SUBMITTAL REGISTRATION FORM

ONYX JOB #EX-24-0010

MASSDOT 125644 - FOSTER STREET RECONSTRUCTION PROJECT
LITTLETON, MA

Submittal Description: INVASIVE PLANT MANAGEMENT STRATEGY - FULL PLAN

Submittal No.: 102.33-003 **Spec Section:** N/A

Revision No.: 0 **Sub Section:**

SUBMITTAL DISTRIBUTION TYPE:

- ☐ **Shop Drawing**
- ☐ **Working Drawings**
- ☐ **Schedule Submittal**
- ☐ **Miscellaneous Submittal**

REVIEWER STAMP & COMMENTS

SUBMITTAL NOTES:

The above referenced submittal has been reviewed by the undersigned and I/we certify that the material and/or equipment meets or exceeds the project specification requirements with:

N/A No deviations

☐ Deviations as noted below:

Print Name:

Signature: Digitally signed by Bryan Blackerby DN: C=US, E=bryanb@onyxcorporation.net, O=ONYX Corp, OU=Excavation, CN=Bryan Blackerby Date: 2024.10.16 15:05:42-04'00'

Date:

Invasive Plant Management Strategy for Reconstruction of Foster Street in Littleton, Massachusetts

MassDOT Project No. 609054

MassDOT Contract No. 125644

PREPARED FOR

Massachusetts Department of Transportation

ON BEHALF OF

Onyx Corporation

PREPARED BY

SWCA Environmental Consultants

INVASIVE PLANT MANAGEMENT STRATEGY FOR RECONSTRUCTION OF FOSTER STREET IN LITTLETON, MASSACHUSETTS

Prepared for

Massachusetts Department of Transportation
10 Park Plaza, Suite 4160
Boston, Massachusetts 02116

On Behalf of

Onyx Corporation
18 Wetherbee Street
Acton, Massachusetts 01720

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SWCA Project No. 0089854-000-AMH

CONTENTS

Appendices

Tables

1 INTRODUCTION

This Invasive Plant Management Strategy (IPMS) has been developed to provide the site contractor, Onyx Corporation, with specifications regarding the removal, handling, and management of invasive plants existing within the construction limits of the Reconstruction of Foster Street project (project site) in Littleton, Massachusetts. Invasive plant management is conducted on construction projects such as this one to improve the habitat value of the project site, protect the proposed landscape and/or restoration plantings, and prevent the future spread of invasive species from documented locations into uninfested project work areas. In addition to measurements of spread prevention, this plan specifies an invasive plant management goal to reduce or eliminate the cover of invasive plants found on the project site.

The measure of success for invasive plant management on this project is 85% reduction in invasive plants from preconstruction to the end of the project. This invasive reduction goal is based solely on the invasive plant populations currently existing within the bounds of the project site, as documented in this plan. Invasive plant populations frequently extend outside the project site and make total eradication infeasible.

Project construction will commence upon approval of this plan and will extend through Fall 2026. Invasive plant management will be conducted annually until project completion.

1.1 Permit Compliance

A Stormwater Pollution Prevention Plan (SWPPP) and Order of Conditions (OOC) (MassDEP File No. #204-0991) has been issued for construction work within resource areas and within the 50-foot No Disturbance Area of the Littleton Wetlands Protection bylaw. Currently, the OOC requires that herbicides proposed to be used need to be disclosed to the Conservation Commission and properly specified in an Amended OOC.

Onyx Corporation will need to request an amendment to the OOC in Fall/Winter of 2024 to allow for herbicide use during the summer of 2025.

2 DOCUMENTATION OF INVASIVE PLANTS ON SITE

SWCA conducted a survey of invasive plants within the construction limits on August 30, 2024, accompanied by representatives from MassDOT and Onyx Corporation, to identify the preconstruction locations of invasive plants across the project site.

The locations of invasive plants observed during the August 30, 2024, site visit is annotated in the Invasive Plant Locations Plan (Appendix A). SWCA also took photographs of key invasive plant populations during the August 30, 2024 visit, which are included in the attached photograph pages (Appendix B).

The invasive plant species with the greatest coverage on the project site are Asiatic bittersweet (*Celastrus orbiculatus*) and Japanese knotweed (*Fallopia japonica*). While the invasives documented in Appendix A represent preconstruction conditions on the day of the site visit, there are many invasive populations existing directly outside of the construction limits. Therefore, it is possible that these species could spread into the project area once soil has been disturbed. All invasive plants observed on-site will be targeted during each management visit and notes of new invasive plant locations will be relayed to the site contractor.

3 METHODS OF INVASIVE PLANT MANAGEMENT

A combination of chemical and mechanical management will take place for all invasive plants located within the project site. Mechanical clearing will need to be the first method of invasive management in order to keep construction activities on schedule. While several invasive plants will be managed, Japanese knotweed is of highest concern during construction activities due to its ability to spread through rhizome fragmentation. Herbicide application will be a necessary method of invasive plant management throughout the construction timeframe (through Fall 2026). Particular care needs to be given when clearing vegetation and/or mobilizing through areas where Japanese knotweed exists. See Section 3.1.1 for more details on how to carefully handle and work through areas of Japanese knotweed.

Mechanical methods can effectively manage many of the invasive plants present. Such methods include clearing, grubbing, and other excavation activities which will all occur during this project. SWCA will work with the site contractor to most effectively utilize both mechanical and chemical means of invasive plant management to meet the goals of this project as well as the construction schedule.

All herbicide applications will be conducted as detailed in Table 1 and will be applied using low-volume backpack sprayers. Herbicide will be mixed with non-ionic surfactant and a marking dye. This will allow applicators to conduct selective herbicide application and remain aware of all plants treated, which eliminates unnecessary overspray.

Table 1. Invasive Plant Species Management Details

Common Name	Scientific Name	Treatment Protocol	Management Timing
Japanese knotweed	*Fallopia japonica*	Foliar treatment; glyphosate	Late August to mid-October
Asiatic bittersweet	*Celastrus orbiculatus*	Foliar treatment (small stems); triclopyr Cut stem (large stems); triclopyr or glyphosate	June to October
Multiflora rose	*Rosa multiflora*	Foliar treatment (small stems); triclopyr or glyphosate Cut stem (large stems); triclopyr or glyphosate	June to October
Garlic mustard	*Alliaria petiolata*	Mechanical removal (small populations); hand pulling Foliar treatment (large populations); glyphosate	April to June
Porcelain berry	*Ampelopsis brevipedunculata*	Foliar treatment; glyphosate or triclopyr	June to October
Burning bush	*Euonymus alatus*	Foliar treatment (small stems); triclopyr or glyphosate Cut stem (large stems); triclopyr or glyphosate	June to October
Bush honeysuckle	*Lonicera* sp.	Foliar treatment (small stems); triclopyr or glyphosate Cut stem (large stems); triclopyr or glyphosate	June to October
Common buckthorn	*Rhamnus cathartica*	Foliar treatment (small stems); triclopyr or glyphosate Cut stem (large stems); triclopyr or glyphosate	June to October
Glossy buckthorn	*Frangula alnus*	Foliar treatment (small stems); triclopyr or glyphosate Cut stem (large stems); triclopyr or glyphosate	June to October
Autumn olive	*Elaeagnus umbellata*	Foliar treatment (small stems); triclopyr or glyphosate Cut stem (large stems); triclopyr or glyphosate	June to October
Purple loosestrife	*Lythrum salicaria*	Mechanical removal (small populations); hand pulling Foliar treatment (large populations); glyphosate	June to August

Common Name	Scientific Name	Treatment Protocol	Management Timing
Norway maple	*Acer platanoides*	Foliar treatment (small stems); glyphosate or triclopyr Hack and squirt (large stems and trees); glyphosate or triclopyr	June to October
All other invasive plants*		Young woody and herbaceous: foliar; glyphosate Mature shrubs: cut-stem; glyphosate. Mature trees: hack and squirt or cut-stem; glyphosate. Herbaceous invasives: foliar; glyphosate	April to October

Note: These herbicides are recommended for use. Either equivalent herbicides or similar herbicides may be used upon approval.

Note: "Mature" is defined as stems 1 or more inches in diameter; "Young" is defined as stems less than 1 inch in diameter.

* Any invasive plants (as defined by MIPAG and DEP's Inland Wetland Replication Guidelines), regardless of their documentation in this IPMS, will be managed if observed within the management limits.

