



Conservation Commission AGENDA

Thursday, October 24, 2024 - 6:00 PM

Regular Meeting
Agawam Senior Center
954 Main Street
Agawam, MA 01001

A. Conservation Commission

- 1) 6:00PM PUBLIC HEARING-NOTICE OF INTENT-250 Suffield Street-Ekstrom & Hoyle
- 2) 6:10PM REQUEST FOR DETERMINATION OF APPLICABILITY-409, 411, 421, 427 Southwick Street-Cascop & Metz
- 3) PUBLIC HEARING CONT.-ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION-1485 Suffield Street-Atrium Property Services
- 4) PUBLIC HEARING CONT.-NOTICE OF INTENT-1422, 1444 Main Street, Main Street & Rear Main Street-Shield Hotels
- 5) PUBLIC HEARING CONT.-NOTICE OF INTENT-Westfield River Interceptor Sewer Relocation Project-Agawam DPW
- 6) PUBLIC HEARING CONT.-NOTICE OF INTENT-1014 North Street Ext.-VIP Homes & Associates, LLC
- 7) Request to Extend the Order of Conditions-233, 265, & Lot 6 Main Street-H.P. Hood
- 8) ENFORCEMENT ORDER UPDATES
- 9) APPROVAL OF MINUTES-October 10, 2024
- 10) Correspondence & Complaints



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE
436 DWIGHT STREET, SPRINGFIELD, MA 01103 413-784-1100

MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lieutenant Governor

REBECCA L. TEPPER
Secretary

BONNIE HEIPLE
Commissioner

DATE: October 9, 2024

Municipality AGAWAM
(city/town)

RE: NOTIFICATION OF WETLANDS PROTECTION ACT FILE NUMBER

The Department of Environmental Protection has received a Notice of Intent filed in accordance with the Wetlands Protection Act (M.G.L. c. 131, §40):

Applicant:	KAYLA & ROBERT EKSTROM & HOYLE	Owner:	ROBERT HOYLE
Address:	250 SUFFIELD STREET AGAWAM, MA 01001	Address:	250 SUFFIELD STREET AGAWAM, MA, 01001
LOCUS:	250 SUFFIELD STREET		

This project has been assigned the following file # : WE 087-0703

A FILE NUMBER ONLY INDICATES THAT THE APPLICATION CONTAINS THE MINIMAL SUBMITTAL REQUIREMENTS AND IS ADMINISTRATIVELY COMPLETE - NOT THAT THE INFORMATION IN THE APPLICATION IS ADEQUATE FOR ISSUANCE OF AN ORDER OF CONDITIONS.

Although a file # is being issued, please note the following:

The Commission should note the provisions of 310 CMR 10.53(1) which in part states "... Conditions may include limitations on the scope and location of work in the Buffer Zone as necessary to avoid alteration of Resource Areas. The Issuing Authority may require erosion and sedimentation controls during construction, a clear limit of work, and the preservation of natural vegetation adjacent to the Resource Area and/or other measures commensurate with the scope and location of the work within the Buffer Zone to protect the interests of M.G.L. c. 131, § 40."

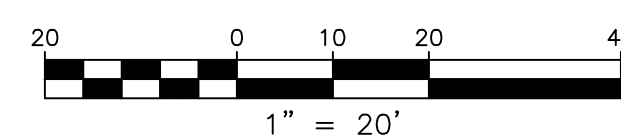
If you have any questions regarding this letter, please contact: MARK STINSON @ (413)-961-9583

Cc: Agawam Conservation Commission, TOWN HALL, 36 MAIN STREET, Agawam, MA, 01001
Owner: ROBERT HOYLE, 250 SUFFIELD STREET, AGAWAM, MA, 01001
Representative: R LEVESQUE ASSOCIATES, INC., 40 SCHOOL STREET, WESTFIELD, MA, 01085

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.



KAYLA & ROBERT EKSTROM & HOYLE
250 SUFFIELD STREET
AGAWAM, MA 01001



Suffield Street

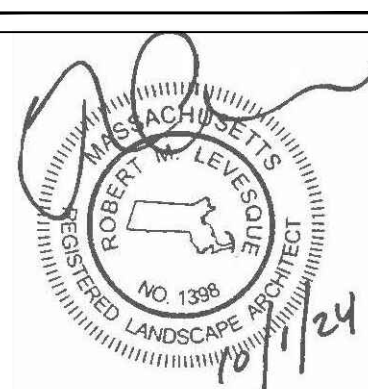
- REGRADE TO CREATE GUTTER LINE. CONTRACTOR
TO COORDINATE WITH AGAWAM DPW AND
ENGINEERING DEPT. PRIOR TO CONSTRUCTION

1. THE RECORD OWNER OF THE SUBJECT PARCEL IS ROBERT M HOYLE. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK 21816 PAGE 10.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON A PLAN TITLED, "SUBDIVISION OF PROPERTY FOR THOMAS RUSSO, JR" PREPARED BY D.L. BEAN, INC., DATED 3/10/1987. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK 249 PAGE 21.
3. THE EXISTING BUILDING(S) SHOWN HEREON ARE BASED ON AN APPROXIMATE MEASUREMENT OF THE OUTSIDE PERIMETER OF THE EXISTING STRUCTURES. THE ACTUAL LOCATION OF THE EXISTING BUILDING WALLS AND CORNERS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION WORK THAT WOULD ABUT OR TAKE PLACE ADJACENT TO THE EXISTING BUILDING(S). IF THE PLAN HEREON IS USED FOR CONSTRUCTION LAYOUT PURPOSES, THE PARTIES CONDUCTING LAYOUT SHALL CONTACT R. LEVESQUE ASSOCIATES INC. PRIOR TO SAID LAYOUT TO DETERMINE PROPER CONTROL. PLEASE NOTE WHILE THE BUILDING(S) ARE SHOWN TO BE SQUARE, IT SHOULD NOT BE ASSUMED THAT THE WALLS ARE SQUARE OR PLUMB. R. LEVESQUE ASSOCIATES TAKES NO RESPONSIBILITY FOR THIRD PARTY LAYOUT OF THE PLAN SHOWN HEREON.
4. THIS PLAN HAS BEEN PREPARED FOR SITE PLANNING PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE.
5. SUBJECT PARCEL CONTAINS APPROXIMATELY 5.96 ACRES.
6. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
7. WETLANDS DELINEATED BY OTHERS IN SPRING 2024. WETLAND FLAGS WERE SURVEY LOCATED BY R LEVESQUE ASSOCIATES, INC. ON MAY 15, 2024.
8. THE EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A TOPOGRAPHIC SURVEY PERFORMED BY R LEVESQUE ASSOCIATES, INC. IN JUNE 2024.
9. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AVAILABLE RECORD DATA, AND AGAWAM GIS. R LEVESQUE ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. R LEVESQUE ASSOCIATES, INC. FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HEREON ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
10. ADJACENT PROPERTY LINES AND ABUTTERS SHOWN HEREON ARE REFERENCED FROM THE AGAWAM GIS AND ARE APPROXIMATE.
11. THAT PORTION OF THE SUBJECT PROPERTY DEPICTED HEREON IS SPLIT ZONED "AGRICULTURAL" AND "RESIDENCE A-2" AS SHOWN.
12. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 25013C0384E -- EFFECTIVE DATE: 7-16-2013.
13. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.

PERMITTING
NOT FOR CONSTRUCTION



**250 Suffield Street
Agawam, MA
Parcel ID: J13-I-4**



PREPARED FOR:

Kayla Ekstrom
250 Suffield Street
Agawam, MA

ISSUANCE DATE: October 1, 2024

REVISIONS:	DATE:
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DRAFTED BY: C.M.

UNAUTHORIZED ALTERATION OF
THIS DOCUMENT IS A VIOLATION
OF MASSACHUSETTS STATE LAW

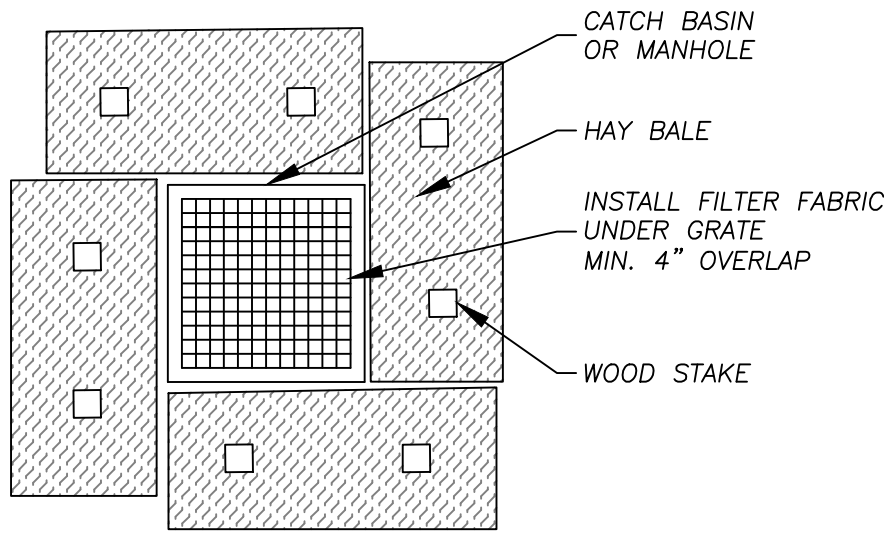
SCALE: As Noted

RLA PROJ. NUMBER: 240506

DRAWING#	REV
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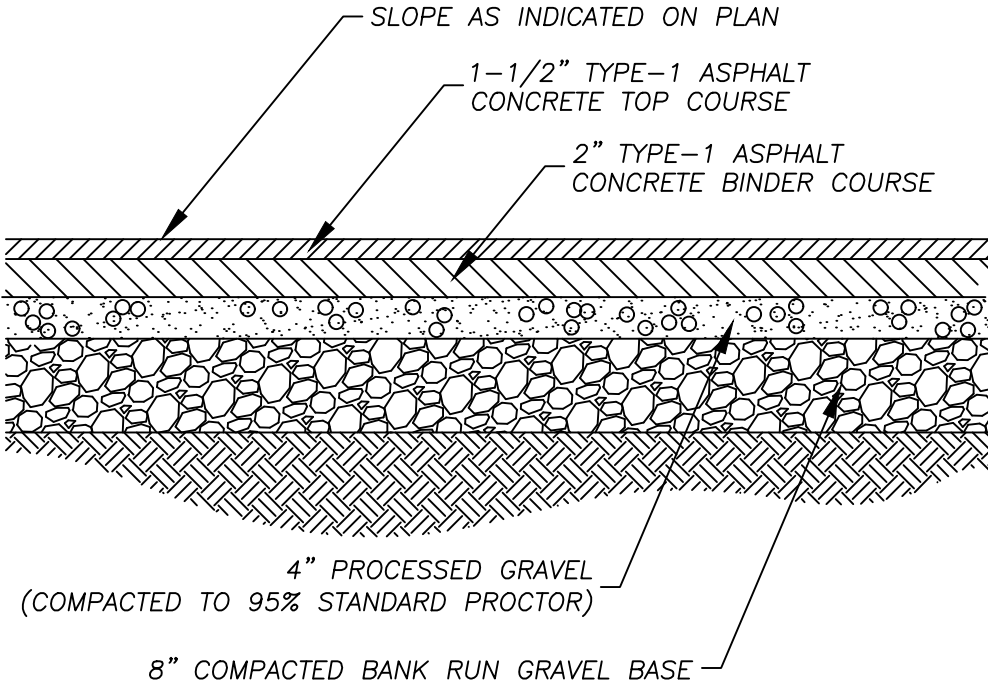
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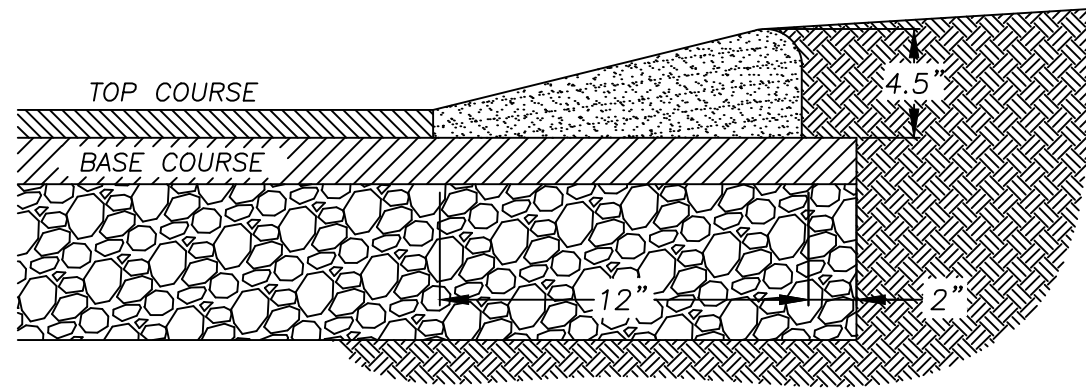


NOTE:
INSTALL BARRIER AT EACH CATCH BASIN AND DRAINAGE BASIN.
CATCH BASINS IN PAVEMENT AREAS ARE TO RECEIVE ONLY THE
FILTER FABRIC TREATMENT.

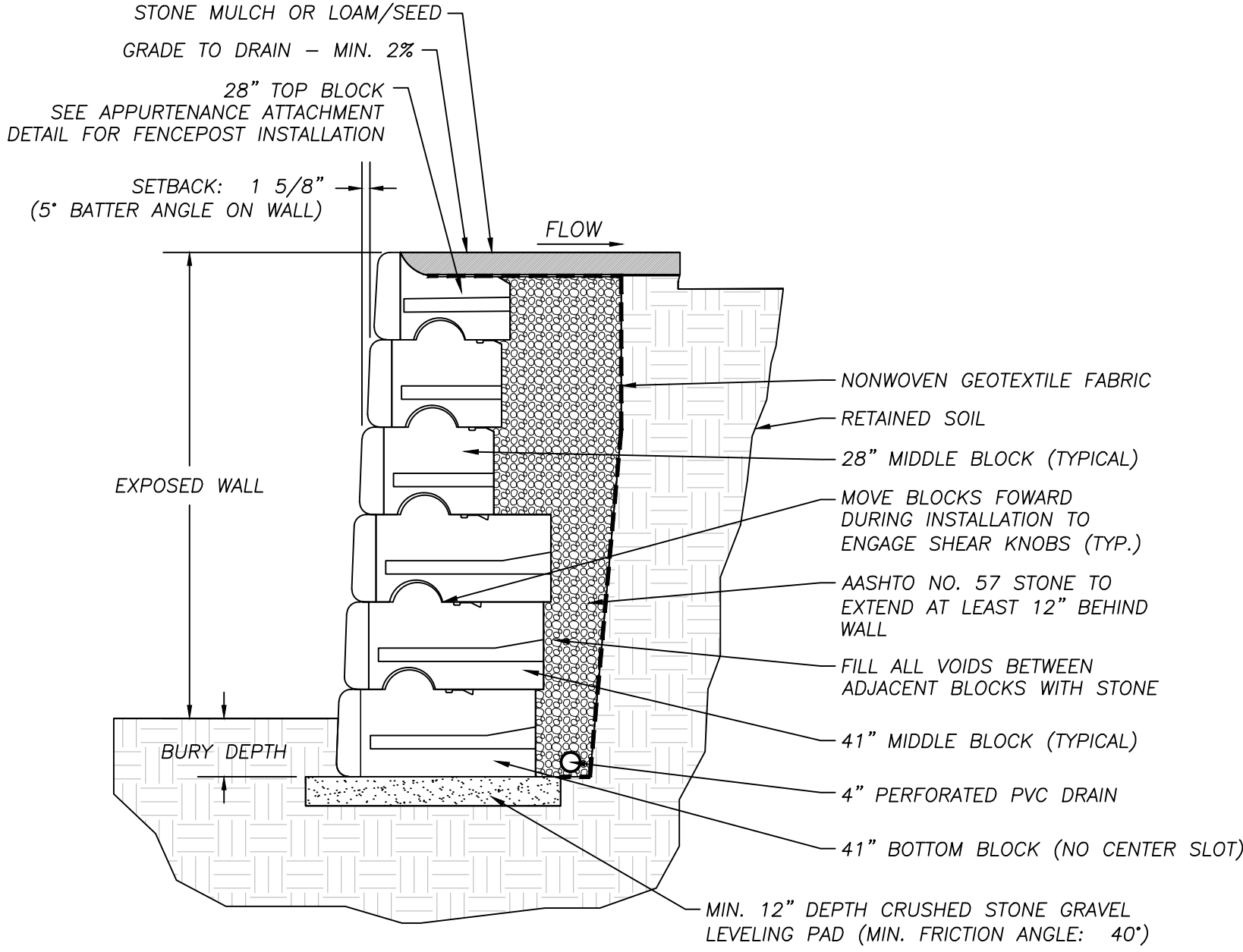
INLET PROTECTION - HAY BALES
NO SCALE



BITUMINOUS CONCRETE PAVING DETAIL
NO SCALE



BITUMINOUS CONCRETE BERM (CAPE COD)
NO SCALE

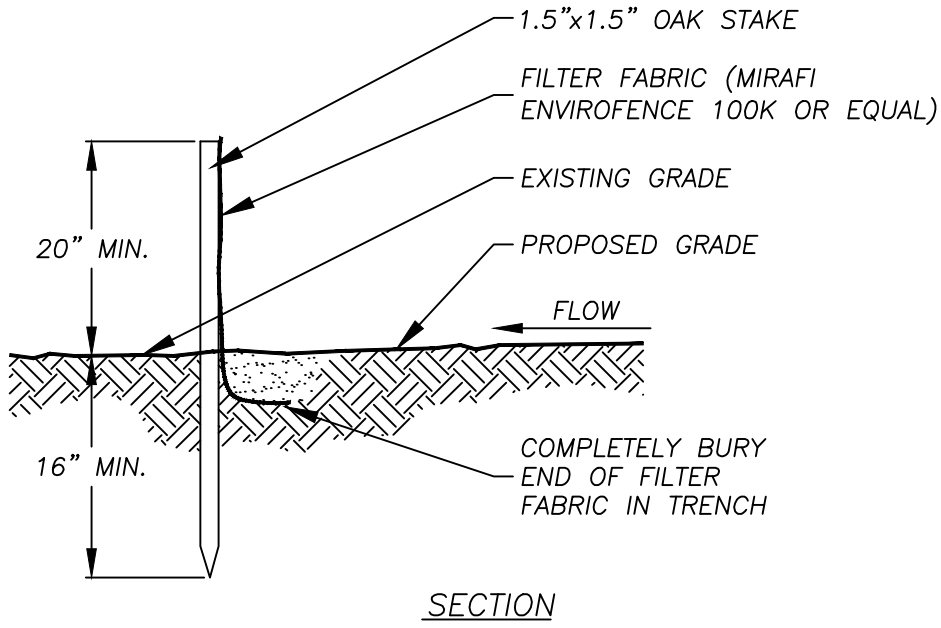


NOTES:

1. THIS DETAIL HAS BEEN PROVIDED FOR REFERENCE PURPOSES ONLY. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE FULL CONSTRUCTION DETAILS AND WALL PROFILE STAMPED BY A PROFESSIONAL ENGINEER FOR CITY/RLA APPROVAL.
2. THE INFORMATION SHOWN HEREON IS INTENDED TO CONVEY INFORMATION RELATED TO THE ANTICIPATED GRAVITY RETAINING WALL CONSTRUCTION UTILIZING THE SPECIFIED PRODUCT FOR BIDDING PURPOSES. GEGRID REINFORCEMENTS, CONCRETE FOOTINGS, AND OTHER SEVERE-DUTY ELEMENTS MAY BE REQUIRED DUE TO EXISTING SOILS, LOADING, WALL HEIGHT, ETC. AT THE PROPOSED SITE.
3. FINAL WALL DETAILS MUST ADDRESS BOTH INTERNAL AND EXTERNAL DRAINAGE, DRAINAGE CONNECTIONS, AND ANY NECESSARY ACCOMMODATION FOR UTILITY CROSSINGS.
4. FINAL WALL DESIGN AND INSTALLATION SHALL CONFORM, AT A MINIMUM, TO THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT FOUND BOUND INTO THE PROJECT SPECIFICATIONS.

DETAIL & PRODUCT SOURCE:
REDI-ROCK INTERNATIONAL
www.redi-rock.com

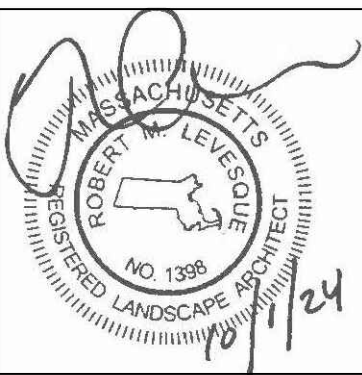
TYPICAL SECTION - SEGMENTAL PRECAST CONCRETE RETAINING WALL
NO SCALE



SILT FENCE DETAIL
NO SCALE

CONSERVATION FILING PLAN

250 Suffield Street
Agawam, MA
Parcel ID: J13-I-4



PREPARED FOR:

Kayla Ekstrom
250 Suffield Street
Agawam, MA

ISSUANCE DATE: October 1, 2024

REVISIONS:	DATE:

DRAFTED BY: C.M.

UNAUTHORIZED ALTERATION OF
THIS DOCUMENT IS A VIOLATION
OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 240506

DRAWING#	REV.
W-2	-

PERMITTING
NOT FOR CONSTRUCTION

Notice of Intent

Proposed Residential Site Improvements

Project Location:

250 Suffield Street
Agawam, Massachusetts 01001
(Parcel ID: J13-1-4)

Submitted to:

Town of Agawam Conservation Commission
36 Main Street
Agawam, Massachusetts 01001

Applicant(s):

Mr. Robert M. Hoyle & Ms. Kayla Ekstrom
250 Suffield Street
Agawam, Massachusetts 01001

Property Owner:

Mr. Robert M. Hoyle
250 Suffield Street
Agawam, Massachusetts 01001

RLA Project File No. 240506

October 3, 2024

R LEVESQUE ASSOCIATES, INC.

A LAND PLANNING SERVICES COMPANY

40 School Street, Westfield, MA 01085

p 413.568.0985 · f 413.568.0986 · www.rlaland.com



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 - 4.3 FIGURE 3 – NRCS SOILS MAP
5. ADMINISTRATIVE FORMS
 - 5.1 WETLAND TRANSMITTAL FEE FORM
 - 5.2 COPY OF FILING FEE CHECKS
 - 5.3 PROOF OF MAILING
 - 5.4 ABUTTERS NOTIFICATION LIST
 - 5.5 NOTIFICATION TO ABUTTERS

LIST OF APPENDICES

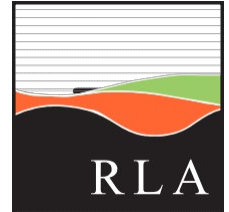
APPENDIX A: SITE PLAN

I. COVER LETTER

R LEVESQUE ASSOCIATES, INC.

40 School Street, P.O. BOX 640, Westfield, MA 01085

p 413.568.0985 · f 413.568.0986 · www.rlaland.com



October 3, 2024

Mr. Henry A. Kozloski, Chairman
Town of Agawam Conservation Commission
36 Main Street
Agawam, Massachusetts 01001

**RE: Notice of Intent Application – Proposed Residential Site Improvements
250 Suffield Street
Agawam, Massachusetts 01001
(Parcel ID: J13-1-4)
RLA Project File No. 240506**

Dear Chairman Kozloski and Commissioners:

On behalf of the applicants, Robert Hoyle & Kayla Ekstrom, please find the requisite number of copies of a Notice of Intent application, supporting documentation, and corresponding site plan. The applicant proposes the construction of a residential addition, carport, replacement of a retaining wall, a 30" side stonedust walking path (exempt activity), driveway repairs, and other residential site improvements at the above-referenced parcel in Agawam, Massachusetts. The proposed work is located within the buffer zone of bordering vegetated wetlands. Please refer to the attached project narrative for greater detail regarding the proposed site improvements.

Included within this submission package is the requisite filing fee. As required, a copy of this Notice of Intent has been submitted electronically via email to the Town of Agawam Conservation Commission and through eDEP to the Massachusetts Department of Environmental Protection.

We are requesting to be placed on the Commission's next available agenda. Should you have any questions or comments regarding this filing, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
R LEVESQUE ASSOCIATES, INC.

Ryan Nelson
Wetland/Soil Scientist & Project Manager

A LAND PLANNING SERVICES COMPANY

2. WPA FORM 3 – NOTICE OF INTENT



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 Number

Document Transaction Number

Agawam

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

250 Suffield Street

a. Street Address

Agawam

b. City/Town

MA

c. Zip Code

Latitude and Longitude:

42.04523

d. Latitude

72.37495

e. Longitude

J13-1

f. Assessors Map/Plat Number

4

g. Parcel /Lot Number

2. Applicant:

Kayla & Robert

a. First Name

Ekstrom & Hoyle

b. Last Name

c. Organization

250 Suffield Street

d. Street Address

Agawam

e. City/Town

MA

f. State

01001

g. Zip Code

413-535-6766

h. Phone Number

i. Fax Number

kaystrom19@gmail.com

j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

Robert

a. First Name

Hoyle

b. Last Name

c. Organization

250 Suffield Street

d. Street Address

Agawam

e. City/Town

MA

f. State

01001

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Robert

a. First Name

Levesque

b. Last Name

R Levesque Associates, Inc.

c. Company

40 School Street

d. Street Address

Westfield

e. City/Town

MA

f. State

01085

g. Zip Code

(413) 568-0985

h. Phone Number

i. Fax Number

robl@rlaland.com

j. Email address

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

\$610.00

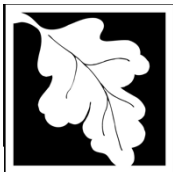
a. Total Fee Paid

\$292.50

b. State Fee Paid

\$317.50

c. City/Town Fee Paid



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 Number

Document Transaction Number

Agawam

City/Town

A. General Information (continued)

6. General Project Description:

The applicant proposes the construction of a residential addition carport, replacement of a retaining wall, a 30" wide stonedust walking path (exempt activity), driveway repairs, and other residential site improvements to be located within the buffer zones to bordering vegetated wetlands. Please refer to the attached project narrative and accompanying filing plan for greater detail.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- | | |
|---|---|
| 1. ☒ Single Family Home | 2. ☐ Residential Subdivision |
| 3. ☐ Commercial/Industrial | 4. ☐ Dock/Pier |
| 5. ☐ Utilities | 6. ☐ Coastal engineering Structure |
| 7. ☐ Agriculture (e.g., cranberries, forestry) | 8. ☐ Transportation |
| 9. ☐ Other | |

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

1. ☐ Yes ☒ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Hampden

a. County

21816

c. Book

b. Certificate # (if registered land)

10

d. Page Number

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

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

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



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

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 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	1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- ☐ 25 ft. - Designated Densely Developed Areas only
- ☐ 100 ft. - New agricultural projects only
- ☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

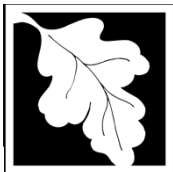
a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

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)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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

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Agawam

City/Town

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

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

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

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet _____ 2. cubic yards dredged _____	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet _____	2. cubic yards beach nourishment _____
e. ☐ Coastal Dunes	1. square feet _____	2. cubic yards dune nourishment _____
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. ☐ Coastal Banks	1. linear feet _____	
g. ☐ Rocky Intertidal Shores	1. square feet _____	
h. ☐ Salt Marshes	1. square feet _____	2. sq ft restoration, rehab., creation _____
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

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 enter the additional amount here.

a. square feet of BVW _____

b. square feet of Salt Marsh _____

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings _____

b. number of replacement stream crossings _____



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

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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

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 and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

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**

07/08/2024

b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

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

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands 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

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/mas-endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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

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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

Make check payable to "Commonwealth of Massachusetts - NHESP" 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

- (f) 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, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; 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 #

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.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

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

North Shore - Plymouth to New Hampshire border:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

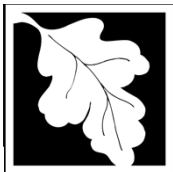
Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project 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.

- c. ☐ Is this an aquaculture project?

- d. ☐ Yes ☒ No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



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 Number

Document Transaction Number

Agawam

City/Town

C. Other Applicable Standards and Requirements (cont'd)

Online Users:

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

4. 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 MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC

5. 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

6. 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

7. 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. Check why the project is exempt:

1. ☒ Single-family house
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

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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.



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 Number

Document Transaction Number

Agawam

City/Town

D. Additional Information (cont'd)

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.

Conservation Filing Plan

a. Plan Title

R Levesque Associates, Inc.

Robert M. Levesque, RLA, ASLA

b. Prepared By

10-01-2024

c. Signed and Stamped by

As Shown

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

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:

162

2. Municipal Check Number

160

4. State Check Number

Robert

6. Payor name on check: First Name

09/16/2024

3. Check date

09/16/2024

5. Check date

Hoyle

7. Payor name on check: Last Name

3. PROJECT NARRATIVE

PROJECT NARRATIVE TO NOTICE OF INTENT

For

PROPOSED RESIDENTIAL SITE IMPROVEMENTS
250 SUFFIELD STREET
AGAWAM, MASSACHUSETTS 01001
(ASSESSOR'S PARCEL ID: J13-1-4)

INTRODUCTION & PROPERTY DESCRIPTION

On behalf of the applicants, Robert Hoyle & Kayla Ekstrom, R Levesque Associates, Inc. is providing this project narrative as a supplement to the Notice of Intent application. The applicant proposes construction of a residential addition, carport, replacement of a retaining wall, 30" stonedust walking path (exempt activity), driveway repairs, and other associated residential site improvements to be located at the above-referenced parcel in Agawam, Massachusetts. The proposed work is located within the buffer zones of bordering vegetated wetlands.

The subject property is located west of Suffield Street (hereinafter referred to as the "project site"). The property consists of approximately $5.96 \pm$ acres and is shown on the associated site plan entitled "Conservation Filing Plan", dated October 1, 2024, prepared by R Levesque Associates, Inc. Said property is recorded in the Hampden County Registry of Deeds in Book 21816, Page 10.

Examination of GIS information from the Massachusetts Natural Heritage Atlas, revealed that the project site not located within Natural Heritage and Endangered Species Program jurisdiction. The project site is not located within a Special Flood Hazard Area according to FEMA Floodplain Mapping. Please see below for further information on wetlands resource areas related to the project site.

TOPOGRAPHY

The site contains an existing single-family home and associated residential site improvements. A majority of the project will occur within previously developed residential areas such as lawn and gravel. In general, the topography of the site varies, sloping from west to east. A USGS Topographic Map of the site is included within this application packet under Section 4, as Figure 1.

SOILS

According to the Web Soil Survey Map, the soil types mapped on the project site consist of: Rumney fine sandy loam, 0 to 3 percent slopes (18A); Wareham loamy sand, 0 to 3 percent slopes (32A); and Windsor loamy sand, 0 to 3 percent slopes (255A). Please refer to the attached NRCS Soils Map under Section 4, as Figure 3, of this application packet for the exact locations of the soils.

PROJECT DESCRIPTION

The proposed project includes the construction of a residential addition, carport, replacement of a retaining wall, 30" wide stonedust path (exempt activity under 310 CMR 10.02(B)), driveway repairs, and other associated residential site improvements.

The proposed project work will proceed in the following general sequence:

1. Installation of erosion controls along the permitted limit of work;
2. Clearing, grubbing, and excavation of the project site within the permitted limit of work;
3. Removal of existing Lean-To and relocation of existing shed;
4. Rough site grading for the proposed addition and carport;
5. Construction of an $534 \pm$ SF addition and $516 \pm$ SF carport
6. Replacement of existing wooden retaining wall with a precast block retaining wall (to be designed by others);
7. Creation of a 30" wide stonedust walking path flush with grade around the bordering vegetated wetland (exempt activity under 310 CMR 10.02(B));
8. Complete Driveway repairs and stormwater drainage improvements; and
9. Removal of erosion controls at the direction of the Town of Agawam Conservation Commission.

Please refer to the associated site plan set for greater detail on the exact locations of proposed work.

WETLAND RESOURCE AREAS

Wetland resource areas were delineated by others in Spring 2024. The definition of each applicable resource area is presented below in italics; followed by regular bold text with a description of the subject properties and how the proposed project meets the performance standards.

Bordering Vegetated Wetland (BVW)

As stated in 310 CMR 10.55 (2) (a), *"Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps, and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants..."*.

Bordering Vegetated Wetland is located on-site and the boundaries have been marked in the field with sequentially numbered flagging labeled, "A-1" through "A-16"; "A-150" through "A-191"; A-100" through "A-108"; "A-50" through "A-64" and "B-1" through "B-12". No disturbances to BVW will occur as part of this project.

Buffer Zone

Buffer Zone as defined in 310 CMR 10.04 is *"the area of land extending 100 feet horizontally outward from the boundary of any areas specified in 310 CMR 10.02(1)(a)"*.

Buffer Zone on the project site is associated with bordering vegetated wetlands and is shown to extend 50' and 100' from the boundary of delineated BVW. Work proposed within the Buffer Zone to BVW includes the construction of the proposed residential addition, carport, replacement of the retaining wall, 30" wide stonedust walking path (exempt activity), driveway repairs, and associated site improvements.

EROSION CONTROLS

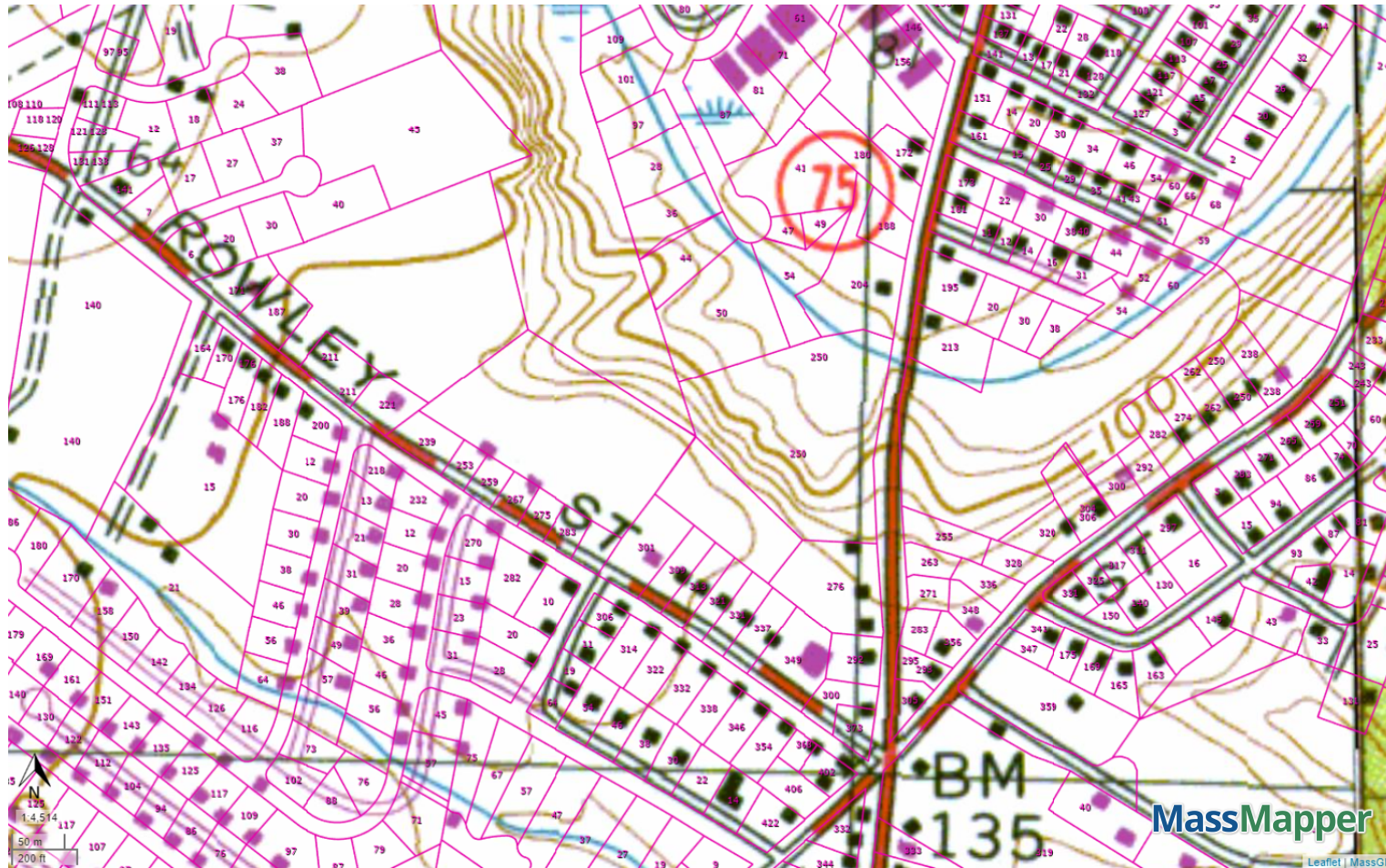
Erosion controls are proposed as required to protect the site against soil migration and to protect the Resource Area from siltation. All exposed soils on the site will be stabilized as soon as possible. Barrier controls will not be removed until a Certificate of Compliance has been issued by the Agawam Conservation Commission. Please see the accompanying filing plan which depicts the location of barrier controls in greater detail.

[END OF PROJECT NARRATIVE]

4. FIGURES

- 4.1 FIGURE 1 – USGS TOPOGRAPHIC MAP
- 4.2 FIGURE 2 – FEMA FLOODPLAIN MAP
- 4.3 FIGURE 3 – NRCS SOILS MAP

USGS Topographic Map

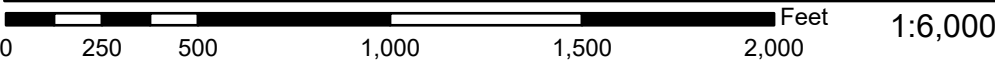


Property Tax Parcels
USGS Topographic Maps

National Flood Hazard Layer FIRMMette



72°38'9"W 42°5'6"N



72°37'31"W 42°4'39"N

Basemap Imagery Source: USGS National Map 2023

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 Cross Sections with 1% Annual Chance Water Surface Elevation
		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
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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 7/8/2024 at 2:34 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.

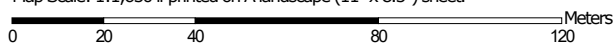
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Soil Map—Hampden County, Massachusetts, Central Part
(GISDATA_L3_TAXPAR_POLY_ASSESSPolygon)



Soil Map may not be valid at this scale.

