K.J.J. | K.J.J. | CS/SM | 321/68 | 20-149 |

0' 30' 60' 90'
SCALE: 1 INCH = 30 FEET

# ATTACHMENT B: WETLAND RESOURCE EVALUATION

# EcoTec, Inc.

ENVIRONMENTAL CONSULTING SERVICES
102 Grove Street
Worcester, MA 01605-2629
508-752-9666 – Fax: 508-752-9494


November 5, 2020

Scott Salvucci, P.E.
Woodard & Curran, Inc.
980 Washington St., Suite 325
Dedham, MA 02026

RE: Wetland Resource Evaluation, Old Framingham Road Culvert, Sudbury, MA

Dear Scott:

On November 4, 2020, EcoTec, Inc. inspected the above-referenced property for the presence of wetland resources as defined by: (1) the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, § 40; the "Act") and its implementing regulations (310 CMR 10.00 *et seq.*; the "Regulations"); and (2) the U.S. Clean Water Act (i.e., Section 404 and 401 wetlands). Arthur Allen, CPSS, CWS conducted the inspection.

The subject site consists of the vicinity of an existing culvert carrying Pantry Brook under Marlboro Road in Sudbury. The upland portions of the site consist of a public roadway and wooded road shoulder slopes. The wetland resources observed on the site are described below.

**Methodology**

The site was inspected, and areas suspected to qualify as wetland resources were identified. The boundary of Bordering Vegetated Wetlands was delineated in the field in accordance with the definition set forth in the regulations at 310 CMR 10.55(2)(c). Section 10.55(2)(c) states that "The boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist." The methodology used to delineate Bordering Vegetated Wetlands is further described in: (1) the BVW Policy "*BVW: Bordering Vegetated Wetlands Delineation Criteria and Methodology*," issued March 1, 1995; and (2) "*Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act: A Handbook*," produced by the Massachusetts Department of Environmental Protection, dated March 1995. The plant taxonomy used in this report is based on the *National List of Plant Species that Occur in Wetlands: Massachusetts* (Fish and Wildlife Service, U.S. Department of the Interior, 1988). Federal wetlands were presumed to have boundaries conterminous with the delineated Bordering Vegetated Wetlands. One set of DEP Bordering Vegetated Wetland Delineation Field Data Forms completed for observation plots located in the wetlands and uplands near flag A-3

is attached. The table below provides the Flag Numbers, Flag Type, and Wetland Types and Locations for the delineated wetland resources.

| Flag Numbers | Flag Type | Wetland Types and Locations |
|---|---|---|
| A-1 to A-10<br>(Test Plots at A-3) | Blue Flags | Boundary of Bordering Vegetated Wetlands located on the east side of Old Framingham Road that is associated with a perennial stream. Flags A-4 & A-5 connect to stream culvert outfall. |
| B-1 to B-5 | Blue Flags | Boundary of Bordering Vegetated Wetlands located on the west side of Old Framingham Road that is associated with a perennial stream. Flag B-3 connects to stream culvert inlet. |
| RA-1 to RA-8 | Red Flags | Mean Annual High-water Line (MAHWL) of perennial stream on the east side of Old Framingham Road. |
| RB-1 to RB-10 & RB-1A to RB-5A | Red Flags | Mean Annual High-water Line (MAHWL) of perennial stream on the west side of Old Framingham Road. |

**Findings**

Wetland A/B consists of a wooded swamp fringing on a marsh and wet meadow that is associated with an unnamed, perennial stream. Plant species observed include red maple (*Acer rubrum*) and American elm (*Ulmus americana*) trees and/or saplings; poison ivy (*Toxicodendron radicans*) climbing woody vines; highbush blueberry (*Vaccinium corymbosum*), common winterberry (*Ilex verticillata*), arrow-wood (*Viburnum dentatum*), withe-rod (*Viburnum cassinoides*), swamp rose (*Rosa palustris*), speckled alder (*Alnus rugosa*), silky dogwood (*Cornus amomum*), maleberry (*Lyonia ligustrina*), glossy buckthorn (*Rhamnus frangula*), sweet pepper-bush (*Clethra alnifolia*), swamp azalea (*Rhododendron viscosum*), and American elderberry (*Sambucus canadensis*) shrubs; and sheep-laurel (*Kalmia angustifolia*), bristly blackberry (*Rubus hispidus*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), sensitive fern (*Onoclea sensibilis*), subarctic lady fern (*Athyrium filix-femina*), marsh fern (*Thelypteris thelypteroides*), Massachusetts fern (*Thelypteris simulata*), spinulose woodfern (*Dryopteris spinulosa*), skunk-cabbage (*Symplocarpus foetidus*), swamp Jack-in-the-pulpit (*Arisaema triphyllum*), spotted touch-me-not (*Impatiens capensis*) and sphagnum moss (*Sphagnum sp*.) ground cover. Evidence of wetland hydrology, including hydric soils, high groundwater, saturated soils, pore linings, evidence of flooding, and drainage patterns, was observed within the delineated wetland. This vegetated wetland borders a perennial stream; accordingly, the vegetated wetlands would be regulated as Bordering Vegetated Wetlands and the perennial stream would be regulated as Bank and Land Under Water Bodies and Waterways under the Act. A 100-foot Buffer Zone extends horizontally outward from the edge of Bordering Vegetated Wetlands under the Act.

Bordering Land Subject to Flooding is an area that floods due to a rise in floodwaters from a bordering waterway or water body. Where flood studies have been completed, the boundary of Bordering Land Subject to Flooding is based upon flood profile data prepared by the National

Flood Insurance Program. Section 10.57(2)(a)3. states that "The boundary of Bordering Land Subject to Flooding is the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm." The project engineer should evaluate the most recent National Flood Insurance Program flood profile data to confirm the absence of Bordering Land Subject to Flooding on the site. Bordering Land Subject to Flooding would occur in areas where the 100-year flood elevation is located outside of or upgradient of the delineated Bordering Vegetated Wetlands boundary. Bordering Land Subject to Flooding does not have a Buffer Zone under the Act.

The Massachusetts Rivers Protection Act amended the Act to establish an additional wetland resource area: Riverfront Area. Based upon a review of the current USGS Map (attached), a stream that is shown as intermittent is located within the delineated wetland. The watershed area for this stream at the site was determined to be 0.51 square miles, which is at least one-half square miles but less than one square mile (see attached watershed map). The USGS StreamStats method printout for the stream (attached) shows a predicted flow rate of 0.0119 cubic feet per second, which is greater than than 0.01 cubic feet per second at the 99% flow duration. As such, the stream would be designated perennial under the Massachusetts Wetlands Protection Act regulations. Unless this perennial designation is overcome, Riverfront Area is presumed to extend 200 feet horizontally upgradient from the mean annual high-water line of the stream. Section 10.58(2)(a)2. states that the "Mean annual high-water line of a river is the line that is apparent from visible markings or changes in the character of soils or vegetation due to prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land. Field indicators of bankfull conditions shall be used to determine the mean annual high-water line. Bankfull field indicators include but are not limited to: changes in slope, changes in vegetation, stain lines, top of pointbars, changes in bank materials, or bank undercuts." Section 10.58(2)(a)2.a. states that "In most rivers, the first observable break in slope is coincident with bankfull conditions and the mean annual high-water line." The mean annual high-water line of the stream was delineated in the field with flag series RA and RB based upon the above-referenced regulation. Furthermore, based upon a review of the current USGS Map and observations made during the site inspection, there are no other mapped or unmapped streams located within 200 feet of the site. Accordingly, except as noted above, Riverfront Area would not occur on the site. Riverfront Area does not have a Buffer Zone under the Act, but may overlap other wetland resources and their Buffer Zones.