3.1 Initial Management

3.1.1 Mechanical Management: Clearing and Excavating

Invasive plant species must be cleared to avoid delaying construction. Much of the invasive vegetation will be initially managed through clearing. Clearing will be performed with a combination of excavators and land clearing equipment. Any equipment that is used to clear vegetation or excavate soil in an area that contains invasive plants will be cleaned prior to moving into uninfested areas of the project site or beyond. Equipment cleaning will be performed outside of wetland resource areas and their buffers and will be conducted prior to moving into uninfested areas.

When the Japanese knotweed is cleared, it must be cut above ground level without dislodging or affecting the roots of the plant. All cutting implements must be cleaned after cutting and prior to use in areas not containing Japanese knotweed. Failure to do this can result in spreading the Japanese knotweed population. Any Japanese knotweed cutting planned by Onyx Corporation must be communicated with SWCA to prevent an overlap with any planned foliar treatments.

If Japanese knotweed can be excavated, then all excavated material must be buried or stockpiled according to Section 3.1.1.2. Burial is preferred over stockpiling as it has the lowest risk of spreading Japanese knotweed; however, it is not feasible on all construction sites. Section 3.1.1.1 includes best practices for equipment cleaning. Appendix A includes the planned locations for temporary stockpile areas.

If invasive plant material cannot be buried or stockpiled on-site, then it can be sent to a facility and disposed of off-site. The contractor must make the facility aware that the disposal contains invasive plant species.

3.1.1.1 EQUIPMENT CLEANING

All equipment will be cleaned using brushes, water, or compressed air prior to leaving areas with existing populations of invasive plant species. Using a combination of brushes and other hand tools to loosen compacted soil is preferable to the other two options, as brushes and hand tools will minimize the dispersal of any propagules. Any equipment that is used for the movement or clearing of soil within invasive populations will be cleaned prior to leaving the invasive-infested area. Cleaning will be performed on the tracks and buckets of the machines that have potentially come in contact with invasive root/propagule material.

If hand tools are used in clearing, they should also be cleaned prior to use in non-infested work areas. Cleaning activities shall occur outside of areas with disturbed soils and away from any surface waters to avoid the spread of seed material downstream.

If perimeter erosion controls are not already in place around these invasive-infested areas, the site contractor shall install a single line of straw bales around the area in which invasive plant propagules are cleaned from equipment. This will be performed to reduce the potential spread of invasives from infested to uninfested areas, particularly when there is bare soil in either the uninfested or infested areas in question. Final project close-out operations will include disposal of these perimeter controls. As they may contain viable invasive propagules, the receiving facility will be informed of that possibility, and the perimeter controls will not be reused after disposal.

All equipment used for the transport of invasive plant and root material will be inspected and cleaned prior to use with non-invasive materials. The site contractor will assume any soil and plant material remaining on equipment is invasive prior to use in uninfested portions of the project site. No oversight will be needed to conduct this task, but the site contractor must ensure all equipment is clear of excess soil and plant material when moving from an area of invasive infestation to one not infested.

3.1.1.2 SOIL MOVEMENT, BURIAL, AND STOCKPILING

If burying Japanese knotweed on-site is possible, the plant material may only be buried at least 6 feet deep in locations that already contain Japanese knotweed. When moving potentially viable invasive propagules (both within or outside of the project site), all material will be secured in an enclosed structure (such as a dump truck bed) to avoid spread in transport.

All invasive infested soil that need to be stockpiled will be in the location marked on the attached plan (see Appendix A). The stockpile area will be surrounded by perimeter sediment and erosion controls to eliminate the displacement of any material during rain events. Should the stockpile area remain small, silt fence and straw bales will suffice for perimeter controls. However, should the stockpile area exceed a height of 5 feet, lined jersey barriers wrapped in a semi-permeable fabric will be installed to accommodate the larger volume of sediment that could mobilize during a large storm event. Should a secondary stockpile location be required, the site contractor will report the new location to MassDOT.

The invasive stockpile area(s) will be specifically inspected and treated during each herbicide application event. All soils in areas that have been treated, and that are subsequently scheduled for excavation, shall be considered suitable for reuse contingent on the Engineer's determination that no evidence of invasive plant propagation has been documented for a 6-month period prior to excavation. SWCA can provide recommendations to the Engineer if needed. Stockpile areas shall be exposed and/or overturned multiple times before this determination is made.

3.1.2 Chemical Management: Herbicide Application

Due to construction timing, herbicide application will not be conducted prior to the start of clearing and grubbing. Where construction activities occur prior to herbicide application in areas that contain Japanese knotweed, the site contractor will follow the cleaning protocols outlined in Section 3.1.1.1. The other invasive plants on the project site will initially be well-managed through mechanical means, and all invasive plants will be re-treated with herbicide as needed in future management events (see Section 3.2).

3.2 Follow-Up Management

Additional management efforts are required to limit the spread of Japanese knotweed and other invasive plants on the project site following clearing and grubbing activities. All invasive plants will be targeted during each management visit regardless of being mapped in the preconstruction visit. Any new invasive plant locations found will be relayed to the site contractor.

Follow-up management will be conducted at least once during each year via a combination of herbicide application and mechanical removal. The proposed management schedule is included in Table 2. Any cutting to take place will be conducted with hedge trimmers, chain saws, or small hand tools (pruners, loppers, etc.) and will be performed in concert with herbicide application. Herbicide applications will be performed as indicated in Table 1. These management methods and timings have been included based on the ideal window for each invasive plant occurring on the project site. This timing is related to the flowering period for most invasive plants. The ideal timing for management is at or just after peak flowering. Any follow-up management to occur within the same growing season will occur a minimum of 2 to 3 weeks following any previous treatment.

As stated in Table 1, herbicide application may be conducted via foliar or cut-stem application. Foliar herbicide application will be performed by low-volume backpack sprayer. Cut-stem application will be conducted using Buckthorn Blasters ®, a handheld applicator with a sponge tip. Where cut-stem applications are performed, cut material will be left in place. As construction activities will remove all large material prior to herbicide application, all cut-stem applications will be performed to small woody material, if needed. The exact implementation method (herbicide application or mechanical management) will be determined by SWCA in the field based on site conditions. All dead material will be left on-site where it falls to decompose naturally (as it ultimately would if it were not cut).

All herbicides that will be used for treatments are approved for use in wetlands and can be used in sensitive areas. Herbicide Use Reports will be submitted within 2 weeks of each application. A copy of the Herbicide Use Report form is included in Appendix C.

Table 2. Invasive Plant Management Timeline

Season	Task	Location
Fall 2024	Clearing and grubbing	Entire project site
	Establish stockpile	STA 35 to STA 38+75
August/September 2025	Initial herbicide application	Within construction limits
August/September 2026	Follow-up herbicide application	Within construction limits

* Fall is assumed to include September to October, spring is assumed to include the start of the growing season through mid-June, and summer is assumed to include mid-June through August. See Table 1 for species-specific management windows.

4 SUMMARY

SWCA will work closely with MassDOT and Onyx Corporation to manage invasive plants annually (or as needed) through the end of the construction period, which is planned to be Fall 2026. Initial methods of management include mechanical clearing, and follow-up methods include a combination of chemical and manual/mechanical management techniques. SWCA will conduct herbicide application to all invasive plants observed on-site during all follow-up management events, as detailed in Section 3 of this IPMS. SWCA will submit MassDOT Herbicide Use Reports within 2 weeks of any management event.

Full inspections will be conducted by SWCA during or immediately after the final management event of each year. Results of each inspection will determine the precise invasive plant management plan for the following year. However, the management methods outlined in this IPMS include the approved methods from which annual plans will be determined. A brief report will be submitted to Onyx Corporation and MassDOT upon request by the landscape architect, describing the state of invasive plant management and the precise plan for the upcoming management season. This report will include a marked-up figure (if requested) depicting the locations of invasive plant management and will detail the state of invasive plant presence in each treatment area. The goal for this invasive plant management plan is to reduce the cover of invasive plants within the construction limits of the project by 85% of their existing (preconstruction) footprint. General progress toward this goal will be reported in each annual summary report.