Map Scale: 1:1,650 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hampden County, Massachusetts, Central Part

Survey Area Data: Version 17, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

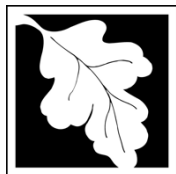
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
18A	Rumney fine sandy loam, 0 to 3 percent slopes, frequently flooded	1.8	28.1%
32A	Wareham loamy sand, 0 to 3 percent slopes	2.0	32.3%
255A	Windsor loamy sand, 0 to 3 percent slopes	2.5	39.6%
Totals for Area of Interest		6.2	100.0%

5. ADMINISTRATIVE FORMS

- 5.1 WETLAND TRANSMITTAL FEE FORM
- 5.2 COPY OF FILING FEE CHECKS
- 5.3 PROOF OF MAILING
- 5.4 ABUTTERS NOTIFICATION LIST
- 5.5 NOTIFICATION TO ABUTTERS



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

250 Suffield Street

a. Street Address

Agawam

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Kayla

a. First Name

Ekstrom

b. Last Name

c. Organization

250 Suffield Street

d. Mailing Address

Agawam

e. City/Town

MA

f. State

01001

g. Zip Code

413-535-6766

h. Phone Number

i. Fax Number

kaystrom19@gmail.com

j. Email Address

3. Property Owner (if different):

Robert

a. First Name

Hoyle

b. Last Name

c. Organization

250 Suffield Street

d. Mailing Address

Agawam

e. City/Town

MA

f. State

01001

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 1a	1	\$110.00	\$110.00
Category 2j	1	\$500.00	\$500.00

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee:	\$610.00
	a. Total Fee from Step 5
State share of filing Fee:	\$292.50
	b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:	\$317.50
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

ROBERT HOYLE
P O BOX 330
AGAWAM, MA 01001

160

53-7093/2118
2

9-16-24

Date

CHECK ARMOR
TRADE PROTECTION

Pay to the
Order of

COMMONWEALTH OF MA

\$ 292.50

TWO-HUNDRED NINETY-TWO + 50/100

Dollars

Photo
Safe
Deposit
Details on back



For

⑆211870935⑆ 694317572⑈

0160

MP

ROBERT HOYLE
P O BOX 330
AGAWAM, MA 01001

162

53-7093/2118
2

9-16-24

Date

CHECK ARMOR
TRADE PROTECTION

Pay to the
Order of

TOWN OF AGAWAM

\$ 317.50

THREE-HUNDRED SEVENTEEN + 50/100

Dollars

Photo
Safe
Deposit
Details on back



For

⑆211870935⑆ 694317572⑈

0162

MP

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\$ 4.85

Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$ 4.10
☐ Return Receipt (electronic) \$ 0.00
☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and Fees
\$ 9.68

Sent To
Russo, Thomas J. Jr.
204 Suffield Street
Agawam, MA 01001

Postmark Here
OCT - 3 2024

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and Fees
\$ 9.68

Sent To
Bradway, Autumn Taylor
263 Suffield St.
Agawam, MA 01001

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☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and Fees
\$ 9.68

Sent To
Ramah, Joanne & Peter G.
14 Davis Dr.
Saginaw, MI 48602

Postmark Here
OCT - 3 2024

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☐ Return Receipt (electronic) \$ 0.00
☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and Fees
\$ 9.68

Sent To
Rowley Street
184 Anna's Court
Colchester, VT 05446

Postmark Here
OCT - 3 2024

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Certified Mail Fee
\$ 4.85

Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$ 4.10
☐ Return Receipt (electronic) \$ 0.00
☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and Fees
\$ 9.68

Sent To
Hoyle, Robert M.
250 Suffield St.
Agawam, MA 01001

Postmark Here
OCT - 3 2024

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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OFFICIAL USE

Certified Mail Fee
\$ 4.85

Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$ 4.10
☐ Return Receipt (electronic) \$ 0.00
☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and Fees
\$ 9.68

Sent To
Nehmer, Michael J.
255 Suffield St.
Agawam, MA 01001

Postmark Here
OCT - 3 2024

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$ 4.10
☐ Return Receipt (electronic) \$ 0.00
☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and
\$ 9.68

Sent To
Miolla, Patricia Ann
276 Suffield St.
Agawam, MA 01001

Street and Apt. No.
City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
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☐ Return Receipt (electronic) \$ 0.00
☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and
\$ 9.68

Sent To
Morris, Steven H
140 Rowley St.
Agawam, MA 01001

Street and Apt. No.
City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and
\$ 9.68

Sent To
Loizzo, Peter
50 Russo Cr.
Agawam, MA 01001

Street and Apt. No.
City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and
\$ 9.68

Sent To
Megliola, Theodora
121 Fairview St.
Agawam, MA 01001

Street and Apt. No.
City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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☐ Certified Mail Restricted Delivery \$ 0.00
☐ Adult Signature Required \$ 0.00
☐ Adult Signature Restricted Delivery \$ 0.00

Postage
\$.73

Total Postage and
\$ 9.68

Sent To
Hoynaski, Susan J.
213 Suffield St.
Agawam, MA 01001

Street and Apt. No.
City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

J12 4 10
BRADWAY AUTUMN TAYLOR
263 SUFFIELD ST
AGAWAM, MA 01001

J13 1 4
HOYLE ROBERT M
250 SUFFIELD ST
AGAWAM, MA 01001 1748

J13 2 56
HOYNOSKI SUSAN J
213 SUFFIELD ST
AGAWAM, MA 01001 1750

J13 1 15
LOIZZO PETER L TR
50 RUSSO CR
AGAWAM, MA 01001

J13 1 8
MEGLIOLA THEODORA
121 FAIRVIEW ST
AGAWAM, MA 01001

J13 1 19
MIOLLA PATRICIA ANN
276 SUFFIELD ST
AGAWAM, MA 01001

J13 1 3
MIOLLA PATRICIA ANN
276 SUFFIELD ST
AGAWAM, MA 01001

I13 4 12
MORRIS STEVEN H L/E TR
140 ROWLEY ST
AGAWAM, MA 01001 1629

J12 4 11
NEHMER MICHAEL J
255 SUFFIELD ST
AGAWAM, MA 01001

J13 2 51
RAMAH JOANNE PETER G
14 DAVIS DR
SAGINAW, MI 48602

I13 4 13
ROWLEY STREET
184 ANNA'S COURT
COLCHESTER, VT 05446 4144

J13 1 7
RUSSO THOMAS J JR
204 SUFFIELD ST
AGAWAM, MA 01001 1748

Notification to Abutters

By Hand Delivery, Certified Mail (Return Receipt Requested), or Certificates of Mailing

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

- A. A Notice of Intent was filed with the Town of Agawam Conservation Commission on October 3, 2024, seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

The applicant proposes the construction of a residential addition, car port, replacement of a retaining wall, driveway repairs, and other associated site improvements. The work is proposed within the buffer zones to bordering vegetated wetlands

- B. The name of the applicant is: Robert Hoyle & Kayla Ekstrom
- C. The address of the land where the activity is proposed is: 250 Suffield Street, Agawam, Massachusetts 01001 – Parcel ID: J13-1-4).
- D. Copies of the Notice of Intent may be examined or obtained at the office of the Town of Agawam Conservation Commission, located at 36 Main Street, Agawam, MA 01001. The regular business hours of the Commission are Monday through Friday 8:30 AM – 4:30 PM, and the Commission may be reached at 413-726-9737.
- E. Copies of the Notice of Intent may be obtained from the applicant's representative, R Levesque Associates, Inc. located at 40 School Street, Westfield, MA 01085. The regular business hours are Monday through Friday between the hours 9:00 AM – 4:00 PM or by calling 413-568-0985. There is a \$95.00 administration fee for copies of the Notice of Intent, including plan sheets.
- F. Information regarding the date, time, and location of the public hearing regarding the Notice of Intent may be obtained from the Town of Agawam Conservation Commission. Notice of the public hearing will be published at least five business days in advance, in the local circulating newspaper.

Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4. You may also contact the local MassDEP, Western Regional Office at 413-784-1100 for more information on this application or the Wetlands Protection Act.

APPENDIX A: SITE PLAN

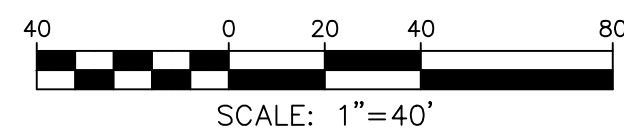
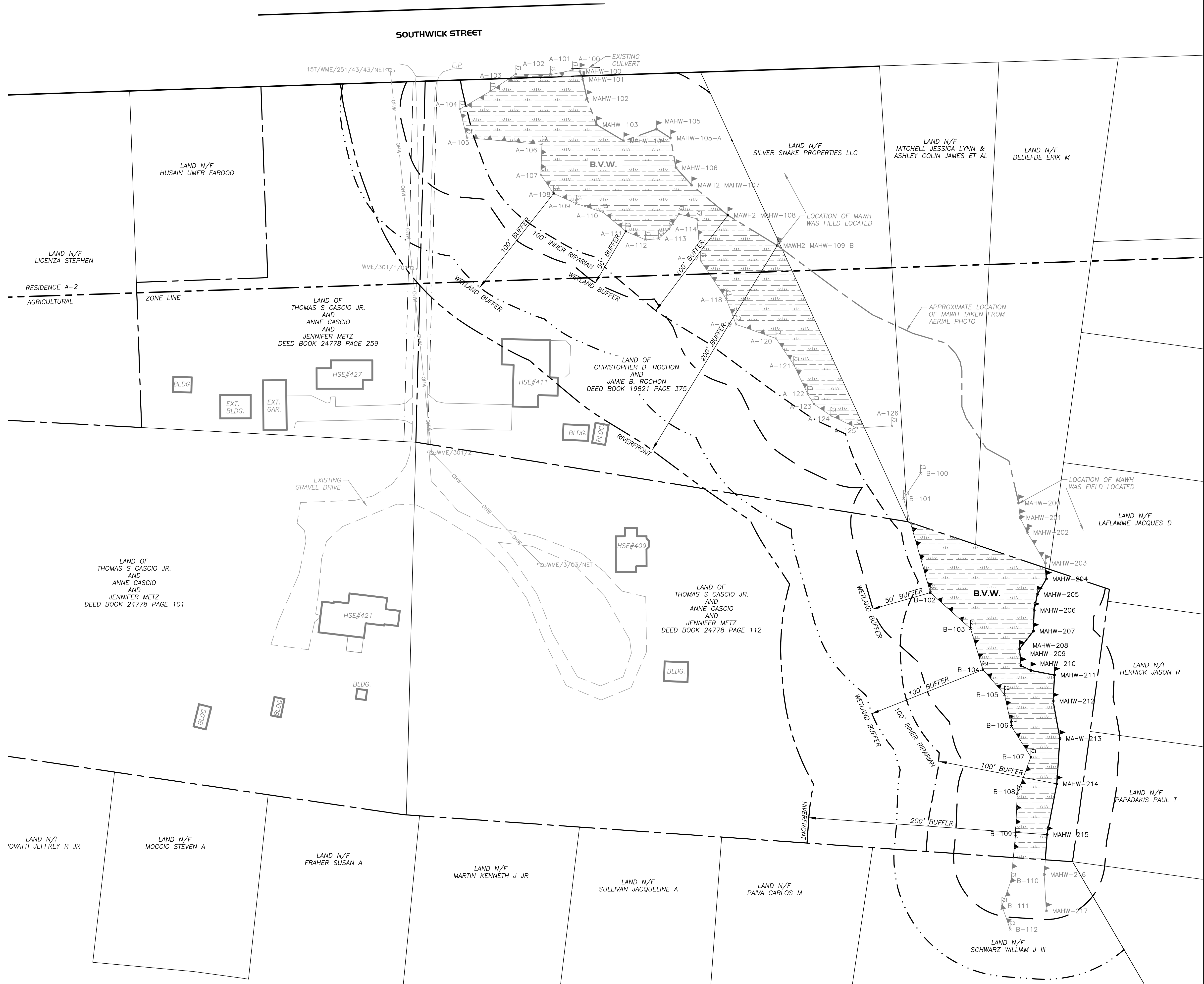
SITE PLAN ENTITLED "CONSERVATION FILING PLAN"

PREPARED FOR KAYLA EKSTROM

PREPARED BY R LEVESQUE ASSOCIATES, INC.

DATED OCTOBER 1, 2024

1. THE RECORD OWNER OF THE SUBJECT PARCELS IS THOMAS CASCIO JR ET AL. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK 24778 PAGE 101, 112 AND 259.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON TOWN AGAWAM GIS AND ARE APPROXIMATE PROPERTY LINES
3. THIS PLAN HAS BEEN PREPARED FOR CONSERVATION PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE
4. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS IS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
5. WETLANDS AND M.A.H.W. BOUNDARIES DELINEATED BY R. LEVESQUES ASSOCIATES INC IN SEPTEMBER 2024. OFFSITE WETLANDS ARE NOT THE SUBJECT OF THIS FILING AND HAVE BEEN SHOWN TO DEPICT THE LIMITS OF BUFFER ZONE.
6. ADJACENT PROPERTY LINES SHOWN HEREON ARE REFERENCED FROM THE TOWN OF AGAWAM GIS MAPPING.
7. SUBJECT PARCEL IS ZONED AS SHOWN.
8. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 58013C0379E -- EFFECTIVE DATE: 7-16-2013.
9. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.



Request for Determination of Applicability

Project Location:

409 Southwick Street, 421 Southwick Street, 427 Southwick Street & 411 Southwick Street
Feeding Hills, Massachusetts 01030
(Assessor's Parcel IDs: B9-2-4, B9-2-5, B9-2-7 & B9-2-3)

Submitted To:

Town of Agawam Conservation Commission
36 Main Street
Agawam, Massachusetts 01001

Applicant(s):

Anne Cascio & Jennifer Metz
421 & 427 Southwick Street
Feeding Hills, Massachusetts 01030

Property Owner(s):

409, 421, & 427 Southwick Street
Anne & Thomas E. Cascio & Jennifer Metz
421 & 427 Southwick Street
Feeding Hills, Massachusetts 01030

411 Southwick Street
Christopher D. Rochon
411 Southwick Street
Feeding Hills, Massachusetts 01030

RLA Project File No. 240919

October 10, 2024

R LEVESQUE ASSOCIATES, INC.

A LAND PLANNING SERVICES COMPANY

40 School Street, Westfield, MA 01085

p 413.568.0985 · f 413.568.0986 · www.rlaland.com



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 - 2.2 COPY OF FILING FEE
3. PROJECT NARRATIVE
4. FIGURES
 - 4.1 FIGURE 1 – USGS TOPOGRAPHIC MAP
 - 4.2 FIGURE 2 – FEMA FLOODPLAIN MAP
 - 4.3 FIGURE 3 – NRCS SOILS MAP

LIST OF APPENDICES

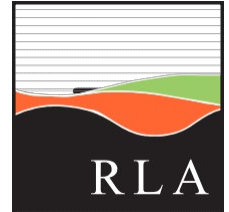
APPENDIX A: SITE PLAN

I. COVER LETTER

R LEVESQUE ASSOCIATES, INC.

40 School Street, P.O. BOX 640, Westfield, MA 01085

p 413.568.0985 · f 413.568.0986 · www.rlaland.com



October 10, 2024

Henry A. Kozloski, Chairman
Town of Agawam Conservation Commission
36 Main Street
Agawam, Massachusetts 01001

RE: Request for Determination of Applicability
409 Southwick Street, 421 Southwick Street, 427 Southwick Street & 411 Southwick Street
Agawam, Massachusetts 01001
(Assessor's Parcel IDs: B9-2-4, B9-2-5, B9-2-7 & B9-2-3)
RLA Project File No. 2400919

Dear Chairman Kozloski and Commissioners:

On behalf of the applicants and property owners please find the requisite number of copies of a Request for Determination of Applicability and associated filing plan for the above referenced properties. This Request for Determination of Applicability is being filed to confirm resource boundaries and jurisdiction.

As required, a copy of this Request for Determination of Applicability has been submitted electronically via email to the Town of Agawam Conservation Commission and through eDEP to the Massachusetts Department of Environmental Protection.

We are requesting to be placed on the Commission's next available agenda. Should you have any questions or comments regarding this filing, please do not hesitate to contact our office at your earliest convenience.

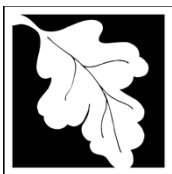
Sincerely,
R LEVESQUE ASSOCIATES, INC.

Nina Fazio
Permitting Coordinator

A LAND PLANNING SERVICES COMPANY

2. ADMINISTRATIVE FORMS

- 2.1 WPA FORM 1 – REQUEST FOR DETERMINATION OF APPLICABILITY
- 2.2 COPY OF FILING FEE



Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

WPA Form 1- Request for Determination of Applicability

Agawam
Municipality

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Anne Casico & Jennifer Metz

First Name

Last Name

421 & 427 Southwick Street

Address

Feeding Hills

MA

01030

City/Town

State

Zip Code

Phone Number

Email Address

2. Property Owner (if different from Applicant):

Same as applicant

First Name

Last Name

Address

City/Town

State

Zip Code

Phone Number

Email Address (if known)

3. Representative (if any)

Robert

Levesque

First Name

Last Name

R Levesque Associates, Inc.

Company Name

40 School Street

Address

Westfield

MA

01085

City/Town

State

Zip Code

(413) 568-0985

robl@rlaland.com

Phone Number

Email Address (if known)

B. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

409, 421, 427 & 411 Southwick Street

Agawam

Street Address

City/Town

42.06549

-72.69799

Latitude (Decimal Degrees Format with 5 digits after decimal
e.g. XX.XXXXX)

Longitude (Decimal Degrees Format with 5 digits after
decimal e.g. -XX.XXXXX)

B9-2

4, 5, 7 & 3

Assessors' Map Number

Assessors' Lot/Parcel Number

b. Area Description (use additional paper, if necessary):

Please see the attached project narrative

c. Plan and/or Map Reference(s): (use additional paper if necessary)

Conservation Filing Plan

09-19-2024

Title

Date

Title

Date

[How to find Latitude
and Longitude](#)

[and how to convert
to decimal degrees](#)



Massachusetts Department of Environmental Protection

Bureau of Water Resources - Wetlands

WPA Form 1- Request for Determination of Applicability **Agawam**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Municipality

B. Project Description (cont.)

2. a. Activity/Work Description (use additional paper and/or provide plan(s) of Activity, if necessary):

There is no work proposed as part of this filing

- b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

- b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

WPA Form 1- Request for Determination of Applicability Agawam
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40 Municipality

C. Determinations

1. I request the Agawam make the following determination(s). Check any that apply:
Conservation Commission

☒ a. whether the **area** depicted on plan(s) and/or map(s) referenced above is an area subject to jurisdiction of the Wetlands Protection Act.

☒ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced above are accurately delineated.

c. whether the **Activities** depicted on plan(s) referenced above is subject to the Wetlands Protection Act and its regulations.

☒ d. whether the area and/or Activities depicted on plan(s) referenced above is subject to the jurisdiction of any **municipal wetlands' ordinance or bylaw** of:

Town of Agawam

Name of Municipality

☐ e. whether the following **scope of alternatives** is adequate for Activities in the Riverfront Area as depicted on referenced plan(s).

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

[Signature]
Signature of Applicant

9-23-24
Date

[Signature]
Signature of Representative (if any)

9/26/24
Date

Maryadele G Moore
Scott A Moore
45 Sunnyslope Ave
Agawam, MA 01001

567

68-7160/2118

9-23 20 24

CHECKSAFE

PAY TO THE
ORDER OF Town of Agawam

\$ 50^{00/100}

FIFTY 00/100

DOLLARS



Security
Features
Detailed on
Back.

Westfield Bank
Westfield, MA 01086

FOR WPA Form 1

Maryadele Moore

MP

⑆211871604⑆ 10 01 970282⑆0567

3. PROJECT NARRATIVE

PROJECT NARRATIVE TO REQUEST FOR DETERMINATION OF APPLICABILITY

For

409 SOUTHWICK STREET, 421 SOUTHWICK STREET, 427 SOUTHWICK STREET & 411
SOUTHWICK STREET
FEEDING HILLS, MASSACHUSETTS 01030
(ASSESSOR'S PARCEL IDS: B9-2-4, B9-2-5, B9-2-7 & B9-2-3)

INTRODUCTION & PROPERTY DESCRIPTION

On behalf of the applicants and property owners, Anne Cascio & Jennifer Metz, R Levesque Associates, Inc. is providing this project narrative as a supplement to the Request for Determination of Applicability for the above-referenced properties. The applicants are filing this Request to confirm resource boundaries and jurisdiction.

The subject properties are located south of Southwick Street and consist of approximately 14.19 ± acres. The project site is shown on the associated site plan entitled "Conservation Filing Plan", dated October 10, 2024, prepared by R Levesque Associates, Inc. Said properties are recorded in the Hampden County Registry of Deeds in Book 24778, Page 112 (409 Southwick Street); Book 24778, Page 101 (421 Southwick Street); Book 24778, Page 259 (427 Southwick Street); and Book 19821, Page 375 (411 Southwick Street).

Examination of GIS information from the Massachusetts Natural Heritage Atlas revealed that the subject properties are not located within Natural Heritage and Endangered Species Program jurisdiction. The project site is not located within a Special Flood Zone Area according to flood insurance rate map number 25013C0379E, effective date July 16, 2013. Please see below for further information on resource areas related to this project site.

EXISTING CONDITIONS & TOPOGRAPHY

The project site is currently existing, disturbed area. There are existing residential structures with associated access drives, yard areas, and agricultural fields within the subject properties. In general, the topography of the site is generally flat, sloping from the west to the east. Please refer to the USGS Topographic Map included within this application packet under Section 4.

SOILS

According to the Web Soil Survey Map, the soil types mapped on the project site consist of: Merrimac fine sandy loam, 0 to 3 percent slopes (254A); Merrimac fine sandy loam, 3 to 8 percent slopes (254B); Merrimac fine sandy loam, 15 to 25 percent slopes (254D); Enfield silt loam, 0 to 3 percent slopes (265A); Agawam fine sandy loam, 0 to 3 percent slopes (275A); and Saco Variant silt loam, 0 to 2 percent slopes (718A). Please refer to the attached NRCS Soil Map included within this application packet under Section 4.

The Merrimac series consists of very deep, somewhat excessively drained soils formed in outwash. They are nearly level through very steep soils on outwash terraces and plains and other glaciofluvial landforms. Slope ranges from 0 through 35 percent. Saturated hydraulic conductivity is high or very high.

The Enfield series consists of very deep, well drained loamy soils formed in a silty mantle overlying glacial outwash. They are nearly level to sloping soils on outwash plains and terraces. Slope ranges from 0 to 15 percent. Permeability is moderate or moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum.

The Agawam series consists of very deep, well drained soils formed in sandy, water deposited materials. They are level to steep soils on outwash plains and high stream terraces. Slope ranges from 0 to 15 percent. Saturated hydraulic conductivity is moderately high or high in the upper solum and high or very high in the lower solum and substratum.

The Saco series consists of very deep, very poorly drained soils formed in silty alluvial deposits. They are nearly level soils on flood plains, subject to frequent flooding. Slope ranges from 0 to 2 percent. Permeability is moderate in the silty layers and rapid or very rapid in the underlying sandy materials.

WETLAND RESOURCE AREAS

The wetland resource areas were flagged by R Levesque Associates, Inc. in September 2024. The definition of each applicable resource area is presented below in italics, followed by a description of resource area present on site, presented in boldface text.

Please note that wetlands delineated off-site have been shown to accurately portray buffer zone onto the subject property. The delineation of wetland resource areas off-site is not the subject of this filing.

Bordering Vegetated Wetlands (BVW)

As defined in 310 CMR 10.55 (2) (a), *"Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps, and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants..."*

Bordering Vegetated Wetland (BVW) is present within the northeastern portion of 411 Southwick Street and eastern portion of 409 Southwick Street. The BVW has been flagged in the field and is shown on the accompanying filing plan with sequentially numbered flagging labeled "A-100" through "A-125" and "B-100" through "B-112".

Buffer Zone

Buffer Zone as defined in 310 CMR 10.04 is *"the area of land extending 100 feet horizontally outward from the boundary of any areas specified in 310 CMR 10.02(1)(a)"*.

Buffer Zone associated with the Bordering Vegetated Wetland within the eastern portions of the subject properties and has been shown offset 50' and 100' from delineated boundaries.

Bank

In 310 CMR 10.54(2) it states, *"A Bank is the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and an upland."*

Bank is associated with a perennial stream and has been marked in the field with sequentially numbered flagging labeled "MAHW-100" through "MAHW-109B" and "MAHW-200" through "MAHW-217". The Mean Annual High Water (MAHW) was flagged and is synonymous with Top of Bank in this instance.

Riverfront Area

Riverfront Area (RA) as defined in 310 CMR 10.58(3) *"...is the area of land between a river's mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away. The riverfront area may include or overlap other resource areas or their buffer zone. The riverfront area does not have a buffer zone."*

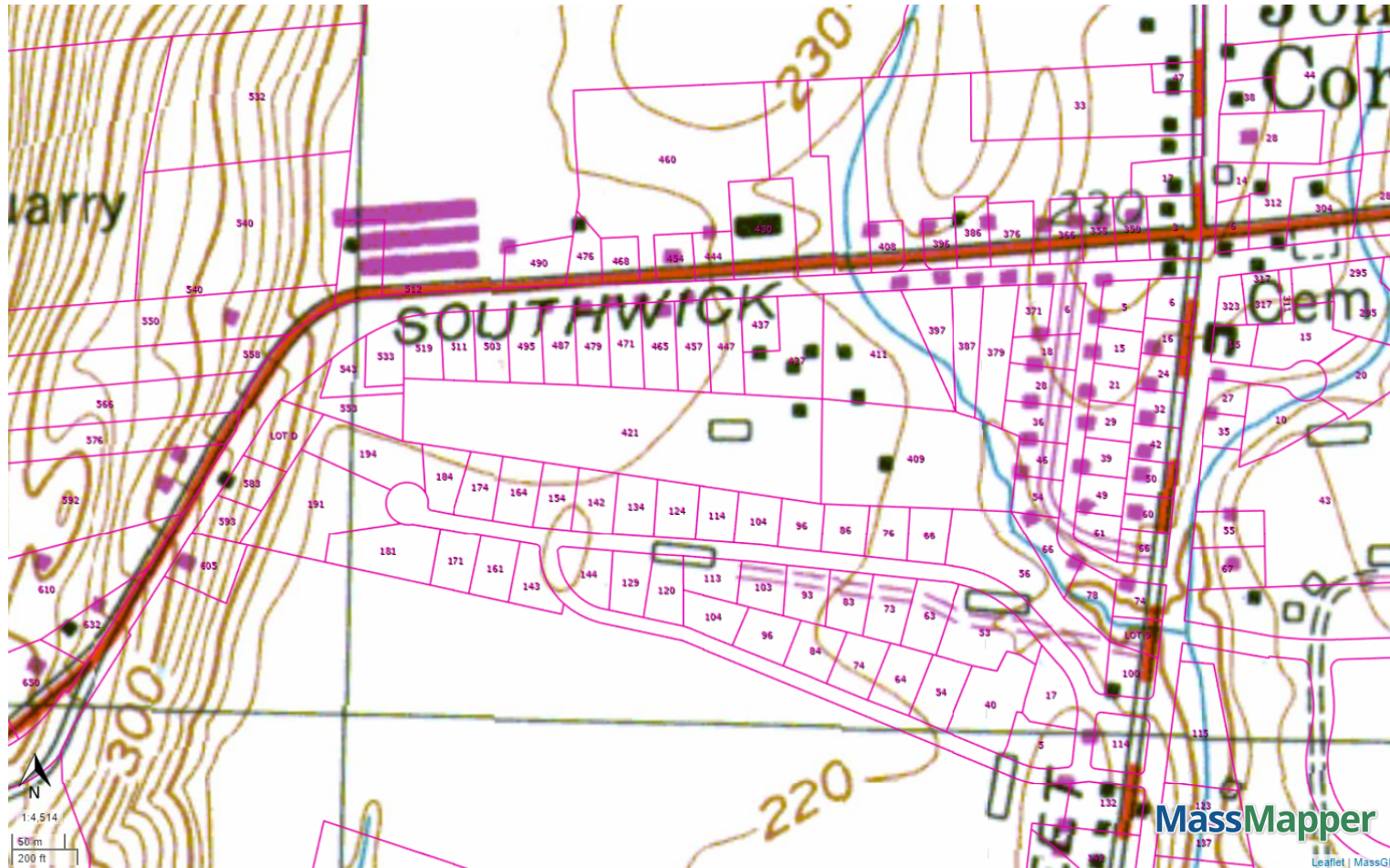
Riverfront Area is associated with the flagged perennial stream and has been shown 200' from the delineated mean annual high-water line.

[END OF PROJECT NARRATIVE]

4. FIGURES

- 4.1 FIGURE 1 – USGS TOPOGRAPHIC MAP
- 4.2 FIGURE 2 – FEMA FLOODPLAIN MAP
- 4.3 FIGURE 3 – NRCS SOILS MAP

USGS Topographic Map

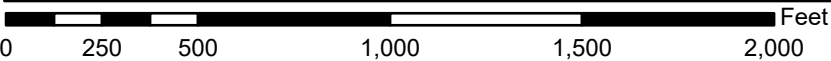


Property Tax Parcels
Contours 1ft (Labels in Feet)
USGS Topographic Maps

National Flood Hazard Layer FIRMMette



72°42'9"W 42°4'5"N



1:6,000

72°41'31"W 42°3'38"N

Basemap Imagery Source: USGS National Map 2023

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		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
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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 **8/21/2024 at 8:55 AM** 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.

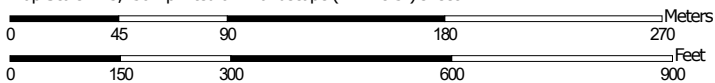
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Soil Map—Hampden County, Massachusetts, Central Part



Soil Map may not be valid at this scale.

Map Scale: 1:3,130 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hampden County, Massachusetts, Central Part

Survey Area Data: Version 17, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 15, 2016—Oct 30, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	5.0	46.0%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	2.2	20.2%
254D	Merrimac fine sandy loam, 15 to 25 percent slopes	0.3	2.5%
265A	Enfield silt loam, 0 to 3 percent slopes	2.6	24.0%
275A	Agawam fine sandy loam, 0 to 3 percent slopes	0.2	1.7%
718A	Saco Variant silt loam, frequently ponded, 0 to 2 percent slopes, frequently flooded	0.6	5.6%
Totals for Area of Interest		10.8	100.0%

APPENDIX A: SITE PLAN

SITE PLAN ENTITLED "CONSERVATION FILING PLAN"

PREPARED FOR ANNE CASCIO & JENNIFER METZ

PREPARED BY R LEVESQUE ASSOCIATES, INC.

DATED OCTOBER 10, 2024



Memorandum

To: Agawam Conservation Commission
Attn: Taryn Egerton
36 Main Street
Agawam, MA 01001

Date: 10.14.24

Project #: 43346.00

From: Dorothy Lawrence, VHB

Re: Longbrook Estates ANRAD DEP#087-0702 –Amendment
and Responses to MassDEP and Agawam Conservation
Commission Comments

On behalf of our Longbrook Condo Association, VHB offers the following responses and clarifications in response to comments made by Massachusetts Department of Environmental Protection (MassDEP) as part of the Notification of Wetlands Protection Act File Number dated September 09, 2024, and comments made by the Agawam Conservation Commission at the September 12, 2024, Hearing. Additionally, we request an amendment to the ANRAD filing (DEP file # 087-0702) to include the approval of the delineated Bank and MAHW associated with Worthington Brook.

Massachusetts Department of Environmental Protection (MassDEP) Comments

The following comments were made by MassDEP as part of the Notification of Wetlands Protection Act (WPA) File Number document, VHB's responses provided below in underlined italics

1. Please confirm delineation dates. Was it last October?
The delineation was conducted on October 17th and 24th of 2023.
2. It appears that the applicant is only requesting approval of BVW, under the Wetlands Protection Act. Unless the commission has a wetlands bylaw/ordinance where IVW is regulated, it should not be approving the boundary of an IVW. It does not appear that the applicant is requesting approval of Bank or the MAHWL of the perennial stream.
*The applicant is requesting the commission approve all delineated wetlands including BVW and Bank /Mean Annual High-Water Line (MAHWL). Additionally, the applicant is requesting the commission confirm the isolated wetlands (Wetland 1, 2, 3, 5, 6) are isolated and **not** Isolated Land Subject to Flooding (ILSF). An Updated WPA form 4A is provided below as part of this memorandum.*
3. To help ensure that conservation commissions have sufficient expertise available to address specific issues regarding an applicant's filing, M.G.L. c. 44, section 53g gives Commissions authority to charge a fee for the employment of outside consultants that allow for the use of the fee to ensure that they have the necessary information for them to make a decision pursuant to the Wetlands Protection Act M.G.L. c. 131, sec 40 and 310 CMR 10.00.
The applicant has provided payment to the Agawam Conservation Commission for the employment of an outside consultant to review the ANRAD and subsequent requested documentation.

Agawam Conservation Commission (ACC) Comments

The following comments were made by ACC during the September 12, 2024, Hearing, VHB's responses provided below in underlined italics.

1. The ACC requested a response to MassDEP comments provided as part of the Notification of Wetlands Protection Act (WPA) File Number document.

The response to MassDEP comments has been provided as part of this document and located in the previous section.

2. The ACC requested and updated form to reflect the correct application name and amendment to the ANRAD

The updated WPA form 4A form is included as an attachment to this memorandum and the applicant formally requests the original ANRAD be amended to include the confirmation of Bank/MAHWL, delineated as the bank, of Worthington Brook. Regulatory and resource details of the Worthington Brook are included as part of the original submittal.

If you have any questions or comments, please feel free to contact me by phone at 508-513-2708 or by email at dflawrence@vhb.com.

Sincerely,

Dorothy Lawrence

Dorothy Lawrence
Environmental Scientist

Attachments:
WPA Form 4A

cc: MassDEP WERO; John Furman, VHB; Marie Izzo, Longbrook Condo Association

WPA Form 4A



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

**WPA Form 4A – Abbreviated Notice of
Resource Area Delineation**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

087-0702

MassDEP File Number

Document Transaction Number

Agawam

City/Town

A. General Information

1. Project Location (**Note:** electronic filers will click on button for GIS locator):

1485 Suffield Street

a. Street Address

Agawam

b. City/Town

01001

c. Zip Code

Latitude and Longitude:

42.038390

d. Latitude

-72.631370

e. Longitude

I2, I3, J2, J3

f. Assessors Map/Plat Number

12-3-306

g. Parcel /Lot Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



2. Applicant:

Marie

a. First Name

Izzo

b. Last Name

Longbrook Condo Association

c. Organization

476 College Hwy

d. Mailing Address

Southwick

e. City/Town

MA

f. State

01077

g. Zip Code

4135695557

h. Phone Number

i. Fax Number

atriumpropertyservices@comcast.net

j. Email Address

3. Property owner (if different from applicant):

☐ Check if more than one owner (attach additional sheet with names and contact information)

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

4. Representative (if any):

Dorothy

a. Contact Person First Name

Lawrence

b. Contact Person Last Name

VHB

c. Organization

120 Front Street #500

d. Mailing Address

Worcester

e. City/Town

MA

f. State

01608

g. Zip Code

508-513-2708

h. Phone Number

i. Fax Number

dflawrence@vhb.com

j. Email Address

5. Total WPA Fee Paid (from attached ANRAD Wetland Fee Transmittal Form):

2000.00

a. Total Fee Paid

987.50

b. State Fee Paid

1012.50

c. City/Town Fee Paid

Fees will be calculated for online users.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
**WPA Form 4A – Abbreviated Notice of
 Resource Area Delineation**
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
 City/Town

B. Area(s) Delineated

1. Bordering Vegetated Wetland (BVW) 1676
 Linear Feet of Boundary Delineated
2. Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:
 - a. ☒ MassDEP BVW Field Data Form (attached)
 - b. ☒ Other Methods for Determining the BVW boundary (attach documentation):
 1. ☒ 50% or more wetland indicator plants
 2. ☒ Saturated/inundated conditions exist
 3. ☒ Groundwater indicators
 4. ☒ Direct observation
 5. ☒ Hydric soil indicators
 6. ☐ Credible evidence of conditions prior to disturbance
3. Indicate any other resource area boundaries that are delineated:

<u>Bank/MAHWL</u>	<u>1471</u>
a. Resource Area	b. Linear Feet Delineated
<u>Confirm IVW's are not ILSF</u>	<u>1887</u>
c. Resource Area	d. Linear Feet Delineated

C. Additional Information

Applicants must include the following plans with this Abbreviated Notice of Resource Area Delineation. 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.

1. ☒ ANRAD (Delineation Plans only)
2. ☒ 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.)
3. ☒ Plans identifying the boundaries of the Bordering Vegetated Wetlands (BVW) (and/or other resource areas, if applicable).
4. ☒ List the titles and final revision dates for all plans and other materials submitted with this Abbreviated Notice of Resource Area Delineation.

D. Fees



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
**WPA Form 4A – Abbreviated Notice of
 Resource Area Delineation**
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

 MassDEP File Number

 Document Transaction Number

 Agawam
 City/Town

The fees for work proposed under each Abbreviated Notice of Resource Area Delineation must be calculated and submitted to the Conservation Commission and the Department (see Instructions and Wetland Fee Transmittal Form).

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 the attached Wetland Fee Transmittal Form) to confirm fee payment:

386424

2. Municipal Check Number

386360

4. State Check Number

Vanasse Hangen Brustlin, INC

6. Payor name on check: First Name

08.28.2024

3. Check date

08.28.2024

5. Check date

Vanasse Hangen Brustlin, INC

7. Payor name on check: Last Name

E. Signatures

I certify under the penalties of perjury that the foregoing Abbreviated Notice of Resource Area Delineation and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
**WPA Form 4A – Abbreviated Notice of
 Resource Area Delineation**
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

 MassDEP File Number

 Document Transaction Number

 Agawam
 City/Town

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 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.

I hereby grant permission, to the Agent or member of the Conservation Commission and the Department of Environmental Protection, to enter and inspect the area subject to this Notice at reasonable hours to evaluate the wetland resource boundaries subject to this Notice, and to require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

I acknowledge that failure to comply with these certification requirements is grounds for the Conservation Commission or the Department to take enforcement action.

 1. Signature of Applicant

 2. Date

 3. Signature of Property Owner (if different)

 4. Date

 5. Signature of Representative (if any)

 6. Date

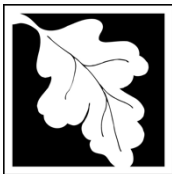
For Conservation Commission:

Two copies of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; two copies of the ANRAD Wetland Fee Transmittal Form; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; one copy of the ANRAD Wetland Fee Transmittal Form; and a copy of the state fee payment must be sent to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

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
ANRAD Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important:
 When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

1485 Suffield Street

a. Street Address

Agawam

b. City/Town

previously sent

c. Fee amount

d. Check number

2. Applicant:

Marie

a. First Name

Izzo

b. Last Name

Longbrook Condo Association

c. Company

476 Colledge Hwy

d. Mailing Address

Southwick

e. City/Town

MA

f. State

01077

g. Zip Code

4135695557

h. Phone Number

3. Property Owner (if different):

a. First Name

b. Last Name

c. Company

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

B. Fees

The fee is calculated as follows for each Resource Area Delineation included in the ANRAD (check applicable project type). The maximum fee for each ANRAD, regardless of the number of Resource Area Delineations, is \$200 activities associated with a single-family house and \$2,000 for any other activity.

Bordering Vegetated Wetland Delineation Fee:

1. ☐ single family house project

a. feet of BVW

x \$2.00 =

b. Fee for BVW

2. ☒ all other projects

1676

a. feet of BVW

2.00

x \$2.00 =

3352.00

b. Fee for BVW

Other Resource Area (e.g., bank, riverfront area, etc.):

3. ☐ single family house project

a. linear feet

x \$2.00 =

b. Fee

4. ☒ all other projects

3563

a. linear feet

2

x \$2.00 =

7126.00

b. Fee

2000.00

Fee

Total Fee for all Resource Areas:

987.50

State share of filing fee:

5. 1/2 of total fee less \$12.50

City/Town share of filing fee:

1012.50

6. 1/2 of total fee plus \$12.50

☐ **Online users:** check box if fee exempt.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

ANRAD Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Submittal Requirements

- a.) Send a copy of this form, with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Abbreviated Notice of Resource Area Delineation; a **copy** of this form; and the city/town fee payment.
- c.) **To DEP Regional Office:** Send one copy of the Abbreviated Notice of Resource Area Delineation (and any additional documentation required as part of a Simplified Review Buffer Zone Project); a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)



Town of Agawam Conservation Commission

Conservation Commission
36 Main Street
Agawam, MA 01001
Ph: 413-786-0400 ext.
8737
Fax: 413-786-9927

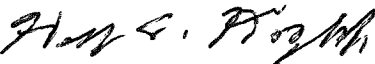
September 27, 2024

Jeff Gurney
Atrium Property Services
476 College Hwy
Southwick, Ma 01077

Dear Mr. Gurney:

At its duly called meeting held on September 26, 2024, the Agawam Conservation Commission voted to accept the Peer Review proposal submitted by Stockman Associates for the amount of \$3080.00 for an Abbreviated Notice of Resource Area Delineation (ANRAD) on property at 1485 Suffield Street. The Commission shall be responsible for expenditures.

Sincerely,


Henry A. Kozloski, Chairman
Agawam Conservation Commission

Cc: Dorothy Lawrence, VHB
Town Clerk
File #087-0702



Town of Agawam

Conservation Commission

Conservation Commission
36 Main Street
Agawam, MA 01001
Ph: 413-786-0400 ext.
8737
Fax: 413-786-9927

September 27, 2024

Jeff Gurney
Atrium Property Services
476 College Hwy
Southwick, Ma 01077

Dear Mr. Gurney:

At its duly called meeting held on September 26, 2024, the Agawam Conservation Commission voted to accept the Peer Review proposal submitted by Stockman Associates for the amount of \$3080.00 for an Abbreviated Notice of Resource Area Delineation (ANRAD) on property at 1485 Suffield Street. The Commission shall be responsible for expenditures.

Sincerely,

Henry A. Kozloski, Chairman
Agawam Conservation Commission

Cc: Dorothy Lawrence, VHB
Town Clerk
File #087-0702

September 10, 2024

Mr. Henry Kozloski, Chair
Town of Agawam Conservation Commission
750 Cooper Street
Agawam, MA 01001

Re: Abbreviated Notice of Resource Area Delineation (ANRAD)
Longbrook Condominiums
1485 Suffield Street
Agawam, MA 01001
(Parcel ID: I2-39-306)
Wetland Consultant Peer Review Proposal

Dear Mr. Kozloski:

Foremost, thank you for considering Stockman Associates LLC. It is our understanding that the Agawam Conservation Commission is seeking an estimate for a wetland consultant peer review of an Abbreviated Notice of Resource Area Delineation (ANRAD) submitted by VHB on behalf of their client, Longbrook Estate Condominium Trust, for the review of delineated resource area boundaries located at 1485 Suffield Street (Parcel ID: I2-39-306) in Agawam, MA. Based on the ANRAD narrative prepared by VHB dated August 29, 2024, the boundaries of Bordering Vegetated Wetlands (Wetlands 4 and 7) and Bank (Worthington Brook) will be reviewed. It is our understanding that the scope will also include a review of the presented Isolated Vegetated Wetlands to confirm isolation and non-ILSF status.

Scope of Work

Field Work

Site Visit(s): to review and confirm field work performed by VHB and depicted on the ANRAD site plan dated October 25, 2023, including the review of the Bordering Vegetated Wetland and Bank boundaries, data plots and the IVWs described above. It is anticipated that boundary delineation flagging will be clearly visible and labeled in the field. Any observation plots utilized by VHB to evaluate soils, vegetation, and hydrology should also be clearly marked on a site plan and in the field for review.