The Regulations require that no project may be permitted that will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures set forth at 310 CMR 10.59. Based upon a review of the *Massachusetts Natural Heritage Atlas*, 14th edition, Priority Habitats and Estimated Habitats from the NHESP Interactive Viewer, valid from August 1, 2017, and Certified Vernal Pools from MassGIS, there are no Estimated Habitats [for use with the Act and Regulations (310 CMR 10.00 *et seq*.)], Priority Habitats [for use with Massachusetts Endangered Species Act (M.G.L. Ch. 131A; "MESA") and MESA Regulations (321 CMR 10.00 *et seq*.)], or Certified Vernal Pools on or in the immediate vicinity of the site. A copy of this map is attached.

The reader should be aware that the regulatory authority for determining wetland jurisdiction rests with local, state, and federal authorities. A brief description of my experience and qualifications is attached. If you have any questions, please feel free to contact me at any time.

Cordially,
ECOTEC, INC.

Arthur Allen, CWS, CPSS
Vice President

Attachments (6, 10 pages)

AA/NOI/Sudbury Marlboro EcoTec Wet Report 9.12.2019

# EcoTec, Inc.

ENVIRONMENTAL CONSULTING SERVICES
102 Grove Street
Worcester, MA 01605-2629
508-752-9666 / Fax: 508-752-9494


**Arthur Allen, CPSS, CWS, CESSWI**
**Vice President**
**Soil & Wetland Scientist**

Arthur Allen is the Vice President of EcoTec, Inc. and has been a senior environmental scientist there since 1995. His work with EcoTec has involved wetland delineation, wildlife habitat evaluation, environmental permitting (federal, state and local), environmental monitoring, expert testimony, peer reviews, contaminated site assessment and the description, mapping and interpretation of soils. His clients have included private landowners, developers, major corporations and regulatory agencies. Prior to joining EcoTec, Mr. Allen mapped and interpreted soils in Franklin County, MA for the U.S.D.A. Natural Resources Conservation Service (formerly Soil Conservation Service) and was a research soil scientist at Harvard University's Harvard Forest. Since 1994, Mr. Allen has assisted the Massachusetts Department of Environmental Protection and the Massachusetts Association of Conservation Commissions as an instructor in the interpretation of soils for wetland delineation and for the Title V Soil Evaluator program.

Mr. Allen has a civil service rating as a soil scientist, an undergraduate degree in Natural Resource Studies and a graduate certificate in Soil Studies. His work on the Franklin County soil survey involved interpretation of landscape-soil-water relationships, classifying soils and drainage, and determining use and limitation of the soil units that he delineated. As a soil scientist at the Harvard Forest, Mr. Allen was involved in identifying the legacies of historical land-use in modern soil and vegetation at a number of study sites across southern New England. He has a working knowledge of the chemical and physical properties of soil and water and how these properties interact with the plants that grow on a given site. While at Harvard Forest he authored and presented several papers describing his research results which were later published. In addition to his aforementioned experience, Mr. Allen was previously employed by the Trustees of Reservations as a land manager and by the Town of North Andover, MA as a conservation commission intern.

**Education:**
1993-Graduate Certificate in Soil Studies, University of New Hampshire
1982-Bachelor of Science in Natural Resource Studies, University of Massachusetts

**Professional Affiliations:**
Certified Professional Soil Scientist (ARCPACS CPSS #22529)
New Hampshire Certified Wetland Scientist (#19)
Registered Professional Soil Scientist – Society of Soil Scientists of SNE [Board Member (2000-2006)]
Certified Erosion, Sediment & Stormwater Inspector (#965)
Massachusetts Approved Soil Evaluator (#13764)
Massachusetts Arborists Association-Certified Arborist (1982 – 1998)
New England Hydric Soils Technical Committee member
Massachusetts Association of Conservation Commissions member
Society of Wetland Scientists member

**Refereed Publications:**
*Soil Science and Survey at Harvard Forest*. A.Allen. *In*: Soil Survey Horizons. Vol. 36, No. 4, 1995, pp. 133-142.
*Controlling Site to Evaluate History: Vegetation Patterns of a New England Sand Plain.* G.Motzkin, D.Foster, A.Allen, J.Harrod, & R.Boone. *In*: Ecological Monographs 66(3), 1996, pp. 345-365.
*Vegetation Patterns in Heterogeneous Landscapes: The Importance of History and Environment*. G.Motzkin, P.Wilson, D.R.Foster & A.Allen. In: Journal of Vegetation Science 10, 1999, pp. 903-920.

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section I. Vegetation** | Number: TPU | Transect # A-3 | Date of Delin: 11/4/2020

| A. Sample layer and plant species (Enter largest to smallest % cover by layer) | | | Percent Cover (or basal area) | Percent Dominance | Dominant Plant? | Wetland Indicator Category | |
|---|---|---|---|---|---|---|---|
| Tree | Sugar Maple | Acer saccharum | 20 | 20.0 | YES | FACU- | |
| | Red Maple | Acer rubrum | 80 | 80.0 | YES | FAC | * |
| Sapling | Sugar Maple | Acer saccharum | 30 | 100.0 | YES | FACU- | |
| Shrub | Multi-Flora Rose | Rosa multiflora | 20 | 66.7 | YES | FACU | |
| | Tartarian Honeysuckle | Lonicera tatarica | 10 | 33.3 | YES | FACU | |
| Ground | none | | | | | | |
| Vine | | | | | | | |

**Vegetation Conclusions**

Number of dominant wetland indicator plants **1** | Number of dominant non-wetland indicator plants **4**

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

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section II. Indicators of Hydrology** | Number: TPU | Transect # A-3 | Date of Delin: 11/4/2020

**1. Soil Survey**

Is there a published soil survey for this site?

title/date

map number

soil type mapped

hydric soil inclusions

Are field observarions consistent with soil survey?

Remarks:

**2. Soil Description**

| Horizon | Depth (inches) | Matrix Color | Mottle Color |
|---|---|---|---|
| Litter | 2 | | |
| A | 0-14 | 10YR 3/2 | |
| Bw | 14-20 | 10YR 5/6 | |

Remarks Stony fine sandy loams

**3. Other**

**Conclusion: Is the soil hydric?** No

**Other Indicators of hydrology (check all that apply):**

- ☐ Site Inundated
- ☐ Depth to free water in observation hole
- ☐ Depth to soil saturation in observation hole
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in BVWs
- ☐ Oxidized rhizospheres
- ☐ Water stained leaves
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- ☐ Other:

**Vegetation and Hydrology Conclusion**

| | Yes | No |
|---|---|---|
| Number of wetland indicator plants ≥ number of non-wetland indicator plants | ☐ | ☑ |
| Wetland hydrology present: | | |
| Hydric soil present | ☐ | ☑ |
| Other indicators of hydrology present | ☐ | ☑ |
| Sample Location is in a BVW | ☐ | ☑ |

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section I. Vegetation** | Number: TPW | Transect # A-3 | Date of Delin: 11/4/2020

| A. Sample layer and plant species (Enter largest to smallest % cover by layer) | | | Percent Cover (or basal area) | Percent Dominance | Dominant Plant? | Wetland Indicator Category | |
|---|---|---|---|---|---|---|---|
| Tree | Green Ash | Fraxinus pennsylvanica | 20 | 25.0 | YES | FACW | * |
| | Red Maple | Acer rubrum | 60 | 75.0 | YES | FAC | * |
| Sapling | none | | | | | | |
| Shrub | Multi-Flora Rose | Rosa multiflora | 20 | 50.0 | YES | FACU | |
| | Silky Dogwood | Cornus amomum | 20 | 50.0 | YES | FACW | * |
| Ground | Jewelweed | Impatiens capensis | 30 | 75.0 | YES | FACW | * |
| | Virginia Wild Rye | Elymus virginicus | 10 | 25.0 | YES | FACW- | * |
| Vine | | | | | | | |

**Vegetation Conclusions**

Number of dominant wetland indicator plants **5** | Number of dominant non-wetland indicator plants **1**

Is the number of dominant wetland plants equal or greater than the number of dominant non-wetland plants? YES

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

Applicant | Prepared by: EcoTec, Inc | Project Location: Old Framingham Rd., Sudbury | DEP File #

**Section II. Indicators of Hydrology** | Number: TPW | Transect # A-3 | Date of Delin: 11/4/2020

**1. Soil Survey**

Is there a published soil survey for this site?

title/date

map number

soil type mapped

hydric soil inclusions

Are field observarions consistent with soil survey?