APPENDIX A

Invasive Plant Locations Map

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 57-64

DRAINAGE DETAILS

SEE SHEET NOS. 65-67

LEGEND:

PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

PROPOSED DRIVEWAY TYPE # DR#–#

NOTES:

1. ALL EXISTING GRANITE CURB WITHIN PROJECT LIMITS SHALL BE REMOVED & DISCARDED UNLESS OTHERWISE NOTED ON THE PLAN.
2. FOR GUARDRAIL DETAILS REFER TO STANDARD DETAILS 400.1.2, 400.1.3, 400.1.4, 400.1.5, 400.1.6, AND 400.5.1
3. ALL PROPOSED GRANITE CURB SHALL BE TYPE VB.
4. PRIOR TO CONSTRUCTION ACTIVITIES, A SITE WALK SHALL BE CONDUCTED WITH CONTRACTOR, ENGINEER, AND LANDSCAPE ARCHITECT TO DETERMINE SELECTIVE CLEARING AND THINNING OF TREES.
5. ALL PROPOSED CLEARING AND GRUBBING IS SHOWN WITH THE PROPOSED SLOPE LINE UNLESS OTHERWISE SHOWN.
6. LOCATIONS WHERE CLASS A ROCK EXCAVATION IS ENCOUNTERED NEAR GAS LINES, CONTRACTOR MUST ALSO PROVIDE VIBRATION MONITORING. (ITEM 757.)

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	9	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:58 AM

High Density Japanese knotweed, not likely to be eradicated.

Invasive Management limits are outlined in red.

LIMIT OF WORK
STA 205+00.00
N3012961.1405
E653254.4720

BEGINNING OF PROJECT
PROJ. NO. 609054
STA 0+00.00
N3012786.8847
E653296.9381

STA 203+20.63 ALIGN_TAYLOR = STA 0+00.00 ALIGN_FOSTER
N_3012786.8847 _E_653296.9381

DANIEL SWEENEY (CLASS A TRUSTEE)
ARTURO J. GUTIERREZ, JOHN A. CATALDO (CLASS B TRUSTEES)
TAYLOR STREET, LITTLETON TRUST
BK/PG 32096/213
PARCEL #R10 6 0
TAYLOR STREET

MHB FD NOEL RET.
MHB SB FD W/DH
MHB FD
RET.
RET. STONE WALL
RET. FENCE
RET. TREE
RET. STUMP
RET. SIGN
RET. MW
RET. EXIST. WALL & LANDSCAPE AREA
RET. EXISTING FENCE
BEGIN PROP. GRAN. CURB
PROP. RECTANGULAR RAPID FLASHING BEACON (RRFB)
PROP. CEM. CONC. PCR
PROP. CEM. CONC. SIDEWALK
PROP. TREE PROTECTION (TYP.)
RET. TREES (2)
PROP. TREE PROTECTION & CARE INCLUDING AIR EXCAVATION, ROOT PRUNING & WATERING
RETAIN BALANCE STONE WALL
PROP. LOAM & SEED
BEGIN REMOVE AND REBUILD BALANCE STONE WALL STA. 0+47
PROP. CEM. CONC. PCR
REM. TREE
R&R STONE BOUND (AS NEEDED)
PROP. LOAM & SEED
PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT
PROP. CLASS A ROCK EXCAVATION IN ADVANCE OF U.P. INSTALLATION (AS ENCOUNTERED)
OVERHEAD TREE TRIMMING 10' FROM PROP. OHW (TYP.)
PROP. PERM. UTL. EASEMENT
PROP. 10' SHARED-USE PATH
APPROX. SLOPE LIMIT
PROP. LOAM & SEED
R&R STONE WALL
PROP. TREE (SEE LANDSCAPING PLAN) - TYP.
PROP. TEMP. EASEMENT
PROP. PERM. UTL. EASEMENT
PROP. CEM. CONC. WALK
REM. TREE
REM. STUMP
REM. SIGN
PROP. CEM. CONC. PCR
PROP. RECTANGULAR RAPID FLASHING BEACON (RRFB)
PROP. CEM. CONC. PCR
END PROP. GRAN. CURB
PROP. TEMP. EASEMENT
PROP. PERM. UTL. EASEMENT
PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT
PROP. CEM. CONC. PCR
LIMIT OF PVM'T MILL & OVERLAY SAWCUT PVM'T MATCH EXISTING
PROP. TEMP. EASEMENT
PROP. PERM. UTL. EASEMENT
PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT
PROP. RAISED CONC. ISLAND
PROP. GRAN. CURB
LIMIT OF PVM'T RECONSTRUCTION SAWCUT PVM'T MATCH EXISTING
PROP. TEMP. EASEMENT
BEGIN PROP. GRAN. CURB
END PROP. GRAN. CURB
BEGIN HMA BERM TYPE A MODIFIED
STA. 4+21
PROP. LOAM & SEED
PROP. PVM'T MILL & OVERLAY
PROP. CEM. CONC. PCR
PROP. 10' CEM. CONC. SIDEWALK
PROP. CEM. CONC. PCR
PROP. CONC. BIKE RAMP (DIRECTIONAL BAR TILE OPTION)
PROP. LOAM & SEED
PROP. GRAN. CURB (FLUSH TRANSITION AT BIKE RAMP)
PROP. 6' HMA BIKE RAMP (PAID FOR UNDER ITEM 702.)
PROP. EDGE OF PVM'T
LIMIT OF PVM'T RECONSTRUCTION SAWCUT PVM'T STA. 1+00
RET. TREE
RET. STONE WALL
APPROX. SLOPE LIMIT
PROP. CEM. CONC. PCR
PROP. FULL DEPTH PVM'T RECONSTRUCTION
PROP. CEM. CONC. PCR
PROP. LOAM & SEED
BEGIN PROP. GRAN. CURB (FLUSH TRANSITION AT BIKE RAMP)
PROP. 6' HMA BIKE RAMP (PAID FOR UNDER ITEM 702.)
PROP. EDGE OF PVM'T
SAWCUT PVM'T
PROP. TEMP. EASEMENT
PROP. CEM. CONC. PCR
PROP. RECTANGULAR RAPID FLASHING BEACON (RRFB)
PROP. EDGE OF PVM'T
BEGIN PROP. GRAN. CURB (FLUSH TRANSITION AT BIKE RAMP)
PROP. 6' HMA BIKE RAMP (PAID FOR UNDER ITEM 702.)
PROP. LOAM & SEED
PROP. CONC. BIKE RAMP (DIRECTIONAL BAR TILE OPTION)
PROP. TEMP. EASEMENT
PROP. CEM. CONC. PCR
PROP. RECTANGULAR RAPID FLASHING BEACON (RRFB)
PROP. CEM. CONC. PCR
END PROP. GRAN. CURB
BEGINNING OF PROJECT
PROJ. NO. 609054
STA 0+00.00
N3012786.8847
E653296.9381

TAYLOR STREET (PUBLIC)
N 12° 51' 04" W 96.62'
PT +57.68
N 16° 52' 43" W 208.14'
PC +08.14
Δ=4° 01' 39" L=249.54' R=3550.00'
FOSTER STREET (PUBLIC)
N 70° 36' 10" E 403.30'
Δ=7° 27' 10" L=130.08' R=1000.00'
PC +03.30
CONSTRUCTION ℄
EDGE OF PAVEMENT
T.O.S.
B.O.S.
2018 TOWN LAYOUT
STONE WALL
WOODS
CB 3 RIM=332.13'
CB 2 RIM=332.72'
CB 1 RIM=332.18'
CB 4 RIM=335.95'
1959 SHLD. NO. 4858
1959 SHLD. NO. 4853
24" PINE
24" HW
42" MAP
STUMP
T.B.M. SPIKE IN U.P. #104 ELEV.=305.59
CONTINUED ON SHEET NO. 10
NAD 83
N

JOHN K. GRADY, TRUSTEE OF THE FOSTER/TAYLOR REALTY TRUST
BK/PG 25198/143
PLAN NO 228 OF 1992
PARCEL #R09 32 0
230 TAYLOR STREET

Low density bittersweet and multiflora rose

2641–2651 SANTA ANNA AVENUE, LLC
BK/PG 68756/572
PLAN NO 1425 OF 1981
PARCEL #R10 2 1
305 FOSTER STREET

JOHN K. GRADY & DAVID B. RICE, TRUSTEES OF CONCORD ASSOCIATES FOSTER STREET TRUST
BK/PG 14680/362
PLAN NO 1314 OF 1981
PARCEL #R09 33 0
300 FOSTER STREET

FOR PROFILE: SEE SHEET NO. 17

SCALE: 1" = 20'

* **Invasive population outside of temporary easement. Not to be treated**

** **Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

UPL 111

HIGHWAY GUARD DETAILS

STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 9+46 LT TO TANGENT END STA 10+84 LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 57-64