Furthermore, it is anticipated that a representative from VHB as well as members of the Agawam Conservation Commission may be present during the site visits.

Estimated 1 Field Days

Materials Review

Abbreviated Notice of Resource Area Delineation (ANRAD) Review: including the review of the ANRAD WPA Form 4A, and other supporting documents submitted with the August 29, 2024 ANRAD prepared by VHB.

The review will be performed under the Massachusetts Wetlands Protect Act (MA WPA) regulations (310 CMR 10.00). It is our understanding that the Town of Agawam does not have a local wetland protection bylaw.

Follow-up Review: including the review of VHB responses to our initial findings report, revisions to the plans and other submitted documents.

Reporting

Review Findings: including a findings report and recommendations based on the materials review and the site visit. The report will specifically address concurrence and non-concurrence with resource area boundaries as presented in the ANRAD prepared by VHB.

Follow-up Review Findings: including a follow-up findings report identifying any outstanding comments not addressed by VHB.

Meetings

Attendance: This proposal includes attendance at one (1) in person Conservation Commission meeting.

Total Cost Estimate

28 hours
\$3,080

Please note that the above cost estimate has been provided based on the August 29, 2024 ANRAD submittal prepared by VHB and includes one review of revised materials. Any additional submittals, additional site visits, and/or public hearings would be considered extra work beyond the proposed scope. If additional review is requested during the process, Stockman Associates LLC will bill for those services at the rates provided below.

Hourly Rates (including travel):

Wetland Scientist \$110/hour
Field Technician \$65/hour

This proposal is valid for 30 days. Our receipt of a signed copy of this proposal and confirmation of funding will serve to authorize Stockman Associates LLC to proceed with the work outlined above in our Scope of Services and in the attached General Contract Conditions.

It is anticipated that work will commence within two weeks of authorization. Please note that aspects of the proposed timeline are subject to the scheduling and availability of others as well as site conditions and, therefore, may be subject to change. The review of boundaries in the field is dependent on time of year constraints and site conditions. Based on our current workload we have limited availability until the week of October 7th 2024. Please note that the office will be closed the week of September 30th 2024.

I look forward to working with you on this project. Thank you for considering Stockman

Associates LLC.

If you have any questions regarding the above estimate, please do not hesitate to contact me at emily@stockmanassociates.com or at 413-743-1372.

Sincerely,



Emily Stockman, M.S., P.W.S.
Senior Scientist/Principal
Stockman Associates LLC

AUTHORIZATION TO PROCEED

Agawam Conservation Commission

Abbreviated Notice of Resource Area Delineation (ANRAD)

Longbrook Condominiums

1485 Suffield Street

Agawam, MA 01001

(Parcel ID: I2-39-306)

Wetland Consultant Peer Review Proposal

I hereby authorize Stockman Associates LLC to proceed with the above-referenced project in accordance with the Scope of Services described herein.

Agawam Conservation Commission

Printed Name

Date

Signature

Title

Site Plans

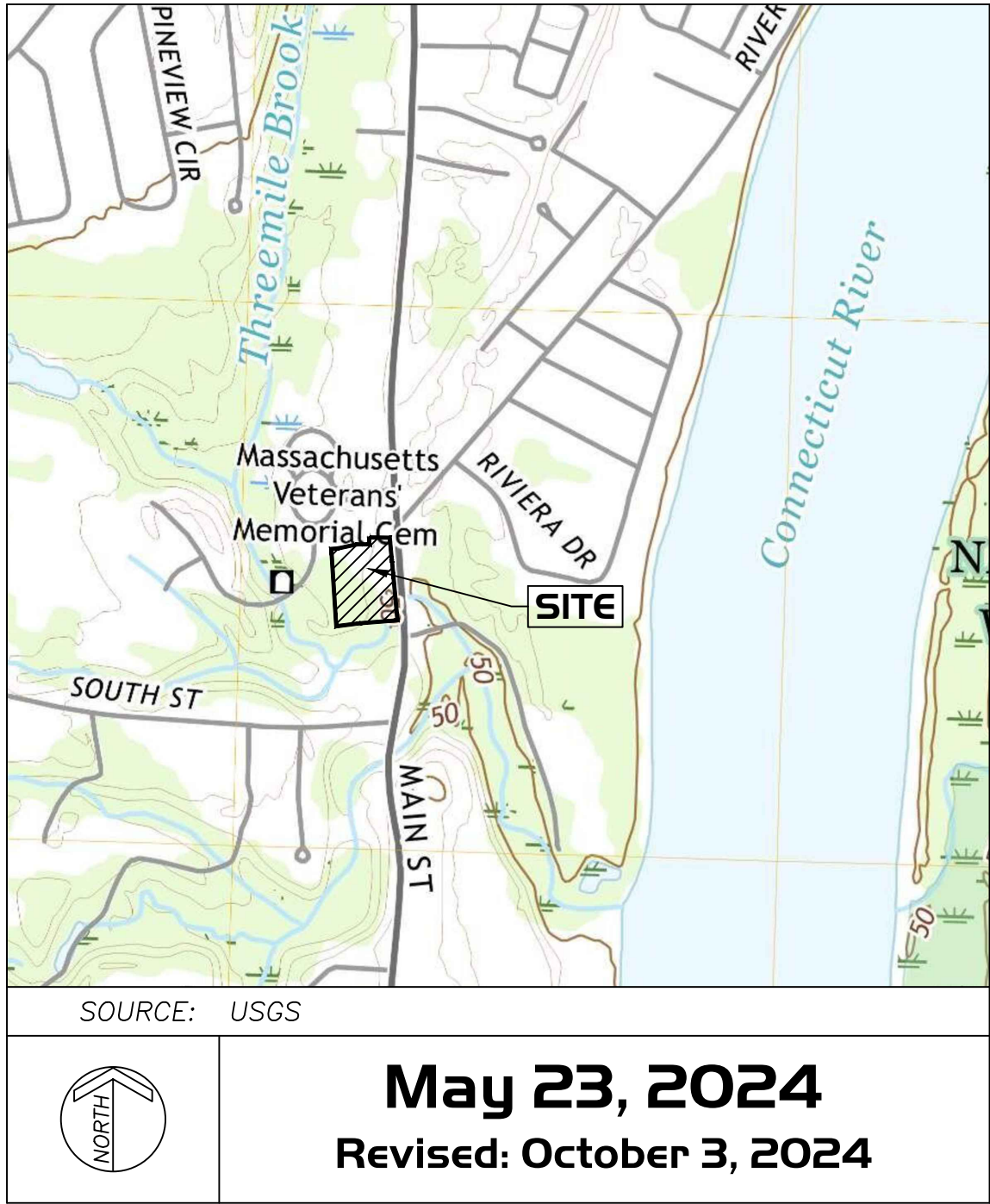
Proposed Hotel

1422 - 1444 Main Street Agawam, MA Map K4 Block I Parcel 5, 6, 7, & 13

AS PREPARED FOR

Shield Hotels
Mr. Kenny Patel

63 Myron Street
West Springfield, MA 01089



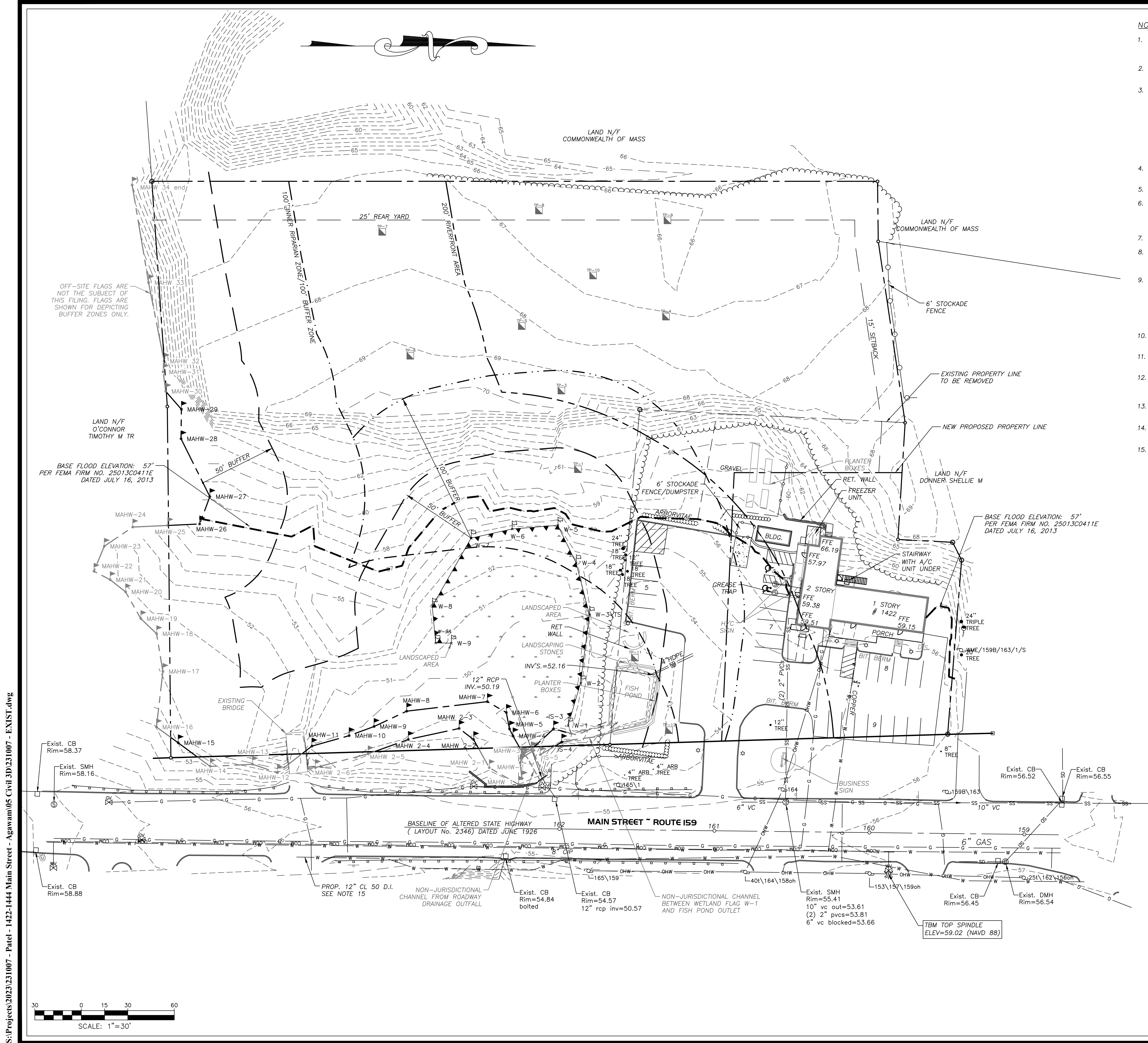
DRAWING INDEX			
SHEET NO.	SHEET NAME	ISSUE DATE	REVISION DATE
T-1	TITLE SHEET	5/23/24	10/3/24
EX-1	EXISTING CONDITIONS PLAN	5/23/24	10/3/24
C-1	NOTES, SYMBOL & LINE LEGEND, AND ABBREVIATIONS	5/23/24	9/9/24
C-2	CONSTRUCTION NOTES	5/23/24	
C-3	DEMOLITION AND REMOVALS PLAN	5/23/24	10/3/24
C-4	LAYOUT AND MATERIALS PLAN	5/23/24	10/3/24
C-5	GRADING, EROSION & SEDIMENTATION CONTROL PLAN	5/23/24	10/3/24
C-6	DRAINAGE AND UTILITIES PLAN	5/23/24	10/3/24
C-7	LANDSCAPING PLAN	5/23/24	10/3/24
SL-1	PHOTOMETRIC PLAN	5/23/24	9/24/24
VEH-1	VEHICLE SWEEP PATH	8/1/24	9/24/24
D-1	DETAILS	5/23/24	9/24/24
D-2	DETAILS	5/23/24	
D-3	DETAILS	5/23/24	
D-4	DETAILS	5/23/24	9/24/24
D-5	DETAILS	5/23/24	9/24/24

BY



**R LEVESQUE
ASSOCIATES INC**
A LAND PLANNING SERVICES COMPANY

40 School Street · Westfield, MA · 01085
ph 413.568.0985 · fax 413.568.0986
www.rlaland.com

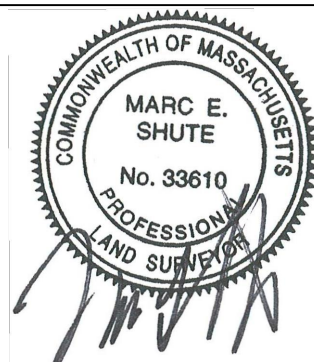


NOTES

1. THE RECORD OWNER OF THE SUBJECT PARCEL IS RENU RAYONIA AND RAJESH RAYONIA AND DEBRA ANN DESMOND. SEE HAMPTON COUNTY REGISTRY OF DEEDS BOOK 13612 PAGE 330 AND BOOK 18614 PAGE 149.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON A PLAN TITLED, "BASE MAP" PREPARED BY D.L. BEAN INC, DATED APRIL 2012.
3. THE EXISTING BUILDING(S) SHOWN HEREON ARE BASED ON AN APPROXIMATE MEASUREMENT OF THE OUTSIDE PERIMETER OF THE EXISTING STRUCTURES. THE ACTUAL LOCATION OF THE EXISTING BUILDING WALLS AND CORNERS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION WORK THAT WOULD ABUT OR TAKE PLACE ADJACENT TO THE EXISTING BUILDING(S). IF THE PLAN HEREON IS USED FOR CONSTRUCTION LAYOUT PURPOSES, THE PARTIES CONDUCTING LAYOUT SHALL CONTACT R. LEVESQUE ASSOCIATES INC. PRIOR TO SAID LAYOUT TO DETERMINE PROPER CONTROL. PLEASE NOTE WHILE THE BUILDING(S) ARE SHOWN TO BE SQUARE, IT SHOULD NOT BE ASSUMED THAT THE WALLS ARE SQUARE OR PLUMB. R. LEVESQUE ASSOCIATES TAKES NO RESPONSIBILITY FOR THIRD PARTY LAYOUT OF THE PLAN SHOWN HEREON.
4. THIS PLAN HAS BEEN PREPARED FOR SITE PLANNING PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE.
5. SUBJECT PARCELS CONTAINS 4.04 ACRES.
6. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
7. WETLANDS AND M.A.H.W. DELINEATED BY R. LEVESQUE ASSOCIATES INC IN MAY 2024.
8. THE EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A TOPOGRAPHIC SURVEY PERFORMED BY R. LEVESQUE ASSOCIATES, INC. MARCH 2014 AND DECEMBER 2023. THE VERTICAL DATUM USED IN THE SURVEY IS NAVD88.
9. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AVAILABLE RECORD DATA, TOWN OF AGAWAM GIS. R. LEVESQUE ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. R. LEVESQUE ASSOCIATES, INC. FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HERE ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
10. ADJACENT PROPERTY LINES AND ABUTTERS SHOWN HEREON ARE REFERENCED FROM THE TOWN OF AGAWAM GIS MAPPING.
11. SUBJECT PARCEL IS ZONED BUSINESS A. DUE TO A ZONED CHANGED APPROVAL ALL PROPERTY SHOWN IS BUSINESS A.
12. THE SUBJECT PARCEL IS LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 25013C0411E - EFFECTIVE DATE: JULY 16, 2013. FLOOD ELEVATION 57' (NAVD 88).
13. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.
14. TEST PIT LOCATION SHOWN HEREON PERFORMED BY R. LEVESQUE ASSOCIATES INC. ON 12-27-2023
15. PROPOSED 12" CL 50 D.I. TAKEN FROM PLAN ENTITLED MAIN STREET WATER MAIN IMPROVEMENTS DATED 2-24-2000.

EXISTING CONDITIONS PLAN

1422 and 1444 Main Street
Parcel ID: K4-I-7, K4-I-13, K4-I-5 & K4-I-6
Agawam, MA.



PREPARED FOR:

Shields Hotel
c/o Mr. Kenny Patel
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:
A. Revised MAHW	7/16/24
B. Peer Review Comments	8/20/24
C. Guardrail location updated	9/9/24
D. Offsite swale added, buffer zone	9/24/24
E. Revise 100' Buffer	10/3/24

DRAFTED BY: t.o.

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SCALE: As Noted

RLA PROJ. NUMBER: 231007

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S:\Projects\2023\231007 - Patel - 1422-1444 Main Street - Agawam\05 Civil\2023\231007 - SITE.dwg

SYMBOL & LINE LEGEND	
	IRON PIPE FOUND
	IRON PIPE TO BE SET
	CONCRETE BOUND FOUND
	CONCRETE BOUND TO BE SET
	COMPUTED POINT
	EXISTING SIGN
	EXISTING MAILBOX
	EXISTING MONITORING WELL
	EXISTING LIGHT POLE
	UTILITY POLE
	GUY ANCHOR
	EXISTING ELECTRIC MANHOLE
	EXISTING TELEPHONE MANHOLE
	EXISTING CABLE TV BOX
	EXISTING WELL LOCATION
	EXISTING WATER VALVE
	EXISTING WATER SHUT-OFF
	EXISTING HYDRANT
	PROPOSED WATER VALVE
	PROPOSED HYDRANT
	EXISTING GAS VALVE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING CATCH BASIN
	EXISTING DRAIN MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED MANHOLE
	SOIL BORING LOCATION
	TEST PIT LOCATION
	PERC TEST LOCATION
	WETLAND FLAG LOCATION
	M.A.H.W. FLAG LOCATION
	EXISTING STONE WALL
	TREE LINE
	EXISTING SPOT GRADE
	EXISTING CONTOUR
	PROPOSED SPOT GRADE
	PROPOSED CONTOUR
	EDGE OF WETLAND
	FENCE LINE
	GUARDRAIL
	EXISTING OVERHEAD WIRES
	EXISTING UNDERGROUND ELECTRIC
	EXISTING TELEPHONE LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING STORM DRAIN
	EXISTING SANITARY SEWER
	LIMIT OF WORK LINE
	SILT FENCE LINE

ABBREVIATIONS	
A.F.F.	– ABOVE FINISHED FLOOR
A.F.S.	– ABOVE FINISHED SLAB
APPROX.	– APPROXIMATE
A.T.F.	– ABOVE TOP OF FOUNDATION
BLDG.	– BUILDING
BLK.	– BLOCK
BOT.	– BOTTOM
B.O.W.	– BOTTOM OF WALL
BRG.	– BEARING
CB.	– CATCH BASIN
CL	– CENTERLINE
C.I.	– CAST IRON
CLR.	– CLEAR
CONC.	– CONCRETE
CONT.	– CONTINUOUS
CONTR.	– CONTRACTOR
DBL.	– DOUBLE
DET.	– DETAIL
D.I.	– DUCTILE IRON
DIA.	– DIAMETER
DIM.	– DIMENSION
DT'L.	– DETAIL
DWG.	– DRAWING
EA.	– EACH
ELEC.	– ELECTRIC
ELEV.	– ELEVATION
EXIST.	– EXISTING
EXT.	– EXTERIOR
FFE	– FINISH FLOOR ELEVATION
FIN.	– FINISH
FLR.	– FLOOR
FOUND.	– FOUNDATION
FT.	– FOOT OR FEET
INSTL.	– INSTALLED
LT.	– LIGHT
MAX.	– MAXIMUM
M.A.H.W.	– MEAN ANNUAL HIGH WATER
MH.	– MANHOLE
MIN.	– MINIMUM
MISC.	– MISCELLANEOUS
N.T.S.	– NOT TO SCALE
O.A.	– OVERALL
O.C.	– ON CENTER
PCB	– PROPOSED CATCH BASIN
PDMH	– PROPOSED DRAIN MANHOLE
PFES	– PROP. FLARED END SECTION
POCS	– PROP. OUTLET CONTROL STRUCT.
PROP.	– PROPOSED
PSMH	– PROP. SANITARY SEWER MANHOLE
PWQU	– PROP. WATER QUALITY UNIT
P.S.I.	– POUNDS PER SQUARE INCH
REINF.	– REINFORCING
R.H.	– RIGHT HAND
SHT.	– SHEET
SPEC.	– SPECIAL OR SPECIFICATIONS
SQ.	– SQUARE
ST.	– STEEL
STA.	– STATION
T.O.F.	– TOP OF FOUNDATION
T.O.W.	– TOP OF WALL
T.S.	– TOP OF STEEL
TYP.	– TYPICAL
W/	– WITH
WTR.	– WATER
W.W.M.	– WELDED WIRE MESH

EROSION & SEDIMENT CONTROL NOTES

MANAGEMENT STRATEGIES

- CONSTRUCTION TRAFFIC SHALL BE LIMITED TO THE CONSTRUCTION ENTRANCE.
- CONSTRUCTION SEQUENCE SHALL BE PHASED TO AVOID LEAVING LARGE AREAS EXPOSED FOR LONG PERIODS OF TIME.
- TEMPORARY SEED AND MULCH SHALL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING.
- SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED CONTINUOUSLY, ESPECIALLY FOLLOWING STORM EVENTS TO LOCATE FAILING CONTROL MEASURES AND CONDUCT ROUTINE MAINTENANCE OPERATIONS.
- THE CONSTRUCTION SUPERINTENDENT SHALL INFORM ALL ON-SITE WORKERS OF THE SEDIMENTATION CONTROL PROGRAM.

VEGETATIVE CONTROL PRACTICES

- TOPSOIL STOCKPILING: TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE DISTURBED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATION SHALL BE APPROVED BY THE OWNER AND ENGINEER AND BE WITHIN LIMIT OF WORK.
- TEMPORARY SEEDING: THE TEMPORARY SEDIMENT BASIN, TOPSOIL STOCKPILE AND ROUGH GRADED AREAS SHALL BE SEEDED WITH WINTER RYE AT A RATE OF 30 LBS. PER ACRE ANY SOILS THAT ARE LEFT EXPOSED AND UNDISTURBED FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED.
 - SITE PREPARATION
 - COMPLETE ALL ROUGH GRADING ACTIVITIES
 - REMOVE ALL ROCKS AND DEBRIS LARGER THAN 3" IN DIAMETER FROM AREAS TO BE TEMPORARILY SEEDED. –EVENLY APPLY LIME TO ACHIEVE A PH VALUE OF 6.0.
 - EVENLY APPLY 14 LBS. OF 5–10–10 ANALYSIS FERTILIZER TO A DEPTH OF 4" USING SUITABLE EQUIPMENT.
 - SEEDBED IS TO BE LEFT IN FIRM AND SMOOTH CONDITION.
 - THE LAST TILLAGE OPERATION SHALL BE PERFORMED ACROSS THE SLOPE.
 - ESTABLISHMENT
 - EVENLY APPLY SEED IN ACCORDANCE WITH THE SPECIES AND RATE INDICATED ABOVE BY MEANS OF BROADCASTING OR HYDROSEEDING.
 - UNLESS HYDROSEEDED, COVER SEED WITH 1/4" TO 1/2" OF TOPSOIL
 - APPLY MULCH OR EROSION CONTROL BLANKET IMMEDIATELY FOLLOWING SEEDING.
 - VERIFY SEEDING DATES WITH ENGINEER/LANDSCAPE ARCHITECT. IF ENGINEER/LANDSCAPE ARCHITECT DETERMINES THAT SEED CANNOT BE APPLIED DUE TO CLIMATE, TOPSOIL SHALL NOT BE SPREAD AND MULCHING SHALL BE APPLIED TO THE EXPOSED SURFACE TO STABILIZE SOILS UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
 - PERMANENT SEEDING SHALL BE APPLIED BETWEEN APRIL 15 AND SEPTEMBER 30. TEMPORARY SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS OUTSIDE THIS TIME FRAME, UPON APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.
 - MAINTENANCE
 - ALL SEEDED/MULCHED AREAS SHALL BE INSPECTED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE REPAIRED AS NECESSARY.

NONSTRUCTURAL CONTROL PRACTICES

- SCARIFICATION: EXPOSED SLOPES EXCEEDING 4:1 SHALL BE SCARIFIED AT RIGHT ANGLES TO THE SLOPE. PROVIDE PERIODIC UPGRADING OF SERRATIONS DURING EXPOSED PERIOD UNTIL VEGETATION IS ESTABLISHED. PROVIDE VEGETATIVE COVER AS SOON AS POSSIBLE.
- STRAW MULCH: STRAW MULCH SHALL BE APPLIED IN CONJUNCTION WITH TEMPORARY/PERMANENT SEEDING AND TO GRADED AREAS WHICH REMAIN EXPOSED OUTSIDE OF RECOMMENDED SEEDING DATES. MULCH SHALL BE APPLIED AT 90 LBS. PER 1000 S.F. CONTRACTOR SHALL PERIODICALLY INSPECT AND REAPPLY AS NECESSARY, PARTICULARLY FOLLOWING SIGNIFICANT STORM EVENTS.
- TOPSOIL: DISTURBED AREAS SHALL BE TOPSOILED PRIOR TO SEED APPLICATION. APPLICATION STANDARDS:
 - REMOVE ALL ROCKS AND DEBRIS OVER 1"–1 1/2" IN DIAMETER.
 - SCARIFY SURFACE PRIOR TO SEED APPLICATION.
 - APPLY 6" DEPTH OF TOPSOIL.
- SILT FENCE: SILT FENCE SHALL BE INSTALLED AROUND THE PERIMETER OF THE SITE, AT CULVERT OUTLET LOCATIONS, OR AS INDICATED ON THE DRAWINGS. SILT FENCE SHALL BE INSPECTED AND REPAIRED ROUTINELY, ESPECIALLY FOLLOWING STORM EVENTS UNTIL THE SITE HAS BEEN STABILIZED (COVER > 70%) BY VEGETATION.

STRUCTURAL CONTROL PRACTICES

- RIP–RAP OUTLET PROTECTION: RIP–RAP SHALL BE PROVIDED AT ALL PIPE OUTLETS. MATERIAL SHALL BE HARD, DURABLE FIELD OR QUARRY STONE WHICH IS ANGULAR AND RESISTS BREAKING DOWN WHEN EXPOSED TO WATER OR WEATHERING.
- CONSTRUCTION ENTRANCE: CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DRAWINGS.
- DUST CONTROL: A WATER TRUCK SHOULD BE LOCATED ON-SITE FOR DUST CONTROL WHILE WORK IS PROCEEDING. MAINTENANCE SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:
 - RIP–RAP OUTLET PROTECTION SHALL BE CHECKED REGULARLY FOR SEDIMENT ACCUMULATION. IF SIGNIFICANT AMOUNTS OF SEDIMENT ACCUMULATE, RIP–RAP SHALL BE REMOVED AND REPLACED.
 - SILT FENCING SHALL BE INSPECTED REGULARLY FOR UNDERMINING AND DETERIORATION. REMOVE SEDIMENT FROM BEHIND FENCE WHEN IT BECOMES 6 INCHES DEEP.
 - SEEDED/MULCHED AREAS SHALL BE INSPECTED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE REPAIRED AS NECESSARY.

SILT FENCE INSTALLATION NOTES

- THIS SEDIMENT BARRIER UTILIZES MIRAFI ENVROFENCE (100X) OR EQUAL. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.
- THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 36 INCHES (HIGHER BARRIERS MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE). IDEALLY THE FILTER FENCE SHALL BE PLACED 10 FEET AWAY FROM THE TOE OF SLOPE.
- WHEN JOINTS ARE NECESSARY, FILTER FABRICS SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT STAKES WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED. SEE MANUFACTURER'S RECOMMENDATION.
- STAKES SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). IN APPLICATIONS WHERE HEAVY FLOWS ARE EXPECTED SUCH AS IN-STREAM INSTALLATIONS STAKE SPACING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS AND/OR THE ENGINEERS RECOMMENDATIONS.
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF STAKES AND UPSLOPE FROM THE BARRIER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE PRE ASSEMBLED SILT FENCE SYSTEM SHALL BE UNROLLED, POSITION THE STAKES ON THE DOWNHILL SIDE OF THE TRENCH AND HAMMER THE STAKES AT LEAST 12 INCHES INTO THE GROUND.
- THE BOTTOM SIX (6) INCHES OF THE FABRIC SHALL BE LAID INTO THE TRENCH TO PREVENT UNDERMINING BY STORM WATER RUNOFF.
- BACKFILL THE TRENCH OVER THE FILTER FABRIC AND COMPACT SUFFICIENTLY TO PREVENT THE RUNOFF FROM ERODING THE BACKFILL.
- THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES OR SUPPORTS OTHER THAN THE STANDARD STAKES.
- INSTALLED SILT FENCE BARRIERS SHALL BE MAINTAINED ON A REGULAR SCHEDULE WHICH MAY BE PRESCRIBED BY THE LOCAL, STATE OF FEDERAL REGULATORY AUTHORITY; BUT, AT MINIMUM SHALL BE CHECKED WEEKLY AS WELL AS AFTER EACH STORM EVENT. MAINTENANCE SHALL CONSIST OF AN INSPECTION OF THE ENTIRE LENGTH OF THE BARRIER TO DETERMINE IF IT IS FUNCTIONING AS INTENDED. ALL BREAKS, DETACHED FABRIC, SLUMPED FABRIC, CLOGGED FABRIC, AND UNDERMINED AREAS SHALL BE FIXED THE DAY THAT THEY ARE DISCOVERED.
- WHEN A MAXIMUM OF SIX (6) INCHES OF SEDIMENT HAS ACCUMULATED BEHIND THE SILT FENCE THIS SEDIMENT SHALL BE REMOVED AND THE FENCE SHALL BE INSPECTED FOR TEARS, CLOGGING OF BREAKS. ALL DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY EITHER BY REPAIR OF REPLACEMENT OF THE SILT FENCE BARRIER AND/OR STAKES AS NEEDED.
- SILT FENCE BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN CLEANED OF SILT AND PERMANENTLY STABILIZED.

STRAW BALE INSTALLATION & MAINTENANCE (AS REQ'D)

- STRAW BALES SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.
- ALL BALES SHALL BE EITHER WIRE BOUND OR STRING TIES. BALES SHALL BE INSTALLED SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES TO PREVENT DETERIORATION OF THE BINDINGS.
- THE BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER TO A MINIMUM DEPTH OF FOUR (4) INCHES AND A MAXIMUM DEPTH OF SIX (6) INCHES. AFTER THE BALES ARE STAKED AND CHINKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AGAINST THE BARRIER. BACKFILL SOIL SHALL CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHALL BE BUILT UP TO FOUR (4) INCHES AGAINST THE UPHILL SIDE OF THE BARRIER.
- EACH BALE SHALL BE SECURELY ANCHORED BY AT LEAST TWO (2) STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES OR REBARS SHALL BE DRIVEN DEEP ENOUGH INTO THE GROUND TO SECURELY ANCHOR THE BALES.
- THE GAPS BETWEEN BALES SHALL BE CHINKED (FILLED BY WEDGING) WITH STRAW TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES. (LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY.)
- STRAW BALES GENERALLY DETERIORATE IN 2–6 MONTHS AND THUS NEED REPLACEMENT.
- INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALE BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SITE PREP

- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATION, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH.
- CONTRACTOR SHALL ERECT AND MAINTAIN SAFETY BARRICADES AND POST PROPER NOTICES PRIOR TO THE COMMENCEMENT OF WORK.
- CONTRACTOR SHALL PROTECT EXISTING SITE IMPROVEMENTS, APPURTENANCES, AND LANDSCAPING TO REMAIN.
- CONTRACTOR SHALL MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM FROM DAMAGE DURING DEMOLITION OPERATIONS.
- DO NOT DAMAGE EXISTING UTILITIES TO REMAIN WITHIN PROJECT AREA. ALL DAMAGE TO EXISTING UTILITIES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE UTILITY OWNER.
- THERE SHALL BE NO BURNING OF DEMOLISHED MATERIAL ALLOWED ON SITE.
- CONTRACTOR SHALL COORDINATE WITH OWNER FOR ANY ITEMS TO BE TURNED OVER TO OWNER.
- DEMOLISH AND REMOVE ALL PAVEMENT, SLABS, FOOTINGS, SUBSURFACE ELEMENTS, MISCELLANEOUS DEBRIS, ETC. WITHIN PROPERTY LINES UNLESS NOTED OTHERWISE.
- CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST SO THAT DUST DOES NOT CREATE A NUISANCE ON ADJACENT ROADS OR PROPERTIES. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND CATCH BASIN CLEANING AFTER EACH PHASE OF CONSTRUCTION AND AS NEED IS DETERMINED BY THE ENGINEER.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY ABANDONED SUBSURFACE SOIL ABSORPTION SYSTEM (SAS) AND MISCELLANEOUS DEBRIS.
- NO ACTIVITY OTHER THAN NORMAL MAINTENANCE SHALL OCCUR OUTSIDE OF LIMIT OF WORK LINES AS SHOWN ON PLAN WITHOUT THE APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY DIG SAFE @ 1-888-344-7233 PRIOR TO COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITY.

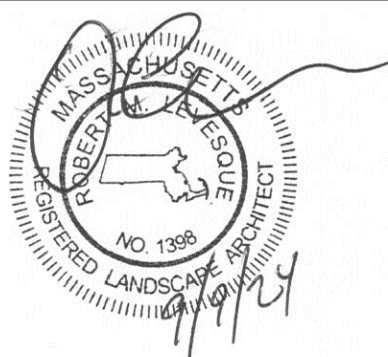
LANDSCAPE NOTES

- THE CONTRACTOR SHALL VERIFY FINAL SELECTION OF PLANT MATERIALS WITH THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO INSTALLATION.
- NO PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR DAMAGE. THE OWNER/LANDSCAPE ARCHITECT RETAINS THE RIGHT TO REJECT ANY PLANT MATERIAL DEEMED UNFIT.
- WARRANTEE: FOR A PERIOD OF TWO GROWING SEASONS FROM THE DATE THAT THE WORK UNDER THIS CONTRACT IS CERTIFIED AS SUBSTANTIALLY COMPLETE, THE CONTRACTOR SHALL: 1) WARRANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2)REMOVE AND REPLACE DURING THIS GUARANTEE PERIOD PLANTS WHICH DIE OR ARE IN POOR CONDITION AS DETERMINED BY THE OWNER; 3) REPLANT WITH STOCK OF SAME SIZE AND QUALITY AS ORIGINALLY SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO THE OWNER.
- ALL NEW LAWN AREAS SHALL RECEIVE A MINIMUM OF 4 INCHES TOPSOIL OF THE PROPER pH AND ORGANIC CONTENT SUITABLE FOR THE HEALTHY GROWTH OF LAWNS. THESE AREAS SHALL BE SEEDED WITH A FINE BLADE LAWN GRASS SEED OR SODDED. ADDITIONAL OFF-SITE TOPSOIL MAY BE REQUIRED.
- ALL AREAS TO BE MULCHED SHALL RECEIVE 4 INCHES MINIMUM 100% SHREDDED BARK MULCH WITHIN 48 HOURS OF PLANTING UNLESS OTHERWISE NOTED IN PLANTING DETAILS.
- ALL TREE AND SHRUB PITS SHALL BE AT LEAST 2 FEET WIDER AND 1 FOOT DEEPER THAN THE TREE OR SHRUB ROOT BALL TO BE PLANTED IN IT. BACKFILL SHALL BE HIGH QUALITY LOAM OF THE PROPER pH AND ORGANIC CONTENT SUITABLE FOR THE HEALTHY GROWTH OF PLANT MATERIALS.
- ALL PLANTS SHALL BE NURSERY GROWN AND CONFORM TO THE LATEST EDITION OF "ANSI Z60.1, AMERICAN STANDARD FOR NURSERY STOCK".
- EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, MECHANICAL INJURIES, AND IN ALL RESPECTS BE SUITABLE FOR FIELD PLANTING.
- EACH PLANT TO BE IN THE TOP OF ITS SIZE CLASS AFTER SHEARING AND PRUNING.
- ADJACENT TO THE TOP OF ANY WALLS OVER 36" A FENCE OR WALL SHALL BE CONSTRUCTED PER PLAN THAT MEETS LOCAL BUILDING CODE AND ALL OTHER APPLICABLE STATE AND FEDERAL LAWS.
- SEE DETAIL SHEETS FOR ADDITIONAL DETAILS & SPECIFICATIONS.
- SHOULD GC OR ANY SUBCONTRACTOR ENCOUNTER A DISCREPANCE/CONFLICT IN THE PLAN AN THE ACTUAL LOCATION OF A SITE FEATURE, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT/ENGINEER AND OWNER IMMEDIATELY.
- ALL AREAS DISTURBED DURING CONSTRUCTION NOT DESIGNATED TO RECEIVE OTHER TREATMENT SHALL BE LOAMED TO A MINIMUM DEPTH OF 4" AND SEEDED IN ACCORDANCE WITH THE FOLLOWING:
 - INCORPORATE GROUND LIMESTONE INTO ALL AREAS TO BE SEEDED AT A RATE OF 50 LBS/1,000 S.F.
 - APPLY 10–6–4 FERTILIZER TO ALL AREAS TO BE SEEDED AT A RATE OF 2 LBS/1,000 S.F.
 - THOROUGHLY INCORPORATE LIME AND FERTILIZER INTO SEED BED TO DEPTH OF 3" BY DISCING OR OTHER APPROVED METHOD.
 - SEED WITH THE FOLLOWING MIXTURE, APPLIED AT A RATE OF 10 LBS/1,000 S.F. SEED MIX:

NAME OF SEED	% BY WEIGHT IN MIXTURE	MIN. % PURITY	MIN. GERMINATION
POS PRETENSES "BARON" BARON BLUEGRASS	50	90	75
FESTUCA RUBRA "PENNLAWN" PENNLAWN FESCUE	25	95	85
LOLIUM PERENNE "PENNFINE" PENNFINE	25	98	95
 - MULCH ALL SEEDED AREAS WITH STRAW AT A RATE OF 5 LBS/1,000 S.F.UNLESS HYDROSEEDING WAS USED.
 - ALL SLOPES OF 3:1 OR GREATER AFTER BEING LOAMED, SEEDED AND MULCHED IN ACCORDANCE WITH THE ABOVE SHALL SECURED WITH EROSION CONTROL BLANKETS (NO. AMERICAN GREEN S150 OR EQUAL). OVERLAP ALL NETTING JOINTS A MINIMUM OF 6" AND SECURE WITH DOUBLE ROW OF STAPLES.

NOTES, SYMBOL & LINE LEGEND AND ABBREVIATIONS

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024
REVISIONS: DATE:
A. Peer review comments 9/9/24

DRAFTED BY: M.B. & J.T.

UNAUTHORIZED ALTERATION OF THIS DOCUMENT IS A VIOLATION OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 231007

DRAWING# REV.