Remarks:

**2. Soil Description**

| Horizon | Depth (inches) | Matrix Color | Mottle Color |
|---|---|---|---|
| Litter | 1 | | |
| A | 0-3 | 10YR 2/1 | |
| Cg | 3-14 | 10YR 6/2 | 10% 7.5YR 4/6 |

Remarks A-Mucky Sand; Cg-Coarse Sand

**3. Other**

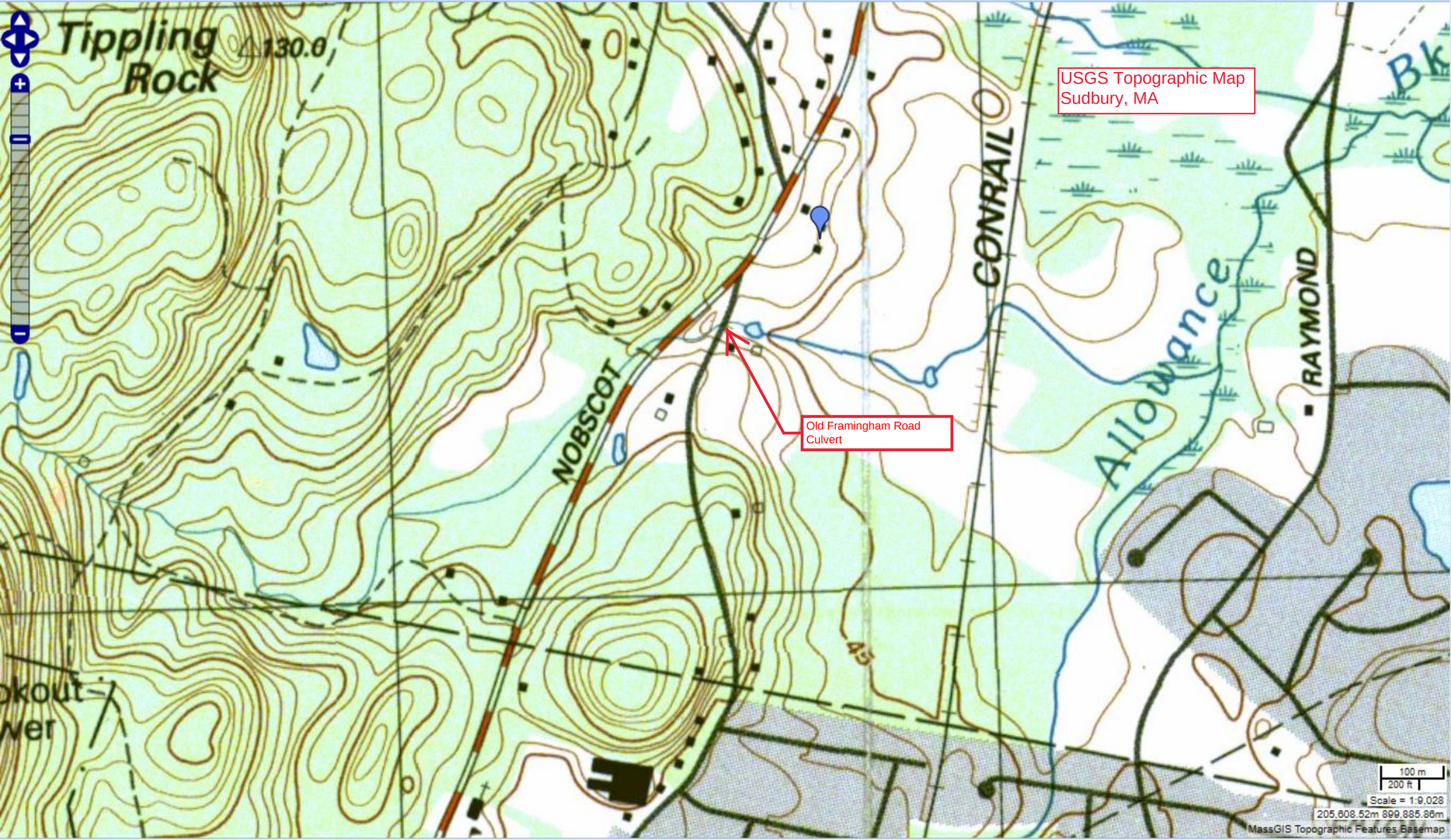
**Conclusion: Is the soil hydric?** Yes

**Other Indicators of hydrology (check all that apply):**

- ☐ Site Inundated
- ☑ Depth to free water in observation hole 4"
- ☑ Depth to soil saturation in observation hole 0"
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in BVWs
- ☐ Oxidized rhizospheres
- ☑ Water stained leaves
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- ☐ Other:

**Vegetation and Hydrology Conclusion**

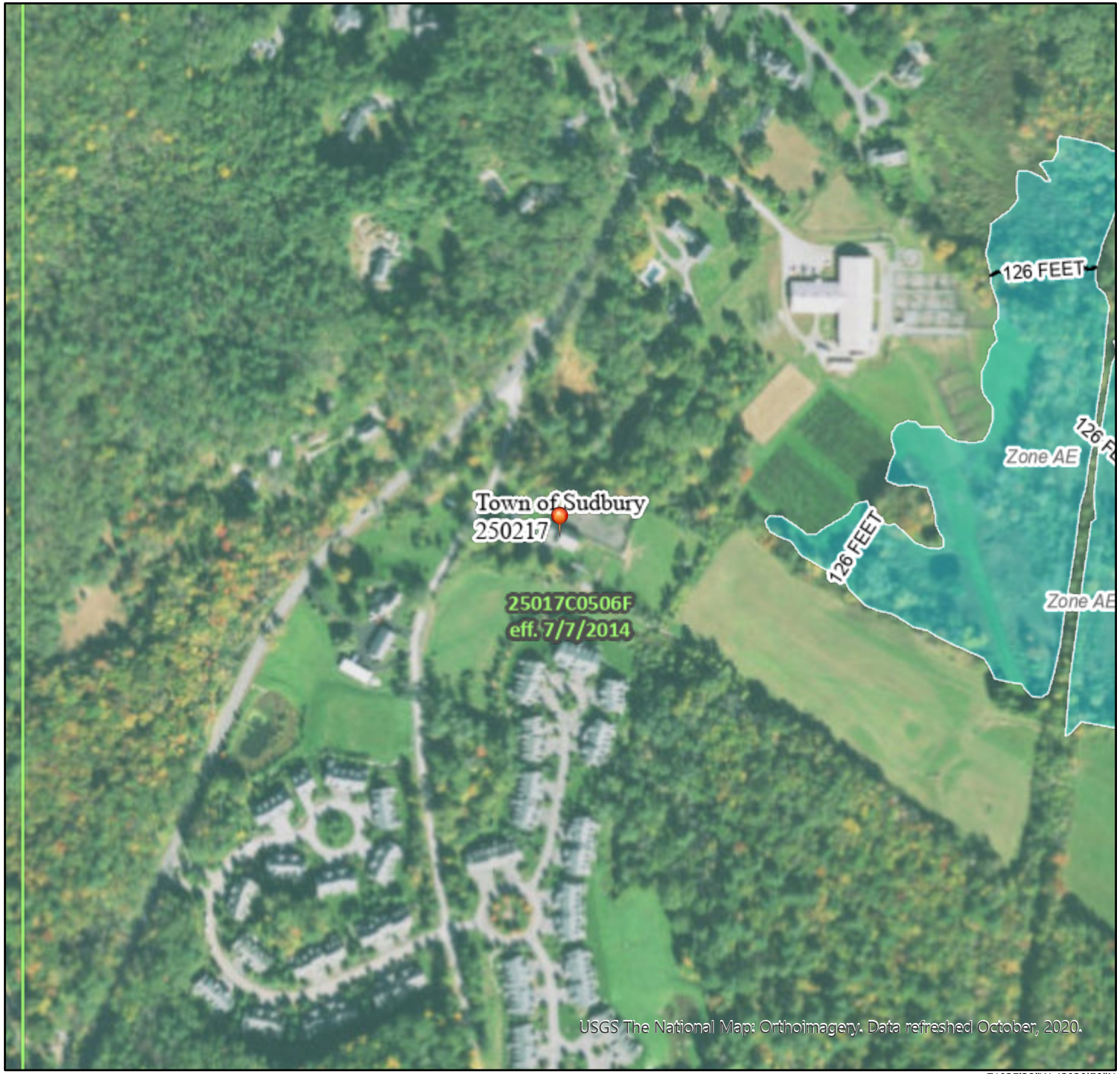
| | Yes | No |
|---|---|---|
| Number of wetland indicator plants ≥ number of non-wetland indicator plants | ☑ | ☐ |
| Wetland hydrology present: | | |
| Hydric soil present | ☑ | ☐ |
| Other indicators of hydrology present | ☑ | ☐ |
| Sample Location is in a BVW | ☑ | ☐ |


USGS Topographic Map
Sudbury, MA
Old Framingham Road
Culvert
Tippling
Rock
130.0
NOBSCOT
CONRAIL
Allowance
RAYMOND
100 m
200 ft
Scale = 1:9,028
205,608.52m 899,885.86m
MassGIS Topographic Features Basemap

# National Flood Hazard Layer FIRMette

FEMA

71°26'16"W 42°21'17"N




71°25'38"W 42°20'50"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

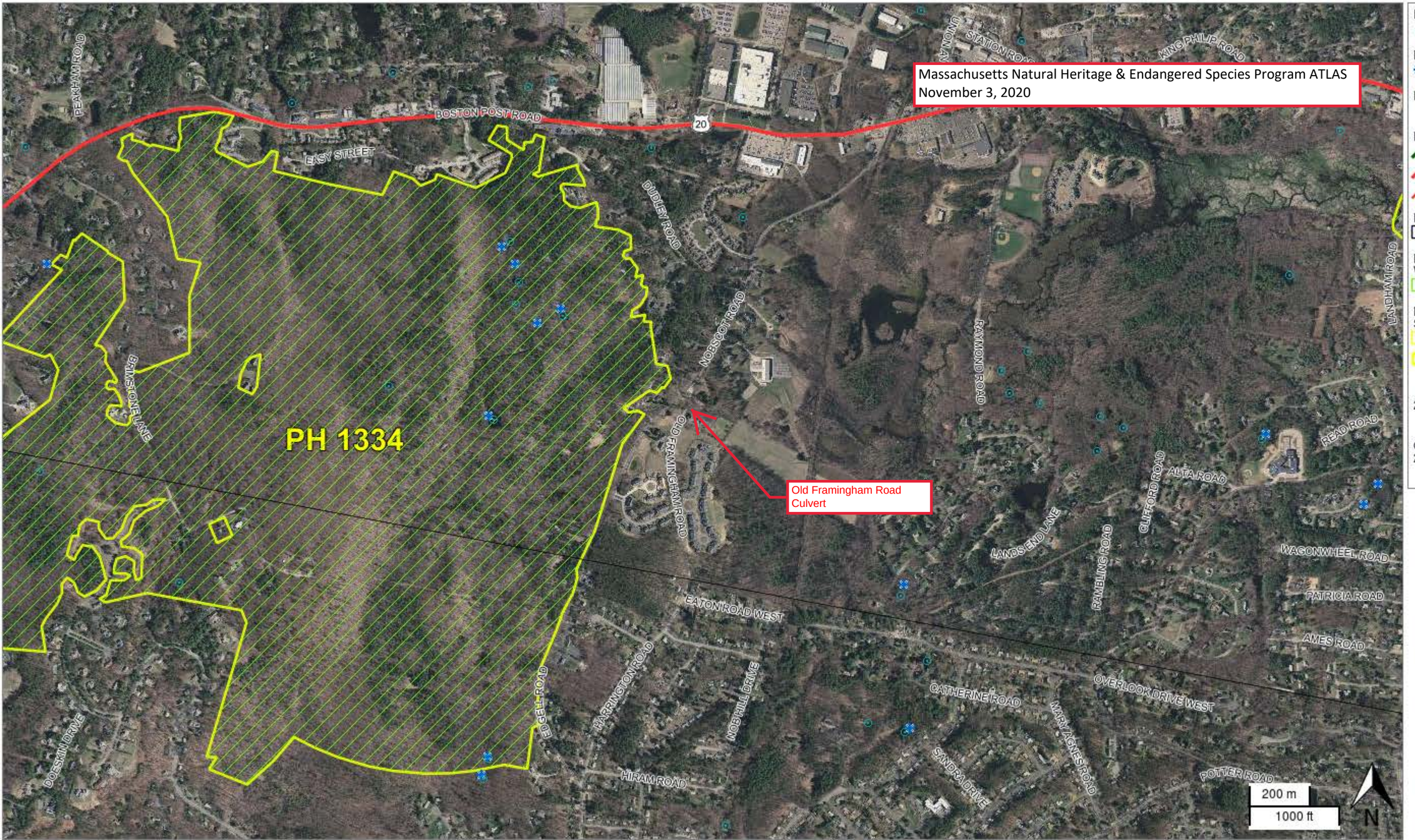
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/3/2020 at 4:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# NHESP - 11.3.2020