DRAINAGE DETAILS

SEE SHEET NOS. 65-67

LEGEND:

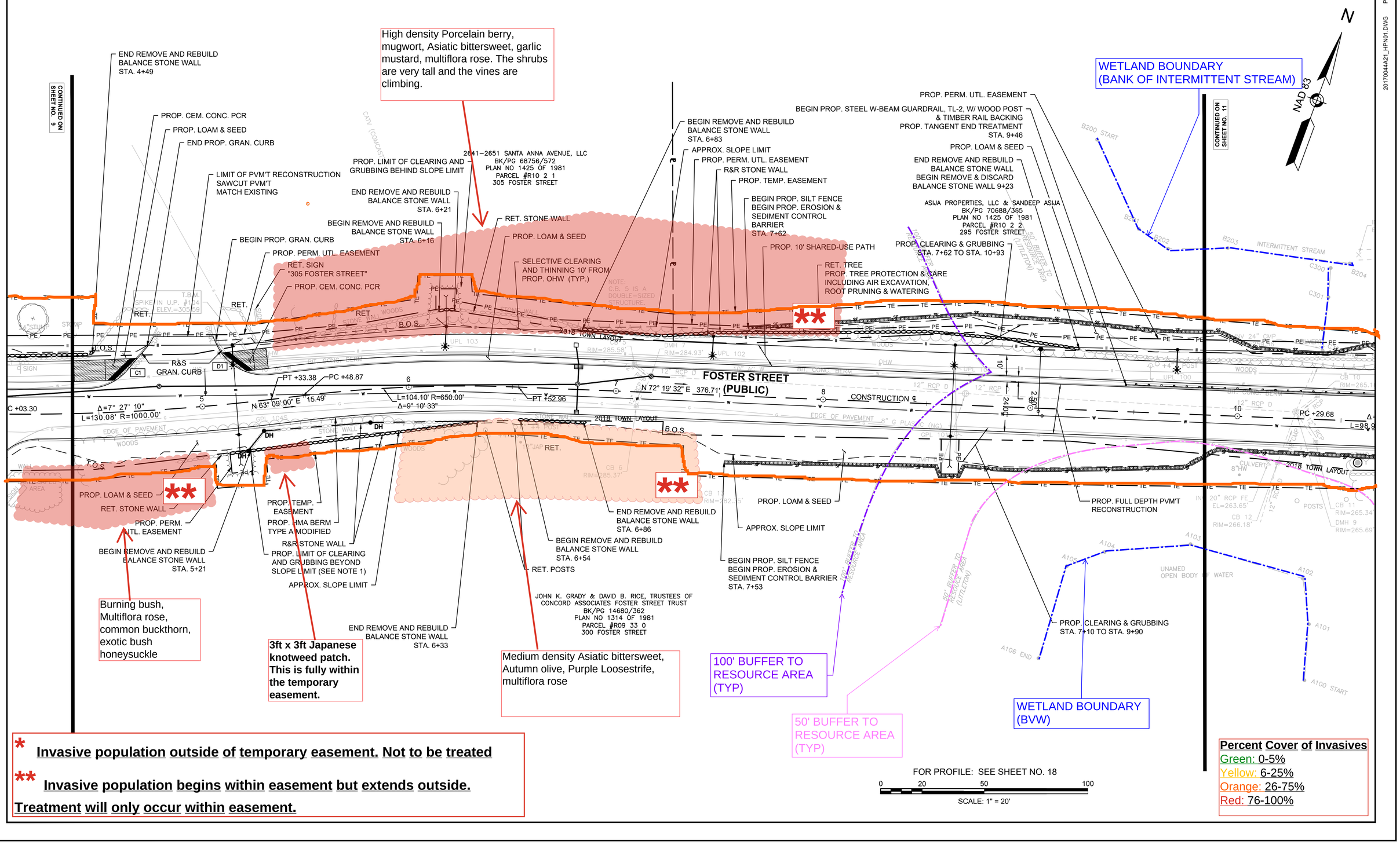
PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	10	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS



* **Invasive population outside of temporary easement. Not to be treated**

** **Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

FOR PROFILE: SEE SHEET NO. 18

0 20 50 100

SCALE: 1" = 20'

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

HIGHWAY GUARD DETAILS

STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 9+46 LT TO TANGENT END STA 10+84 LT

STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 11+83 LT TO TANGENT END STA 17+28 LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 57-64

DRAINAGE DETAILS

SEE SHEET NOS. 65-67

LEGEND:

PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	11	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS

N

NAD 83

WETLAND BOUNDARY (BANK OF INTERMITTENT STREAM)

Dense Asiatic bittersweet and multiflora rose.

Norway maple

Medium density glossy buckthorn and Asiatic bittersweet. Scattered plants.

WETLAND BOUNDARY (BVW)

ASIJA PROPERTIES, LLC & SANDEEP ASIJA
BK/PG 70688/365
PLAN NO 1425 OF 1981
PARCEL #R10 2 2
295 FOSTER STREET

CONTINUED ON SHEET NO. 10

CONTINUED ON SHEET NO. 12

END PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST
PROP. TANGENT END TREATMENT & TIMBER RAIL BACKING
STA. 10+84

PROP. PERM. UTL. EASEMENT

PRIVATE SIGN TO BE RELOCATED BY OWNER

PROP. TEMP. EASEMENT

PROP. PVM'T MILLING MULCH BENEATH GUARDRAIL (TYP., SEE TYP. SECTIONS)

PROP. LOAM & SEED

PROP. CLEARING & GRUBBING STA. 7+62 TO STA. 10+93

R&D EXIST. STONE WALL

END R&D STONE WALL AT TOWN LAYOUT LINE STA. 10+93

END PROP. SILT FENCE
END PROP. EROSION & SEDIMENT CONTROL BARRIER STA. 10+95

RET. STONE WALL

PROP. CEM. CONC. PCR

RET. SIGN

END PROP. GRAN. CURB

LIMIT OF PVM'T RECONSTRUCTION SAWCUT PVM'T MATCH EXISTING

RET. SIGN "295 FOSTER STREET"

BEGIN PROP. GRAN. CURB (MATCH EXIST. BIT. BERM)

RET. STONE WALL

BEGIN PROP. SILT FENCE
BEGIN PROP. EROSION & SEDIMENT CONTROL BARRIER STA. 11+77

BEGIN PROP. TIMBER RAIL FENCE STA. 11+77

PROP. CEM. CONC. PCR

BEGIN PROP. STEEL W-BEAM GUARDRAIL, TL-2,W/ WOOD POST & TIMBER RAIL BACKING
PROP. TANGENT END TREAMENT
STA. 11+83

RET. TREE
PROP. TREE PROTECTION & CARE INCLUDING AIR EXCAVATION, ROOT PRUNING & WATERING

BEGIN REMOVE AND REBUILD BALANCE STONE WALL STA. 11+93

PROP. PERM. UTL. EASEMENT

REM. TREE

PROP. LOAM & SEED

PROP. CLEARING & GRUBBING (STA. 11+77 TO STA. 19+05)

PROP. PVM'T MILLING MULCH BENEATH GUARDRAIL (TYP., SEE TYP. SECTIONS)

TREE TRIMMING 10' FROM PROP. OHW (TYP.)
STA. 11+70 TO 13+60

PROP. 10' SHARED-USE PATH

END PROP. TIMBER RAIL FENCE STA. 14+61

BEGIN REMOVE AND REBUILD BALANCE STONE WALL STA. 14+58

R&D PORTION OF EXIST. STONE WALL IN FRONT OF PROP. FENCE

PROP. PERM. UTL. EASEMENT

R&D ROW OF BOULDERS

SEE UTL PLAN

END REMOVE AND REBUILD BALANCE STONE WALL STA 14+08

PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT

SEE UTL PLAN

PROP. PERM. UTL. EASEMENT

R&R STONE WALL

APPROX. SLOPE LIMIT

PROP. FULL DEPTH PVM'T RECONSTRUCTION

FOSTER STREET (PUBLIC)

PC +29.68 | Δ=1° 25' 01" | L=98.93' R=4000.00' | PT +28.61

PC +80.50

N 70° 54' 31" E 151.90'

CONSTRUCTION ℄

RET. BERM

SAWCUT PVM'T

PROP. HMA BERM TYPE A MODIFIED

PROP. CLEARING & GRUBBING

PROP. LOAM & SEED

RET. STONE WALL

APPROX. SLOPE LIMIT

PROP. TEMP. EASEMENT

PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT

PROP. CLEARING & GRUBBING

RET. STONE WALLS

END HMA BERM TYPE A MODIFIED

PROP. HMA DRIVEWAY

Δ=35° 26' 20" L=315.49' R=510.00'

2018 TOWN LAYOUT

2015 TOWN LAYOUT

WETLAND BOUNDARY (BVW)

* **Invasive population outside of temporary easement. Not to be treated**

** **Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

Large Norway Maple

Medium high density of multiflora rose, mugwort and Asiatic bittersweet.