C-1

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PERMITTING
NOT FOR CONSTRUCTION

S:\Projects\2023\231007 - Patel - 1422-1444 Main Street - Agawam\05 Civil\3D\231007 - SITE.dwg

GENERAL CONSTRUCTION NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY/TOWN REPRESENTATIVES, CONSULTING ENGINEER/LANDSCAPE ARCHITECT, UTILITY COMPANY REPRESENTATIVES, AND ANY OTHER AFFECTED PARTIES.
2. THE OWNER, R LEVESQUE ASSOCIATES, INC., AND/OR THEIR REPRESENTATIVES, IN PREPARING THESE PLANS HAVE ATTEMPTED TO LOCATE ALL EXISTING UTILITIES IN THE PROJECT AREA. HOWEVER, THERE MAY BE UTILITIES THAT WERE NOT OR COULD NOT BE LOCATED. UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CALL ALL APPROPRIATE UTILITY COMPANIES FOR LOCATIONS OF THEIR UTILITIES AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION. IN THE EVENT THAT A UTILITY IS SITUATED SUCH THAT CONSTRUCTION CANNOT PROCEED AS SHOWN ON THE PLANS, THE PROJECT ENGINEER/LANDSCAPE ARCHITECT AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
3. THE SITE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
4. ALL FILL WORK REQUIRED TO BRING THE PROPOSED ROADWAY UP TO SUB-GRADE LEVEL SHALL CONFORM TO MHD SPECIFICATIONS SECTION 150.
5. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
6. ALL WORK IN THE CITY/TOWN RIGHT-OF-WAY AND EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN SPECIFICATIONS AND MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
7. THE CONTRACTOR SHALL GIVE THE CITY/TOWN A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
9. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE CONDITIONS OF APPROVAL OUTLINED IN ALL STATE AND LOCAL PERMITS. COPIES OF THE CONDITIONS ARE INCLUDED WITHIN THE PROJECTS TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THIS INFORMATION PRIOR TO CONSTRUCTION AND CONFORMING TO THE CONDITIONS AS REQUIRED DURING CONSTRUCTION.
10. THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. THE WORK AREAS ARE TO BE PICKED UP AT THE END OF EACH WORK DAY.
11. ANY TEMPORARY FACILITIES FOR THE STORAGE OR PROTECTION OF TOOLS, EQUIPMENT OR MATERIALS SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES DURING CONSTRUCTION, AND COMPLIANCE WITH STATE AND FEDERAL REGULATIONS REGARDING SAFETY SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY.
12. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. NO EXTRAS DUE TO UNFAMILIARITY WITH THE EXISTING SITE OR WORKING CONDITIONS WILL BE ALLOWED.
13. CONTRACTOR SHALL BE REQUIRED TO PERFORM FINAL CLEANUP CONSISTING OF CLEANING THE PROPOSED DRAINAGE AND SEWER SYSTEMS OF ALL DEBRIS PRIOR TO THE ACCEPTANCE BY THE OWNER. ADDITIONALLY, THE PROPOSED ROADWAY SHALL BE CLEANED AND SWEEPED BY THE CONTRACTOR PRIOR TO ACCEPTANCE.
14. ALL EXCAVATION SHALL COMPLY WITH OSHA'S LATEST STANDARDS. ALL REQUIREMENTS OF OSHA'S EXCAVATION STANDARDS SHALL BE PROVIDED BY THE CONTRACTOR INCLUDING, BUT NOT LIMITED TO, THE PROVISION FOR A COMPETENT PERSON ON SITE MANAGER AND ANY REQUIRED DOCUMENTATION THAT MAY REQUIRE CERTIFICATION BY A PROFESSIONAL ENGINEER. THE OWNER, THROUGH ITS ENGINEER, SHALL EXPRESSLY NOT PROVIDE ANY OF THE ABOVE REQUIREMENTS DESIGNATED BY OSHA'S EXCAVATION STANDARD.
15. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COST OF LAYING OUT ALL ITEMS OF THE WORK BASED ON CERTAIN HORIZONTAL CONTROL AND BENCHMARK SUPPLIED BY THE SURVEYOR OF RECORD. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
16. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, PERMITS AND APPURTENANCES NECESSARY TO PROVIDE A COMPLETE PROJECT AS INDICATED ON THE PLANS AND IN THESE SPECIFICATIONS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A THOROUGH SITE EXAMINATION IN ORDER TO PREPARE SITE FOR CONSTRUCTION.
18. ANY AND ALL DEMOLISHED TREES, STRUCTURES AND OTHER RUBBLE MATERIAL PERTAINING TO THIS PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT HIS EXPENSE IN ACCORDANCE WITH ALL OF THE CITY/TOWN ORDINANCES AND ALL APPLICABLE STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
19. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
20. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING OR COVERING WITH STEEL PLATES.
21. ALL MATERIALS AND METHODS ARE TO COMPLY WITH THE CITY/TOWN DPW STANDARDS OR MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) (WHERE APPLICABLE), UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
22. PERMITS WILL BE REQUIRED BY CONTRACTOR WHEN WORKING WITHIN OR OCCUPYING PUBLIC WAY. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED WORK PERMITS AND MAINTAINING A COPY OF ALL PERMITS IN A THREE RING BINDER OR PROJECT BOOK AND ON-SITE AT ALL TIMES.
23. BACKFILL WILL BE PLACED IN SUCCESSIVE LAYERS NOT MORE THAN TWELVE INCHES IN THICKNESS AND SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY DETERMINED BY STANDARD PROCTOR TEST (ASTM 698) FOR ALL APPLICABLE TYPES OF BACKFILL MATERIAL. NO FROZEN MATERIAL SHALL BE USED AS BACKFILL. IF, IN THE OPINION OF THE ENGINEER OR THE DPW, THE EXCAVATED MATERIAL IS UNSUITABLE, THE ENTIRE MATERIAL FOR BACKFILLING SHALL CONSIST OF APPROVED GRAVEL OR APPROVED BORROW, AS DIRECTED. AFTER THOROUGH TAMPING AROUND AND BENEATH THE UTILITY, A SIX-INCH LAYER OF BACKFILL WILL BE THOROUGHLY COMPACTED AS FOLLOWS: IF DRY, SHALL BE MOISTENED AND THEN COMPACTED WITH MECHANICAL TAMPERS OR BY HAND TAMPERS HAVING A TAMPING FACE NOT EXCEEDING 25 SQUARE INCHES IN AREA. THE FINAL TWELVE INCHES OF FILLING WILL, IN ALL CASES, CONSIST OF APPROVED GRAVEL THOROUGHLY TAMPED.
24. CONTRACTOR SHALL PROVIDE FIELD COMPACTION VERIFICATION UTILIZING ASTM D5195-02, STANDARD TEST METHOD FOR DENSITY OF SOIL & ROCK IN-PLACE AT DEPTHS BELOW THE SURFACE BY NUCLEAR METHODS.
25. CONTRACTOR SHALL PROVIDE FIELD COMPACTION RESULTS TO ENGINEER WITHIN 24-HOURS PRIOR TO PLACEMENT OF INFRASTRUCTURE OR BITUMINOUS BINDER.
26. ALL FILL TO BRING PROPOSED ROADWAY UP TO THE SUB-GRADE LEVEL SHALL EXTEND PAST THE EDGE OF THE RIGHT-OF-WAY AT A 2:1 SLOPE. THIS IS TO PROVIDE ADEQUATE SUPPORT FOR THE RIGHT-OF-WAY.

LAYOUT NOTES

1. ALL CONSTRUCTION IN CITY/TOWN RIGHT-OF-WAYS AND/OR EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN STANDARD SPECIFICATIONS.
2. IN THE EVENT OF DISCREPANCIES BETWEEN LOCAL SPECIFICATIONS AND SITE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
3. SITE CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION AND SHALL REPLACE OR REPAIR, AT HIS OWN EXPENSE, BENCHMARKS AND MONUMENTATION DISTURBED DURING CONSTRUCTION.
4. ALL STRIPING, PAVEMENT MARKINGS, AND TRAFFIC SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL WORK SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES AND ORDINANCES INCLUDING BUT NOT LIMITED TO: AASHTO, OSHA, EPA, DEP, MASSDOT, ETC. THE GENERAL CONTRACTOR SHALL APPLY FOR ALL PERMITS AND SHALL PAY ALL PERMIT RELATED FEES. ALL NECESSARY PERMITS SHALL BE OBTAINED PRIOR TO THE START OF WORK.
6. ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS ARE TO BE VERIFIED BY THE CONTRACTOR. IF FIELD CONDITIONS VARY SIGNIFICANTLY ENOUGH TO REQUIRE A CHANGE TO THE CONTRACT DOCUMENTS, THE PROJECT PROPONENT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
7. THE SITE/GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL CONTACT THE OWNER AND ENGINEER SHOULD HE FIND ANY CONFLICT OR INCONSISTENCY BETWEEN THE WORK SHOWN ON THE DRAWINGS AND NORMAL ACCEPTED CONSTRUCTION PRACTICES, OR HE SHALL ASSUME RESPONSIBILITY FOR ALL CORRECTIONS.
8. ANY CORRECTIONS REQUIRED FOR REVISIONS TO THE CONTRACT DRAWINGS INITIATED BY THE GENERAL CONTRACTOR OR SUBCONTRACTORS WITHOUT PRIOR APPROVAL OF THE OWNER AND/OR THE ENGINEER SHALL BE ACCOMPLISHED AT THE CONTRACTORS RISK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL & LEGAL DISPOSAL OF ALL MATERIAL NECESSARY TO PREPARE THE SITE FOR THE NEW CONSTRUCTION AS SHOWN ON THE SITE DRAWINGS.
10. REPAIR DAMAGED CITY/TOWN ROADS AND CURBS IN ACCORDANCE WITH MASSDOT AND/OR THE CITY/TOWN REGULATIONS.
11. CONTRACTOR SHALL SAWCUT PAVEMENT EDGE WHERE PAVEMENT TO REMAIN IS ADJACENT TO PAVEMENT TO BE REMOVED.
12. CONTRACTOR SHALL PREPARE SITE AS NECESSARY FOR CONSTRUCTION SHOWN ON THE PLANS.

EARTHWORK NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
3. STORM PIPE SHALL BE AS NOTED ON PLANS.
4. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
5. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
6. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
8. ALL STORM PIPE ENTERING STRUCTURES SHALL BE SEALED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
9. ALL STORM SEWER MANHOLES FRAMES AND GRATES ARE TO BE SET EQUAL TO FINISH GRADES, AND SHALL HAVE TRAFFIC BEARING RING & COVERS (H20).
10. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
11. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
12. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
13. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
14. IF CONTRACTOR RELOCATES OR SETS NEW BENCHMARKS, THE VERTICAL ELEVATIONS OF THE BENCHMARKS SHALL BE SET WITHIN A TOLERANCE OF 0.010 FT.
15. CONTRACTOR SHALL LEAVE GRADE BEHIND CURB IN ALL PLANTER AREAS A MINIMUM OF 4" LOW FOR THE PLACEMENT OF SUITABLE TOPSOIL OR PLANTING MIX.

SITE UTILITY NOTES

- GENERAL:
1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
 2. TOPS OF EXISTING MANHOLES SHALL BE SET EQUAL TO FINISH GRADE. IN GRASSED LANDSCAPED AREAS WITH WATER TIGHT LIDS.
 3. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
 4. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.
 5. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
 6. SITE/GENERAL CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES AT THE CITY WITH REGARD TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
 7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 8. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
 9. CONTRACTOR SHALL COORDINATE INSPECTION OF UTILITY LINES WITH APPROPRIATE AUTHORITIES PRIOR TO BACKFILLING TRENCHES.
 10. CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA STANDARDS OR DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF ALL SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION.
 11. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES WITH LOCAL COMPANIES TO AVOID CONFLICTS AND TO ASSURE THAT PROPER DEPTHS ARE ACHIEVED. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANIES FOR EXACT LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
 12. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. DUE TO THE LACK OF AVAILABLE DOCUMENTATION, ALL UTILITIES, INCLUDING CURB BOXES, MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL CALL THE "DIG SAFE CENTER" TO HAVE ALL UTILITIES MARKED ON THE GROUND PRIOR TO THE START OF CONSTRUCTION
 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
 14. DO NOT INTERRUPT EXISTING UTILITIES WITHOUT AUTHORIZATION FROM THE OWNER, OWNERS OF ADJACENT PROPERTIES, AND THE CORRESPONDING UTILITY OWNER. CONTRACTOR SHALL ARRANGE TO SHUT OFF UTILITIES, AS REQUIRED, WITH THE UTILITY OWNERS.
 15. COORDINATE UTILITY TERMINATION WITH UTILITY OWNERS.

- SEWER:
1. SANITARY SEWER MAINS AND LATERALS SHALL BE PVC PIPE CONFORMING TO ASTM D 3034--SDR35. THE MINIMUM SIZE FOR SEWER MAINS SHAL BE 8", SEWER LATERALS SHALL BE 4" MIN.
 2. ALL SANITARY SEWERS, SEWER FORCE MAINS, AND SEWER LATERALS SHALL BE INSTALLED IN FIRST-CLASS BEDDING AND IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS. SEWERS SHALL BE INSTALLED TO THE LINE AND GRADE INDICATED ON THE PLANS.
 3. ONLY PRECAST CONCRETE MANHOLES OF A DESIGN APPROVED BY THE TOWN ENGINEER SHALL BE INSTALLED ON A SANITARY SEWER MAIN.
 4. NO GROUNDWATER OR SURFACE WATER SHALL BE DISCHARGED INTO THE SANITARY SEWER.
 5. WHERE ROCK IS ENCOUNTERED, IT SHALL BE REMOVED TO A DEPTH OF ONE FOOT BELOW THE FLOWLINE OF THE SEWER AND THE PIPE LAID IN A PROPERLY COMPACTED GRANULAR MATERIAL APPROVED BY THE TOWN ENGINEER.
 6. ONLY GRANULAR MATERIAL APPROVED BY THE TOWN ENGINEER SHALL BE USED AS BACKFILL IN ANY TRENCH EXCAVATION.

- WATER:
1. CONTRACTOR SHALL CONTACT THE CITY/TOWN WATER DEPARTMENT FOR SPECIFICATIONS AND MAKE OF VALVES, VALVE BOXES, FIRE HYDRANTS AND ALL OTHER WATER LINE APPURTENANCES.
 2. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL DPW SPECIFICATIONS AND WATER DISTRIBUTION SYSTEM. CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY WATER DEPARTMENT.
 3. ALL WATER MAIN SHALL BE DUCTILE IRON (D.I.), CLASS 52, AWWA C-151 (ANSI A21.40). D.I. PIPE SHALL BE DOUBLE CEMENT LINED WITH A SEAL COAT CONFORMING TO AWWA C-104 (ANSI A-21.4).
 4. JOINTS FOR D.I. PIPE SHALL BE PUSH-ON OR OTHERWISE APPROVED, AWWA C151(ANSI A-21.51) WITH GASKETS CONFORMING TO AWWA C-111 (ANSI A-21.11) MAXIMUM LENGTH OF PIPE TO BE 20 L.F.
 5. ALL FITTINGS SHALL BE DUCTILE IRON CLASS 53 WITH PRESSURE RATING OF 350 PSI AND MECHANICAL JOINTS CONFORMING TO AWWA C-151 (ANSI A21.51).
 6. RETAINER GLANDS: RETAINER GLANDS SHALL BE DESIGNED TO IMPART MULTIPLE WEDGING ACTION AGAINST THE PIPE, INCREASE ITS RESISTANCE AS THE PRESSURE INCREASES. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536-80. RESTRAINING DEVICES SHALL BE DUCTILE IRON HEAT-TREATED TO A MINIMUM HARNESS OF 370 BHN. TWIST-OFF NUTS SHALL BE USED TO INSURE PROPER ACTUATING OF THE RETAINER GLAND. DIMENSIONS OF THE GLAND SHALL BE SUCH THAT IT CAN BE USED WITH THE STANDARD MECHANICAL JOINT BELL AND TEE-HEADED BOLTS CONFORMING TO ANSI/AWWA A21.1 AND ANSI/WWA 153/A21.5. THE RETAINER GLAND SHALL HAVE A WORKING PRESSURE OF 250 PSI WITH A MINIMUM SAFETY FACTOR OF 2:1 AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE COMPATIBLE WITH THE PIPE CLASS AND PIPE MANUFACTURER FOR ALL SIZES PROVIDED ON THE JOB. THE RETAINER GLAND SHALL BE MEGA-LUG AS MANUFACTURED EBAA IRON, INC., OR APPROVED EQUAL.
 7. ALL WATER MAINS, UNLESS OTHERWISE NOTED, SHALL BE INSTALLED WITH A MINIMUM FIVE FEET OF COVER. WHEN CROSSING ABOVE OR BELOW WATER PIPELINES, A MINIMUM VERTICAL SEPARATION OF SIX INCHES SHALL BE PROVIDED. WHEN CROSSING SANITARY SEWERS, A MINIMUM OF 18" SHALL BE PROVIDED.

SITE UTILITY NOTES (CONTINUED)

8. THE INSTALLED WATER MAIN SHALL BE PRESSURE TESTED, FLUSHED AND DISINFECTED BY CONTRACTOR IN ACCORDANCE WITH AWWA C-600 AND AWWA C-651 OR PER CITY/TOWN WATER DEPARTMENT STANDARDS.
9. DUCTILE IRON PIPES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C-600.
10. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED. FITTINGS SHALL BE RESTRAINED BY MECHANICAL JOINT RESTRAINTS. THE PIPE CONNECTED TO THE FITTING SHALL BE RESTRAINED PER THE MANUFACTURER'S SCHEDULE.
11. THE CONTRACTOR SHALL MARK THE LOCATION OF THE PROPOSED WATER MAIN AT LEAST 48 HOURS PRIOR TO EXCAVATING. EXCAVATION SHALL NOT PROCEED WITHOUT AUTHORIZATION BY THE ENGINEER.
12. ALL WATER MAINS, HYDRANT BRANCHES, AND SERVICES SHALL HAVE UTILITY WARNING TAPE. THE TAPE SHALL BE BURIED APPROXIMATELY 2 FEET BELOW FINISHED GRADE.
13. BACKFILL SHALL BE COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698. COMPACTION EQUIPMENT USED MUST BE SPECIFICALLY DESIGNED FOR COMPACTION. TAMPING WITH THE BACK OF THE BACK HOE BUCKET IS UNACCEPTABLE COMPACTION.
14. ALL WATER SERVICES SHALL BE 1" DIA. COPPER TUBING TYPE K, SOFT TEMPER CONFORMING TO ASTM B88 UNLESS OTHERWISE NOTED.
15. DEPRESS WATER MAIN UNDER EXISTING SERVICES AND HYDRANT BRANCHES TO MAINTAIN 5'-0" OF COVER.
16. ALL WATER MAINS SHALL BE LAID PER THE PLANS TO MAINTAIN THE MAXIMUM SEPARATION FROM EXISTING OR PROPOSED SANITARY SEWER. DISTANCE SHALL BE MEASURED EDGE TO EDGE.
17. IDENTIFY EACH PIPE LENGTH & FITTING CLEARLY WITH MANUFACTURE'S NAME & TRADEMARK. NOMINAL PIPE SIZE & MATERIAL DESIGNATION.
18. ALL WATER MAINS & SERVICE PIPES SHALL BE LAID IN A TRENCH SEPARATE FROM ANY OTHER UTILITY (GAS, ELECTRIC, TELEPHONE, ETC.) SHALL BE A MINIMUM NO LESS THAN FIVE (5) FEET FROM ANOTHER UTILITY.
19. ALL MATERIAL SHALL BE IN ACCORDANCE WITH CITY/TOWN WATER DEPARTMENT "RULES & REGULATIONS". ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CITY/TOWN WATER DEPARTMENT "SPECIFICATIONS". CITY/TOWN WATER DEPARTMENT STANDARDS SHALL TAKE PRECEDENCE OVER ANY REQUIREMENTS LISTED ABOVE.

CONSTRUCTION NOTES

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:

DRAFTED BY: M.B. & J.T.

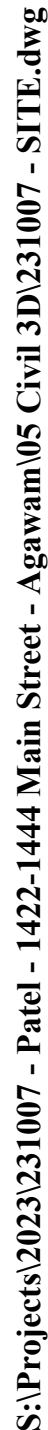
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SCALE: As Noted

RLA PROJ. NUMBER: 231007

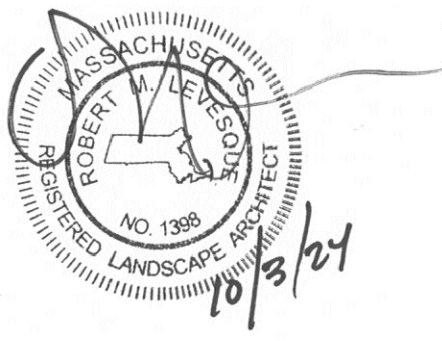
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PERMITTING
NOT FOR CONSTRUCTION



1. CONTACT THE TOWN OF AGAWAM AT LEAST FORTY-EIGHT HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION, OR EARTHWORK ACTIVITY ON THIS PROJECT.
2. CONSTRUCT ANTI-TRACKING PAD AT ENTRANCE AND INSTALL ANY REQUIRED INLET PROTECTION AS DEPICTED ON THE PLAN.
3. INSTALL SILT FENCE AS SHOWN ON THE PLANS.
4. UPON COMPLETION OF EROSION CONTROL MEASURES, CLEARING AND GRUBBING AND EARTHWORK MAY COMMENCE.
5. CLEAR AND GRUB SITE. STOCKPILE ANY CHIPPING OR TOPSOIL MATERIAL TO REMAIN ON SITE FOR LONGER THAN 14 DAYS AND INSTALL SILT FENCE AROUND THE PERIMETER OF THE STOCKPILE.
6. COMMENCE EARTHWORK BY EXCAVATING FOR THE CUT/FILL SLOPES AS SHOWN ON THE PLANS. STABILIZE/SEED ANY SLOPES THAT HAVE ACHIEVED FINAL GRADE.
7. INSTALL UTILITIES AS SHOWN ON PLANS INCLUDING WATER SERVICE, SEWER SERVICE, GAS SERVICE, ELECTRICAL SERVICE AND STORMWATER MANAGEMENT SYSTEM.
8. GRADE THE SITE TO ACCEPT PAVEMENT SECTION MATERIALS.
9. INSTALL PAVEMENT AS SPECIFIED ON THE PLANS.
10. UPON INSTALLATION OF PAVEMENT SURFACE, INSTALL INLET PROTECTION AS REQUIRED ON ANY NEW INLET STRUCTURES.
11. FINAL GRADING AND STABILIZATION OF ANY REMAINING EXPOSED AREAS.
12. AT THE DIRECTION OF THE TOWN OF AGAWAM, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

**1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13**



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:
A. Town comments, updated delineation	8/1/24
B. Peer review comments	9/9/24
C. Revised Buffer Zone	10/3/24

DRAFTED BY: M.B. & J.T.

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SCALE: As Noted

RLA PROJ. NUMBER: 231007

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PERMITTING
NOT FOR CONSTRUCTION



ZONING REVIEW - Business A (BA)		
TYPE (MINIMUM)	REQUIRED	PROPOSED
AREA	NONE	4.04 ACRES
FRONTAGE	20 FT	501 ± FT
FRONT YARD	35 FT	273 FT
SIDE YARD	15 FT	16 FT
REAR YARD	25 FT	26 FT
HEIGHT (MAX)	45 FT (3 STORIES)	3 STORIES
BUILDING COVERAGE (MAX)	50%	<5%
PARKING	85*	85

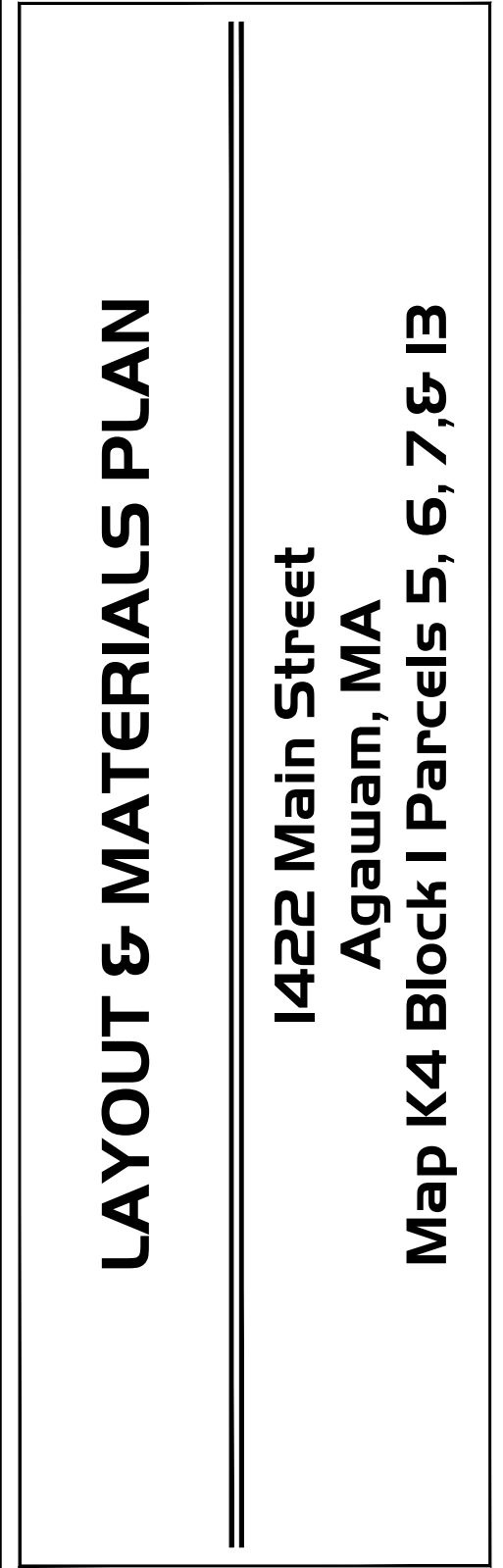
1. THE RECORD OWNER OF THE SUBJECT PARCEL IS RENU RAYONIA AND RAJESH RAYONIA AND DEBRA ANN DEWIND. SEE HAMPTON COUNTY REGISTRY OF DEEDS BOOK 13612 PAGE 330 AND BOOK 18614 PAGE 149.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON A PLAN TITLED, "BASE MAP" PREPARED BY D.L. BEAN INC, DATED APRIL 2012.
3. THE EXISTING BUILDING(S) SHOWN HEREON ARE BASED ON AN APPROXIMATE MEASUREMENT OF THE OUTSIDE PERIMETER OF THE EXISTING STRUCTURES. THE ACTUAL LOCATION OF THE EXISTING BUILDING WALLS AND CORNERS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION WORK THAT WOULD ABUT OR TAKE PLACE ADJACENT TO THE EXISTING BUILDING(S). IF THE PLAN HEREON IS USED FOR CONSTRUCTION LAYOUT PURPOSES, THE PARTIES CONDUCTING LAYOUT SHALL CONTACT R. LEVESQUE ASSOCIATES INC. PRIOR TO SAID LAYOUT TO DETERMINE PROPER CONTROL. PLEASE NOTE WHILE THE BUILDING(S) ARE SHOWN TO BE SQUARE, IT SHOULD NOT BE ASSUMED THAT THE WALLS ARE SQUARE OR PLUMB. R. LEVESQUE ASSOCIATES TAKES NO RESPONSIBILITY FOR THIRD PARTY LAYOUT OF THE PLAN SHOWN HEREON.
4. THIS PLAN HAS BEEN PREPARED FOR SITE PLANNING PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE.
5. SUBJECT PARCELS CONTAINS 4.04 ACRES.
6. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
7. WETLANDS AND M.A.H.W. DELINEATED BY R. LEVESQUE ASSOCIATES INC IN MARCH 2014.
8. THE EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A TOPOGRAPHIC SURVEY PERFORMED BY R LEVESQUE ASSOCIATES, INC. MARCH 2014 AND DECEMBER 2023.
9. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AVAILABLE RECORD DATA, TOWN OF AGAWAM GIS. R LEVESQUE ASSOCIATES INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. R LEVESQUE ASSOCIATES, INC. FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HEREON ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
10. ADJACENT PROPERTY LINES AND ABUTTERS SHOWN HEREON ARE REFERENCED FROM THE TOWN OF AGAWAM GIS MAPPING.
11. SUBJECT PARCEL IS ZONED BUSINESS A AND RESIDENCE A-2 ACCORDING TO THE TOWN OF GIS ZONING MAP.
12. THE SUBJECT PARCEL IS LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 25013C0411E -- EFFECTIVE DATE: JULY 16, 2013 FLOOD ELEVATION 57'
13. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.
14. TEST PIT LOCATION SHOWN HEREON PERFORMED BY R. LEVESQUE ASSOCIATES INC. ON 12-27-2023
15. PROPOSED 12" CL 50 D.I. TAKEN FROM PLAN ENTITLED MAIN STREET WATER MAIN IMPROVEMENTS DATED 2-24-2000.

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING SITE LAYOUT.
2. IT SHALL BE THE SITE CONTRACTORS RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH SITE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING THEIR BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SAID SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. IF THE SITE CONTRACTOR FAILS TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.

1. STRIPE ALL PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, CROSSWALKS, AND ACCESSIBLE ROUTE MARKINGS AND SYMBOLS USING WHITE TRAFFIC PAINT. PAINTED ISLANDS, FIRE LANES, AND TRAVEL WAY CENTERLINES SHALL BE PAINTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL CONFORM TO AASHTO M248 TYPE "N".
2. STOP BARS SHALL BE 12" WIDE (WHITE).
3. ALL PARKING STALL LINES SHALL BE 4" WIDE (WHITE).
4. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", MASSDOT, STATE BUILDING CODE AND ADA REQUIREMENTS, AND AS SHOWN ON THE PLANS & DETAILS.

1. ALL ACCESSIBLE ROUTES, TRANSITIONS, AND ACCESSIBLE PARKING/LOADING AREAS, INCLUDING ALL ENTRANCES TO BUILDING, SHALL ADHERE TO 521 CMR.
2. SHOULD THE ARCHITECT PROVIDE ADDITIONAL ENTRANCES OR MEANS OF EGRESS, ADDITIONAL ACCESSIBLE ROUTES MAY BE REQUIRED.
3. IT IS THE RESPONSIBILITY OF THE ARCHITECT AND CONTRACTOR TO NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT OF ANY CHANGES TO THE PROPOSED BUILDING THAT WOULD AFFECT THE ACCESSIBILITY REQUIREMENTS OF THE PROPOSED SITE.
4. THE CONTRACTOR SHALL REVIEW IN DETAIL THE REQUIREMENTS OF 521 CMR AND SHALL BE RESPONSIBLE FOR CONFORMANCE WITH SAID REGULATIONS.

PERMITTING
NOT FOR CONSTRUCTION



PREPARED FOR:

Kenny Patel
Shield Hotels

63 Myron Street
West Springfield MA.

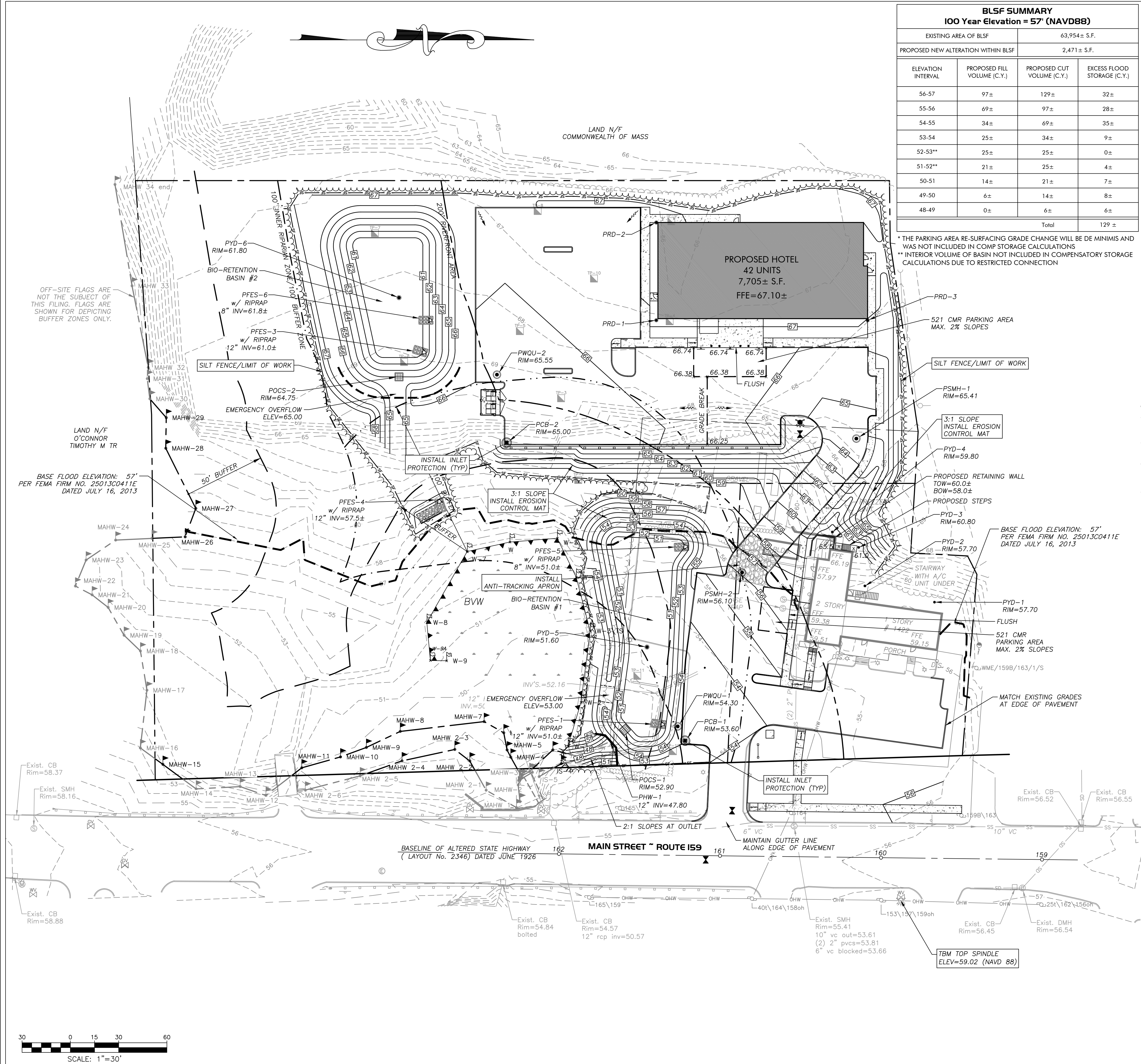
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BLSF SUMMARY			
100 Year Elevation = 57' (NAVD88)			
EXISTING AREA OF BLSF		63,954± S.F.	
PROPOSED NEW ALTERATION WITHIN BLSF		2,471± S.F.	
ELEVATION INTERVAL	PROPOSED FILL VOLUME (C.Y.)	PROPOSED CUT VOLUME (C.Y.)	EXCESS FLOOD STORAGE (C.Y.)
56-57	97±	129±	32±
55-56	69±	97±	28±
54-55	34±	69±	35±
53-54	25±	34±	9±
52-53**	25±	25±	0±
51-52**	21±	25±	4±
50-51	14±	21±	7±
49-50	6±	14±	8±
48-49	0±	6±	6±
Total		129 ±	

* THE PARKING AREA RE-SURFACING GRADE CHANGE WILL BE DE MINIMIS AND WAS NOT INCLUDED IN COMP STORAGE CALCULATIONS
** INTERIOR VOLUME OF BASIN NOT INCLUDED IN COMPENSATORY STORAGE CALCULATIONS DUE TO RESTRICTED CONNECTION

SHORT-TERM EROSION CONTROL MAINTENANCE

1. THE CONTRACTOR OR SUBCONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING EACH CONTROL SHOWN ON THE SEDIMENTATION AND EROSION CONTROL PLAN.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFF-SITE SEDIMENTATION IF DEEMED NECESSARY BY ON-SITE INSPECTION.
3. EFFECTIVE EROSION CONTROL MEASURES SHALL BE INITIATED PRIOR TO THE COMMENCEMENT OF CLEARING, GRADING, EXCAVATION, OR OTHER OPERATIONS THAT WILL DISTURB THE NATURAL PROTECTION.
4. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. LONGER INSPECTION SHALL BE DOCUMENTED IN WRITING. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY.
5. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO AVOID EXCESS EROSION OF THE SITE DUE TO THE CONSTRUCTION OF THIS PROJECT.
6. SILT SHALL BE REMOVED FROM BEHIND BARRIERS IF GREATER THAN 6-INCHES DEEP OR AS NEEDED. SEDIMENT THAT IS COLLECTED IN STRUCTURES SHALL BE DISPOSED OF PROPERLY AND COVERED IF STORED ON-SITE.
7. DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION.
8. ALL DITCHES SHALL BE STABILIZED AS SOON AS IS PRACTICABLE TO MINIMIZE EROSION.
9. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES IN A GOOD, WORKING STATE OF REPAIR UNTIL THEIR USE IS NO LONGER WARRANTED. AT THAT TIME, THE EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF SO AS TO CAUSE NO OFF-SITE SILTATION.
10. INSPECT AND MAINTAIN CONSTRUCTION ENTRANCE STONE SUCH THAT SEDIMENT DOES NOT TRACK ONTO THE STREET. ANY SEDIMENT TRACKED ONTO THE STREET SHALL BE CLEANED DAILY.
11. AFTER CATCH BASINS HAVE BEEN CONSTRUCTED AND THE SITE HAS BEEN PAVED, THE CONTRACTOR SHALL PROTECT THE INLETS BY CONSTRUCTING INLET PROTECTION AS SHOWN ON THE PLANS. INLET PROTECTION TO REMAIN IN PLACE AND MAINTAINED UNTIL DISTURBED AREAS HAVE BEEN STABILIZED, LOAMED AND SEEDED.
12. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SUBSTANTIALLY STABILIZED. AFTER REMOVAL OF MEASURES, DISTURBED AREAS SHALL BE REGRADED AND STABILIZED AS NECESSARY.
13. THIS PLAN IS PROVIDED AS A BASIS FOR THE INITIAL SEDIMENTATION AND EROSION CONTROL MEASURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UPDATE AND EXPAND THIS PLAN AS SITE CONDITIONS DICTATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT THE OCCURRENCE OF SILTATION TO WETLAND RESOURCE AREAS AND THE MOVEMENT OF SEDIMENT BEYOND THE SITE BOUNDARIES.

ACCESSIBILITY NOTES

1. ALL ACCESSIBLE ROUTES, TRANSITIONS, AND ACCESSIBLE PARKING/LOADING AREAS, INCLUDING ALL ENTRANCES TO BUILDING, SHALL ADHERE TO 521 CMR.
2. SHOULD THE ARCHITECT PROVIDE ADDITIONAL ENTRANCES OR MEANS OF EGRESS, ADDITIONAL ACCESSIBLE ROUTES MAY BE REQUIRED.
3. IT IS THE RESPONSIBILITY OF THE ARCHITECT AND CONTRACTOR TO NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT OF ANY CHANGES TO THE PROPOSED BUILDING THAT WOULD AFFECT THE ACCESSIBILITY REQUIREMENTS OF THE PROPOSED SITE.
4. THE CONTRACTOR SHALL REVIEW IN DETAIL THE REQUIREMENTS OF 521 CMR AND SHALL BE RESPONSIBLE FOR CONFORMANCE WITH SAID REGULATIONS.

CONSTRUCTION NOTES

1. THE CONTRACTOR/OWNER/DEVELOPER TO BE AWARE THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND AN ILLICIT DISCHARGE COMPLIANCE STATEMENT ARE REQUIRED PRIOR TO ANY LAND DISTURBANCE.
2. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA AND ARE APPROXIMATE. ACTUAL FIELD LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO NOTIFY DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION ACCORDING TO MA GENERAL LAWS.
4. APPROVED PLANS TO BE ON SITE AT ALL TIMES.
5. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES TO BE APPROVED BY DESIGN ENGINEER, FIELD INSPECTOR AND CITY/TOWN ENGINEER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
7. CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
8. TREES, BRUSH AND STUMPS REMOVED BY CLEARING AND GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
9. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE REAPPLIED.
10. ALL CONSTRUCTION METHODS TO CONFORM TO AGAWAM PLANNING BOARD REGULATIONS AND DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
11. AGAWAM DEPARTMENT OF PUBLIC WORKS APPROVAL IS NOT TO BE CONSTRUED AS AN ALL INCLUSIVE APPROVAL AS OTHER APPROVALS MAY BE NECESSARY, I.E. TOWN ENGINEER, CONSERVATION, FIRE DEPARTMENT, WATER DEPARTMENT, ETC.
12. EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO START OF CONSTRUCTION.

GRADING & DRAINAGE NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTORS RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT/ENGINEER OF ANY UNEXPECTED CONDITIONS THAT ARE ENCOUNTERED DURING CONSTRUCTION.
5. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE CITY DEPARTMENT SPECIFICATIONS.
7. CONTRACTOR TO ACHIEVE POSITIVE DRAINAGE AWAY FROM PROPOSED BUILDINGS.

RLA
R LEVESQUE ASSOCIATES INC.
Landscape Architects
Civil Engineers • Land Surveyors
Environmental Consultants
ph: 413.568.0985 fax: 413.568.0986
40 School Street
Westfield, MA 01085
rlaland.com

GRADING, EROSION & SEDIMENTATION CONTROL PLAN

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

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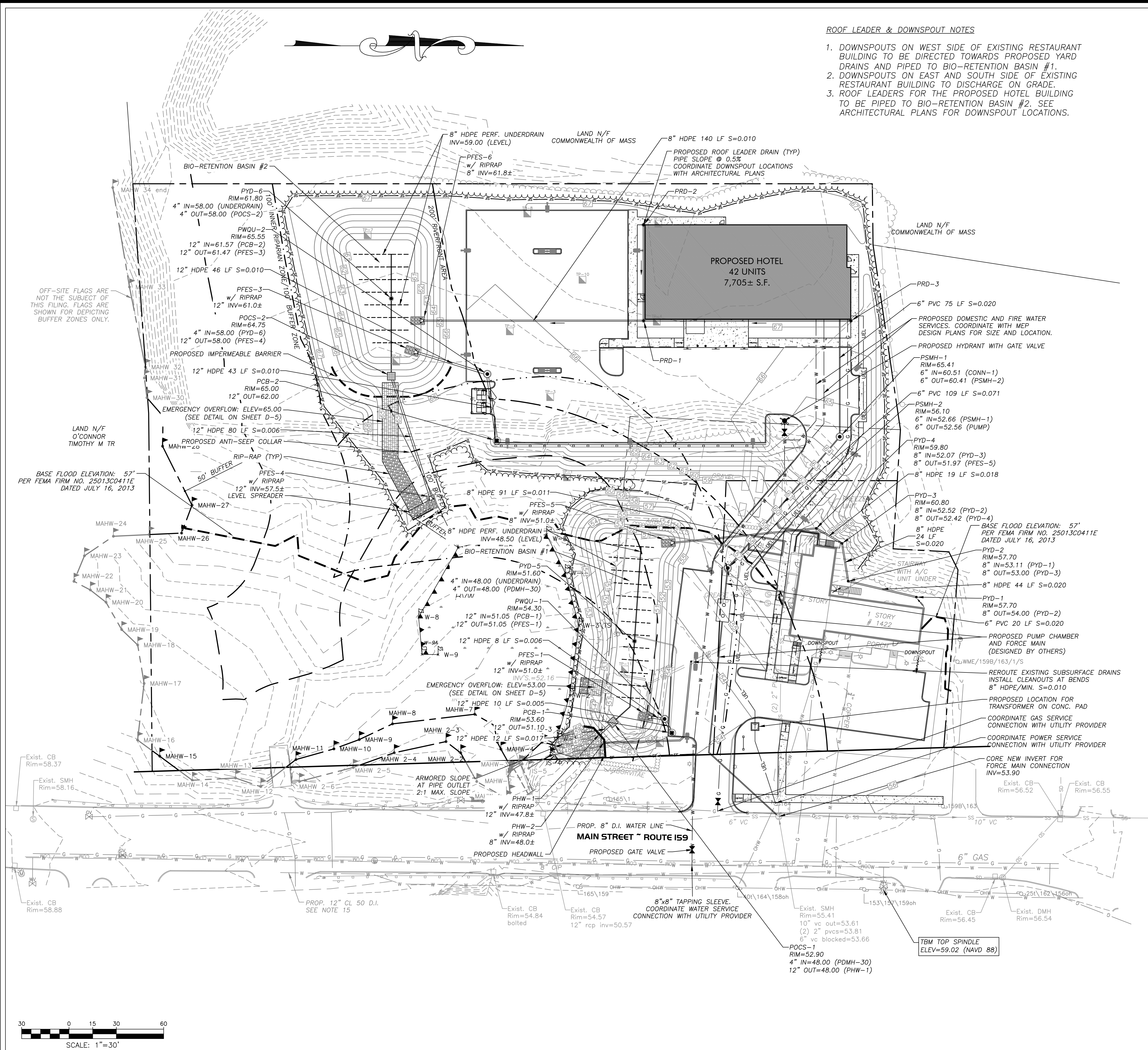
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ROOF LEADER & DOWNSPOUT NOTES

1. DOWNSPOUTS ON WEST SIDE OF EXISTING RESTAURANT BUILDING TO BE DIRECTED TOWARDS PROPOSED YARD DRAINS AND PIPED TO BIO-RETENTION BASIN #1.
2. DOWNSPOUTS ON EAST AND SOUTH SIDE OF EXISTING RESTAURANT BUILDING TO DISCHARGE ON GRADE.
3. ROOF LEADERS FOR THE PROPOSED HOTEL BUILDING TO BE PIPED TO BIO-RETENTION BASIN #2. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT LOCATIONS.