Potential Vernal Pools

NHESP Certified Vernal Pools

MassDOT Roads Street Names

Major MassDOT Routes
- Interstate Highways
- US Roads
- State

Massachusetts Towns

NHESP Estimated Habitats of Rare Wildlife

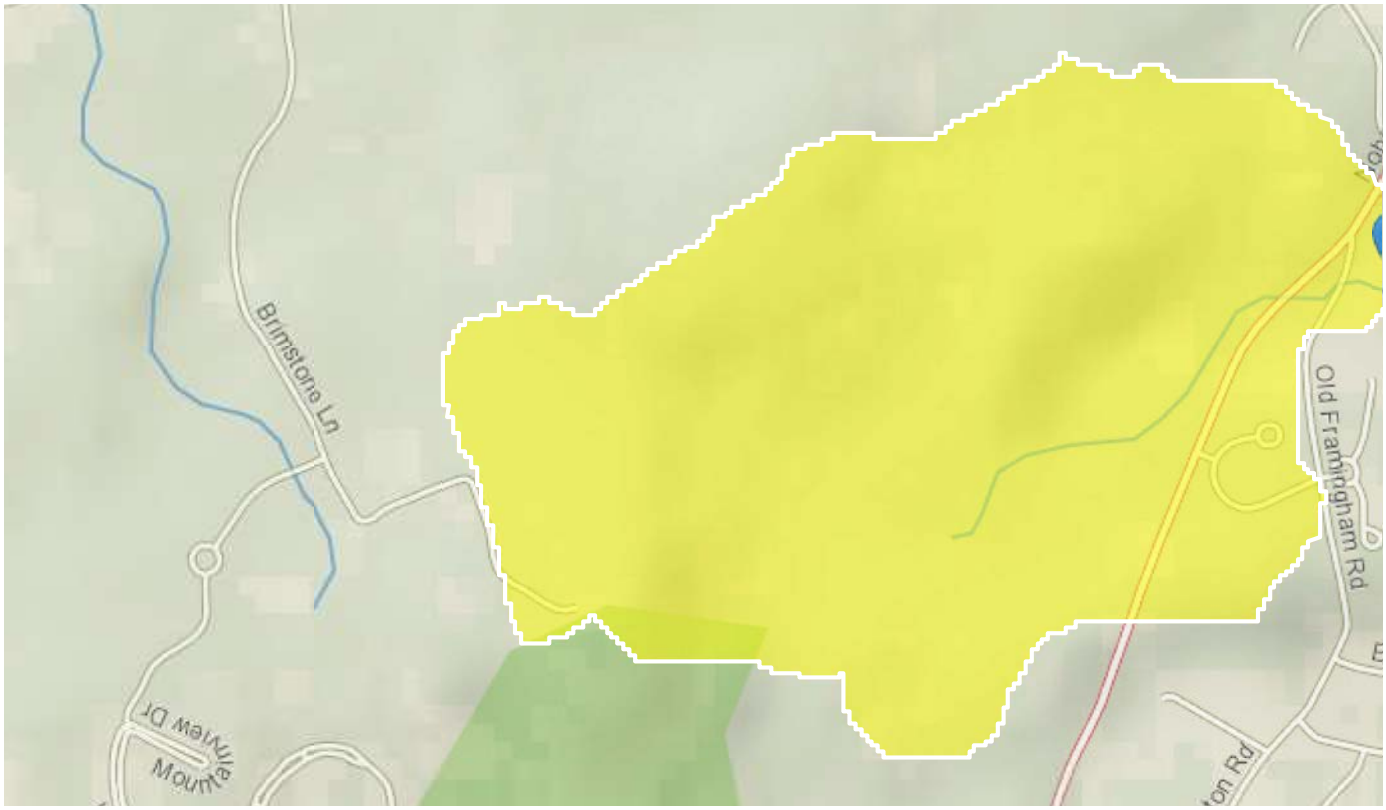
NHESP Priority Habitats of Rare Species

2013-2014 Color Orthos (USGS)

Orthos 2019
2019 Color Orthos (USGS)

# StreamStats Report

**Region ID:** MA
**Workspace ID:** MA20210105154012609000
**Clicked Point (Latitude, Longitude):** 42.35123, -71.43178
**Time:** 2021-01-05 10:35:08 -0500




Old Framingham Road, Sudbury, MA

Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 0.51 | square miles |
| BSLDEM250 | Mean basin slope computed from 1:250K DEM | 8.599 | percent |
| DRFTPERSTR | Area of stratified drift per unit of stream length | 0.0522 | square mile per mile |
| MAREGION | Region of Massachusetts 0 for Eastern 1 for Western | 0 | dimensionless |

Low-Flow Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.51 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 8.599 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.0522 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 0 | dimensionless | 0 | 1 |

Low-Flow Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|---|---|---|
| 7 Day 2 Year Low Flow | 0.0289 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.0119 | ft^3/s |

*Low-Flow Statistics Citations*

**Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)**

# ATTACHMENT C: FEMA FIRMETTE

# National Flood Hazard Layer FIRMette

FEMA

71°26'17"W 42°21'19"N


71°25'40"W 42°20'53"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/27/2021 at 9:47 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Massachusetts Department of Environmental Protection

# eDEP Transaction Copy

Here is the file you requested for your records.

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| | |
|---|---|
| Username: | **ECOTEC** |
| Transaction ID: | **1262281** |
| Document: | **WPA Form 3 - NOI** |
| Size of File: | **248.80K** |
| Status of Transaction: | **In Process** |
| Date and Time Created: | **3/4/2021:5:35:47 PM** |

**Note**: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

**Massachusetts Department of Environmental Protection**
Bureau of Resource Protection - Wetlands
**WPA Form 3 - Notice of Intent**
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1262281
City/Town:SUDBURY

## A.General Information

1. Project Location:

| | | | |
|---|---|---|---|
| a. Street Address | OLD FRAMINGHAM ROAD | | |
| b. City/Town | SUDBURY | c. Zip Code | 01776 |
| d. Latitude | 42.35156N | e. Longitude | 71.43304W |
| f. Map/Plat # | N/A | g.Parcel/Lot # | N/A |

2. Applicant:

☐ Individual ☑ Organization

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b.Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 275 OLD LANCASTER ROAD | | | | |
| e. City/Town | SUDBURY | f. State | MA | g. Zip Code | 01776 |
| h. Phone Number | 978-443-2209 | i. Fax | | j. Email | nasond@sudbury.ma.us |

3.Property Owner:

☐ more than one owner

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b. Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 275 Old Lancaster Road | | | | |
| e. City/Town | Sudbury | f.State | MA | g. Zip Code | 01776 |
| h. Phone Number | 978-443-2209 | i. Fax | | j.Email | nasond@sudbury.ma.us |

4.Representative:

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | ARTHUR | b. Last Name | ALLEN | | |
| c. Organization | ECOTEC, INC. | | | | |
| d. Mailing Address | 102 GROVE STREET | | | | |
| e. City/Town | WORCESTER | f. State | MA | g. Zip Code | 01605 |
| h.Phone Number | 508-752-9666 | i.Fax | | j.Email | aallen@ecotecinc.com |

5.Total WPA Fee Paid (Automatically inserted from NOI Wetland Fee Transmittal Form):

| | | | | | |
|---|---|---|---|---|---|
| a.Total Fee Paid | 0.00 | b.State Fee Paid | 0.00 | c.City/Town Fee Paid | 0.00 |

6.General Project Description:

7a.Project Type:

| | |
|---|---|
| 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 (eg., 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)?

**Massachusetts Department of Environmental Protection**
Bureau of Resource Protection - Wetlands
**WPA Form 3 - Notice of Intent**
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1262281
City/Town:SUDBURY

1. ☑ Yes ☐ No If yes, describe which limited project applies to this project:
2. Limited Project: 310 CMR 10.53(3)(F). MAINTENANCE AND IMPROVEMENT OF AN EXISTING PUBLIC ROADWAY.