Small Japanese knotweed patch. 15ft x 5ft. Fully within easement.

Small Japanese knotweed patch. 5ft x 10ft. Fully within easement.

Medium high density of bush honeysuckle, garlic mustard, glossy buckthorn, common buckthorn, and Norway maple. Low density of purple loosestrife.

100' BUFFER TO RESOURCE AREA (TYP)

50' BUFFER TO RESOURCE AREA (TYP)

JOHN K. GRADY & DAVID B. RICE, TRUSTEES OF CONCORD ASSOCIATES FOSTER STREET TRUST
BK/PG 14680/362
PLAN NO 1314 OF 1981
PARCEL #R09 33 0
300 FOSTER STREET

ANTHONY J. RIZZOLO, JR. & JOSEPHINE RIZZO
BK/PG 17691/108
PLAN NO 831 OF 1973
PARCEL #R09 5 0
290 FOSTER STREET

FOR PROFILE: SEE SHEET NO. 19

0 20 50 100
SCALE: 1" = 20'

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:59 AM

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 11+94 TO TANGENT END STA 17+28	NONE	SEE SHEET 57-64	SEE SHEET NOS. 65-67

LEGEND:

PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	12	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:59 AM

NAD 83

Medium density of Burning Bush, Japanese barberry, bush honeysuckle.

Medium high density of Asiastic bittersweet, glossy buckthorn, bush honeysuckle, and autumn olive.

Low density of Asiatic bittersweet and garlic mustard.

Medium density of Asiatic bittersweet and garlic mustard.

WETLAND BOUNDARY (BVW)

50' BUFFER TO RESOURCE AREA (TYP)

100' BUFFER TO RESOURCE AREA (TYP)

ASIJA PROPERTIES, LLC & SANDEEP ASIJA
BK/PG 70688/365
PLAN NO 1425 OF 1981
PARCEL #R10 2 2
295 FOSTER STREET

JORDAN S. MCCATHERIN
BK/PG 62917/52
PARCEL #R10 1 0
277 FOSTER STREET

GREGORY & SHERI BALZOTTI
BK/PG 50902/470
PLAN NO 831 OF 1973
PARCEL #R09 5 E
284 FOSTER ST

JOSEPH W. & AMANDA LENNON, LIVING TRUSTEES OF THE AMANDA+JOSEPH LENNON LIVING TRUST
BK/PG 64219/262
PLAN NO 1628 OF 1972
PARCEL #R09 5 A
3 BULKELEY ROAD

FOSTER STREET (PUBLIC)

BULKELEY ROAD (PUBLIC)

CONTINUED ON SHEET NO. 11

CONTINUED ON SHEET NO. 13

* **Invasive population outside of temporary easement. Not to be treated**

** **Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

HIGHWAY GUARD DETAILS

STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 21+22 RT TO CONCRETE ABUTMENT STA 23+34 RT

STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 23+26 LT TO TANGENT END STA 26+04 LT

STEEL W-BEAM GUARDRAIL (TL-2) W/ WOOD POST & TANGENT END STA. 24+52 RT TO TANGENT END STA 25+62 RT

WATER SUPPLY ALTERATIONS

SEE SHEET 57-64

TRAFFIC SIGNAL CONDUIT

NONE

DRAINAGE DETAILS

SEE SHEET NOS. 65-67

LEGEND:

PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

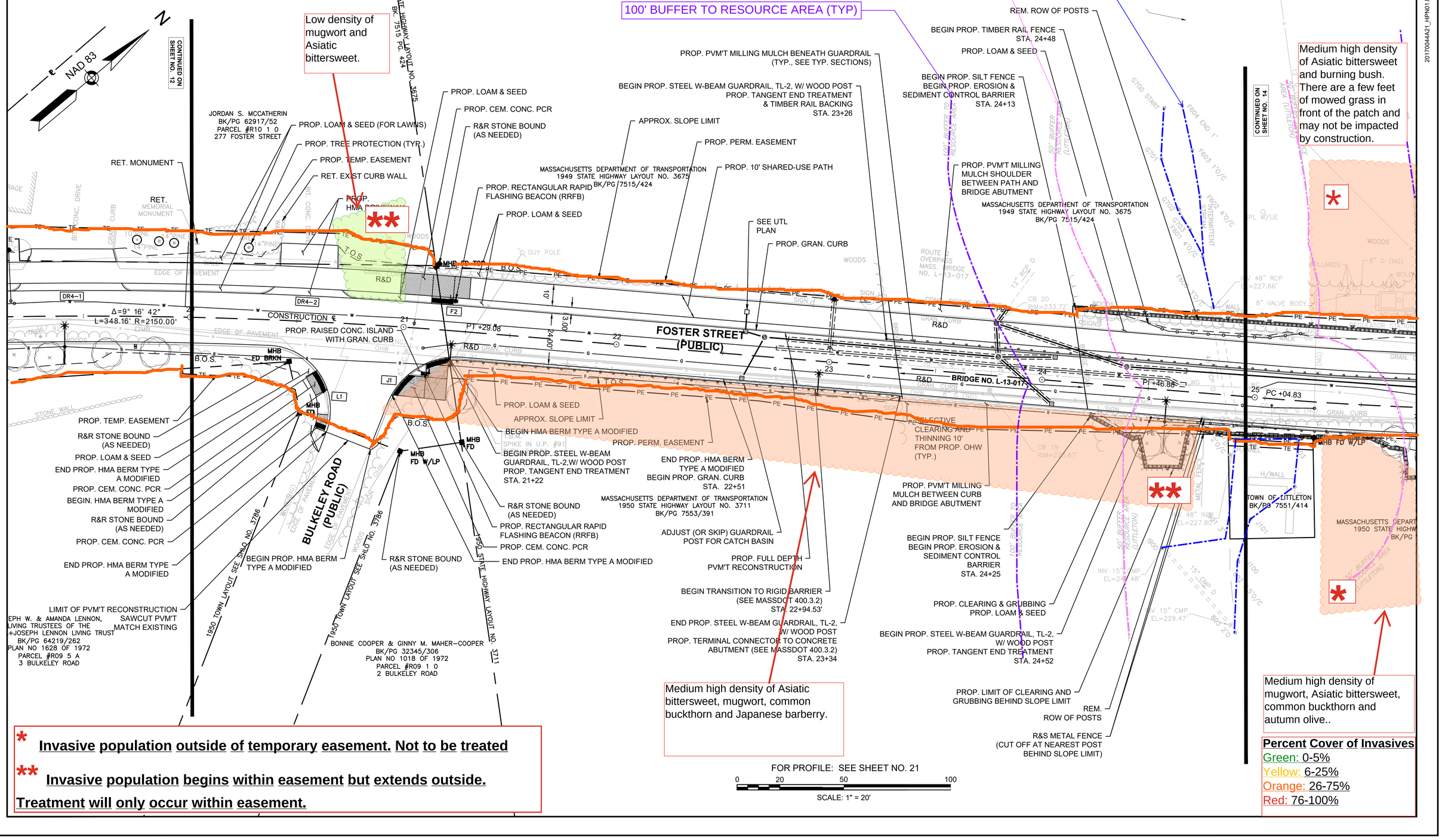
PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	13	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:59 AM



*** Invasive population outside of temporary easement. Not to be treated**

**** Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

ATER SUPPLY ALTERATIONS
SEE SHEET 57-64
RAFFIC SIGNAL CONDUIT
NONE

DRAINAGE DETAILS
SEE SHEET NOS. 65-67

LEGEND:
PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#
PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	14	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS

Medium high density of Asiatic bittersweet and burning bush. There are a few feet of mowed grass in front of the patch and may not be impacted by construction.

50' BUFFER TO RESOURCE AREA (TYP)

100' BUFFER TO RESOURCE AREA (TYP)

Medium high density of Asiatic bittersweet. There are a few feet of mowed grass in front of the patch and may not be impacted by construction.