CONSTRUCTION NOTES

1. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA AND ARE APPROXIMATE. ACTUAL FIELD LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO NOTIFY DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION ACCORDING TO MA GENERAL LAWS.
3. APPROVED PLANS TO BE ON SITE AT ALL TIMES.
4. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES TO BE APPROVED BY DESIGN ENGINEER, FIELD INSPECTOR AND CITY/TOWN ENGINEER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
6. CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
7. TREES, BRUSH AND STUMPS REMOVED BY CLEARING AND GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
8. CALCIUM CHLORIDE/WATER FOR DUST CONTROL TO BE AVAILABLE AT ALL TIMES.
9. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE REAPPLIED.
10. ALL CONSTRUCTION METHODS TO CONFORM TO WESTFIELD PLANNING BOARD REGULATIONS AND BOARD OF PUBLIC WORKS SPECIFICATIONS.
11. WESTFIELD DEPARTMENT OF PUBLIC WORKS APPROVAL IS NOT TO BE CONSTRUED AS AN ALL INCLUSIVE APPROVAL AS OTHER APPROVALS MAY BE NECESSARY, I.E. TOWN ENGINEER, CONSERVATION, FIRE DEPARTMENT, WATER DEPARTMENT, ETC.
12. ALL CATCH BASINS TO HAVE 48" SEALED SUMPS AND HOODS.
13. EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO START OF CONSTRUCTION.

GRADING & DRAINAGE NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR SHALL NOTIFY DESIGNER/ENGINEER OF ANY UNEXPECTED CONDITIONS THAT ARE ENCOUNTERED DURING CONSTRUCTION.
5. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE WESTFIELD DEPARTMENT SPECIFICATIONS.
7. ALL FILL MATERIAL DISCOVERED UNDER INFILTRATION SITES SHALL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO INSTALLATION OF INFILTRATION STRUCTURE.
8. A LICENSED SOIL EVALUATOR AND/OR PROFESSIONAL ENGINEER MUST BE PRESENT DURING GRADING AND CONSTRUCTION OF THE SUBSURFACE INFILTRATION SYSTEM TO ENSURE NATIVE OR SIMILAR SOILS UNDERLAY THE STRUCTURES.

UTILITY NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR TO VERIFY ALL UTILITY CONNECTIONS AND INVERTS FROM EXISTING/PROPOSED BUILDING TO SERVICES IN THE STREET. IF ANY DISCREPANCIES EXISTS BETWEEN PLAN AND INFORMATION FOUND IN THE FIELD, CONTACT ENGINEER AND LANDSCAPE ARCHITECT IMMEDIATELY.
5. SEE ARCHITECTURAL PLANS FOR BUILDING CONNECTIONS OF ALL UTILITIES.
6. UTILITY CONNECTIONS (NATURAL GAS, ELECTRICAL, TELECOMMUNICATIONS, ETC) SHOWN HEREON ARE SCHEMATIC IN NATURE TO DEPICT CONNECTION OF SAID UTILITIES TO THE SUBJECT BUILDING(S). THE RESPECTIVE UTILITY PROVIDER SHALL BE RESPONSIBLE FOR THE FINAL DESIGN OF THE RELEVANT UTILITY.
7. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
8. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE TOWN DEPARTMENT SPECIFICATIONS.

RLA
R LEVESQUE ASSOCIATES INC.
Landscape Architects
Civil Engineers - Land Surveyors
Environmental Consultants
ph: 413.568.0985 fax: 413.568.0986
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rlaland.com

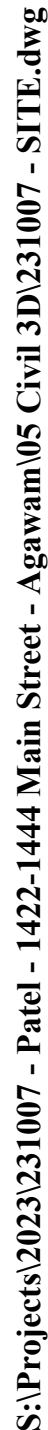
DRAINAGE & UTILITIES PLAN
1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

PREPARED FOR:
Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

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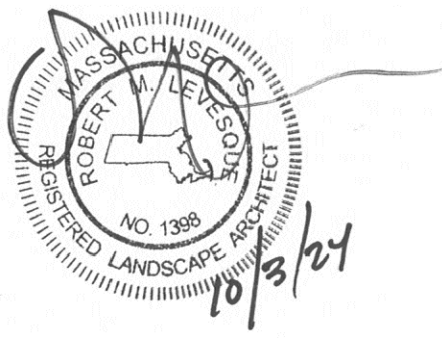
BIORETENTION AREA PLANT LIST				
KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/SPACING
AI	18	ALNUS INCANA	SPECKLED ALDER	2'-3" HT.
CA	14	CORNUS AMOMUM	SILKY DOGWOOD	2'-3" HT.
IV	14	ILEX VERTICILLATA	WINTERBERRY	2'-3" HT.
SC	11	SAMBUCUS CANADENSIS	ELDERBERRY	2'-3" HT.
VC	18	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	2'-3" HT.
VD	12	VIBURNUM DENTATUM	NORTHHARROWOOD	2'-3" HT.

LANDSCAPE NOTES

1. SITE CONTRACTOR SHALL REFER TO SHEET C-1, C-2, DETAIL SHEETS AND REMAINING PLAN SET FOR INFORMATION REGARDING LANDSCAPING.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS-REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH THE LANDSCAPE INFORMATION SHOWN HEREON.
3. ALL SITE PLANTINGS ARE TO MEET OR EXCEED THE MINIMUM SPECIFICATIONS DETAILED IN THE AFOREMENTIONED NOTES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SPECIFICATIONS FOR EACH INDIVIDUAL PLANTING AND SOURCE IT APPROPRIATELY.
4. PRIOR TO SUBMITTING THEIR BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND SAID SPECIFICATIONS WITH THE PROJECT PROPONENT, LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
5. LANDSCAPE CONTRACTOR SHALL HAVE EXCAVATING CONTRACTOR, "DIGSAFE", AND ANY APPLICABLE NON-DIGSAFE MEMBER UTILITIES MARK ALL UNDERGROUND UTILITIES AND PRIOR TO ANY PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROJECT PROPONENT IF ANY CONFLICTS ARISE AND STOP ALL WORK UNTIL CONFLICT IS RESOLVED.
6. BIOTRENTATION AREAS TO BE SEEDED WITH NEW ENGLAND WETLAND PLANTS "WETMIX" OR APPROVED EQUIVALENT.

SITE LANDSCAPING PLAN

**1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13**



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA

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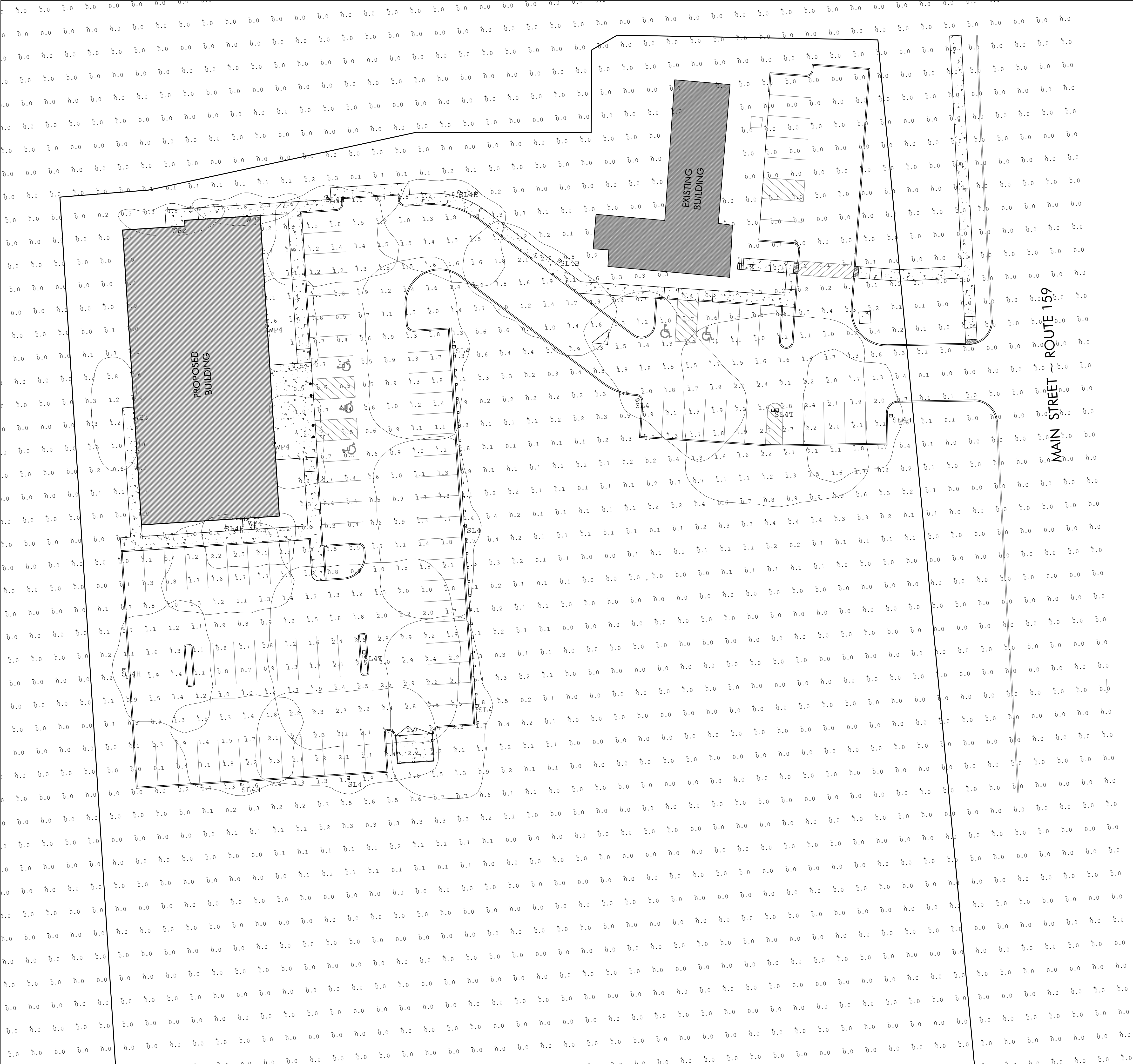
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C-7

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Luminaire Schedule					
Qty	Label	Watts	Arrangement	LLF	Description
5	SL4	39.1	Single	0.900	Beacon VP-ST-1-36L-39-3K7-4W-UNV-A-x-x-x / MTD 16FT AFG
1	SL4B	45.5	Single	0.900	Beacon VP-ST-1-36L-39-3K7-4W-UNV-A-x-BC-x / MTD 16FT AFG
6	SL4H	39.1	Single	0.900	Beacon VP-ST-1-36L-39-3K7-4W-UNV-A-x-x-x / SHD-1HSS-270-BSS-x / MTD 16FT AFG
2	SL4T	78.2	Back-Back	0.900	Beacon VP-ST-1-36L-39-3K7-4W-UNV-A-x-x-x / MTD 16FT AFG
2	WP2	12.9	Single	0.900	EXO LNC-SLU-3K-2-x / MTD 8FT AFG
1	WP3	10.1	Single	0.900	Beacon RWL-148L-10-3K7-3-UNV-x / MTD 10FT AFG
3	WP4	10.1	Single	0.900	Beacon RWL-148L-10-3K7-4W-UNV-x / MTD 10FT AFG

Calculation Summary							
Label	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Height
CalcPts_1	Fc	0.17	3.0	0.0	N.A.	N.A.	0
BEYOND PROP LINE ROAD ACCESS	Fc	0.01	0.1	0.0	N.A.	N.A.	
BEYOND PROP LINES	Fc	0.00	0.1	0.0	N.A.	N.A.	
PARKING AND DRIVE LANES	Fc	1.46	3.0	0.3	4.87	10.00	

Project:
24140 - 1422 Main Street

Contact:
Myles Simon
Specification Sales
(860) 655-8099
msimon@illuminate.com

Detail: Photometric Calculation
Date: 5/23/2024
Revision: ----
Scale: 1" = 20'-0"
Drawn By: AJS

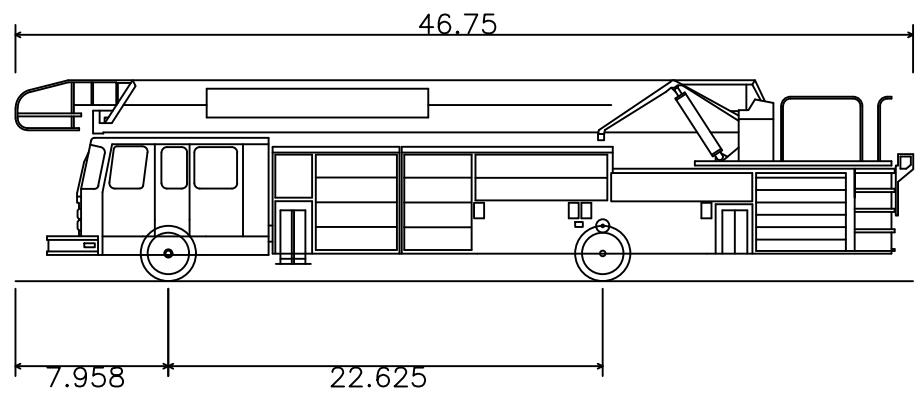
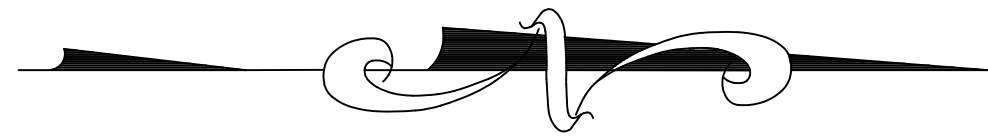
illuminate
263 Winn Street
Burlington, MA 01803
(781) 935-8500

333 Pleasant Valley Road
South Windsor, CT 06074
(860) 282-0597

Drawing Number:

L-1

Sheet 1 of 1



Agawam Fire Truck
Overall Length 46.750ft
Overall Width 8.250ft
Overall Body Height 10.467ft
Min Body Ground Clearance 0.897ft
Track Width 8.200ft
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 42.000ft

OFF-SITE FLAGS ARE NOT THE SUBJECT OF THIS FILING. FLAGS ARE SHOWN FOR DEPICTING BUFFER ZONES ONLY.

LAND N/F O'CONNOR TIMOTHY M TR

LAND N/F COMMONWEALTH OF MASS

LAND N/F COMMONWEALTH OF MASS

LAND N/F DONNER SHELLIE M

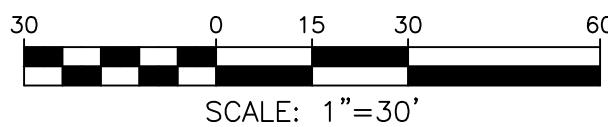
PROPOSED HOTEL
42 UNITS
7,705± S.F.

INNER TRAVEL PATH DELINEATES FIRE TRUCK WHEELS (TYP.)

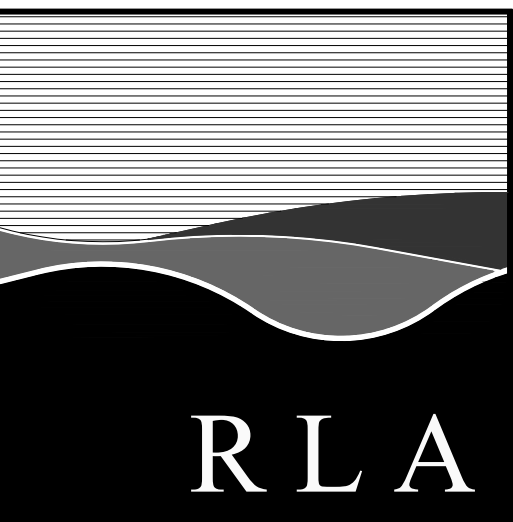
OUTER TRAVEL PATH DELINEATES FIRE TRUCK FRONT BUMPER OVERHANG (TYP.)

BASELINE OF ALTERED STATE HIGHWAY
(LAYOUT No. 2346) DATED JUNE 1926

MAIN STREET ~ ROUTE 159



PERMITTING
NOT FOR CONSTRUCTION



R LEVESQUE
ASSOCIATES INC

Landscape Architects
Civil Engineers - Land Surveyors
Environmental Consultants

ph: 413.568.0985 fax: 413.568.0986

40 School Street
Westfield, MA 01085
rlaland.com

VEHICLE SWEEP PATH

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: August 1, 2024

REVISIONS:	DATE:
A. Layout updated	9/24/24

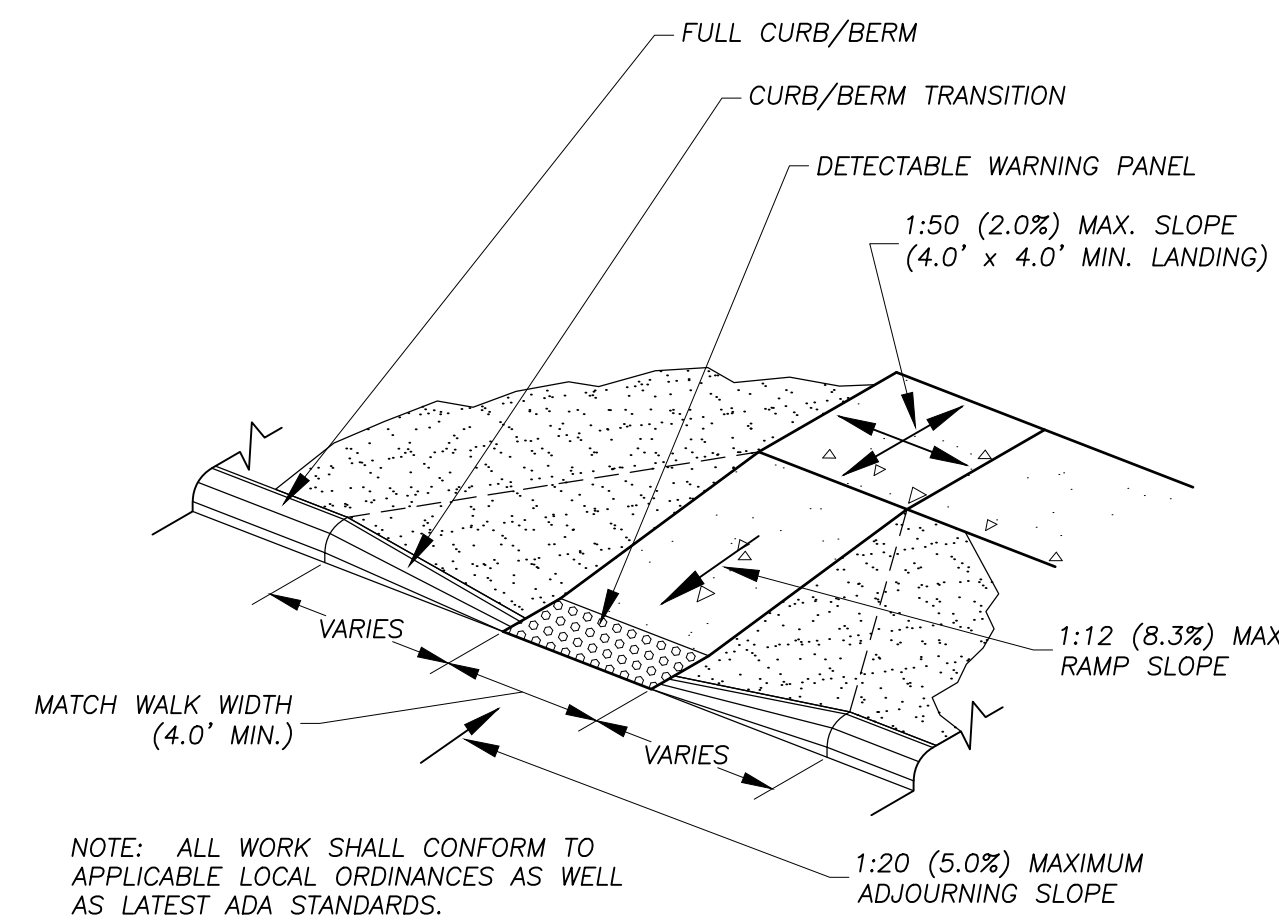
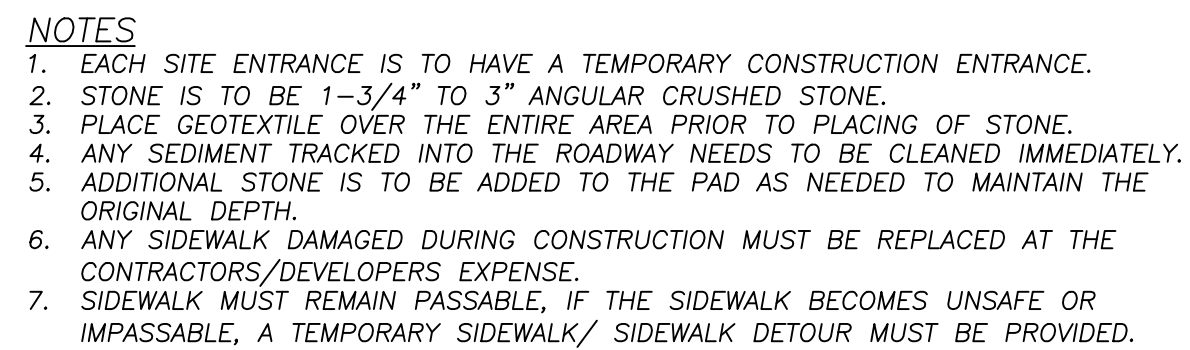
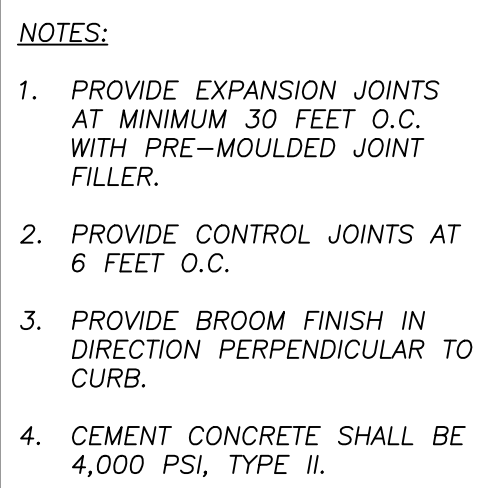
DRAFTED BY: M.B. & J.T.

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SCALE: As Noted

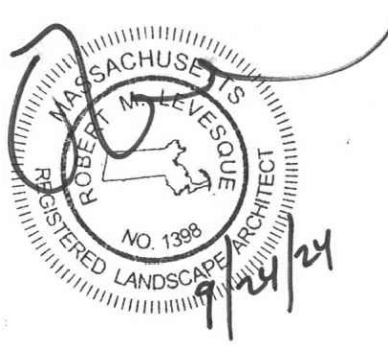
RLA PROJ. NUMBER: 231007

DRAWING#	REV.
VEH-1	A



DETAILS

**1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13**



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:
A. Engineering & peer review comments	9/24/24

DRAFTED BY: M.B. & J.T.

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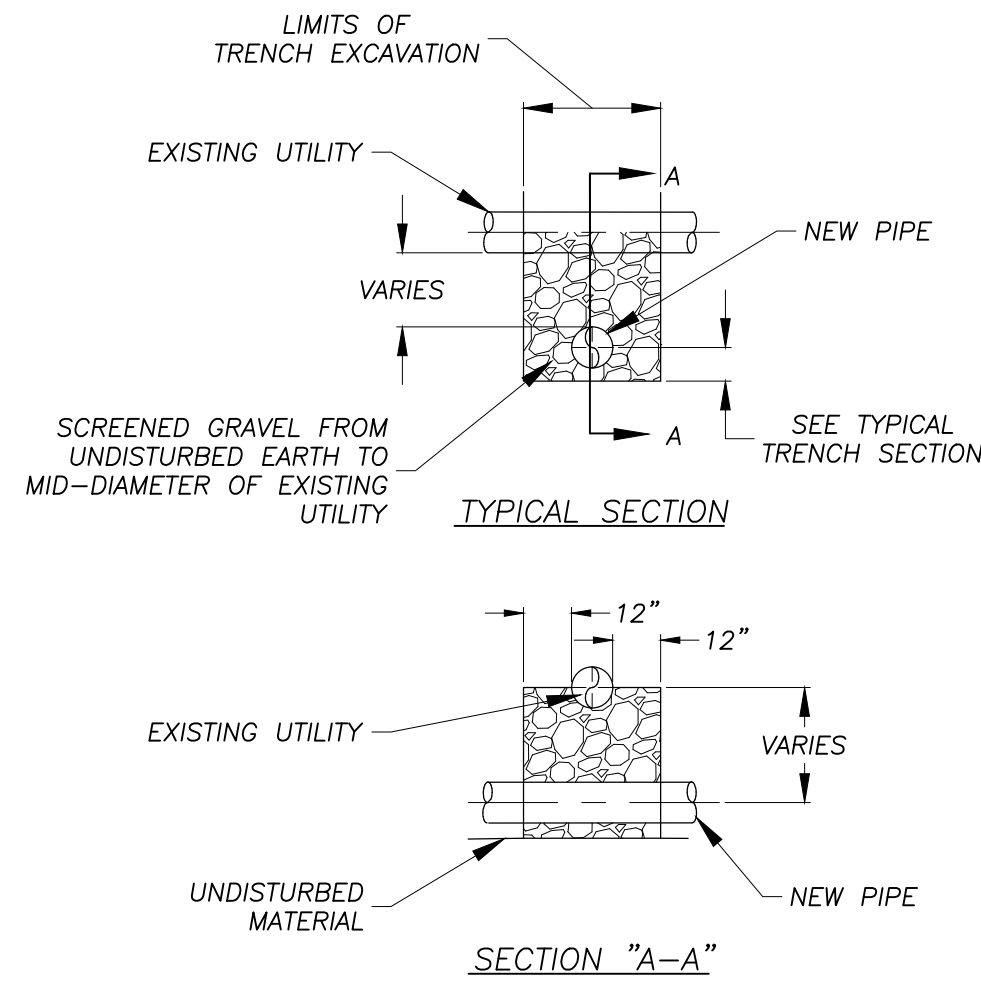
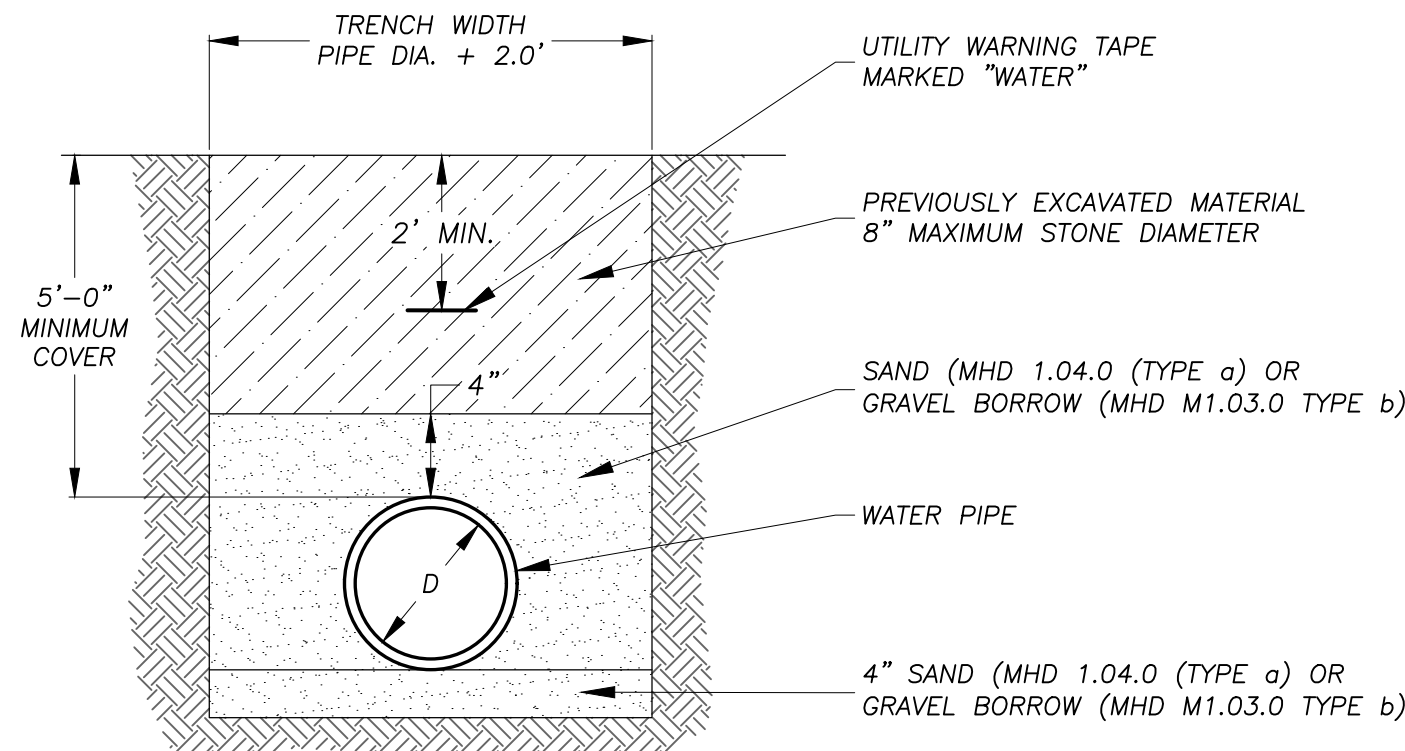
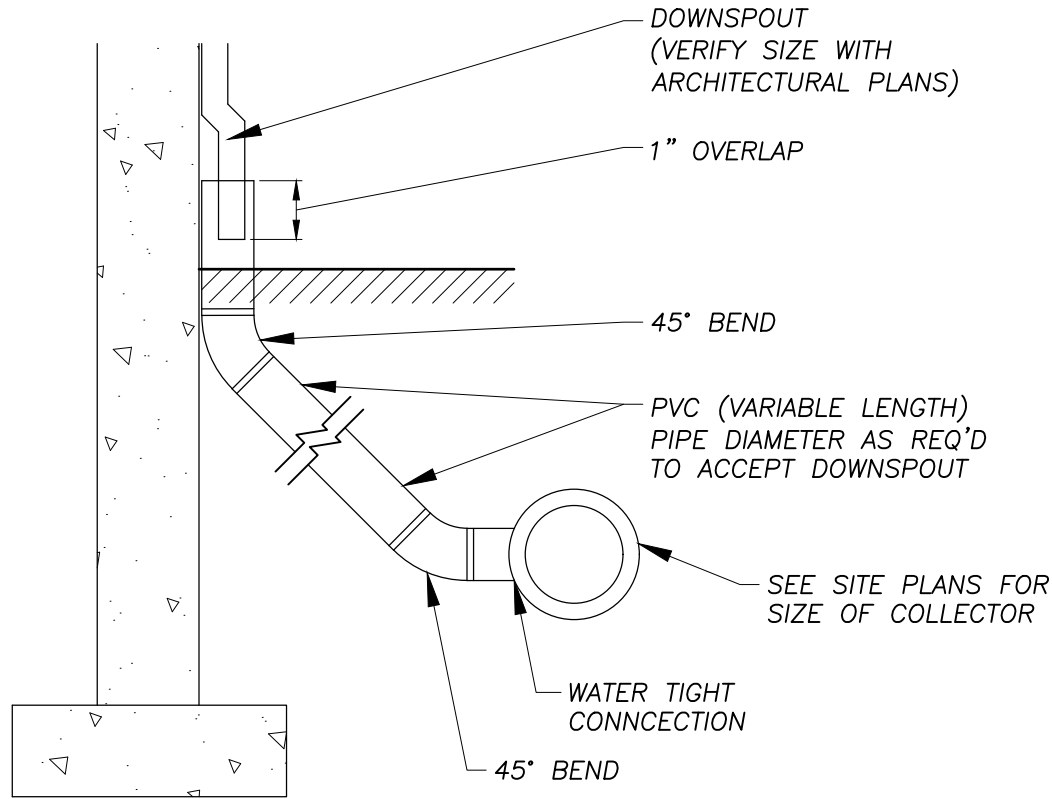
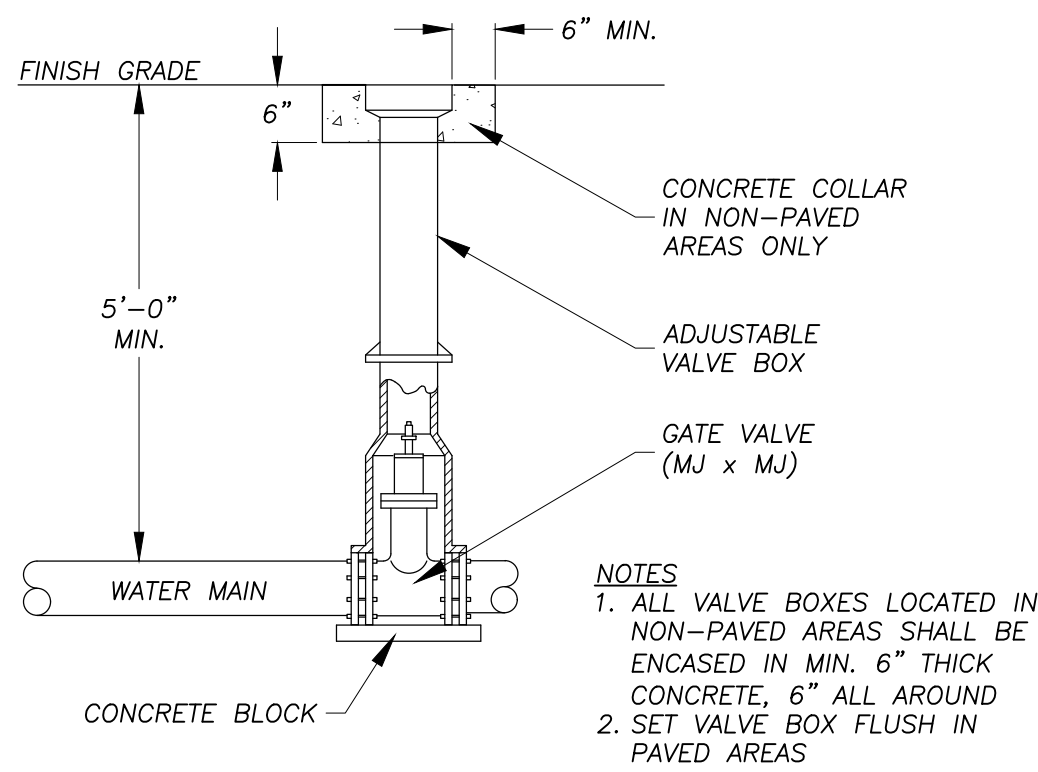
RLA PROJ. NUMBER: 231007