8.Property recorded at the Registry of Deeds for:

| a.County: | b.Certificate: | c.Book: | d.Page: |
|---|---|---|---|
| SOUTHERN MIDDLESEX | | N/A | N/A |

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

1.Buffer Zone & Resource Area Impacts (temporary & permanent):

☐ This is a Buffer Zone only project - 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)

| Resource Area | Size of Proposed Alteration | Proposed Replacement (if any) |
|---|---|---|
| a. ☑ Bank | 22<br>1. linear feet | 10<br>2. linear feet |
| b. ☐ Bordering Vegetated Wetland | 1. square feet | 2. square feet |
| c. ☑ Land under Waterbodies and Waterways | 6<br>1. Square feet | 0<br>2. square feet |
| | 0<br>3. cubic yards dredged | |
| 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 | unnamed<br>1. Name of Waterway (if any) | |
| 2. Width of Riverfront Area (check one) | ☐ 25 ft. - Designated Densely Developed Areas only<br>☐ 100 ft. - New agricultural projects only<br>☑ 200 ft. - All other projects | |
| 3. Total area of Riverfront Area on the site of the proposed project | | 16,156<br>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. |
|---|---|---|
| 16,156 (7,087 temporary) | 10,110 (3,106 temporary) | 6,046 (3,981 temporary) |

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)

| 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<br>2. cubic yards dredged | |
| c. ☐ Barrier Beaches | Indicate size under Coastal Beaches and/or Coatstal Dunes, below | |
| d. ☐ Coastal Beaches | 1. square feet | 2. cubic yards beach nourishment |
| e. ☐ Coastal Dunes | 1. square feet | 2. cubic yards dune nourishment |
| f. ☐ Coastal Banks | 1. linear feet | |
| g. ☐ Rocky Intertidal Shores | 1. square feet | |
| h. ☐ Salt Marshes | 1. square feet | 2. sq ft restoration, rehab, crea. |
| i. ☐ Land Under Salt Ponds | 1. square feet | |
| | 2. cubic yards dredged | |
| j. ☐ Land Containing Shellfish | 1. square feet | |
| k. ☐ Fish Runs | Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above | |
| | 1. cubic yards dredged | |
| l. ☐ Land Subject to Coastal Storm Flowage | 1. square feet | |

4.Restoration/Enhancement

☐ Restoration/Replacement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please entered the additional amount here.

a. square feet of BVW b. square feet of Salt Marsh

5.Projects Involves Stream Crossings

☐ Project Involves Streams Crossings

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

## C. Other Applicable Standards and Requirements

**Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review**

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage of Endangered Species program (NHESP)?

**a.** ☐ Yes ☑ No

If yes, include proof of mailing or hand delivery of NOI to:
Natural Heritage and Endangered Species
Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

b. Date of map:11/3/2020

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18)....

c. Submit Supplemental Information for Endangered Species Review * (Check boxes as they apply)

1.☐ Percentage/acreage of property to be altered:

(a) within Wetland Resource Area — percentage/acreage

(b) outside Resource Area — percentage/acreage

2.☐ Assessor's Map or right-of-way plan of site

3.☐ Project plans for entire project site, including wetland resource areas and areas outside of wetland jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

a.☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

b.☐ Photographs representative of the site

c.☐ MESA filing fee (fee information available at: http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html )
Make check payable to "Natural Heritage & Endangered Species Fund" and **mail to NHESP** at above address

*Projects altering **10 or more acres** of land, also submit:*

d.☐ Vegetation cover type map of site

e.☐ Project plans showing Priority & Estimated Habitat boundaries

d. OR Check One of the following

1.☐ Project is exempt from MESA review. Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2.☐ Separate MESA review ongoing.

a. NHESP Tracking Number

b. Date submitted to NHESP

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

2. For coastal projects only, is any portion of the proposed project located below the mean high waterline or in a fish run?
a. ☑ Not applicable - project is in inland resource area only
b. ☐ Yes ☐ No

If yes, include proof of mailing or hand delivery of NOI to either:

South Shore - Cohasset to Rhode Island, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 S. Rodney French Blvd
New Bedford, MA 02744

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

If yes, it may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional office.

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☐ Yes ☑ No

If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC Name

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
a. ☐ Yes ☑ No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L.c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L.c. 130, § 105)?
a. ☐ Yes ☑ No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
a. ☐ Yes, Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol.2, Chapter 3)
2. ☐ A portion of the site constitutes redevelopment
3. ☐ Proprietary BMPs are included in the Stormwater Management System

b. ☑ No, Explain why the project is exempt:
1. ☐ Single Family Home

2. ☑ Emergency Road Repair

3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

## D. Additional Information

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

**Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department by regular mail delivery.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the ☑ Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland ☑ [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.
3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s). ☑ Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. List the titles and dates for all plans and other materials submitted with this NOI. ☑

| a. Plan Title: | b. Plan Prepared By: | c. Plan Signed/Stamped By: | c. Revised Final Date: | e. Scale: |
|---|---|---|---|---|
| ENGINEER'S TECHNICAL MEMO INCLUDING WETLAND REPORT, DATA FORMS AND PROJECT PLANS | WOODARD & CURRAN | | March 4, 2021 | |

5. If there is more than one property owner, please attach a list of these property owners not listed on this form. ☐

6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed. ☐

7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed. ☐

8. Attach NOI Wetland Fee Transmittal Form. ☑

9. Attach Stormwater Report, if needed. ☐

## E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

| | |
|---|---|
| 2. Municipal Check Number | 3. Check date |
| 4. State Check Number | 5. Check date |
| 6. Payer name on check: First Name | 7. Payer name on check: Last Name |

## F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

| | |
|---|---|
| 1. Signature of Applicant | 2. Date |
| 3. Signature of Property Owner(if different) | 4. Date |
| Arthur Allen | 3/4/2021 |
| 5. Signature of Representative (if any) | 6. Date |

**For Conservation Commission:**

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

**For MassDEP:**

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

**Other:**

If the applicant has checked the "yes" box in Section C, Items 1-3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

**Massachusetts Department of Environmental Protection**
Bureau of Resource Protection - Wetlands
**WPA Form 3 - Notice of Wetland FeeTransmittal Form**
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1262281
City/Town:SUDBURY

## A. Applicant Information

1. Applicant:

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b.Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 275 OLD LANCASTER ROAD | | | | |
| e. City/Town | SUDBURY | f. State | MA | g. Zip Code | 01776 |
| h. Phone Number | 9784432209 | i. Fax | | j. Email | nasond@sudbury.ma.us |

2.Property Owner:(if different)

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b. Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 102 GROVE STREET | | | | |
| e. City/Town | WORCESTER | f.State | MA | g. Zip Code | 01605 |
| h. Phone Number | 15087529666 | i. Fax | | j.Email | aallen@ecotecinc.com |

3. Project Location:

| | | | |
|---|---|---|---|
| a. Street Address | OLD FRAMINGHAM ROAD | b. City/Town | SUDBURY |

Are you exempted from Fee? ☐ (YOU HAVE SELECTED 'YES')

**Note:** Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than $100

## B. Fees

| Activity Type | Activity Number | Activity Fee | RF Multiplier | Sub Total |
|---|---|---|---|---|
| | | | | |

| City/Town share of filling fee | State share of filing fee | Total Project Fee |
|---|---|---|
| $0.00 | $0.00 | $0.00 |

Attachment: Seed Specifications

**New England Conservation/Wildlife Mix**
The New England Conservation/Wildlife Mix provides a permanent cover of grasses, forbs, wildflowers, legumes and grasses to provide both good erosion control and wildlife habitat value. This mix is designed to be a no maintenance seeding, and it is appropriate for cut and fill slopes, detention basins, and disturbed areas adjacent to commercial and residential projects.

**Application Rate:** 25 LBS/ACRE (1750 SQ. FT./LB)

**Price:** $30.00/LB**

**Species *:** Big Bluestem (*Andropogon gerardii*), Switchgrass (*Panicum virgatum*), Little Bluestem (*Schizachyrium scoparium*), Canada Wild Rye (*Elymus canadensis*), Fox Sedge (*Carex vulpinoidea*), Partridge Pea (*Chamaecrista fasciculata*), Fringed Bromegrass (*Bromus ciliatus*), Pennsylvania Smartweed (*Polygonum pensylvanicum*), Common Milkweed (*Asclepias syriaca*), Showy Tick-Trefoil (*Desmodium canadense*), New England Aster (*Aster novae-angliae*), Flat-top Aster (*Aster umbellatus*), Nodding Bur-Marigold (*Bidens cernua*).