CONTINUED ON SHEET NO. 13

END PROP. STEEL W-BEAM GUARDRAIL, TL-2,W/ WOOD POST & TIMBER RAIL BACKING
PROP. TANGENT END TREATMENT
STA. 26+04

PROP. CEM. CONC. PCR

PROP. 10' SHARED-USE PATH

RET. GAS REGULATOR STATION & EXIST BOLLARDS

PROP. PVM'T MILLING MULCH BENEATH GUARDRAIL (TYP., SEE TYP. SECTIONS)

PROP. LOAM & SEED

RET. SIGN

RET.

APPROX. SLOPE LIMIT

SEE UTL PLAN

END PROP. TIMBER RAIL FENCE STA. 25+22

PROP. PERM. EASEMENT

REM. ROW OF POSTS

1949 STATE HIGHWAY LAYOUT NO. 3675 BK. 7515 PG. 424

VAF I 265 FOSTER LLC
BK/PG 80433/278
PLAN NO 266 OF 1987
PARCEL #R11 1 0
265 FOSTER STREET

END PROP. SILT FE
END PROP. EROSIO
STA. 26+14

END PROP. GRA
PROP. PERM
PROP. TEMP. EASEMENT

LIMIT OF PVM'T RECONSTRUCTION
SAWCUT PVM'T
MATCH EXISTING

BEGIN PROP. GRAN. CURB

RET. PRIVATE SIGN
"STONEYARD.COM"
"NEW ENGLAND STONE VENEER"
"BMS CAT"

PROP. CEM. CONC. PCR

RET. POLE
RET. PIPE
REM. HMA PVM'T & WALK
PROP. LOAM & SEED

PROP. CEM. CONC. PCR
END PROP. GRAN. CURB

SEE UTIL. PLAN

PROP. TEMP EASEMENT

NAD 83

JUNE 30, 1914 RAILROAD SIDELINE

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (f/ BOSTON & MAINE RAILROAD)

PROP. HMA PATH THROUGH RR
BEGIN PROP. GRAN. CURB

(MBTA)
BK/PG 13117/113
PARCEL #R11 2 0

UTIL. PLAN
OP. CEM. CONC. PCR
EGIN PROP. TIMBER FENCE
STA. 28+00
REMOVE HMA PVM'T & CEM. CONC. WALK

SAWCUT & MATCH EXIST.

END PROP. TIMBER FENCE STA. 28+52

RET.

2018 TOWN LAYOUT

MASSACHUSETTS BAY TRANSORTATION AUTHORITY
(PARCEL FBL 3-A)
BK/PG 57072/384
BK/PG 57072/376
PLAN NO 435 OF 2011
PARCEL #R11 3 5
263 FOSTER STREET

PROP. TEMP EASEMENT
PROP. LOAM & SEED
RETAIN CEM. CONC. WALK
SAWCUT & MATCH EXIST.
PROP. CEM. CONC. WALK
R&R PRIVATE SIGN (B.O.) "COMMUTER RAIL PARKING ONLY"
PROP. LOAM & SEED
PROP. CEM. CONC. PCR
END PROP. GRAN. CURB

MASSACHUSETTS BAY TRANSORTATI
(PARCEL FBL 3-B)
BK/PG 57072/384
BK/PG 57072/376
PLAN NO 435 OF 20
PARCEL #R11 3 5
263 FOSTER STREE

LIMIT OF FULL DEPTH PVM'T RECONSTRUCTION
SAWCUT PVM'T
MATCH EXISTING
BEGIN PROP. GRAN. CURB
PROP. LOAM & SEED
PROP. STONE FOR PIPE ENDS IN SWALE
PROP. CEM. CONC. PCR
PROP. TEMP EASEMENT
APPROX. SLOPE LIMIT

PT +46.88
PC +04.83
PT +57.06
CONSTRUCTION ℄
FOSTER STREET (PUBLIC)
B.O.S.
RET.
PROP. FULL DEPTH PVM'T RECONSTRUCTION
SAWCUT PVM'T LIMIT OF RECONSTRUCTION
PROP. CLEARING & GRUBBING APPROX. STA. 28+20 TO STA. 37+60
APPROX. SLOPE LIMIT
PROP. TREE (SEE LANDSCAPING PLAN) - TYP.
PROP. SILT FENCE
BEGIN PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST, DEEP POST
PROP. TANGENT END TREATMENT
STA. 28+49
R&R 5 MAILBOXES

END PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST
PROP. TANGENT END TREATMENT
STA. 25+62
REM. ROW OF POSTS
R&R STONE BOUND (AS NEEDED)
PROP. TREE (SEE LANDSCAPING PLAN) - TYP.
PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT

TOWN OF LITTLETON
BK/PG 7551/414

RET. POSTS
R&D
PROP. FULL DEPTH PVM'T RECONSTRUCTION

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
1950 STATE HIGHWAY LAYOUT NO. 3711
BK/PG 7553/391

R&R ROW OF BOULDERS TO PREVENT VEHICLE ACCESS TO GRAVEL LOT (2' OFFSET FROM BACK OF CURB)

END PROP. SILT FENCE
END PROP. EROSION & SEDIMENT CONTROL BARRIER
STA. 26+23

BEGIN PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST
PROP. TANGENT END TREATMENT
STA. 300+48

END PROP. HMA BERM TYPE A MODIFIED

R&D EXIST. GUARDRAIL (ALONG GRIMES LANE)

RET. EXIST. PAVED AREA

END PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST
PROP. TANGENT END TREATMENT
STA. 301+41

R&R EXIST. RAILROAD GATE (B.O.)
R&R EXIST. CONC. BARRIER
END PROP. HMA BERM TYPE A MODIFIED
STA. 27+14
RET. EXIST. HMA & R.R. TRACKS
BEGIN PROP. HMA BERM TYPE A MODIFIED
STA. 27+62
PROP. TEMP. EASEMENT
REM. EXIST. PAVEMENT
PROP. LOAM & SEED

1951 STATE HIGHWAY LAYOUT NO. 3711

(MBTA)
BK/PG 13117/113
PARCEL #R08 37 0

SAWCUT PVM'T

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (f/ BOSTON & MAINE RAILROAD)

GRIMES LANE (PUBLIC)

PT +65.58
301+95.23

RELOCATED RAILROAD GATE (SEE UTIL. PLAN)
PROP. LOAM & SEED
EDGE OF PAVEMENT
REM. TREE

PC +87.53

CONSTRUCTION ℄

CONTRACTOR TO STABILIZE EXISTING BOULDERS ALONG PVM'T EDGE (USE WORK ITEM. 691.01)
SUPPLEMENT BOULDERS WITH MODIFIED ROCK FILL AS NEEDED (ITEM 986.)
USE COMPOST FILL COVER AND SEED ITEM 765.490
APPROX. STA. 300+60 TO STA. 301+41

PROP. CLEARING & GRUBBING
PROP. TEMP. EASEMENT

BEGIN PROP. LAYOUT ALTERATION
PROP. GRAN. BOUND
LIMIT OF PVM'T RECONSTRUCTION
SAWCUT PVM'T
MATCH EXISTING
STA. 301+45

BEGIN PROP. SILT FENCE
BEGIN PROP. EROSION & SEDIMENT CONTROL BARRIER
STA. 301+65

LITTLETON AFFORDABLE HOUSING TRUST FUND
BK/PG 82357/132
PARCEL #R08 15 0
260 FOSTER STREET

END PROP. LAYOUT ALTERATION
PROP. GRAN. BOUND

STA 28+17.86 ALIGN_FOSTER
STA 300+00.00 ALIGN_GRIMES
N 3014325.4137 E 655545.0384

CONTINUED ON SHEET NO. 15

WETLAND BOUNDARY (BVW)

Medium density of Mugwort, Asiatic bittersweet, common buckthorn and autumn olive.

Medium density of common buckthorn, Asiatic bittersweet, purple loosestrife and multiflora rose.

Medium density of bush honeysuckle, mugwort, Asiatic bittersweet, purple loosestrife and leafy spurge.