DRAWING#	REV.
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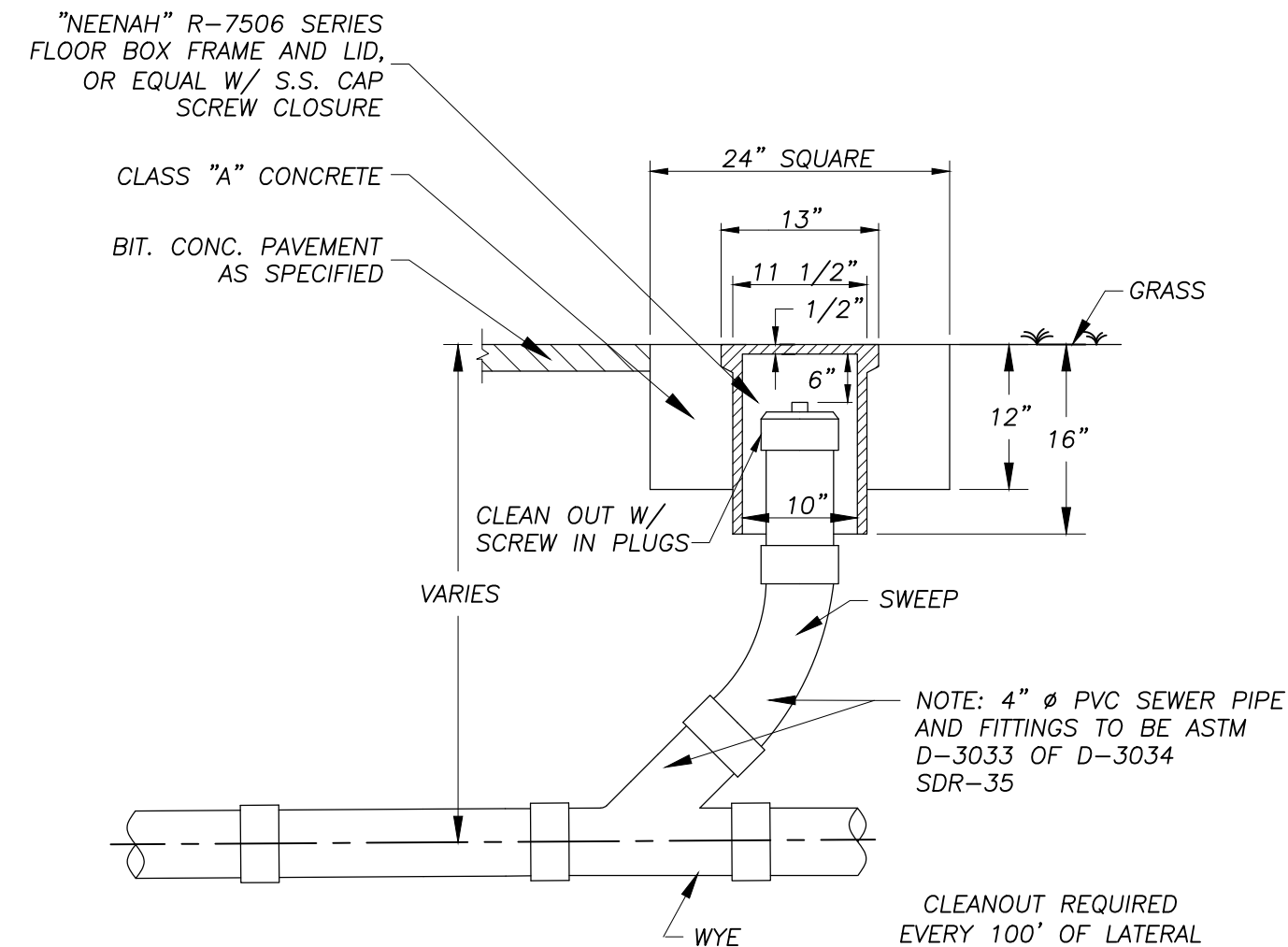
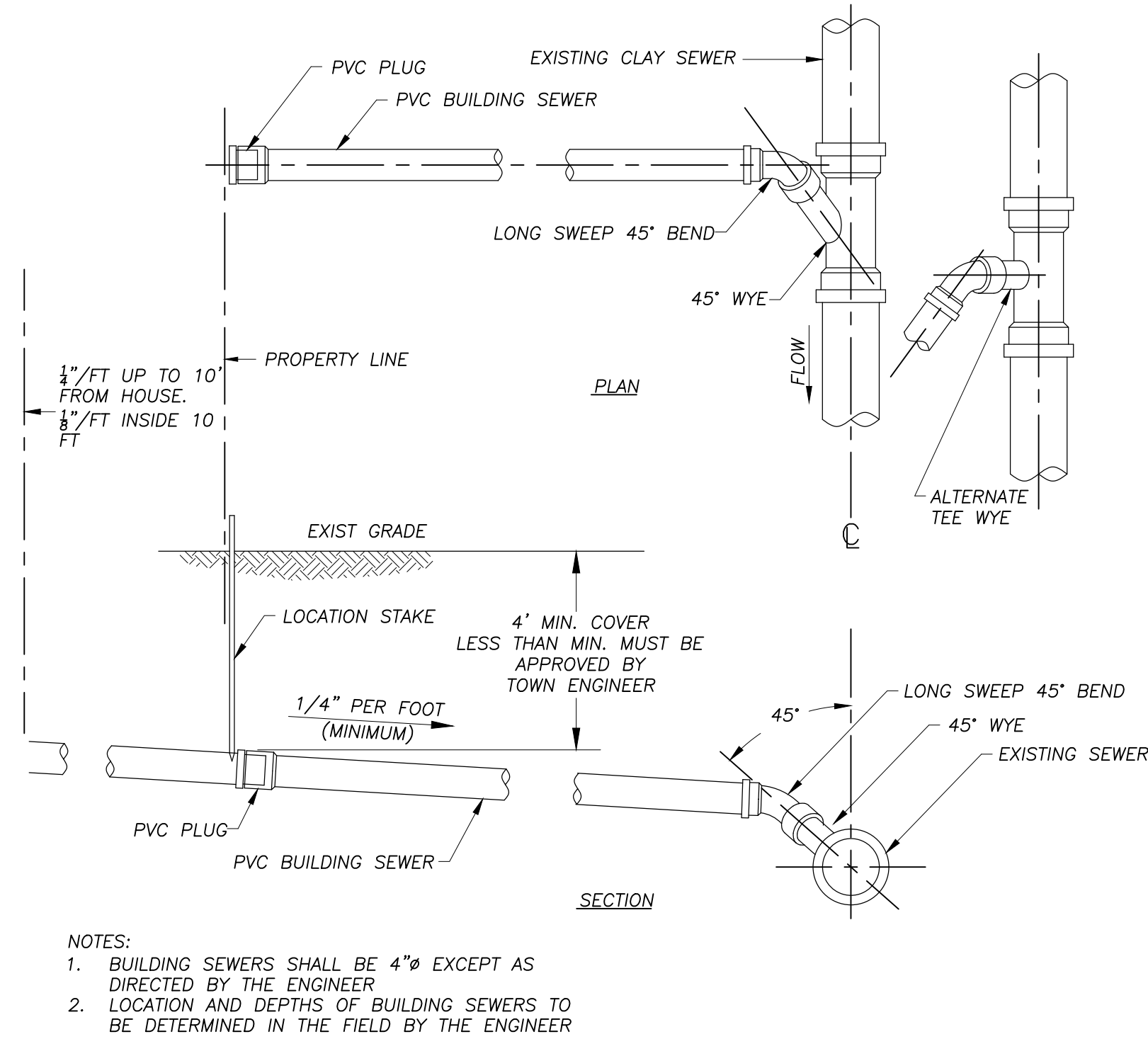
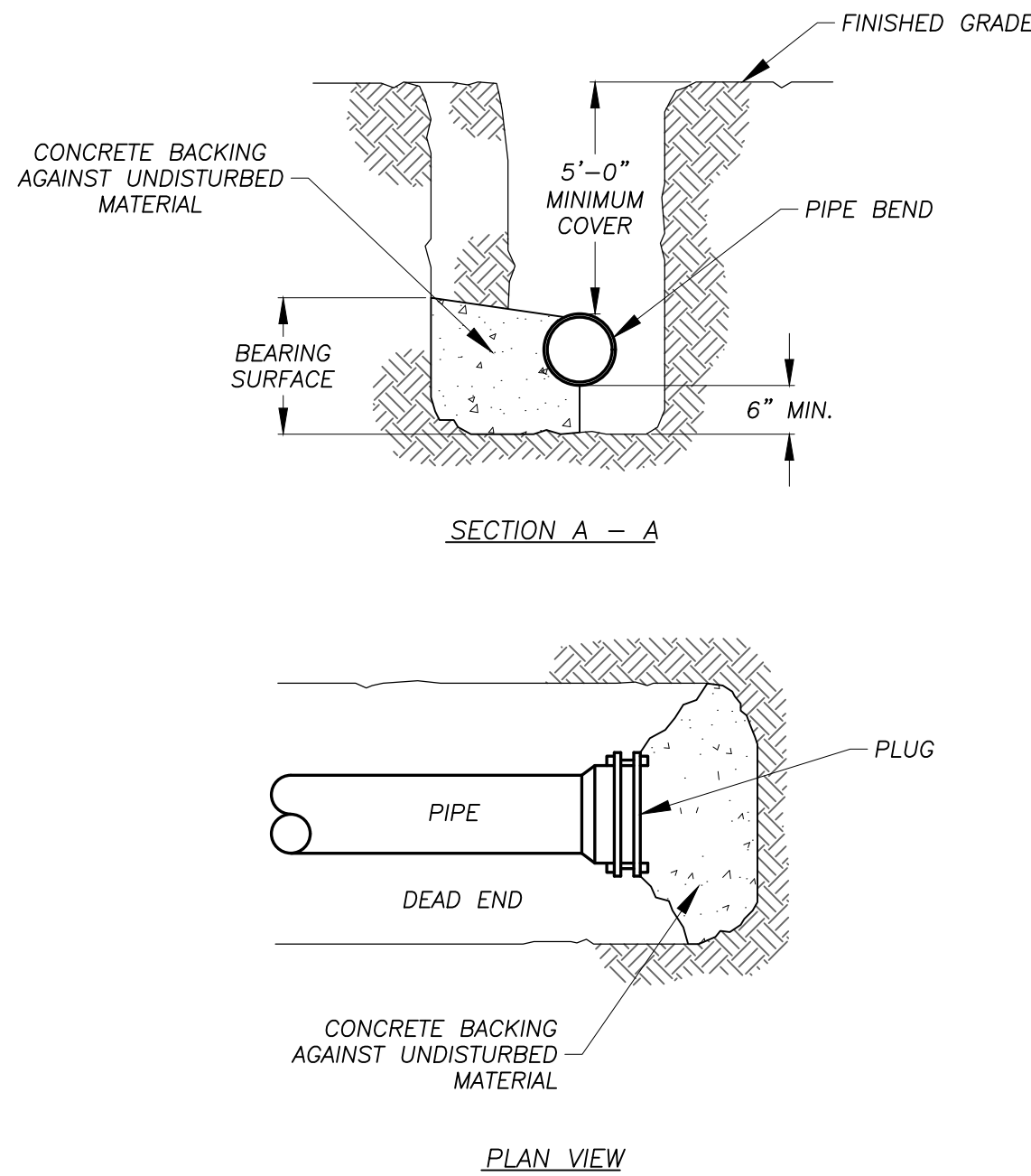
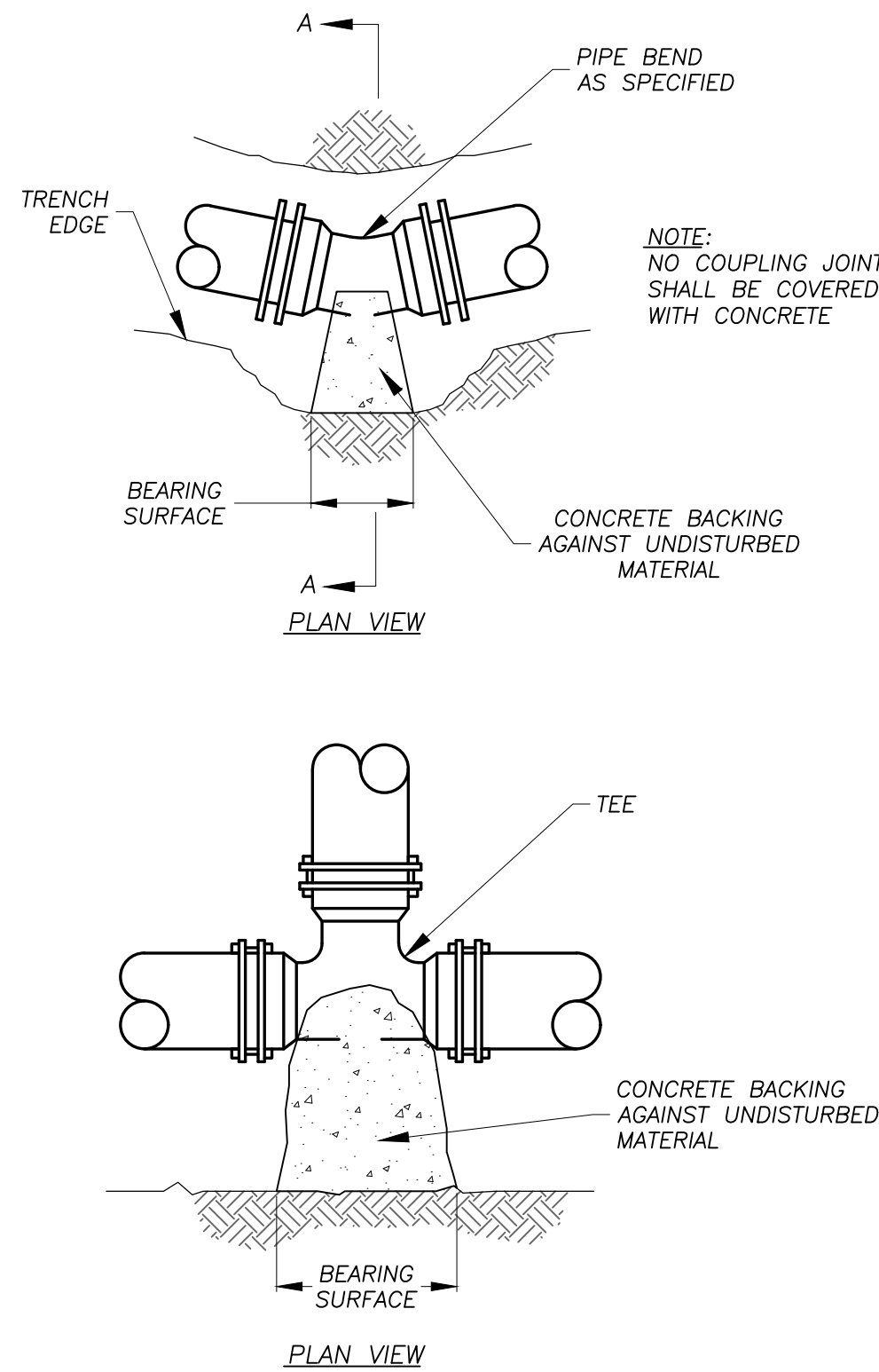
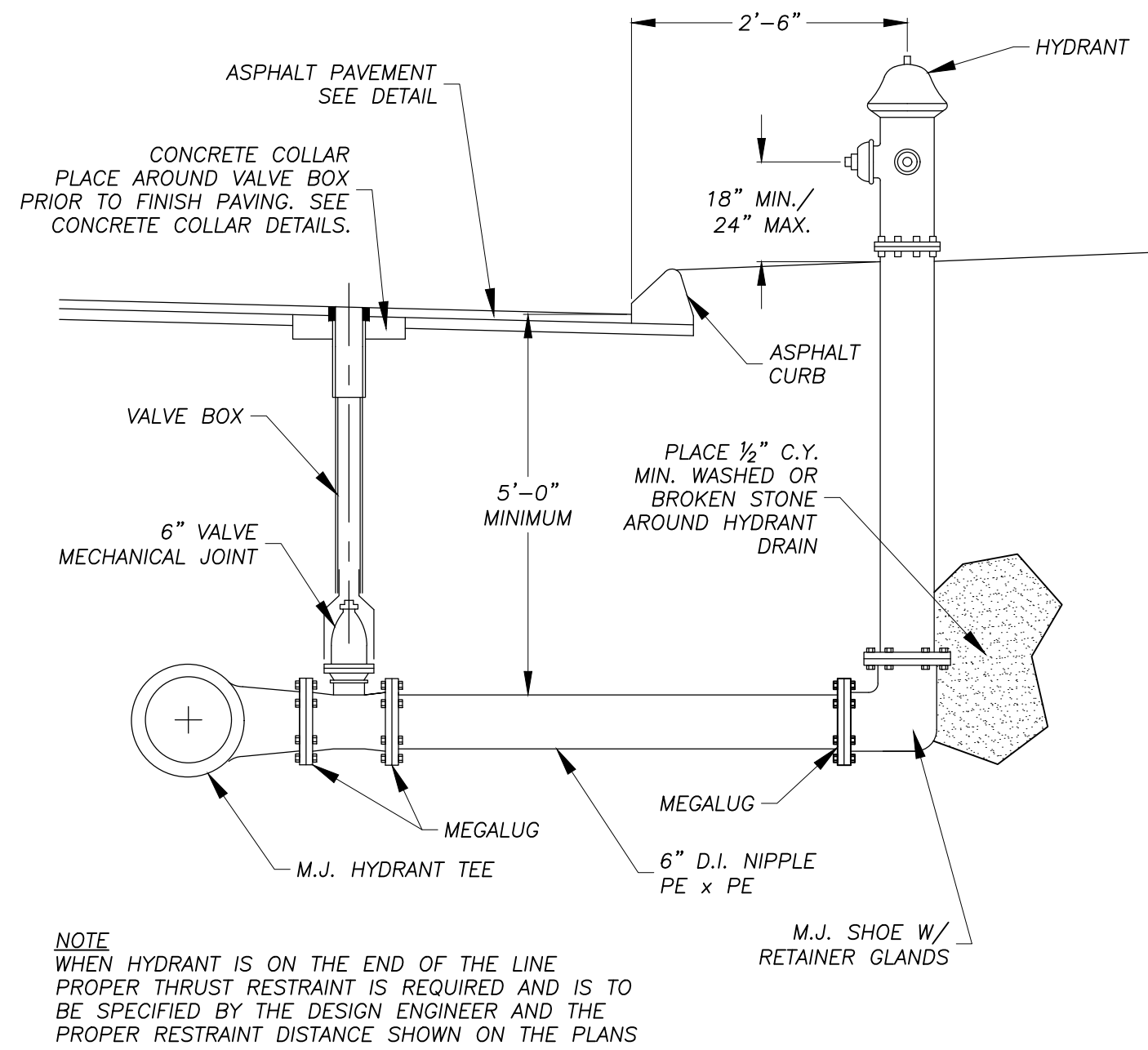
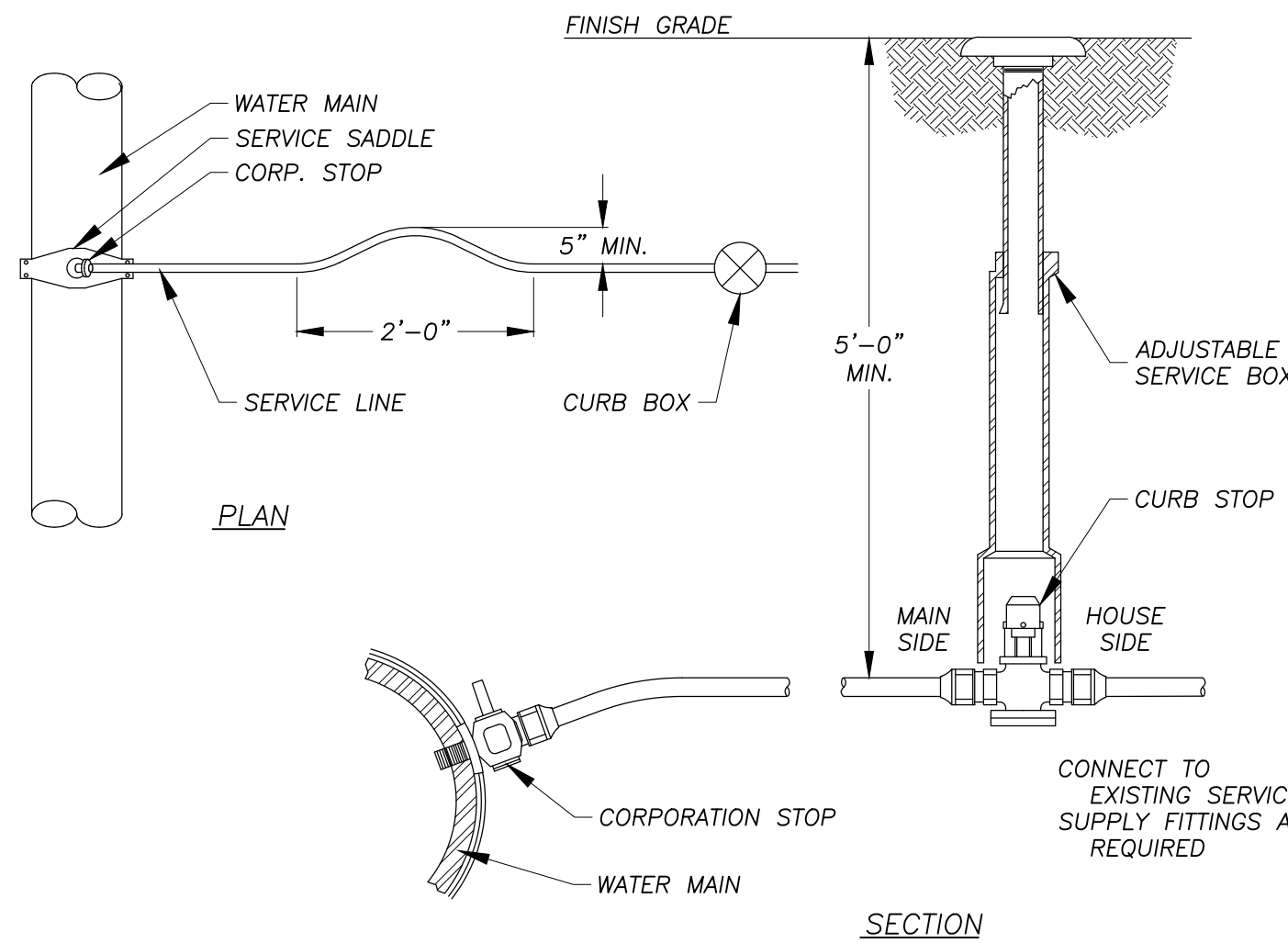
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PIPE RESTRAINT SCHEDULE FOR GROUND BURIED PRESSURE PIPES									
PIPE	LENGTH OF RESTRAINT REQ'D (FEET)								DESIGN FORCE ON RESTRAINT REQ'D (KIPS) ③
	DEFLECT. ANGLE	22½'	33¾'	45°	56¼'	67½'	78¾'	90° OR TEE	
6"		3	6	11	16	23	29	37	2.0
8"		4	8	15	22	31	41	50	3

- ① THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE + WATER HAMMER). FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
- ② IN EACH DIRECTION FROM POINT OF DEFLECTION EXCEPT FOR TEE AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE TEE STEM.
- ③ IF TIE RODS ARE USED, USE 4 RODS MINIMUM AND ADD ½" TO BAR DIA AS CORROSION ALLOWANCE.
- NOTES: THRUST BLOCKS
- FIGURES BASED ON 300 PSI OPERATING PLUS SURGE PRESSURE.
 - CONCRETE SHALL NOT BE DUMPED OVER THE FITTING. THE BLOCK MUST BE FORMED.
 - RETAINING RODS OR RESTRAINED JOINT PIPE AS APPROVED BY THE ENGINEER MAY BE USED IN PLACE OF THRUST BLOCKS.
 - PLACE 15 LB ROOF FELT BETWEEN PIPE AND CONCRETE.
 - CONCRETE SHALL NOT COVER PIPE JOINTS.
 - ALL BENDS, TEES, HYDRANTS AND DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS OR SUITABLE RESTRAINING DEVICES.
 - BEARING AREA IS AREA OF CONCRETE IN CONTACT WITH WALL OF TRENCH = $H \times L$.
 - HEIGHT (H) AND LENGTH (L) AS REQUIRED TO OBTAIN AREA IN TABLE. LENGTH TO BE 2 TIMES HEIGHT.
 - ESTIMATED SOIL BEARING LOAD IS 2000 LBS.

PIPE SIZE (INCHES)	MINIMUM AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE FEET			
	SOIL BEARING			
	1,000 LBS./ SQ. FT.	2,000 LBS./ SQ. FT.	4,000 LBS./ SQ. FT.	
DEAD END, TEE OR HYDRANT				
4 OR LESS	6	3	2	
6	11	6	3	
8	20	10	5	
12	34	17	9	
16	60	30	15	
1/4 BEND - 90°				
4	8	4	2	
6	16	8	4	
8	28	14	7	
12	56	28	14	
16	100	50	25	
1/8 BEND - 45°				
4	4	2	1	
6	9	4	2	
8	14	7	4	
12	32	16	8	
16	60	30	15	
1/16 BEND - 22 1/2° OR LESS				
4	2	1	1	
6	4	2	1	
8	8	4	2	
12	15	8	4	
16	30	15	8	



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Landscape Architects
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Environmental Consultants
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40 School Street
Westfield, MA 01085
rlaland.com

DETAILS
1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

COMMONWEALTH OF MASSACHUSETTS
FILIPE J. CRAVO
CIVIL
No. 83376
REGISTERED PROFESSIONAL ENGINEER
5/23/24

PREPARED FOR:
Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

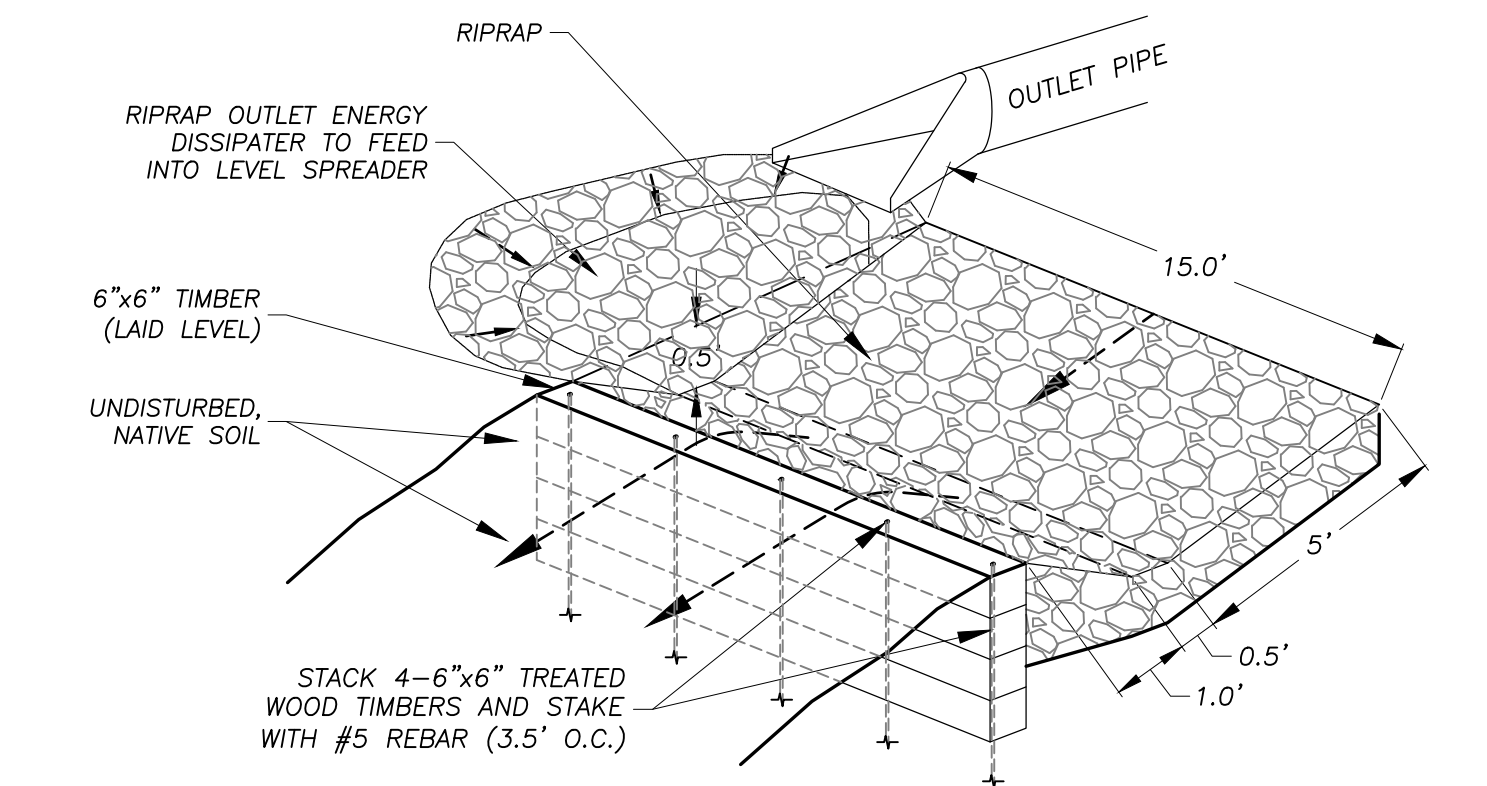
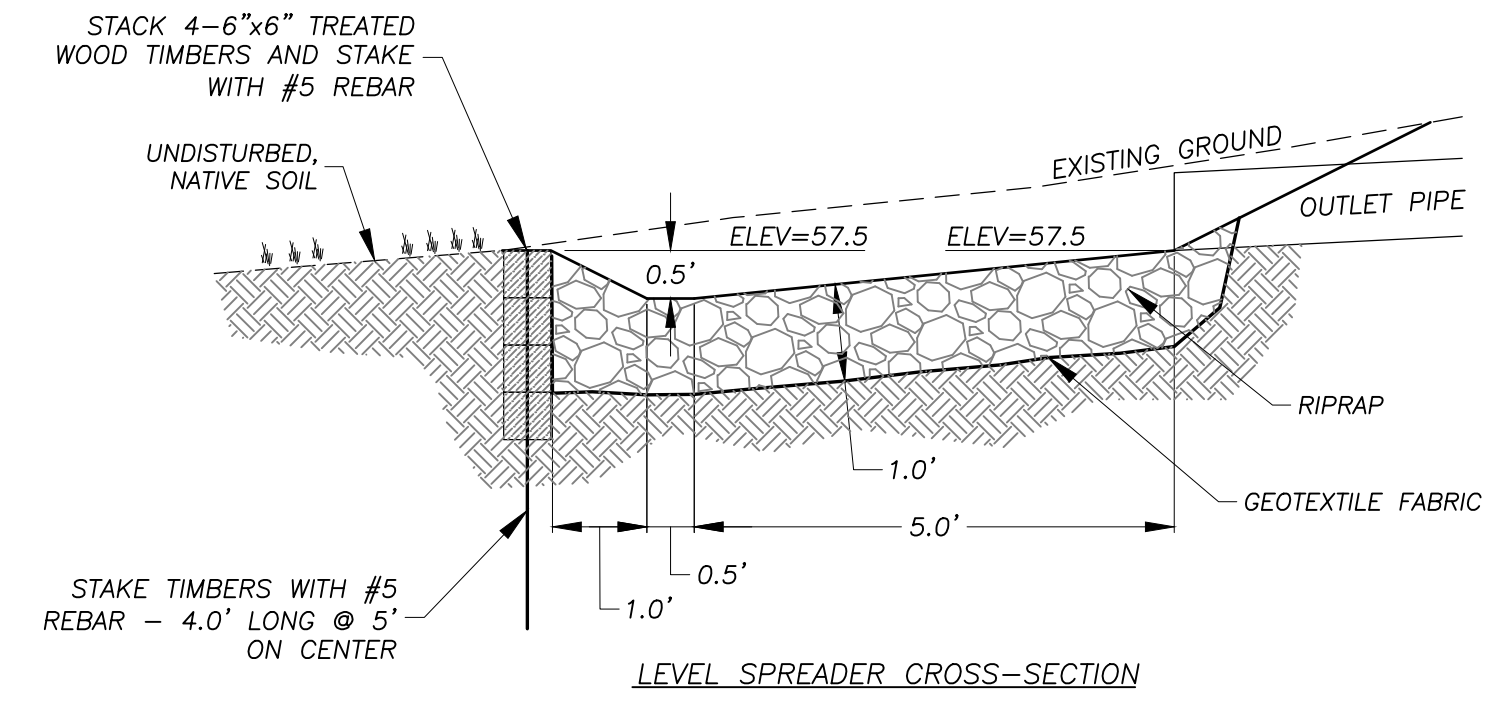
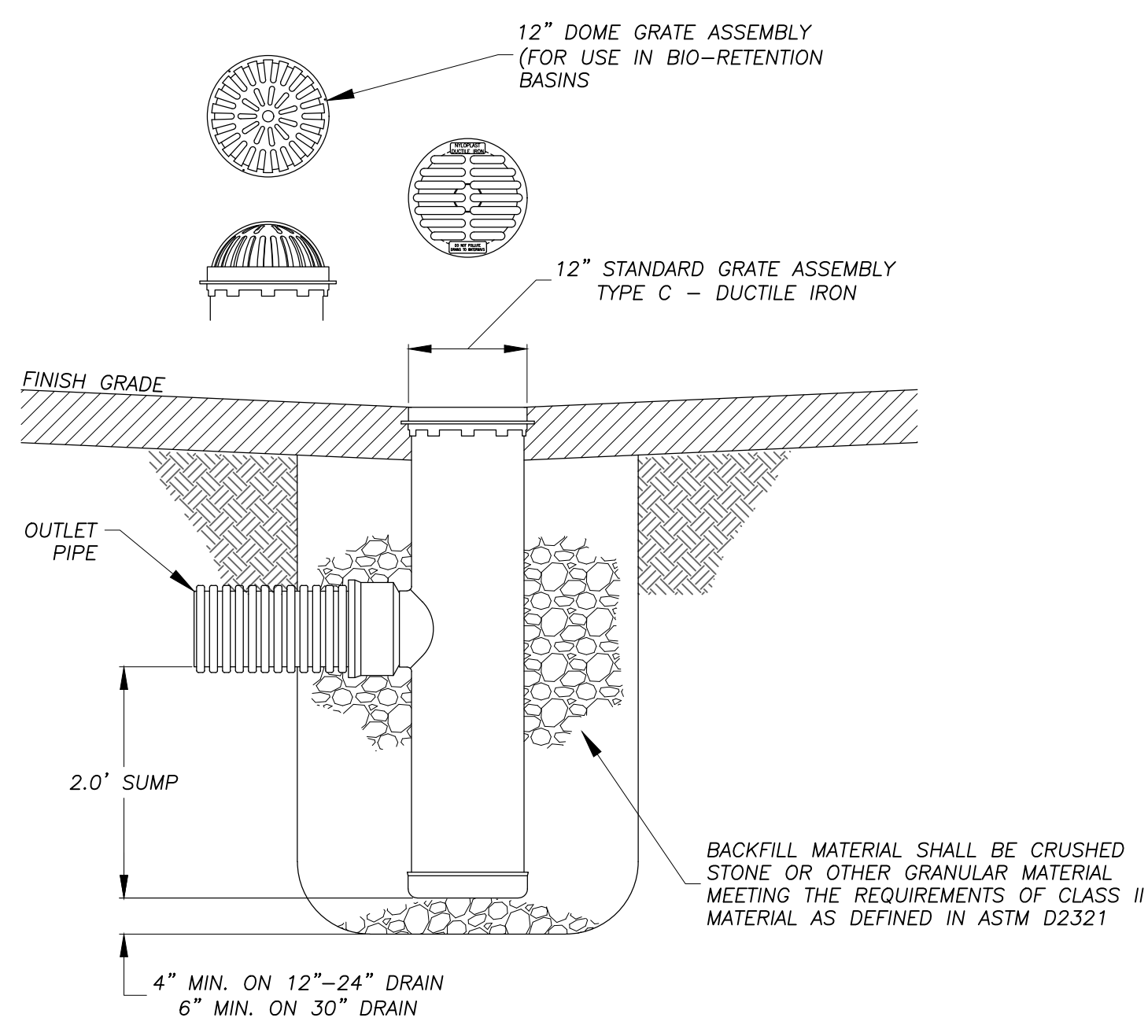
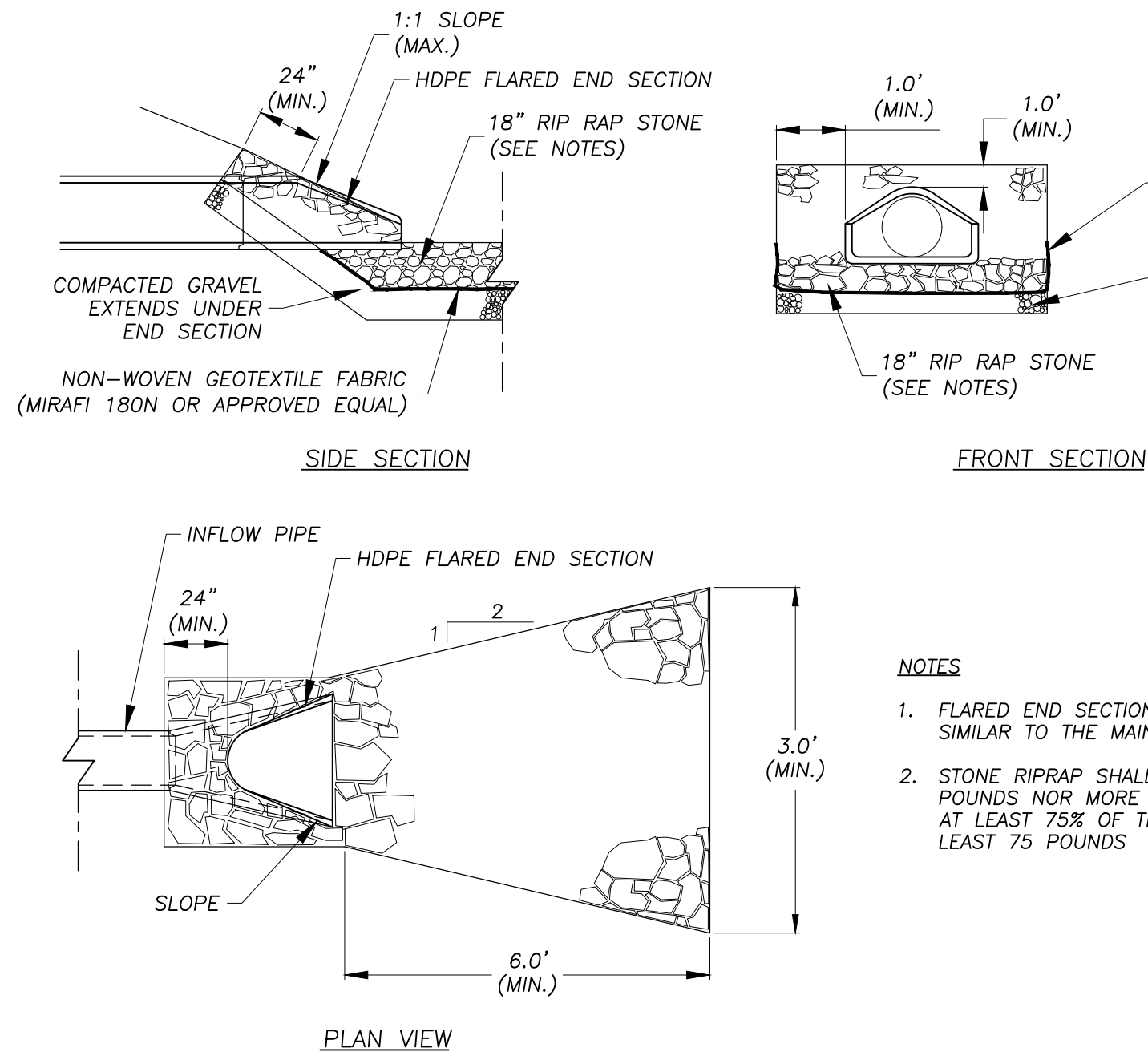
ISSUANCE DATE: May 23, 2024
REVISIONS:
DATE:

DRAFTED BY: M.B. & J.T.