**New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites**
The New England Erosion Control/Restoration Mix contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. It is an excellent seed mix for ecologically appropriate restorations on moist sites that require quick stabilization as well as long-term establishment of native vegetation. This mix is particularly appropriate for detention basis that do not normally hold standing water. The plants in this mix can tolerate infrequent inundation, but not constant flooding.

**Seeding:** The mix may be applied by hydroseeding, by mechanical spreader, or on small sites it can be spread by hand. When applying on bare soil, rake the soil to create grooves, apply seed, then lightly rake over. In New England, the best results are obtained with a Spring or early Fall seeding. Summer and late Fall seeding will benefit with a light mulching of weed-free straw to conserve moisture. Late Fall and Winter dormant seeding require a slight increase in the seeding rate. Fertilization is not required unless the soils are particularly infertile.

**Application Rate:** 35 LBS/ACRE (1250 SQ. FT./LB.)

**Price:** $26.00/LB**

**Species *:** Switchgrass (*Panicum virgatum*), Virginia Wild Rye (*Elymus virginicus*), Creeping Red Fescue (*Festuca rubra*), Fox Sedge (*Carex vulpinoidea*), Creeping Bentgrass (*Agrostis stolonifera*), Soft Rush (*Juncus effusus*), New England Aster (*Aster novae-angliae*), Grass-leaved Goldenrod (*Euthamia graminifolia*), Nodding Bur Marigold (*Bidens cernua*), Green Bulrush (*Scirpus atrovirens*), Joe-Pye Weed (*Eupatorium maculatum*), Boneset (*Eupatorium perfoliatum*), Blue Vervain (*Verbena hastata*).

Massachusetts Department of Environmental Protection

# eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

| | |
|---|---|
| Username: | **ECOTEC** |
| Transaction ID: | **1262281** |
| Document: | **WPA Form 3 - NOI** |
| Size of File: | **248.80K** |
| Status of Transaction: | **In Process** |
| Date and Time Created: | **3/4/2021:5:35:47 PM** |

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**Massachusetts Department of Environmental Protection**
Bureau of Resource Protection - Wetlands
**WPA Form 3 - Notice of Intent**
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1262281
City/Town:SUDBURY

## A.General Information

1. Project Location:

| | | | |
|---|---|---|---|
| a. Street Address | OLD FRAMINGHAM ROAD | | |
| b. City/Town | SUDBURY | c. Zip Code | 01776 |
| d. Latitude | 42.35156N | e. Longitude | 71.43304W |
| f. Map/Plat # | N/A | g.Parcel/Lot # | N/A |

2. Applicant:

☐ Individual ☑ Organization

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b.Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 275 OLD LANCASTER ROAD | | | | |
| e. City/Town | SUDBURY | f. State | MA | g. Zip Code | 01776 |
| h. Phone Number | 978-443-2209 | i. Fax | | j. Email | nasond@sudbury.ma.us |

3.Property Owner:

☐ more than one owner

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b. Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 275 Old Lancaster Road | | | | |
| e. City/Town | Sudbury | f.State | MA | g. Zip Code | 01776 |
| h. Phone Number | 978-443-2209 | i. Fax | | j.Email | nasond@sudbury.ma.us |

4.Representative:

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | ARTHUR | b. Last Name | ALLEN | | |
| c. Organization | ECOTEC, INC. | | | | |
| d. Mailing Address | 102 GROVE STREET | | | | |
| e. City/Town | WORCESTER | f. State | MA | g. Zip Code | 01605 |
| h.Phone Number | 508-752-9666 | i.Fax | | j.Email | aallen@ecotecinc.com |

5.Total WPA Fee Paid (Automatically inserted from NOI Wetland Fee Transmittal Form):

| | | | | | |
|---|---|---|---|---|---|
| a.Total Fee Paid | 0.00 | b.State Fee Paid | 0.00 | c.City/Town Fee Paid | 0.00 |

6.General Project Description:

7a.Project Type:

| | |
|---|---|
| 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 (eg., 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)?

**Massachusetts Department of Environmental Protection**
Bureau of Resource Protection - Wetlands
**WPA Form 3 - Notice of Intent**
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1262281
City/Town:SUDBURY

1. ☑ Yes ☐ No If yes, describe which limited project applies to this project:
2. Limited Project: 310 CMR 10.53(3)(F). MAINTENANCE AND IMPROVEMENT OF AN EXISTING PUBLIC ROADWAY.

8.Property recorded at the Registry of Deeds for:

| a.County: | b.Certificate: | c.Book: | d.Page: |
|---|---|---|---|
| SOUTHERN MIDDLESEX | | N/A | N/A |

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

1.Buffer Zone & Resource Area Impacts (temporary & permanent):

☐ This is a Buffer Zone only project - 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)

| Resource Area | Size of Proposed Alteration | Proposed Replacement (if any) |
|---|---|---|
| a. ☑ Bank | 22<br>1. linear feet | 10<br>2. linear feet |
| b. ☐ Bordering Vegetated Wetland | 1. square feet | 2. square feet |
| c. ☑ Land under Waterbodies and Waterways | 6<br>1. Square feet | 0<br>2. square feet |
| | 0<br>3. cubic yards dredged | |
| 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 | unnamed<br>1. Name of Waterway (if any) | |
| 2. Width of Riverfront Area (check one) | ☐ 25 ft. - Designated Densely Developed Areas only<br>☐ 100 ft. - New agricultural projects only<br>☑ 200 ft. - All other projects | |
| 3. Total area of Riverfront Area on the site of the proposed project | | 16,156<br>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. |
|---|---|---|
| 16,156 (7,087 temporary) | 10,110 (3,106 temporary) | 6,046 (3,981 temporary) |

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)

| 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<br>2. cubic yards dredged | |
| c. ☐ Barrier Beaches | Indicate size under Coastal Beaches and/or Coatstal Dunes, below | |
| d. ☐ Coastal Beaches | 1. square feet | 2. cubic yards beach nourishment |
| e. ☐ Coastal Dunes | 1. square feet | 2. cubic yards dune nourishment |
| f. ☐ Coastal Banks | 1. linear feet | |
| g. ☐ Rocky Intertidal Shores | 1. square feet | |
| h. ☐ Salt Marshes | 1. square feet | 2. sq ft restoration, rehab, crea. |
| i. ☐ Land Under Salt Ponds | 1. square feet | |
| | 2. cubic yards dredged | |
| j. ☐ Land Containing Shellfish | 1. square feet | |
| k. ☐ Fish Runs | Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above | |
| | 1. cubic yards dredged | |
| l. ☐ Land Subject to Coastal Storm Flowage | 1. square feet | |

4.Restoration/Enhancement

☐ Restoration/Replacement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please entered the additional amount here.

a. square feet of BVW b. square feet of Salt Marsh

5.Projects Involves Stream Crossings

☐ Project Involves Streams Crossings

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

## C. Other Applicable Standards and Requirements

**Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review**

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage of Endangered Species program (NHESP)?