WETLAND BOUNDARY (BANK OF INTERMITTENT STREAM)

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

FOR PROFILE: SEE SHEET NO. 21, 22 & 24

0 20 50 100
SCALE: 1" = 20'

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:59 AM

*** Invasive population outside of temporary easement. Not to be treated**

**** Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

WATER SUPPLY ALTERATIONS

SEE SHEET 57-64

TRAFFIC SIGNAL CONDUIT

NONE

DRAINAGE DETAILS

SEE SHEET NOS. 65-67

LEGEND:

PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	15	128
	PROJECT FILE NO.	609054	

CONSTRUCTION PLANS

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:59 AM

NAD 83

N

CONTINUED ON SHEET NO. 14

CONTINUED ON SHEET NO. 16

MASSACHUSETTS BAY TRANSORTATION AUTHORITY (PARCEL FBL 3-A) BK/PG 57072/384 BK/PG 57072/376 PLAN NO 435 OF 2011 PARCEL #R11 3 5 263 FOSTER STREET

MASSACHUSETTS BAY TRANSORTATION AUTHORITY (PARCEL FBL 3-B) BK/PG 57072/384 BK/PG 57072/376 PLAN NO 435 OF 2011 PARCEL #R11 3 5 263 FOSTER STREET

SNS FOSTER, LLC & C/O ROBERT LONG BK/PG 72045/170 PLAN NO 435 OF 2011 PARCEL #R11 3 0 245 FOSTER STREET

LITTLETON AFFORDABLE HOUSING TRUST FUND BK/PG 82357/132 PARCEL #R08 15 0 260 FOSTER STREET

RICHARD B. VIGNONE BK/PG 13250/70 PLAN NO 847 OF 1969 PARCEL #R08 13 242 FOSTER STREET

FOSTER STREET (PUBLIC)

CONSTRUCTION ℄

R&R STONE BOUND (AS NEEDED)

BEGIN PROP. GRAN. CURB

LIMIT OF PVM'T RECONSTRUCTION SAWCUT PVM'T MATCH EXISTING

END PROP. GRAN. CURB

PROP. CEM. CONC. PCR

PROP. TEMP. EASEMENT

PROP. STONE FOR PIPE ENDS IN SWALE

PROP. MODIFIED ROCKFILL FOR SLOPES ADJENT TO SWALE WHERE 2:1 OR STEEPER

PROP. LOAM & SEED

R&D BOULDERS

PROP. STONE FOR PIPE ENDS IN SWALE

RET. CONC. PAD

PROP. TEMP. EASEMENT

R&D EXIST. GUARDRAIL

APPROX. SLOPE LIMIT

PROP. LOAM & SEED

PROP. TREE (SEE LANDSCAPING PLAN) - TYP.

PROP. FULL DEPTH PVM'T RECONSTRUCTION

BEGIN PROP. HMA BERM TYPE A MODIFIED

PROP. COMPOST FILL COVER & SEED OVER PROP. MODIFIED ROCKFILL WITH GEOTEXTILE FABRIC (ITEM 986) PROP. NEW ENGLAND ROADSIDE WET MEADOW SEED MIX

PROP. SILT FENCE

PROP. EROSION & SEDIMENT CONTROL BARRIER (TYP.)

APPROX. SLOPE LIMIT

PROP. CLEARING & GRUBBING STA. 28+20 TO STA. 37+60

END PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST, DEEP POST PROP. FLARED END TREATMENT (SEE NOTE) STA. 32+83

RET. STONE WALL

PROP. TEMP. EASEMENT

PROP. PERM. EASEMENT

PROP. CLEARING & GRUBBING STA. 32+40 TO S

APPROX. SLOPE LIMIT

SELECTIVE CLEARING AND THINNING 10' FROM PROP. OHW (TYP.)

PROP. 10' SHARED-USE PATH

PROP. LOAM & SEED

REM. TREE

RET. TREE

RET. POST

RET. STONE WALLS

R&R MAILBOX

PROP. LOAM & SEED (FOR LAWNS)

PROP. HMA DRIVEWAY

PROP. TEMP. EASEMENT

END PROP. SILT FENCE
END PROP. EROSION & SEDIMENT CONTROL BARRIER
STA. 33+84

RET. STONE WALL

PC +86.16

T.B.M. SPIKE IN U.P. ELEV.=266.98

2018 TOWN LAYOUT

100' BUFFER TO RESOURCE AREA

50' BUFFER TO RESOURCE AREA (LITTLETON)

50' BUFFER TO RESOURCE AREA

WETLAND BOUNDARY (BVW)

WETLAND BOUNDARY (BVW)

NOTE: NO RECORD OF WATER LINE NORTHEAST OF THIS HYDRANT. WATER LINE IS BELIEVED TO CONTINUE AND IS SHOWN SCHEMATICALLY FOR ILLUSTRATIVE PURPOSES ONLY.

NOTE: GAS LINE RECORDS NORTHEAST OF THIS VICINITY ARE SCHEMATIC AND ARE SHOWN SCHEMATICALLY, FOR ILLUSTRATIVE PURPOSES ONLY.

High density large patch of Japanese knotweed. Starts about 6 ft off of the road. The patch is at least 10 ft deep. This is unlikely to be eradicated within the boundaries of this project.

Medium density of Autumn olive and Asiatic bittersweet.

Medium high density patch of Japanese knotweed. 3ft x 15ft. Starts 6 ft off of the road.

Medium density of burning bush.

10ft x 10ft patch of Japanese knotweed. Fully within easement.

Medium high density of multiflora rose.

High density of Japanese knotweed. 20ft x 15ft patch.

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

FOR PROFILE: SEE SHEET NO. 22 & 23

0 20 50 100

SCALE: 1" = 20'

*** Invasive population outside of temporary easement. Not to be treated**

**** Invasive population begins within easement but extends outside. Treatment will only occur within easement.**

WATER SUPPLY ALTERATIONS
SEE SHEET 57-64

DRAINAGE DETAILS
SEE SHEET NOS. 65-67

LEGEND:

PROPOSED PEDESTRIAN CURB RAMP DETAIL # X#

PROPOSED DRIVEWAY TYPE # DR#

LITTLETON
RECONSTRUCTION OF FOSTER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP/CMQ/TAP-0033(037)X	16	128
PROJECT FILE NO.	609054		

CONSTRUCTION PLANS

20170044A21_HPN01.DWG Plotted on 27-Mar-2024 9:59 AM

Low density of burning bush, garlic mustard, glossy buckthorn, common buckthorn, and Asiatic bittersweet.

NAD 83

PATRICIA A. NARGIZIAN
BK/PG 70735/467
PARCEL #R11 5 4
237 FOSTER STREET

CONTINUED ON SHEET NO. 15

PROP. LIMIT OF CLEARING AND GRUBBING BEHIND SLOPE LIMIT

PROP. CLASS A ROCK EXCAVATION IN ADVANCE OF U.P. INSTALLATION (AS ENCOUNTERED)

SNS FOSTER, LLC & C/O ROBERT LONG
BK/PG 72045/170
PLAN NO 435 OF 2011
PARCEL #R11 3 0
245 FOSTER STREET

PROP. GRAN. CURB

PROP. CLEARING & GRUBBING STA. 32+40 TO STA. 38+75

PROP. CEM. CONC. PCR

PROP. RECTANGULAR RAPID FLASHING BEACON (RRFB)

PROP. LOAM & SEED

PROP. 6' HMA BIKE RAMP (PAID FOR UNDER ITEM 702.)

END OF PROJECT
PROJ. NO. 609054
STA. 39+36.15
N 3015278.1762
E 656130.7752

NOTE: C.B. 34 IS A DOUBLE-SIZED STRUCTURE.

PROP. CLASS A ROCK EXCAVATION IN ADVANCE OF U.P. INSTALLATION (AS ENCOUNTERED)

Invasive Stockpile Location

PROP. LOAM & SEED

PROP. FULL DEPTH PVM'T RECONSTRUCTION

SELECTIVE CLEARING AND THINNING 10' FROM PROP. OHW (TYP.)

PROP. 10' SHARED-USE PATH

APPROX. SLOPE LIMIT

PROP. CLASS A ROCK EXCAVATION IN ADVANCE OF U.P. INSTALLATION (AS ENCOUNTERED)

NOTE: C.B. 32 IS A DOUBLE-SIZED STRUCTURE.

BEGIN PROP. GRAN. CURB

END PROP. GRAN. CURB

2018 TOWN LAYOUT

T.O.S.

B.O.S.