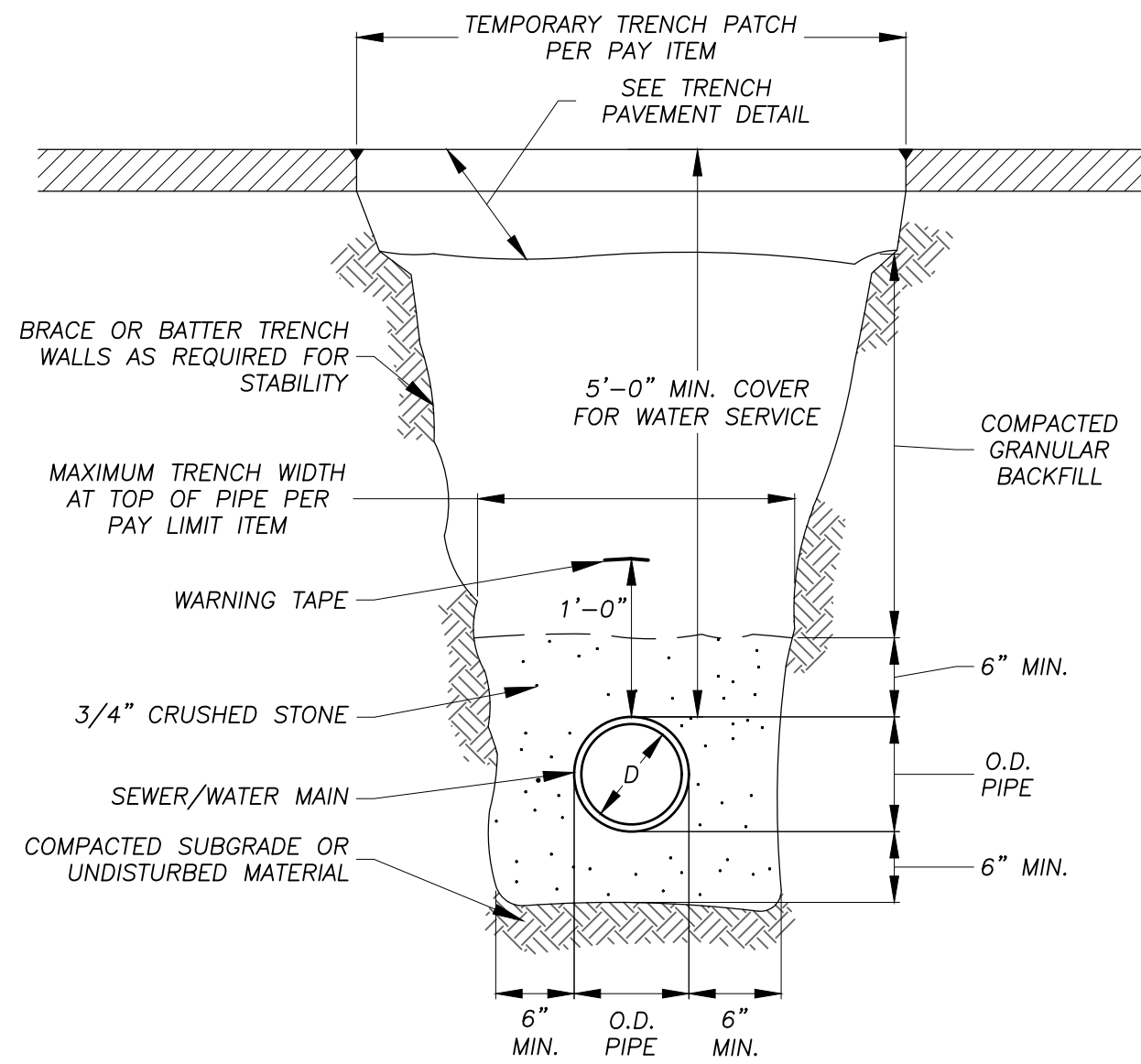
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SCALE: As Noted
RLA PROJ. NUMBER: 231007
DRAWING# **REV.**
D-3 **-**

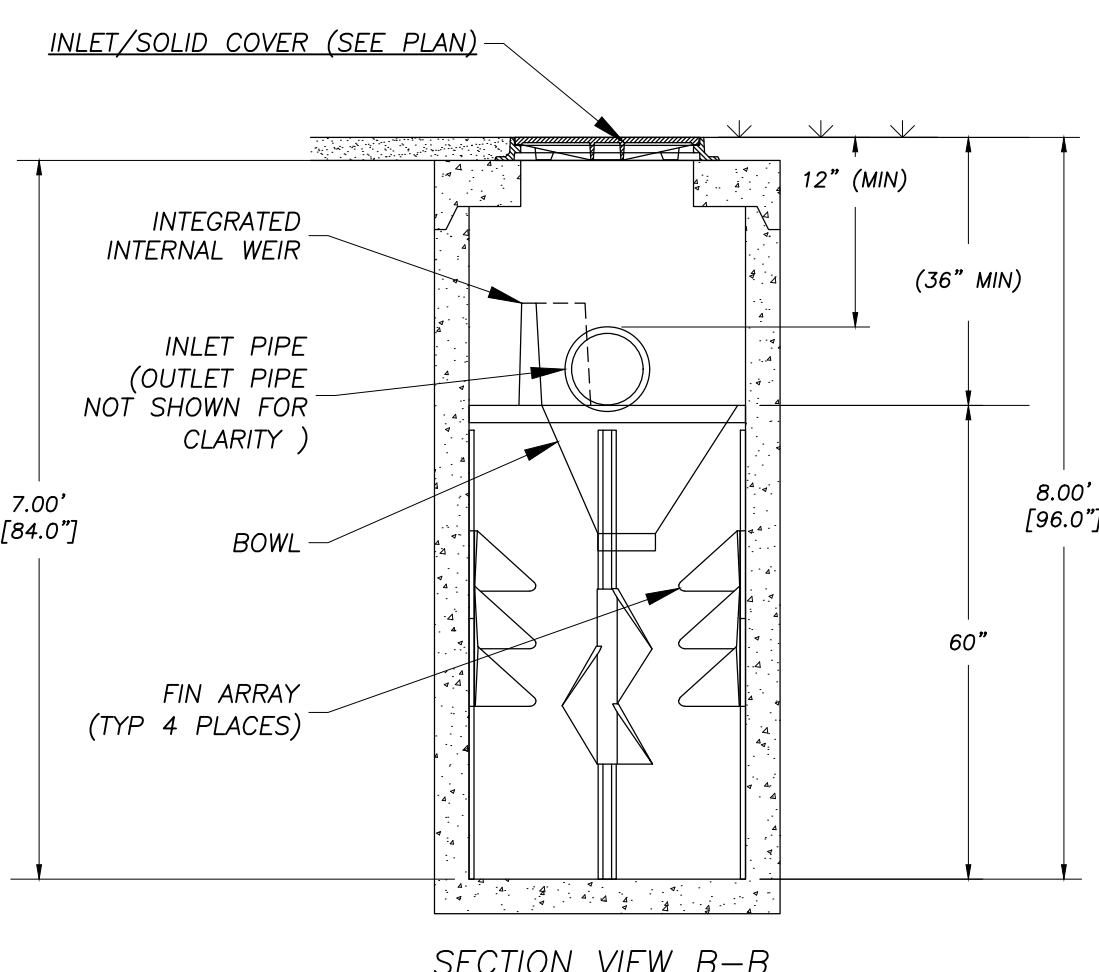
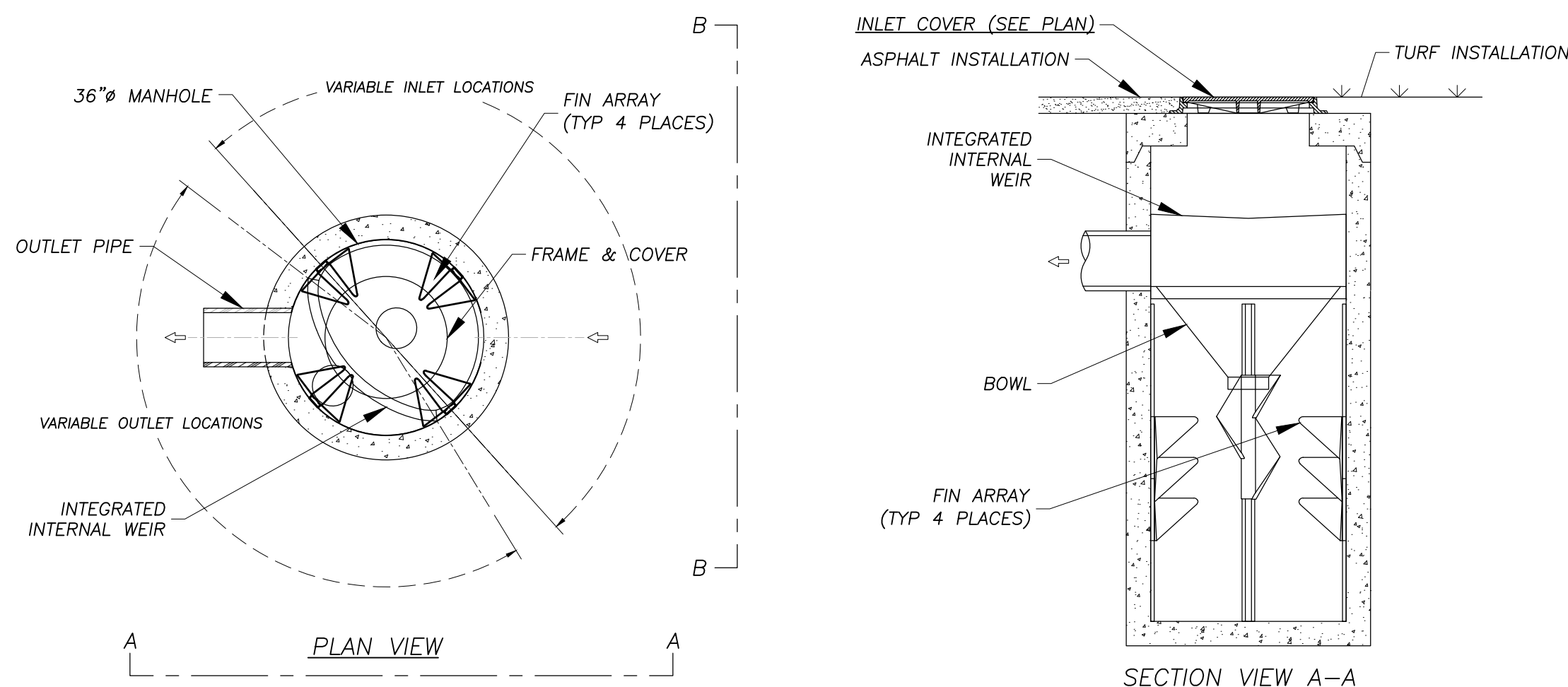
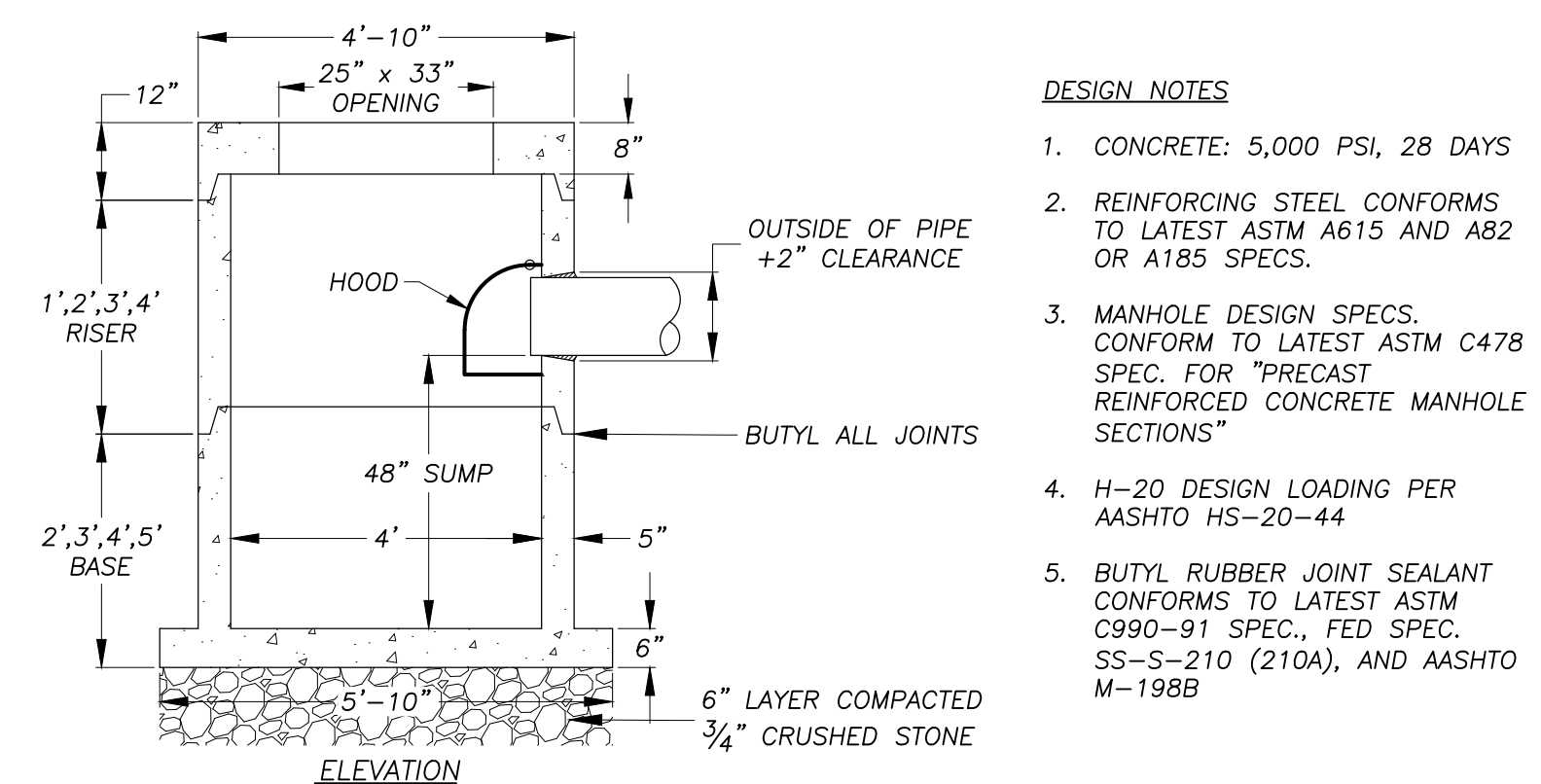
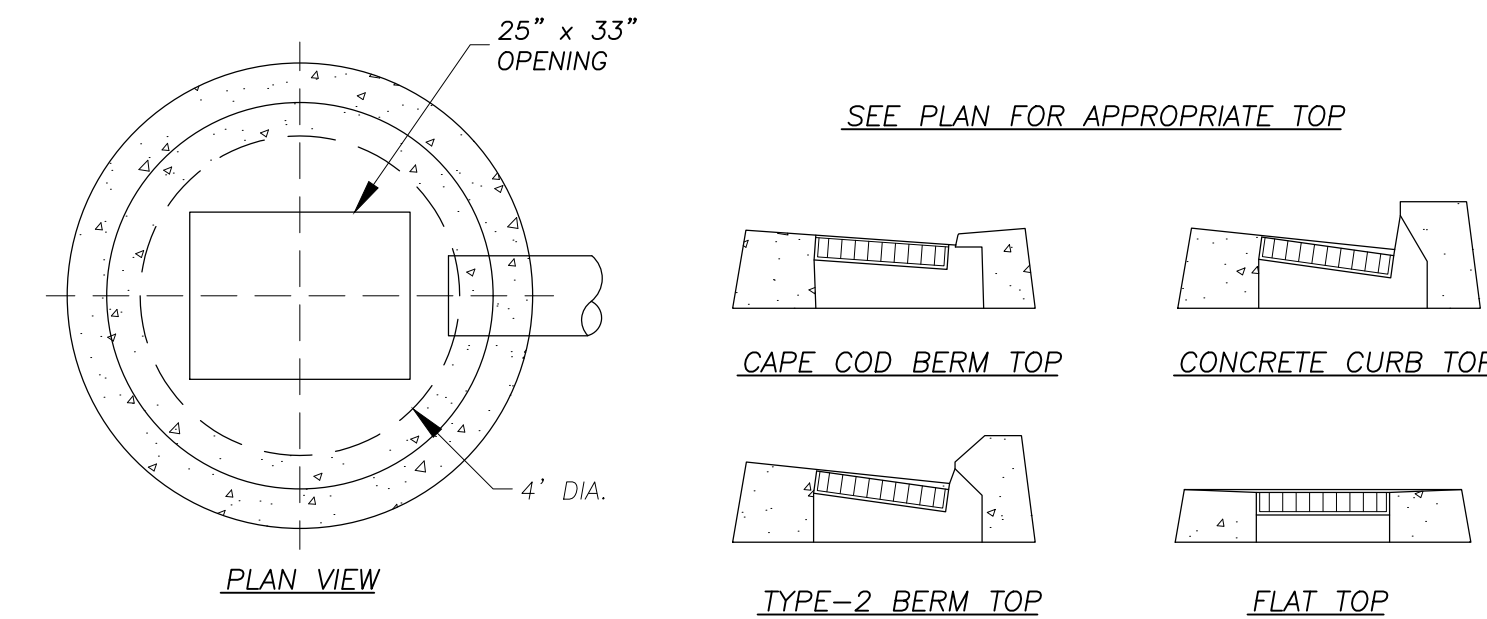
S:\Projects\2023\231007 - Patel - 1422-1444 Main Street - Agawam\05 Civil\3D\231007 - DETAILS.dwg



- NOTES**
1.) LEVEL SPREADER SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL UP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL.
2.) CONSTRUCTION OF LEVEL SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES AND UNDISTURBED BY EARTHWORK OR EQUIPMENT.
3.) CONSTRUCT SPREADER WITH LIP AT EXISTING GRADE AS SPECIFIED.
4.) DOWNGRADIENT RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.



- TRENCH NOTES**
1. TRENCHES LOCATED ON THE ROAD SHOULDER SHALL BE TREATED THE SAME AS STREET EXCEPT FOR PAVING.
2. PROVIDE AT LEAST ONE IMPERVIOUS DAM-IN CRUSHED STONE BEDDING BETWEEN EACH MANHOLE WHERE DIRECTED, OR EVERY 300 FT., WHICHEVER IS LESS.
3. COMPACT ALL BACKFILL MATERIAL TO A MINIMUM DENSITY OF 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698.
4. PLACE BACKFILL MATERIALS IN MAXIMUM ONE FOOT LIFTS.
5. THE INSTALLATION OF PVC SEWER PIPE SHALL CONFORM TO ASTM STANDARD D-2321.
6. AT LOCATIONS WHERE NEW SEWER CROSSES AN EXISTING WATER MAIN, SUPPORT PIPE THROUGH CONSTRUCTION AND BACKFILL TRENCH WITH FLOWABLE FILL. CONTRACTOR SHALL LOCATE NEW SEWER JOINTS AS FAR AWAY FROM CROSSING OF NEW SEWER AND EXISTING WATER MAIN AS POSSIBLE.
7. DUCTILE IRON WATER MAIN PIPING TO BE PROTECTED WITH POLYETHYLENE ENCASEMENT.
8. 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



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DETAILS
1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

COMMONWEALTH OF MASSACHUSETTS
FILED J. CRAVO
CIVIL
No. 48378
REGISTERED PROFESSIONAL ENGINEER
9/21/24

PREPARED FOR:
Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024
REVISIONS:
A. Peer review comments 9/9/24
B. Engineering & peer review comments 9/24/24

DRAFTED BY: M.B. & J.T.

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SCALE: As Noted
RLA PROJ. NUMBER: 231007

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D-4 **B**

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Site Plans

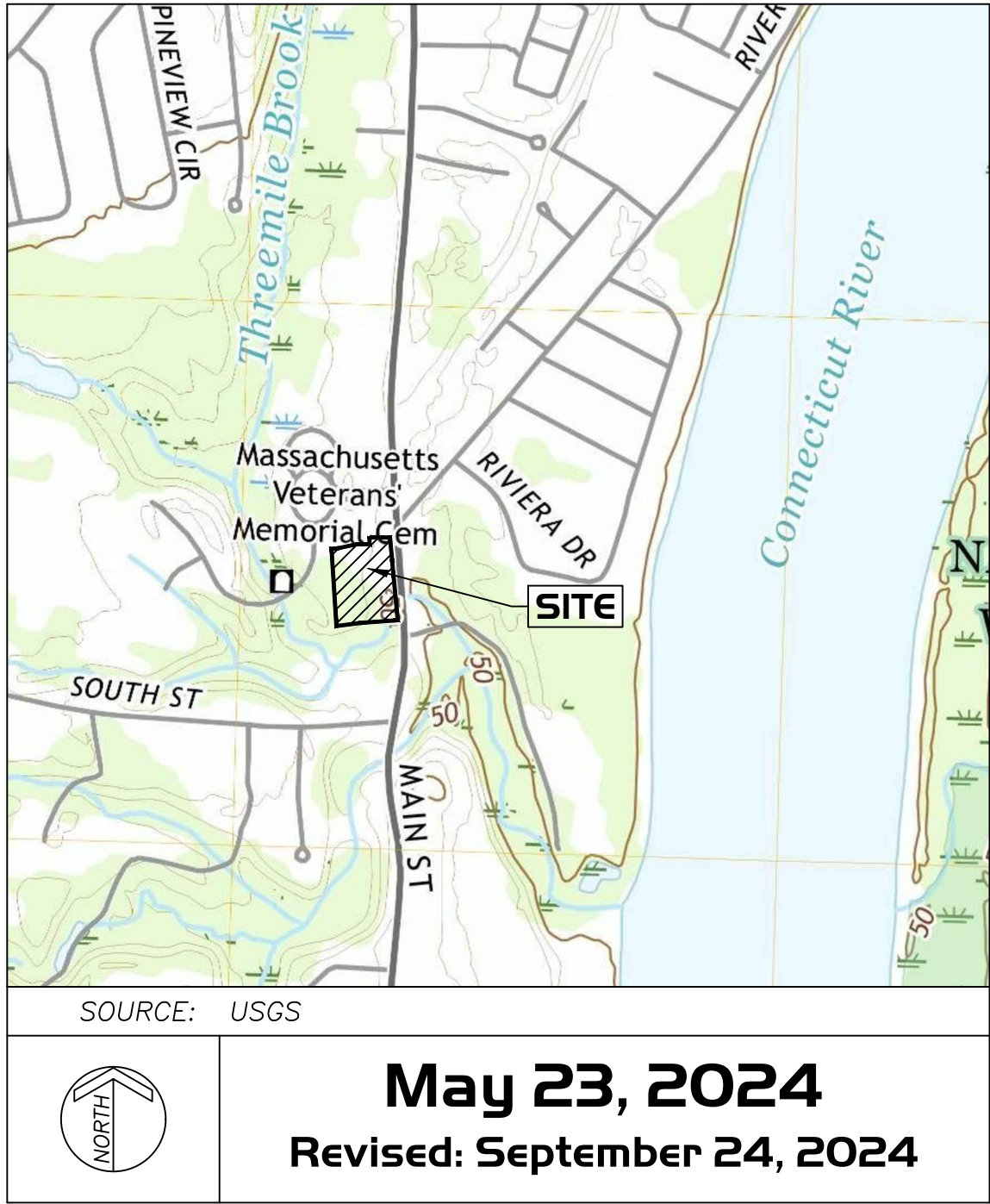
Proposed Hotel

1422 - 1444 Main Street Agawam, MA Map K4 Block I Parcel 5, 6, 7, & 13

AS PREPARED FOR

Shield Hotels
Mr. Kenny Patel

63 Myron Street
West Springfield, MA 01089



DRAWING INDEX			
SHEET NO.	SHEET NAME	ISSUE DATE	REVISION DATE
T-1	TITLE SHEET	5/23/24	9/24/24
EX-1	EXISTING CONDITIONS PLAN	5/23/24	9/24/24
C-1	NOTES, SYMBOL & LINE LEGEND, AND ABBREVIATIONS	5/23/24	9/9/24
C-2	CONSTRUCTION NOTES	5/23/24	
C-3	DEMOLITION AND REMOVALS PLAN	5/23/24	9/9/24
C-4	LAYOUT AND MATERIALS PLAN	5/23/24	9/24/24
C-5	GRADING, EROSION & SEDIMENTATION CONTROL PLAN	5/23/24	9/24/24
C-6	DRAINAGE AND UTILITIES PLAN	5/23/24	9/24/24
C-7	LANDSCAPING PLAN	5/23/24	9/24/24
SL-1	PHOTOMETRIC PLAN	5/23/24	9/24/24
VEH-1	VEHICLE SWEEP PATH	8/1/24	9/24/24
D-1	DETAILS	5/23/24	9/24/24
D-2	DETAILS	5/23/24	
D-3	DETAILS	5/23/24	
D-4	DETAILS	5/23/24	9/24/24
D-5	DETAILS	5/23/24	9/24/24

BY



**R LEVESQUE
ASSOCIATES INC**
A LAND PLANNING SERVICES COMPANY

40 School Street · Westfield, MA · 01085
ph 413.568.0985 · fax 413.568.0986
www.rlaland.com

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GENERAL CONSTRUCTION NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY/TOWN REPRESENTATIVES, CONSULTING ENGINEER/LANDSCAPE ARCHITECT, UTILITY COMPANY REPRESENTATIVES, AND ANY OTHER AFFECTED PARTIES.
2. THE OWNER, R LEVESQUE ASSOCIATES, INC., AND/OR THEIR REPRESENTATIVES, IN PREPARING THESE PLANS HAVE ATTEMPTED TO LOCATE ALL EXISTING UTILITIES IN THE PROJECT AREA. HOWEVER, THERE MAY BE UTILITIES THAT WERE NOT OR COULD NOT BE LOCATED. UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CALL ALL APPROPRIATE UTILITY COMPANIES FOR LOCATIONS OF THEIR UTILITIES AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION. IN THE EVENT THAT A UTILITY IS SITUATED SUCH THAT CONSTRUCTION CANNOT PROCEED AS SHOWN ON THE PLANS, THE PROJECT ENGINEER/LANDSCAPE ARCHITECT AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
3. THE SITE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
4. ALL FILL WORK REQUIRED TO BRING THE PROPOSED ROADWAY UP TO SUB-GRADE LEVEL SHALL CONFORM TO MHD SPECIFICATIONS SECTION 150.
5. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
6. ALL WORK IN THE CITY/TOWN RIGHT-OF-WAY AND EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN SPECIFICATIONS AND MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
7. THE CONTRACTOR SHALL GIVE THE CITY/TOWN A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
9. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE CONDITIONS OF APPROVAL OUTLINED IN ALL STATE AND LOCAL PERMITS. COPIES OF THE CONDITIONS ARE INCLUDED WITHIN THE PROJECTS TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THIS INFORMATION PRIOR TO CONSTRUCTION AND CONFORMING TO THE CONDITIONS AS REQUIRED DURING CONSTRUCTION.
10. THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. THE WORK AREAS ARE TO BE PICKED UP AT THE END OF EACH WORK DAY.
11. ANY TEMPORARY FACILITIES FOR THE STORAGE OR PROTECTION OF TOOLS, EQUIPMENT OR MATERIALS SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES DURING CONSTRUCTION, AND COMPLIANCE WITH STATE AND FEDERAL REGULATIONS REGARDING SAFETY SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY.
12. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. NO EXTRAS DUE TO UNFAMILIARITY WITH THE EXISTING SITE OR WORKING CONDITIONS WILL BE ALLOWED.
13. CONTRACTOR SHALL BE REQUIRED TO PERFORM FINAL CLEANUP CONSISTING OF CLEANING THE PROPOSED DRAINAGE AND SEWER SYSTEMS OF ALL DEBRIS PRIOR TO THE ACCEPTANCE BY THE OWNER. ADDITIONALLY, THE PROPOSED ROADWAY SHALL BE CLEANED AND SWEEPED BY THE CONTRACTOR PRIOR TO ACCEPTANCE.
14. ALL EXCAVATION SHALL COMPLY WITH OSHA'S LATEST STANDARDS. ALL REQUIREMENTS OF OSHA'S EXCAVATION STANDARDS SHALL BE PROVIDED BY THE CONTRACTOR INCLUDING, BUT NOT LIMITED TO, THE PROVISION FOR A COMPETENT PERSON ON SITE MANAGER AND ANY REQUIRED DOCUMENTATION THAT MAY REQUIRE CERTIFICATION BY A PROFESSIONAL ENGINEER. THE OWNER, THROUGH ITS ENGINEER, SHALL EXPRESSLY NOT PROVIDE ANY OF THE ABOVE REQUIREMENTS DESIGNATED BY OSHA'S EXCAVATION STANDARD.
15. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COST OF LAYING OUT ALL ITEMS OF THE WORK BASED ON CERTAIN HORIZONTAL CONTROL AND BENCHMARK SUPPLIED BY THE SURVEYOR OF RECORD. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
16. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, PERMITS AND APPURTENANCES NECESSARY TO PROVIDE A COMPLETE PROJECT AS INDICATED ON THE PLANS AND IN THESE SPECIFICATIONS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A THOROUGH SITE EXAMINATION IN ORDER TO PREPARE SITE FOR CONSTRUCTION.
18. ANY AND ALL DEMOLISHED TREES, STRUCTURES AND OTHER RUBBLE MATERIAL PERTAINING TO THIS PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT HIS EXPENSE IN ACCORDANCE WITH ALL OF THE CITY/TOWN ORDINANCES AND ALL APPLICABLE STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
19. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
20. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING OR COVERING WITH STEEL PLATES.
21. ALL MATERIALS AND METHODS ARE TO COMPLY WITH THE CITY/TOWN DPW STANDARDS OR MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) (WHERE APPLICABLE), UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
22. PERMITS WILL BE REQUIRED BY CONTRACTOR WHEN WORKING WITHIN OR OCCUPYING PUBLIC WAY. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED WORK PERMITS AND MAINTAINING A COPY OF ALL PERMITS IN A THREE RING BINDER OR PROJECT BOOK AND ON-SITE AT ALL TIMES.
23. BACKFILL WILL BE PLACED IN SUCCESSIVE LAYERS NOT MORE THAN TWELVE INCHES IN THICKNESS AND SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY DETERMINED BY STANDARD PROCTOR TEST (ASTM 698) FOR ALL APPLICABLE TYPES OF BACKFILL MATERIAL. NO FROZEN MATERIAL SHALL BE USED AS BACKFILL. IF, IN THE OPINION OF THE ENGINEER OR THE DPW, THE EXCAVATED MATERIAL IS UNSUITABLE, THE ENTIRE MATERIAL FOR BACKFILLING SHALL CONSIST OF APPROVED GRAVEL OR APPROVED BORROW, AS DIRECTED. AFTER THOROUGH TAMPING AROUND AND BENEATH THE UTILITY, A SIX-INCH LAYER OF BACKFILL WILL BE THOROUGHLY COMPACTED AS FOLLOWS: IF DRY, SHALL BE MOISTENED AND THEN COMPACTED WITH MECHANICAL TAMPERS OR BY HAND TAMPERS HAVING A TAMPING FACE NOT EXCEEDING 25 SQUARE INCHES IN AREA. THE FINAL TWELVE INCHES OF FILLING WILL, IN ALL CASES, CONSIST OF APPROVED GRAVEL THOROUGHLY TAMPED.
24. CONTRACTOR SHALL PROVIDE FIELD COMPACTION VERIFICATION UTILIZING ASTM D5195-02, STANDARD TEST METHOD FOR DENSITY OF SOIL & ROCK IN-PLACE AT DEPTHS BELOW THE SURFACE BY NUCLEAR METHODS.
25. CONTRACTOR SHALL PROVIDE FIELD COMPACTION RESULTS TO ENGINEER WITHIN 24-HOURS PRIOR TO PLACEMENT OF INFRASTRUCTURE OR BITUMINOUS BINDER.
26. ALL FILL TO BRING PROPOSED ROADWAY UP TO THE SUB-GRADE LEVEL SHALL EXTEND PAST THE EDGE OF THE RIGHT-OF-WAY AT A 2:1 SLOPE. THIS IS TO PROVIDE ADEQUATE SUPPORT FOR THE RIGHT-OF-WAY.

LAYOUT NOTES

1. ALL CONSTRUCTION IN CITY/TOWN RIGHT-OF-WAYS AND/OR EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN STANDARD SPECIFICATIONS.
2. IN THE EVENT OF DISCREPANCIES BETWEEN LOCAL SPECIFICATIONS AND SITE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
3. SITE CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION AND SHALL REPLACE OR REPAIR, AT HIS OWN EXPENSE, BENCHMARKS AND MONUMENTATION DISTURBED DURING CONSTRUCTION.
4. ALL STRIPING, PAVEMENT MARKINGS, AND TRAFFIC SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL WORK SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES AND ORDINANCES INCLUDING BUT NOT LIMITED TO: AASHTO, OSHA, EPA, DEP, MASSDOT, ETC. THE GENERAL CONTRACTOR SHALL APPLY FOR ALL PERMITS AND SHALL PAY ALL PERMIT RELATED FEES. ALL NECESSARY PERMITS SHALL BE OBTAINED PRIOR TO THE START OF WORK.
6. ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS ARE TO BE VERIFIED BY THE CONTRACTOR. IF FIELD CONDITIONS VARY SIGNIFICANTLY ENOUGH TO REQUIRE A CHANGE TO THE CONTRACT DOCUMENTS, THE PROJECT PROPONENT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
7. THE SITE/GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL CONTACT THE OWNER AND ENGINEER SHOULD HE FIND ANY CONFLICT OR INCONSISTENCY BETWEEN THE WORK SHOWN ON THE DRAWINGS AND NORMAL ACCEPTED CONSTRUCTION PRACTICES, OR HE SHALL ASSUME RESPONSIBILITY FOR ALL CORRECTIONS.
8. ANY CORRECTIONS REQUIRED FOR REVISIONS TO THE CONTRACT DRAWINGS INITIATED BY THE GENERAL CONTRACTOR OR SUBCONTRACTORS WITHOUT PRIOR APPROVAL OF THE OWNER AND/OR THE ENGINEER SHALL BE ACCOMPLISHED AT THE CONTRACTORS RISK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL & LEGAL DISPOSAL OF ALL MATERIAL NECESSARY TO PREPARE THE SITE FOR THE NEW CONSTRUCTION AS SHOWN ON THE SITE DRAWINGS.
10. REPAIR DAMAGED CITY/TOWN ROADS AND CURBS IN ACCORDANCE WITH MASSDOT AND/OR THE CITY/TOWN REGULATIONS.
11. CONTRACTOR SHALL SAWCUT PAVEMENT EDGE WHERE PAVEMENT TO REMAIN IS ADJACENT TO PAVEMENT TO BE REMOVED.
12. CONTRACTOR SHALL PREPARE SITE AS NECESSARY FOR CONSTRUCTION SHOWN ON THE PLANS.

EARTHWORK NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
3. STORM PIPE SHALL BE AS NOTED ON PLANS.
4. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
5. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
6. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
8. ALL STORM PIPE ENTERING STRUCTURES SHALL BE SEALED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
9. ALL STORM SEWER MANHOLES FRAMES AND GRATES ARE TO BE SET EQUAL TO FINISH GRADES, AND SHALL HAVE TRAFFIC BEARING RING & COVERS (H20).
10. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
11. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
12. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
13. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
14. IF CONTRACTOR RELOCATES OR SETS NEW BENCHMARKS, THE VERTICAL ELEVATIONS OF THE BENCHMARKS SHALL BE SET WITHIN A TOLERANCE OF 0.010 FT.
15. CONTRACTOR SHALL LEAVE GRADE BEHIND CURB IN ALL PLANTER AREAS A MINIMUM OF 4" LOW FOR THE PLACEMENT OF SUITABLE TOPSOIL OR PLANTING MIX.

SITE UTILITY NOTES

- GENERAL:
1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
 2. TOPS OF EXISTING MANHOLES SHALL BE SET EQUAL TO FINISH GRADE. IN GRASSED LANDSCAPED AREAS WITH WATER TIGHT LIDS.
 3. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
 4. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.
 5. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
 6. SITE/GENERAL CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES AT THE CITY WITH REGARD TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
 7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 8. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
 9. CONTRACTOR SHALL COORDINATE INSPECTION OF UTILITY LINES WITH APPROPRIATE AUTHORITIES PRIOR TO BACKFILLING TRENCHES.
 10. CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA STANDARDS OR DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF ALL SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION.
 11. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES WITH LOCAL COMPANIES TO AVOID CONFLICTS AND TO ASSURE THAT PROPER DEPTHS ARE ACHIEVED. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANIES FOR EXACT LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
 12. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. DUE TO THE LACK OF AVAILABLE DOCUMENTATION, ALL UTILITIES, INCLUDING CURB BOXES, MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL CALL THE "DIG SAFE CENTER" TO HAVE ALL UTILITIES MARKED ON THE GROUND PRIOR TO THE START OF CONSTRUCTION
 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
 14. DO NOT INTERRUPT EXISTING UTILITIES WITHOUT AUTHORIZATION FROM THE OWNER, OWNERS OF ADJACENT PROPERTIES, AND THE CORRESPONDING UTILITY OWNER. CONTRACTOR SHALL ARRANGE TO SHUT OFF UTILITIES, AS REQUIRED, WITH THE UTILITY OWNERS.
 15. COORDINATE UTILITY TERMINATION WITH UTILITY OWNERS.

- SEWER:
1. SANITARY SEWER MAINS AND LATERALS SHALL BE PVC PIPE CONFORMING TO ASTM D 3034--SDR35. THE MINIMUM SIZE FOR SEWER MAINS SHAL BE 8", SEWER LATERALS SHALL BE 4" MIN.
 2. ALL SANITARY SEWERS, SEWER FORCE MAINS, AND SEWER LATERALS SHALL BE INSTALLED IN FIRST-CLASS BEDDING AND IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS. SEWERS SHALL BE INSTALLED TO THE LINE AND GRADE INDICATED ON THE PLANS.
 3. ONLY PRECAST CONCRETE MANHOLES OF A DESIGN APPROVED BY THE TOWN ENGINEER SHALL BE INSTALLED ON A SANITARY SEWER MAIN.
 4. NO GROUNDWATER OR SURFACE WATER SHALL BE DISCHARGED INTO THE SANITARY SEWER.
 5. WHERE ROCK IS ENCOUNTERED, IT SHALL BE REMOVED TO A DEPTH OF ONE FOOT BELOW THE FLOWLINE OF THE SEWER AND THE PIPE LAID IN A PROPERLY COMPACTED GRANULAR MATERIAL APPROVED BY THE TOWN ENGINEER.
 6. ONLY GRANULAR MATERIAL APPROVED BY THE TOWN ENGINEER SHALL BE USED AS BACKFILL IN ANY TRENCH EXCAVATION.

- WATER:
1. CONTRACTOR SHALL CONTACT THE CITY/TOWN WATER DEPARTMENT FOR SPECIFICATIONS AND MAKE OF VALVES, VALVE BOXES, FIRE HYDRANTS AND ALL OTHER WATER LINE APPURTENANCES.
 2. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL DPW SPECIFICATIONS AND WATER DISTRIBUTION SYSTEM. CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY WATER DEPARTMENT.
 3. ALL WATER MAIN SHALL BE DUCTILE IRON (D.I.), CLASS 52, AWWA C-151 (ANSI A21.40). D.I. PIPE SHALL BE DOUBLE CEMENT LINED WITH A SEAL COAT CONFORMING TO AWWA C-104 (ANSI A-21.4).
 4. JOINTS FOR D.I. PIPE SHALL BE PUSH-ON OR OTHERWISE APPROVED, AWWA C151(ANSI A-21.51) WITH GASKETS CONFORMING TO AWWA C-111 (ANSI A-21.11) MAXIMUM LENGTH OF PIPE TO BE 20 L.F.
 5. ALL FITTINGS SHALL BE DUCTILE IRON CLASS 53 WITH PRESSURE RATING OF 350 PSI AND MECHANICAL JOINTS CONFORMING TO AWWA C-151 (ANSI A21.51).
 6. RETAINER GLANDS: RETAINER GLANDS SHALL BE DESIGNED TO IMPART MULTIPLE WEDGING ACTION AGAINST THE PIPE, INCREASE ITS RESISTANCE AS THE PRESSURE INCREASES. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536-80. RESTRAINING DEVICES SHALL BE DUCTILE IRON HEAT-TREATED TO A MINIMUM HARNESS OF 370 BHN. TWIST-OFF NUTS SHALL BE USED TO INSURE PROPER ACTUATING OF THE RETAINER GLAND. DIMENSIONS OF THE GLAND SHALL BE SUCH THAT IT CAN BE USED WITH THE STANDARD MECHANICAL JOINT BELL AND TEE-HEADED BOLTS CONFORMING TO ANSI/AWWA A21.1 AND ANSI/WWA 153/A21.5. THE RETAINER GLAND SHALL HAVE A WORKING PRESSURE OF 250 PSI WITH A MINIMUM SAFETY FACTOR OF 2:1 AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE COMPATIBLE WITH THE PIPE CLASS AND PIPE MANUFACTURER FOR ALL SIZES PROVIDED ON THE JOB. THE RETAINER GLAND SHALL BE MEGA-LUG AS MANUFACTURED EBAA IRON, INC., OR APPROVED EQUAL.
 7. ALL WATER MAINS, UNLESS OTHERWISE NOTED, SHALL BE INSTALLED WITH A MINIMUM FIVE FEET OF COVER. WHEN CROSSING ABOVE OR BELOW WATER PIPELINES, A MINIMUM VERTICAL SEPARATION OF SIX INCHES SHALL BE PROVIDED. WHEN CROSSING SANITARY SEWERS, A MINIMUM OF 18" SHALL BE PROVIDED.

SITE UTILITY NOTES (CONTINUED)

8. THE INSTALLED WATER MAIN SHALL BE PRESSURE TESTED, FLUSHED AND DISINFECTED BY CONTRACTOR IN ACCORDANCE WITH AWWA C-600 AND AWWA C-651 OR PER CITY/TOWN WATER DEPARTMENT STANDARDS.
9. DUCTILE IRON PIPES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C-600.
10. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED. FITTINGS SHALL BE RESTRAINED BY MECHANICAL JOINT RESTRAINTS. THE PIPE CONNECTED TO THE FITTING SHALL BE RESTRAINED PER THE MANUFACTURER'S SCHEDULE.
11. THE CONTRACTOR SHALL MARK THE LOCATION OF THE PROPOSED WATER MAIN AT LEAST 48 HOURS PRIOR TO EXCAVATING. EXCAVATION SHALL NOT PROCEED WITHOUT AUTHORIZATION BY THE ENGINEER.
12. ALL WATER MAINS, HYDRANT BRANCHES, AND SERVICES SHALL HAVE UTILITY WARNING TAPE. THE TAPE SHALL BE BURIED APPROXIMATELY 2 FEET BELOW FINISHED GRADE.
13. BACKFILL SHALL BE COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698. COMPACTION EQUIPMENT USED MUST BE SPECIFICALLY DESIGNED FOR COMPACTION. TAMPING WITH THE BACK OF THE BACK HOE BUCKET IS UNACCEPTABLE COMPACTION.
14. ALL WATER SERVICES SHALL BE 1" DIA. COPPER TUBING TYPE K, SOFT TEMPER CONFORMING TO ASTM B88 UNLESS OTHERWISE NOTED.
15. DEPRESS WATER MAIN UNDER EXISTING SERVICES AND HYDRANT BRANCHES TO MAINTAIN 5'-0" OF COVER.
16. ALL WATER MAINS SHALL BE LAID PER THE PLANS TO MAINTAIN THE MAXIMUM SEPARATION FROM EXISTING OR PROPOSED SANITARY SEWER. DISTANCE SHALL BE MEASURED EDGE TO EDGE.
17. IDENTIFY EACH PIPE LENGTH & FITTING CLEARLY WITH MANUFACTURE'S NAME & TRADEMARK. NOMINAL PIPE SIZE & MATERIAL DESIGNATION.
18. ALL WATER MAINS & SERVICE PIPES SHALL BE LAID IN A TRENCH SEPARATE FROM ANY OTHER UTILITY (GAS, ELECTRIC, TELEPHONE, ETC.) SHALL BE A MINIMUM NO LESS THAN FIVE (5) FEET FROM ANOTHER UTILITY.
19. ALL MATERIAL SHALL BE IN ACCORDANCE WITH CITY/TOWN WATER DEPARTMENT "RULES & REGULATIONS". ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CITY/TOWN WATER DEPARTMENT "SPECIFICATIONS". CITY/TOWN WATER DEPARTMENT STANDARDS SHALL TAKE PRECEDENCE OVER ANY REQUIREMENTS LISTED ABOVE.

CONSTRUCTION NOTES

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:

DRAFTED BY: M.B. & J.T.