**a.** ☐ Yes ☑ No

If yes, include proof of mailing or hand delivery of NOI to:
Natural Heritage and Endangered Species
Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

b. Date of map:11/3/2020

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18)....

c. Submit Supplemental Information for Endangered Species Review * (Check boxes as they apply)

1.☐ Percentage/acreage of property to be altered:

(a) within Wetland Resource Area — percentage/acreage

(b) outside Resource Area — percentage/acreage

2.☐ Assessor's Map or right-of-way plan of site

3.☐ Project plans for entire project site, including wetland resource areas and areas outside of wetland jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

a.☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

b.☐ Photographs representative of the site

c.☐ MESA filing fee (fee information available at: http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html )
Make check payable to "Natural Heritage & Endangered Species Fund" and **mail to NHESP** at above address

*Projects altering **10 or more acres** of land, also submit:*

d.☐ Vegetation cover type map of site

e.☐ Project plans showing Priority & Estimated Habitat boundaries

d. OR Check One of the following

1.☐ Project is exempt from MESA review. Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2.☐ Separate MESA review ongoing.

a. NHESP Tracking Number

b. Date submitted to NHESP

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

2. For coastal projects only, is any portion of the proposed project located below the mean high waterline or in a fish run?
a. ☑ Not applicable - project is in inland resource area only
b. ☐ Yes ☐ No

If yes, include proof of mailing or hand delivery of NOI to either:

South Shore - Cohasset to Rhode Island, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 S. Rodney French Blvd
New Bedford, MA 02744

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

If yes, it may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional office.

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☐ Yes ☑ No

If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC Name

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
a. ☐ Yes ☑ No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L.c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L.c. 130, § 105)?
a. ☐ Yes ☑ No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
a. ☐ Yes, Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol.2, Chapter 3)
2. ☐ A portion of the site constitutes redevelopment
3. ☐ Proprietary BMPs are included in the Stormwater Management System

b. ☑ No, Explain why the project is exempt:
1. ☐ Single Family Home

2. ☑ Emergency Road Repair

3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

## D. Additional Information

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

**Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department by regular mail delivery.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the ☑ Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland ☑ [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.
3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s). ☑ Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. List the titles and dates for all plans and other materials submitted with this NOI. ☑

| a. Plan Title: | b. Plan Prepared By: | c. Plan Signed/Stamped By: | c. Revised Final Date: | e. Scale: |
|---|---|---|---|---|
| ENGINEER'S TECHNICAL MEMO INCLUDING WETLAND REPORT, DATA FORMS AND PROJECT PLANS | WOODARD & CURRAN | | March 4, 2021 | |

5. If there is more than one property owner, please attach a list of these property owners not listed on this form. ☐

6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed. ☐

7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed. ☐

8. Attach NOI Wetland Fee Transmittal Form. ☑

9. Attach Stormwater Report, if needed. ☐

## E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

| | |
|---|---|
| 2. Municipal Check Number | 3. Check date |
| 4. State Check Number | 5. Check date |
| 6. Payer name on check: First Name | 7. Payer name on check: Last Name |

## F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

| | |
|---|---|
| 1. Signature of Applicant | 2. Date |
| 3. Signature of Property Owner(if different) | 4. Date |
| Arthur Allen | 3/4/2021 |
| 5. Signature of Representative (if any) | 6. Date |

**For Conservation Commission:**

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

**For MassDEP:**

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

**Other:**

If the applicant has checked the "yes" box in Section C, Items 1-3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

**Massachusetts Department of Environmental Protection**
Bureau of Resource Protection - Wetlands
**WPA Form 3 - Notice of Wetland FeeTransmittal Form**
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1262281
City/Town:SUDBURY

## A. Applicant Information

1. Applicant:

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b.Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 275 OLD LANCASTER ROAD | | | | |
| e. City/Town | SUDBURY | f. State | MA | g. Zip Code | 01776 |
| h. Phone Number | 9784432209 | i. Fax | | j. Email | nasond@sudbury.ma.us |

2.Property Owner:(if different)

| | | | | | |
|---|---|---|---|---|---|
| a. First Name | DANIEL | b. Last Name | NASON | | |
| c. Organization | TOWN OF SUDBURY DEPT. OF PUBLIC WORKS | | | | |
| d. Mailing Address | 102 GROVE STREET | | | | |
| e. City/Town | WORCESTER | f.State | MA | g. Zip Code | 01605 |
| h. Phone Number | 15087529666 | i. Fax | | j.Email | aallen@ecotecinc.com |

3. Project Location:

| | | | |
|---|---|---|---|
| a. Street Address | OLD FRAMINGHAM ROAD | b. City/Town | SUDBURY |

Are you exempted from Fee? ☐ (YOU HAVE SELECTED 'YES')

**Note:** Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than $100

## B. Fees

| Activity Type | Activity Number | Activity Fee | RF Multiplier | Sub Total |
|---|---|---|---|---|
| | | | | |

| City/Town share of filling fee | State share of filing fee | Total Project Fee |
|---|---|---|
| $0.00 | $0.00 | $0.00 |

**Attachment: Seed Specifications**

**New England Conservation/Wildlife Mix**
The New England Conservation/Wildlife Mix provides a permanent cover of grasses, forbs, wildflowers, legumes and grasses to provide both good erosion control and wildlife habitat value. This mix is designed to be a no maintenance seeding, and it is appropriate for cut and fill slopes, detention basins, and disturbed areas adjacent to commercial and residential projects.

**Application Rate:** 25 LBS/ACRE (1750 SQ. FT./LB)

**Price:** $30.00/LB**

**Species *:** Big Bluestem (*Andropogon gerardii*), Switchgrass (*Panicum virgatum*), Little Bluestem (*Schizachyrium scoparium*), Canada Wild Rye (*Elymus canadensis*), Fox Sedge (*Carex vulpinoidea*), Partridge Pea (*Chamaecrista fasciculata*), Fringed Bromegrass (*Bromus ciliatus*), Pennsylvania Smartweed (*Polygonum pensylvanicum*), Common Milkweed (*Asclepias syriaca*), Showy Tick-Trefoil (*Desmodium canadense*), New England Aster (*Aster novae-angliae*), Flat-top Aster (*Aster umbellatus*), Nodding Bur-Marigold (*Bidens cernua*).

**New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites**
The New England Erosion Control/Restoration Mix contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. It is an excellent seed mix for ecologically appropriate restorations on moist sites that require quick stabilization as well as long-term establishment of native vegetation. This mix is particularly appropriate for detention basis that do not normally hold standing water. The plants in this mix can tolerate infrequent inundation, but not constant flooding.

**Seeding:** The mix may be applied by hydroseeding, by mechanical spreader, or on small sites it can be spread by hand. When applying on bare soil, rake the soil to create grooves, apply seed, then lightly rake over. In New England, the best results are obtained with a Spring or early Fall seeding. Summer and late Fall seeding will benefit with a light mulching of weed-free straw to conserve moisture. Late Fall and Winter dormant seeding require a slight increase in the seeding rate. Fertilization is not required unless the soils are particularly infertile.

**Application Rate:** 35 LBS/ACRE (1250 SQ. FT./LB.)

**Price:** $26.00/LB**

**Species *:** Switchgrass (*Panicum virgatum*), Virginia Wild Rye (*Elymus virginicus*), Creeping Red Fescue (*Festuca rubra*), Fox Sedge (*Carex vulpinoidea*), Creeping Bentgrass (*Agrostis stolonifera*), Soft Rush (*Juncus effusus*), New England Aster (*Aster novae-angliae*), Grass-leaved Goldenrod (*Euthamia graminifolia*), Nodding Bur Marigold (*Bidens cernua*), Green Bulrush (*Scirpus atrovirens*), Joe-Pye Weed (*Eupatorium maculatum*), Boneset (*Eupatorium perfoliatum*), Blue Vervain (*Verbena hastata*).