PC +06.15

Δ=9° 19' 15"
L=105.74' R=650.00'

PT +11.89
N 37° 31' 9" E 86.75'

39+98.64

FOSTER STREET (PUBLIC)

N 28° 12' 04" E

PT +90.37

Δ=3° 56' 00"
L=204.20' R=2974.57'

CONSTRUCTION ℄

PC +86.16

2018 TOWN LAYOUT

PROP. CLEARING & GRUBBING STA. 28+20 TO STA. 37+60

LIMIT OF PVM'T RECONSTRUCTION
SAWCUT PVM'T
MATCH EXISTING

END PROP. HMA BERM TYPE A MODIFIED

PROP. LOAM & SEED (FOR LAWNS)

BEGIN PROP. HMA BERM TYPE A MODIFIED

PROP. HMA DRIVEWAY

END PROP. GRAN. CURB

R&R MAILBOX

QUINN E. & JENNIFER A. CANFIELD
BK/PG 55588/290
PLAN NO 188 OF 1971
PARCEL #R08 13 D
238 FOSTER STREET

PROP. RECTANGULAR RAPID FLASHING BEACON (RRFB)

PROP. PERM. UTL. EASEMENT

PROP. CEM. CONC. PCR

PROP. LOAM & SEED (FOR LAWNS)

PROP. CEM. CONC. WALK

PROP. LOAM & SEED

BEGIN PROP. GRAN. CURB AND R&S EXIST. GRAN . CURB

PROP. TEMP. EASEMENT

LIMIT OF PVM'T RECONSTRUCTION
SAWCUT PVM'T
MATCH EXISTING

BALSAM LANE (PUBLIC)

2020 TOWN LAYOUT

RET. STONE WALL

BEGIN REMOVE AND REBUILD BALANCE STONE WALL STA. 35+19

PROP. TEMP. EASEMENT

PROP. LOAM & SEED

END REMOVE AND REBUILD BALANCE STONE WALL STA. 35+49

BEGIN PROP. STEEL W-BEAM GUARDRAIL, TL-2, W/ WOOD POST
PROP. TANGENT END TREAMENT (SEE NOTE)
STA. 35+90

RET. STONE WALL

NOTE: NO RECORD OF WATER LINE CONFIGURATION IN THIS AREA. WATER LINE IS SHOWN SCHEMATICALLY FOR ILLUSTRATIVE PURPOSES ONLY.

RICHARD B. VIGNONI
BK/PG 13250/70
PLAN NO 847 OF 1969
PARCEL #R08 13 E
242 FOSTER STREET

END PROP. STEEL W-BEAM GUARDRAIL , TL-2, BEGIN TRANSITION TO NCHRP 350 GUARDRAIL
STA. 36+86.

END TRANSITION TO NCHRP 350 GUARDRAIL
BEGIN RET. EXIST GUARDRAIL
STA. 37+20.

APPROX. SLOPE LIMIT

PROP. LOAM & SEED

BEGIN REMOVE AND REBUILD BALANCE STONE WALL STA. 37+28

END REMOVE AND REBUILD BALANCE STONE WALL STA. 37+40

RET. EXIST. GUARDRAIL

PROP. TEMP. EASEMENT

END PROP. HMA BERM TYPE A MODIFIED
BEGIN R&R GRAN. CURB
STA. 37+68

END R&R GRAN. CURB
BEGIN RET. GRAN. CURB

100' BUFFER TO RESOURCE AREA (TYP)

High density patch of Japanese knotweed. 15 ft x 5 ft. Likely able to be eradicated.

Low density of garlic mustard and multiflora rose.

Percent Cover of Invasives
Green: 0-5%
Yellow: 6-25%
Orange: 26-75%
Red: 76-100%

FOR PROFILE: SEE SHEET NO. 23

0 20 50 100
SCALE: 1" = 20'

APPENDIX B

Photographs

Photo Number: 1

Direction: SE

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Large Norway Maple

Photo Number: 2

Direction: SE

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Climbing Asiatic bittersweet.

Photo Number: 3

Direction: Down

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Small patch of Japanese knotweed near STA 5 + 50

Photo Number: 4

Direction: SE

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density of multiflora rose, Asiatic bittersweet and autumn olive.

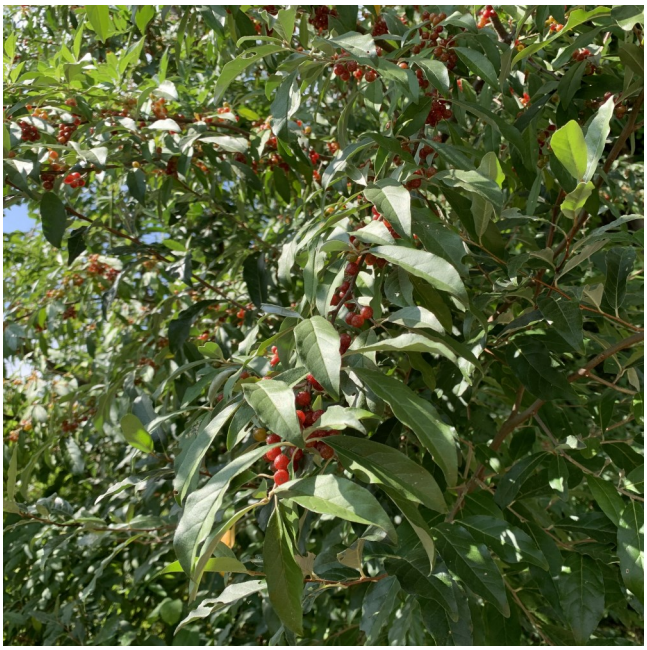


Photo Number: 5

Direction: SW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Large autumn olive shrub.

Photo Number: 6

Direction: SW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Large Japanese knotweed patch growing along Taylor Street.

Photo Number: 7

Direction: W

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Large Japanese knotweed patch growing along Taylor Street.

Photo Number: 8

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Low density of Asiatic bittersweet and garlic mustard by STA 6.

Photo Number: 9

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density of Asiatic bittersweet and buck-thorn by STA 6 +15.

Photo Number: 10

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density of climbing Asiatic bittersweet by STA 6 + 25.

Photo Number: 11

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density of Asiatic bittersweet extending past the project boundaries by STA 7.

Photo Number: 12

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density of climbing Asiatic bittersweet and porcelain berry between STA 7 and 8.

Photo Number: 13

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Close up of porcelain berry.

Photo Number: 14

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Close up of porcelain berry and multiflora rose.

Photo Number: 15

Direction: W

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density climbing Asiatic bittersweet.

Photo Number: 16

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium high density climbing Asiatic bittersweet.

Photo Number: 17

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density climbing Asiatic bittersweet.

Photo Number: 18

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density Asiatic bittersweet and glossy buckthorn.

Photo Number: 19

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density burning bush near STA 24 + 50.

Photo Number: 20

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density Japanese knotweed patch near STA 33.

Photo Number: 21

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density Japanese knotweed near STA 34.

Photo Number: 22

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density of glossy buckthorn and multiflora rose near STA 38.

Photo Number: 23

Direction: SE

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density Japanese knotweed near STA 36.

Photo Number: 24

Direction: SE

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density Japanese knotweed near STA 36.

Photo Number: 25

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density garlic mustard, glossy buckthorn and bush honeysuckle near STA 38.

Photo Number: 26

Direction: W

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density Japanese knotweed patch.

Photo Number: 27

Direction: NW

Photographer: Adriana Hughes

Date: 8.30.24

Comments: Medium density garlic mustard, glossy buckthorn and bush honeysuckle extending outside the project boundaries near STA 38.

Photo Number: 28

Direction: SE

Photographer: Adriana Hughes

Date: 8.30.24

Comments: High density Japanese knotweed patch near STA 32 + 50.

APPENDIX C

MassDOT Herbicide Use Report Form

MassDOT Herbicide Use Report

Date Submitted:

Use multiple sheets for multiple application techniques or sites as needed.

Contractor Performing Work:

Project or Contract No:

Town/s:

Associated Route:

Project Description:

Treatment Description:

Area Treated (as applicable)

Acres: **Sq Yds:** **Miles:**

Weeds Targeted:

Gallons Formula Used:

Date/Time Began:

Application Method:

Date/Time End:

Product Used:

Name: _____	Name: _____	Name: _____
EPA Reg. No: _____	EPA Reg. No: _____	EPA Reg. No: _____
% Active Ingredient	% Active Ingredient	% Active Ingredient
Dry: _____	Dry: _____	Dry: _____
Liquid: _____	Liquid: _____	Liquid: _____
Formulation (dilution rate): _____	Formulation (dilution rate): _____	Formulation (dilution rate): _____

Additional products used (surfactants, etc.) or other information:

Applicators:	**License Numbers:**

Upon completion, please submit form to MassDOT District Engineer and Landscape Design Section in Boston office.

11-16-2017