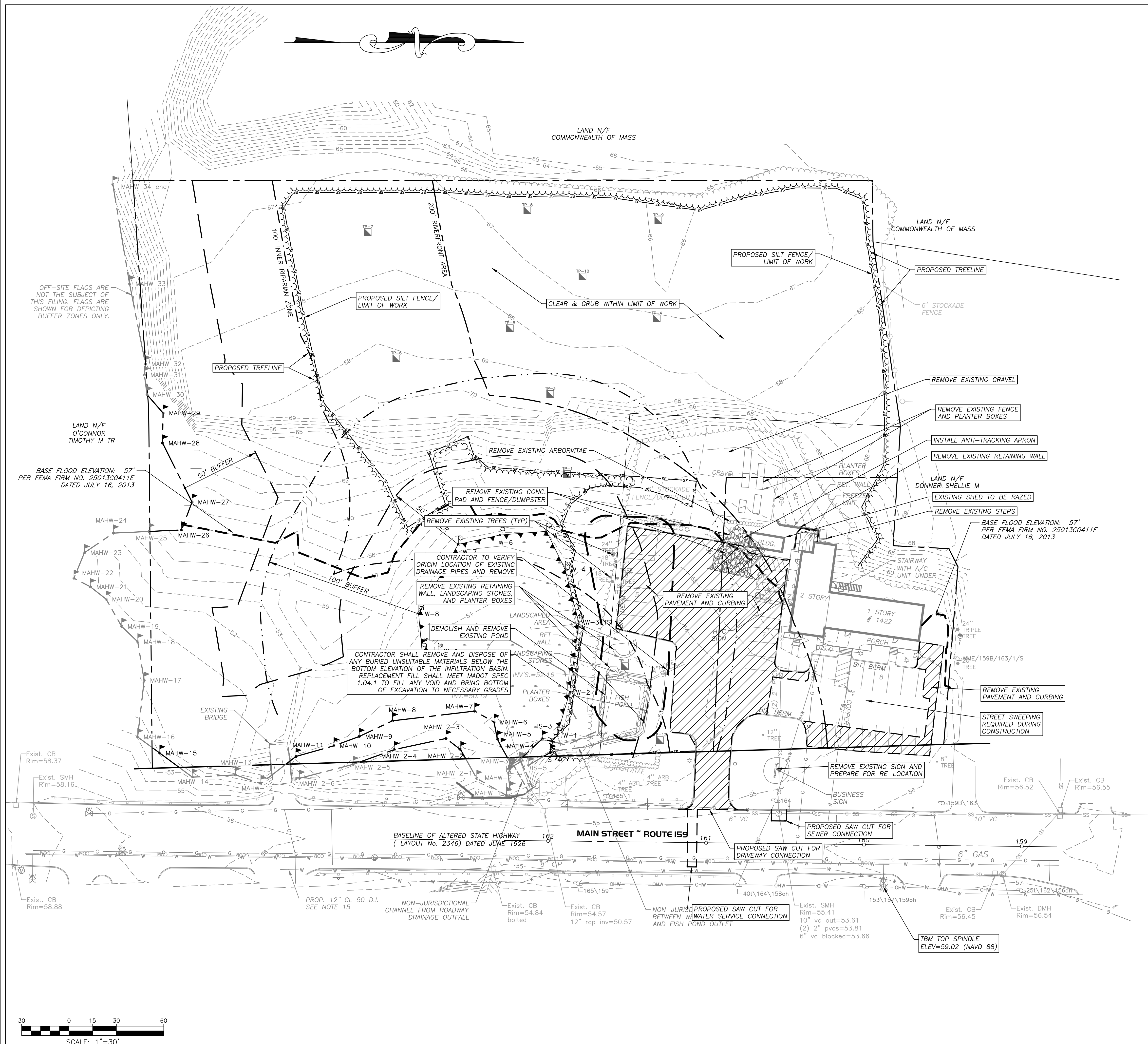
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DEMOLITION NOTES

1. THE INFORMATION SHOWN HEREON IS NOT INTENDED TO BE AN EXHAUSTIVE SURVEY OF ALL APPURTENANCES THAT MAY OR MAY NOT BE IN PLACE TO SERVE THE EXISTING ON-SITE STRUCTURES AND USE. SEPTIC SYSTEM COMPONENTS, UNDERGROUND TANKS, AND OTHER SUB-SURFACE STRUCTURES MAY BE IN PLACE AND MAY REQUIRE ATTENTION BEFORE CONSTRUCTION MAY PROCEED.
2. CONTRACTOR SHALL CONDUCT A PRE-DEMOLITION SURVEY TO IDENTIFY ANY AND ALL UTILITIES AND UTILITY COMPONENTS TO BE DISCONTINUED, REMOVED, OR DEMOLISHED IN PLACE AND THE PRESENCE OR ABSENCE OF ANY HAZARDOUS MATERIALS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION, REMOVAL OR RELOCATION, INCLUDING BUT NOT LIMITED TO: ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES' SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COSTS SHALL BE INCLUDED IN BASE BID.
4. CONTRACTOR SHALL ERECT AND MAINTAIN SAFETY BARRICADES AND POST PROPER NOTICES PRIOR TO THE COMMENCEMENT OF WORK.
5. CONTRACTOR SHALL PROTECT EXISTING SITE IMPROVEMENTS, APPURTENANCES AND LANDSCAPING TO REMAIN.
6. CONTRACTOR SHALL MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM FROM DAMAGE DURING DEMOLITION OPERATIONS. ANY DAMAGE TO EXISTING UTILITIES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE UTILITY OWNER.
7. ALL UTILITY DISCONNECTION SHALL BE PERFORMED TO THE SATISFACTION OF THE RELEVANT UTILITY COMPANY AND COMPLY WITH ANY LOCAL, STATE AND/OR FEDERAL REGULATORY AGENCIES.
8. CONTRACTOR SHALL PROMPTLY TRANSPORT AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS OFF OWNERS PROPERTY. DO NOT ALLOW DEMOLISHED MATERIAL TO COLLECT ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISPOSAL.
9. THERE SHALL BE NO BURNING OF DEMOLISHED MATERIAL ALLOWED ON SITE.
10. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ANY ITEMS TO BE TURNED OVER TO OWNER.
11. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST SO THAT DUST DOES NOT CREATE A NUISANCE ON ADJACENT ROADS OR PROPERTIES. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND CATCH BASIN CLEANING AFTER EACH PHASE OF CONSTRUCTION AND AS NEED IS DETERMINED BY THE LANDSCAPE ARCHITECT/ENGINEER.
12. NO ACTIVITY SHALL OCCUR OUTSIDE OF LIMIT OF WORK LINE AS SHOWN ON PLAN WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT/ENGINEER AND LANDOWNER.
13. THE CONTRACTOR SHALL NOTIFY DIG SAFE @ 1-888-344-7233 A MINIMUM OF 72 HOURS (M-F) PRIOR TO COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITY.
14. THE LANDSCAPE ARCHITECT/ENGINEER IS NOT RESPONSIBLE FOR ANY ITEMS THAT MAY BE DISCOVERED ON-SITE DURING DEMOLITION OR CONSTRUCTION THAT WAS NOT PREVIOUSLY INDICATED ON THE SURVEYS OR INFORMATION PROVIDED.
15. PAVEMENT SHALL BE SAWCUT AT THE LIMIT OF WORK. ALL PAVING, FOOTINGS, UTILITIES, CURBING AND OTHER EXISTING IMPROVEMENTS SHALL BE REMOVED OR SUITABLY MILLED TO THE SATISFACTION OF THE OWNER AND GENERAL CONTRACTOR.

CONSTRUCTION SEQUENCE

1. CONTACT THE TOWN OF AGAWAM AT LEAST FORTY-EIGHT HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION, OR EARTHWORK ACTIVITY ON THIS PROJECT.
2. CONSTRUCT ANTI-TRACKING PAD AT ENTRANCE AND INSTALL ANY REQUIRED INLET PROTECTION AS DEPICTED ON THE PLAN.
3. INSTALL SILT FENCE AS SHOWN ON THE PLANS.
4. UPON COMPLETION OF EROSION CONTROL MEASURES, CLEARING AND GRUBBING AND EARTHWORK MAY COMMENCE.
5. CLEAR AND GRUB SITE. STOCKPILE ANY CHIPPING OR TOPSOIL MATERIAL TO REMAIN ON SITE FOR LONGER THAN 14 DAYS AND INSTALL SILT FENCE AROUND THE PERIMETER OF THE STOCKPILE.
6. COMMENCE EARTHWORK BY EXCAVATING FOR THE CUT/FILL SLOPES AS SHOWN ON THE PLANS. STABILIZE/SEED ANY SLOPES THAT HAVE ACHIEVED FINAL GRADE.
7. INSTALL UTILITIES AS SHOWN ON PLANS INCLUDING WATER SERVICE, SEWER SERVICE, GAS SERVICE, ELECTRICAL SERVICE AND STORMWATER MANAGEMENT SYSTEM.
8. GRADE THE SITE TO ACCEPT PAVEMENT SECTION MATERIALS.
9. INSTALL PAVEMENT AS SPECIFIED ON THE PLANS.
10. UPON INSTALLATION OF PAVEMENT SURFACE, INSTALL INLET PROTECTION AS REQUIRED ON ANY NEW INLET STRUCTURES.
11. FINAL GRADING AND STABILIZATION OF ANY REMAINING EXPOSED AREAS.
12. AT THE DIRECTION OF THE TOWN OF AGAWAM, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

RLA

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Civil Engineers - Land Surveyors
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DEMOLITION & REMOVALS PLAN

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

MASSACHUSETTS
REGISTERED LANDSCAPE ARCHITECT
NO. 1286
Kenny Patel

PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024
REVISIONS:
A. Town comments, updated delineation 8/1/24
B. Peer review comments 9/9/24

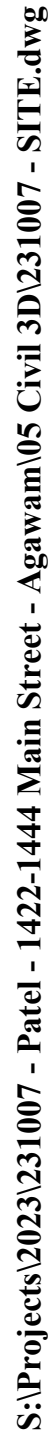
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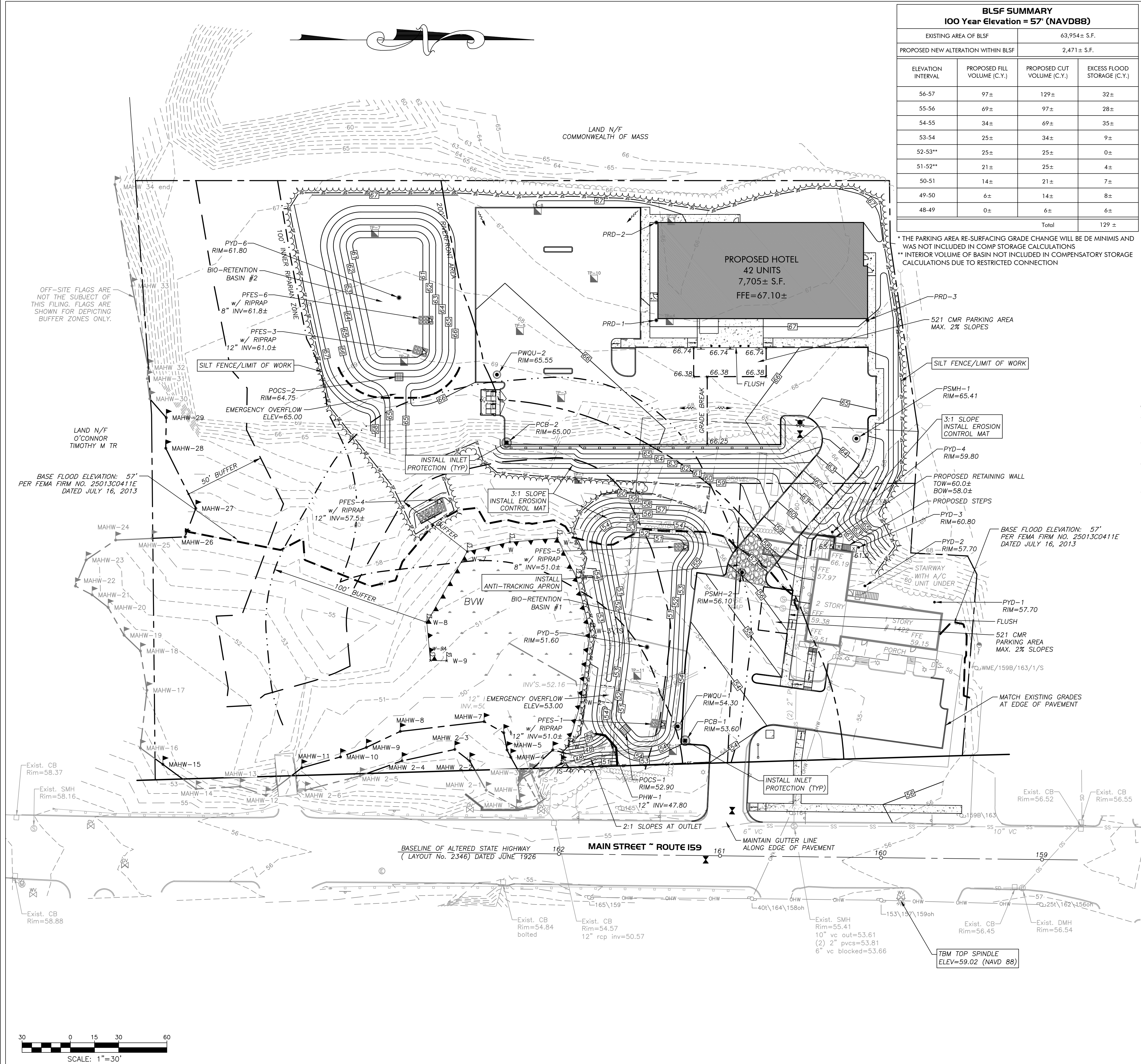
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BLSF SUMMARY			
100 Year Elevation = 57' (NAVD88)			
EXISTING AREA OF BLSF		63,954± S.F.	
PROPOSED NEW ALTERATION WITHIN BLSF		2,471± S.F.	
ELEVATION INTERVAL	PROPOSED FILL VOLUME (C.Y.)	PROPOSED CUT VOLUME (C.Y.)	EXCESS FLOOD STORAGE (C.Y.)
56-57	97±	129±	32±
55-56	69±	97±	28±
54-55	34±	69±	35±
53-54	25±	34±	9±
52-53**	25±	25±	0±
51-52**	21±	25±	4±
50-51	14±	21±	7±
49-50	6±	14±	8±
48-49	0±	6±	6±
Total		129 ±	

* THE PARKING AREA RE-SURFACING GRADE CHANGE WILL BE DE MINIMIS AND WAS NOT INCLUDED IN COMP STORAGE CALCULATIONS
** INTERIOR VOLUME OF BASIN NOT INCLUDED IN COMPENSATORY STORAGE CALCULATIONS DUE TO RESTRICTED CONNECTION

SHORT-TERM EROSION CONTROL MAINTENANCE

1. THE CONTRACTOR OR SUBCONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING EACH CONTROL SHOWN ON THE SEDIMENTATION AND EROSION CONTROL PLAN.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFF-SITE SEDIMENTATION IF DEEMED NECESSARY BY ON-SITE INSPECTION.
3. EFFECTIVE EROSION CONTROL MEASURES SHALL BE INITIATED PRIOR TO THE COMMENCEMENT OF CLEARING, GRADING, EXCAVATION, OR OTHER OPERATIONS THAT WILL DISTURB THE NATURAL PROTECTION.
4. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. LONGER INSPECTION SHALL BE DOCUMENTED IN WRITING. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY.
5. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO AVOID EXCESS EROSION OF THE SITE DUE TO THE CONSTRUCTION OF THIS PROJECT.
6. SILT SHALL BE REMOVED FROM BEHIND BARRIERS IF GREATER THAN 6-INCHES DEEP OR AS NEEDED. SEDIMENT THAT IS COLLECTED IN STRUCTURES SHALL BE DISPOSED OF PROPERLY AND COVERED IF STORED ON-SITE.
7. DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION.
8. ALL DITCHES SHALL BE STABILIZED AS SOON AS IS PRACTICABLE TO MINIMIZE EROSION.
9. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES IN A GOOD, WORKING STATE OF REPAIR UNTIL THEIR USE IS NO LONGER WARRANTED. AT THAT TIME, THE EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF SO AS TO CAUSE NO OFF-SITE SILTATION.
10. INSPECT AND MAINTAIN CONSTRUCTION ENTRANCE STONE SUCH THAT SEDIMENT DOES NOT TRACK ONTO THE STREET. ANY SEDIMENT TRACKED ONTO THE STREET SHALL BE CLEANED DAILY.
11. AFTER CATCH BASINS HAVE BEEN CONSTRUCTED AND THE SITE HAS BEEN PAVED, THE CONTRACTOR SHALL PROTECT THE INLETS BY CONSTRUCTING INLET PROTECTION AS SHOWN ON THE PLANS. INLET PROTECTION TO REMAIN IN PLACE AND MAINTAINED UNTIL DISTURBED AREAS HAVE BEEN STABILIZED, LOAMED AND SEEDED.
12. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SUBSTANTIALLY STABILIZED. AFTER REMOVAL OF MEASURES, DISTURBED AREAS SHALL BE REGRADED AND STABILIZED AS NECESSARY.
13. THIS PLAN IS PROVIDED AS A BASIS FOR THE INITIAL SEDIMENTATION AND EROSION CONTROL MEASURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UPDATE AND EXPAND THIS PLAN AS SITE CONDITIONS DICTATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT THE OCCURRENCE OF SILTATION TO WETLAND RESOURCE AREAS AND THE MOVEMENT OF SEDIMENT BEYOND THE SITE BOUNDARIES.

ACCESSIBILITY NOTES

1. ALL ACCESSIBLE ROUTES, TRANSITIONS, AND ACCESSIBLE PARKING/LOADING AREAS, INCLUDING ALL ENTRANCES TO BUILDING, SHALL ADHERE TO 521 CMR.
2. SHOULD THE ARCHITECT PROVIDE ADDITIONAL ENTRANCES OR MEANS OF EGRESS, ADDITIONAL ACCESSIBLE ROUTES MAY BE REQUIRED.
3. IT IS THE RESPONSIBILITY OF THE ARCHITECT AND CONTRACTOR TO NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT OF ANY CHANGES TO THE PROPOSED BUILDING THAT WOULD AFFECT THE ACCESSIBILITY REQUIREMENTS OF THE PROPOSED SITE.
4. THE CONTRACTOR SHALL REVIEW IN DETAIL THE REQUIREMENTS OF 521 CMR AND SHALL BE RESPONSIBLE FOR CONFORMANCE WITH SAID REGULATIONS.

CONSTRUCTION NOTES

1. THE CONTRACTOR/OWNER/DEVELOPER TO BE AWARE THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND AN ILLICIT DISCHARGE COMPLIANCE STATEMENT ARE REQUIRED PRIOR TO ANY LAND DISTURBANCE.
2. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA AND ARE APPROXIMATE. ACTUAL FIELD LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO NOTIFY DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION ACCORDING TO MA GENERAL LAWS.
4. APPROVED PLANS TO BE ON SITE AT ALL TIMES.
5. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES TO BE APPROVED BY DESIGN ENGINEER, FIELD INSPECTOR AND CITY/TOWN ENGINEER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
7. CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
8. TREES, BRUSH AND STUMPS REMOVED BY CLEARING AND GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
9. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE REAPPLIED.
10. ALL CONSTRUCTION METHODS TO CONFORM TO AGAWAM PLANNING BOARD REGULATIONS AND DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
11. AGAWAM DEPARTMENT OF PUBLIC WORKS APPROVAL IS NOT TO BE CONSTRUED AS AN ALL INCLUSIVE APPROVAL AS OTHER APPROVALS MAY BE NECESSARY, I.E. TOWN ENGINEER, CONSERVATION, FIRE DEPARTMENT, WATER DEPARTMENT, ETC.
12. EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO START OF CONSTRUCTION.

GRADING & DRAINAGE NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTORS RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT/ENGINEER OF ANY UNEXPECTED CONDITIONS THAT ARE ENCOUNTERED DURING CONSTRUCTION.
5. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE CITY DEPARTMENT SPECIFICATIONS.
7. CONTRACTOR TO ACHIEVE POSITIVE DRAINAGE AWAY FROM PROPOSED BUILDINGS.

PERMITTING
NOT FOR CONSTRUCTION

RLA
R LEVESQUE ASSOCIATES INC.
Landscape Architects
Civil Engineers · Land Surveyors
Environmental Consultants
ph: 413.568.0985 fax: 413.568.0986
40 School Street
Westfield, MA 01085
rlaland.com

GRADING, EROSION & SEDIMENTATION CONTROL PLAN
1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

MASSACHUSETTS
REGISTERED LANDSCAPE ARCHITECT
NO. 1296
12/24

PREPARED FOR:
Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:
A. Town comments, updated delineation	8/1/24
B. Peer review comments	9/9/24
C. Engineering & peer review comments	9/24/24

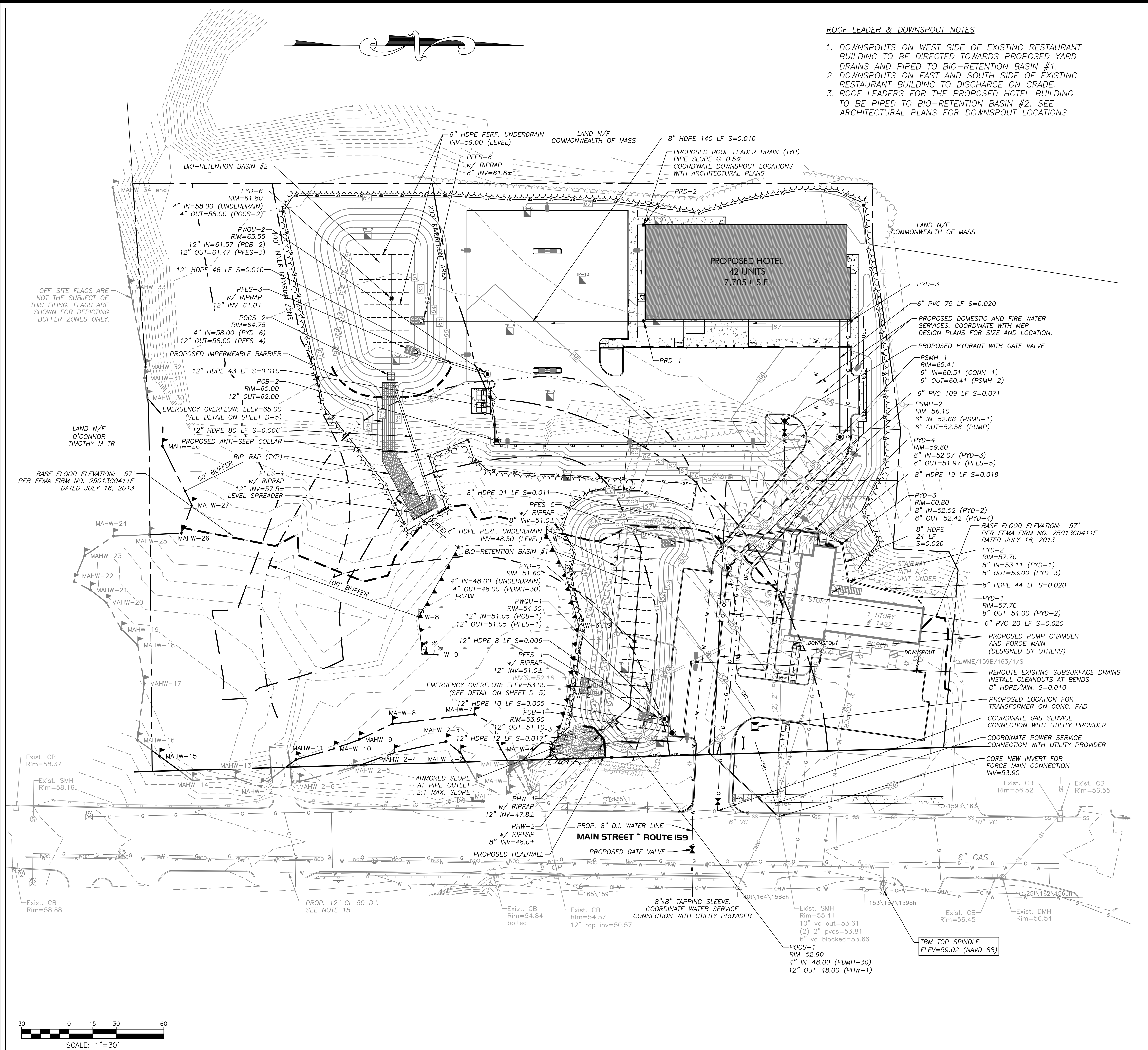
DRAFTED BY: M.B. & J.T.

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SCALE: As Noted

RLA PROJ. NUMBER: 231007

DRAWING#	REV.
C-5	C



ROOF LEADER & DOWNSPOUT NOTES

1. DOWNSPOUTS ON WEST SIDE OF EXISTING RESTAURANT BUILDING TO BE DIRECTED TOWARDS PROPOSED YARD DRAINS AND PIPED TO BIO-RETENTION BASIN #1.
2. DOWNSPOUTS ON EAST AND SOUTH SIDE OF EXISTING RESTAURANT BUILDING TO DISCHARGE ON GRADE.
3. ROOF LEADERS FOR THE PROPOSED HOTEL BUILDING TO BE PIPED TO BIO-RETENTION BASIN #2. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT LOCATIONS.

CONSTRUCTION NOTES

1. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA AND ARE APPROXIMATE. ACTUAL FIELD LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO NOTIFY DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION ACCORDING TO MA GENERAL LAWS.
3. APPROVED PLANS TO BE ON SITE AT ALL TIMES.
4. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES TO BE APPROVED BY DESIGN ENGINEER, FIELD INSPECTOR AND CITY/TOWN ENGINEER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
6. CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
7. TREES, BRUSH AND STUMPS REMOVED BY CLEARING AND GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
8. CALCIUM CHLORIDE/WATER FOR DUST CONTROL TO BE AVAILABLE AT ALL TIMES.
9. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE REAPPLIED.
10. ALL CONSTRUCTION METHODS TO CONFORM TO WESTFIELD PLANNING BOARD REGULATIONS AND BOARD OF PUBLIC WORKS SPECIFICATIONS.
11. WESTFIELD DEPARTMENT OF PUBLIC WORKS APPROVAL IS NOT TO BE CONSTRUED AS AN ALL INCLUSIVE APPROVAL AS OTHER APPROVALS MAY BE NECESSARY, I.E. TOWN ENGINEER, CONSERVATION, FIRE DEPARTMENT, WATER DEPARTMENT, ETC.
12. ALL CATCH BASINS TO HAVE 48" SEALED SUMPS AND HOODS.
13. EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO START OF CONSTRUCTION.

GRADING & DRAINAGE NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR SHALL NOTIFY DESIGNER/ENGINEER OF ANY UNEXPECTED CONDITIONS THAT ARE ENCOUNTERED DURING CONSTRUCTION.
5. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE WESTFIELD DEPARTMENT SPECIFICATIONS.
7. ALL FILL MATERIAL DISCOVERED UNDER INFILTRATION SITES SHALL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO INSTALLATION OF INFILTRATION STRUCTURE.
8. A LICENSED SOIL EVALUATOR AND/OR PROFESSIONAL ENGINEER MUST BE PRESENT DURING GRADING AND CONSTRUCTION OF THE SUBSURFACE INFILTRATION SYSTEM TO ENSURE NATIVE OR SIMILAR SOILS UNDERLAY THE STRUCTURES.

UTILITY NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR TO VERIFY ALL UTILITY CONNECTIONS AND INVERTS FROM EXISTING/PROPOSED BUILDING TO SERVICES IN THE STREET. IF ANY DISCREPANCIES EXISTS BETWEEN PLAN AND INFORMATION FOUND IN THE FIELD, CONTACT ENGINEER AND LANDSCAPE ARCHITECT IMMEDIATELY.
5. SEE ARCHITECTURAL PLANS FOR BUILDING CONNECTIONS OF ALL UTILITIES.
6. UTILITY CONNECTIONS (NATURAL GAS, ELECTRICAL, TELECOMMUNICATIONS, ETC) SHOWN HEREON ARE SCHEMATIC IN NATURE TO DEPICT CONNECTION OF SAID UTILITIES TO THE SUBJECT BUILDING(S). THE RESPECTIVE UTILITY PROVIDER SHALL BE RESPONSIBLE FOR THE FINAL DESIGN OF THE RELEVANT UTILITY.
7. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
8. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE TOWN DEPARTMENT SPECIFICATIONS.

RLA

R LEVESQUE ASSOCIATES INC.

Landscape Architects
Civil Engineers - Land Surveyors
Environmental Consultants

ph: 413.568.0985 fax: 413.568.0986

40 School Street
Westfield, MA 01085

rlaland.com

DRAINAGE & UTILITIES PLAN

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

FILED J. CRAVO
CIVIL
No 48376
9/24/24

PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:

A. Town comments, updated delineation

8/1/24

B. Peer review comments

9/9/24

C. Engineering & peer review comments

9/24/24

DRAFTED BY: M.B. & J.T.

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MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 231007

DRAWING#

REV.

C-6

C

PERMITTING

NOT FOR CONSTRUCTION

Page 97 of 419



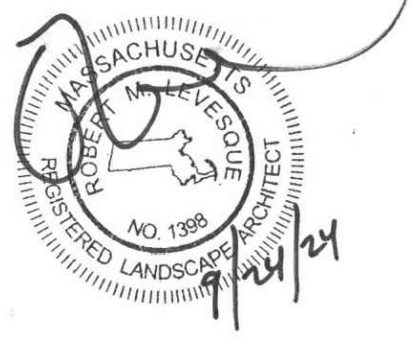
KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/SPACING
AI	18	ALNUS INCANA	SPECKLED ALDER	2'-3" HT.
CA	14	CORNUS AMOMUM	SILKY DOGWOOD	2'-3" HT.
IV	14	ILEX VERTICILLATA	WINTERBERRY	2'-3" HT.
SC	11	SAMBUCUS CANADENSIS	ELDERBERRY	2'-3" HT.
VC	18	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	2'-3" HT.
VD	12	VIBURNUM DENTATUM	NORTHHARROWOOD	2'-3" HT.

LANDSCAPE NOTES

1. SITE CONTRACTOR SHALL REFER TO SHEET C-1, C-2, DETAIL SHEETS AND REMAINING PLAN SET FOR INFORMATION REGARDING LANDSCAPING.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS-REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH THE LANDSCAPE INFORMATION SHOWN HEREON.
3. ALL SITE PLANTINGS ARE TO MEET OR EXCEED THE MINIMUM SPECIFICATIONS DETAILED IN THE AFOREMENTIONED NOTES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SPECIFICATIONS FOR EACH INDIVIDUAL PLANTING AND SOURCE IT APPROPRIATELY.
4. PRIOR TO SUBMITTING THEIR BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND SAID SPECIFICATIONS WITH THE PROJECT PROPONENT, LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
5. LANDSCAPE CONTRACTOR SHALL HAVE EXCAVATING CONTRACTOR, "DIGSAFE", AND ANY APPLICABLE NON-[DIGSAFE] MEMBER UTILITIES MARK ALL UNDERGROUND UTILITIES AND PRIOR TO ANY PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROJECT PROPONENT IF ANY CONFLICTS ARISE AND STOP ALL WORK UNTIL CONFLICT IS RESOLVED.
6. BIORETENTION AREAS TO BE SEEDED WITH NEW ENGLAND WETLAND PLANTS "WETMIX" OR APPROVED EQUIVALENT.

SITE LANDSCAPING PLAN

**1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13**



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:
A. Town comments, updated delineation	8/1/17
B. Peer review comments	9/1/17
C. Engineering & peer review comments	9/2/17

DRAFTED BY: M.B. & J.T.

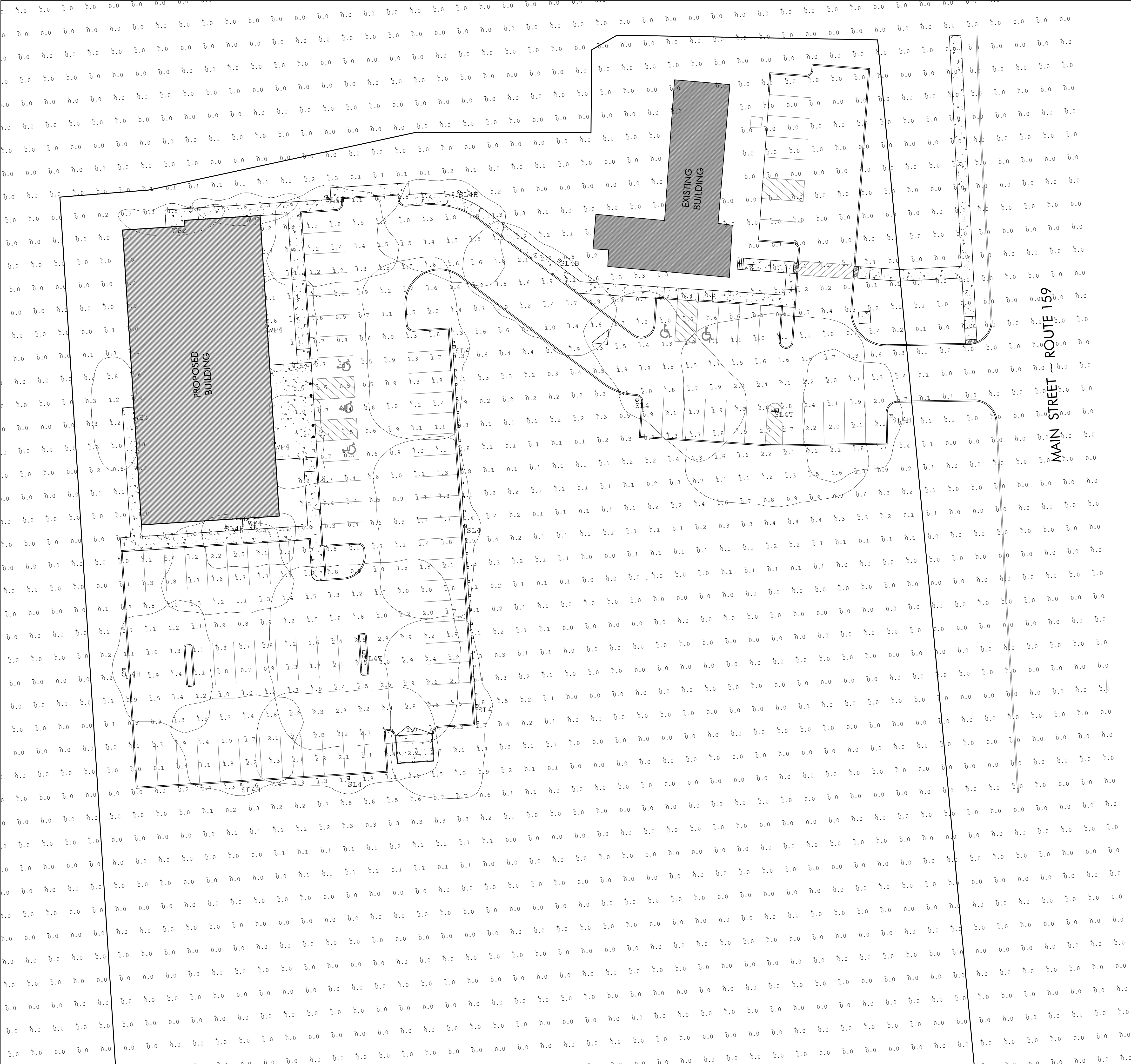
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OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 231007

DRAWING#	REVISION
----------	----------

PERMITTING
NOT FOR CONSTRUCTION



Luminaire Schedule					
Qty	Label	Watts	Arrangement	LLF	Description
5	SL4	39.1	Single	0.900	Beacon VP-ST-1-36L-39-K7-4W-UNV-A-x-x-x / MTD 16FT AFG
1	SL4B	45.5	Single	0.900	Beacon VP-ST-1-36L-39-K7-4W-UNV-A-x-BC-x / MTD 16FT AFG
6	SL4H	39.1	Single	0.900	Beacon VP-ST-1-36L-39-K7-4W-UNV-A-x-x-x / SHD-1HSS-270-BSS-x / MTD 16FT AFG
2	SL4T	78.2	Back-Back	0.900	Beacon VP-ST-1-36L-39-K7-4W-UNV-A-x-x-x / MTD 16FT AFG
2	WP2	12.9		0.900	EXO LNC-SLU-3K-2-x / MTD 8FT AFG
1	WP3	10.1	Single	0.900	Beacon RWL-148L-10-3K7-3-UNV-x / MTD 10FT AFG
3	WP4	10.1	Single	0.900	Beacon RWL-148L-10-3K7-4W-UNV-x / MTD 10FT AFG

Calculation Summary							
Label	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Height
CalcPts_1	Fc	0.17	3.0	0.0	N.A.	N.A.	0
BEYOND PROP LINE ROAD ACCESS	Fc	0.01	0.1	0.0	N.A.	N.A.	
BEYOND PROP LINES	Fc	0.00	0.1	0.0	N.A.	N.A.	
PARKING AND DRIVE LANES	Fc	1.46	3.0	0.3	4.87	10.00	

Project:
24140 - 1422 Main Street

Contact:
Myles Simon
Specification Sales
(860) 655-8099
msimon@illuminate.com

Detail: Photometric Calculation
Date: 5/23/2024
Revision: ----
Scale: 1" = 20'-0"
Drawn By: AJS

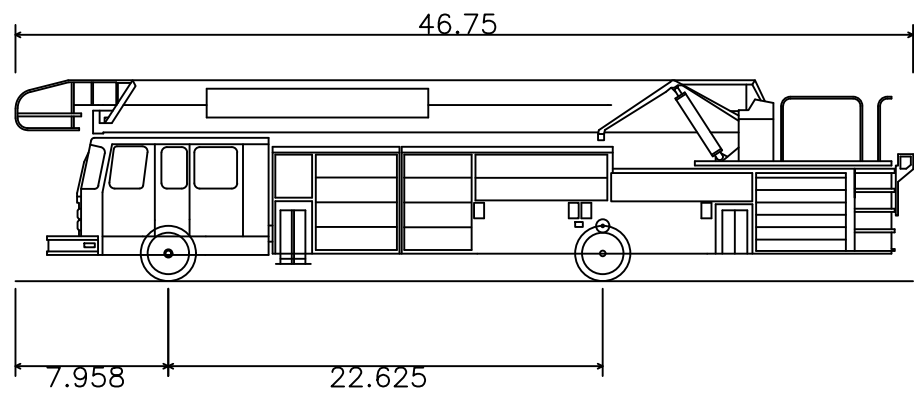
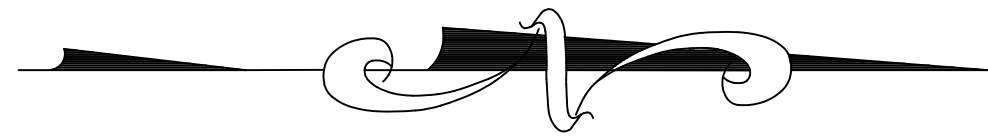
illuminate
263 Winn Street
Burlington, MA 01803
(781) 935-8500

333 Pleasant Valley Road
South Windsor, CT 06074
(860) 282-0597

Drawing Number:

L-1

Sheet 1 of 1



Agawam Fire Truck
Overall Length 46.750ft
Overall Width 8.250ft
Overall Body Height 10.467ft
Min Body Ground Clearance 0.897ft
Track Width 8.200ft
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 42.000ft

OFF-SITE FLAGS ARE NOT THE SUBJECT OF THIS FILING. FLAGS ARE SHOWN FOR DEPICTING BUFFER ZONES ONLY.

LAND N/F O'CONNOR TIMOTHY M TR

LAND N/F COMMONWEALTH OF MASS

LAND N/F COMMONWEALTH OF MASS

LAND N/F DONNER SHELLIE M

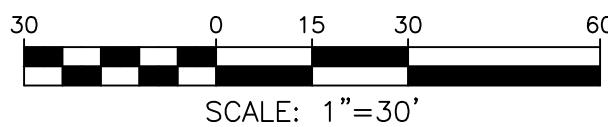
PROPOSED HOTEL
42 UNITS
7,705± S.F.

INNER TRAVEL PATH DELINEATES FIRE TRUCK WHEELS (TYP.)

OUTER TRAVEL PATH DELINEATES FIRE TRUCK FRONT BUMPER OVERHANG (TYP.)

BASELINE OF ALTERED STATE HIGHWAY
(LAYOUT No. 2346) DATED JUNE 1926

MAIN STREET ~ ROUTE 159



PERMITTING
NOT FOR CONSTRUCTION

VEHICLE SWEEP PATH

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: August 1, 2024

REVISIONS:	DATE:
A. Layout updated	9/24/24

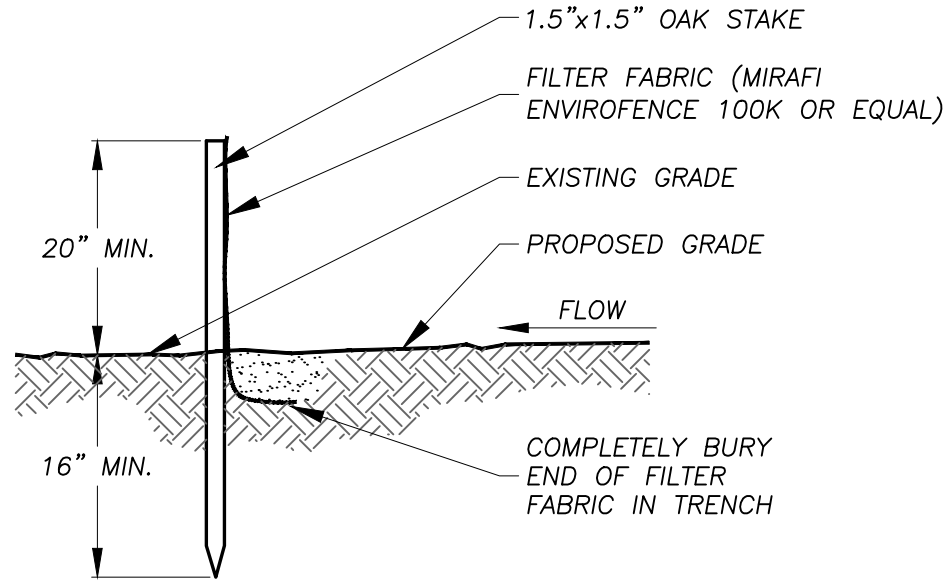
DRAFTED BY: M.B. & J.T.

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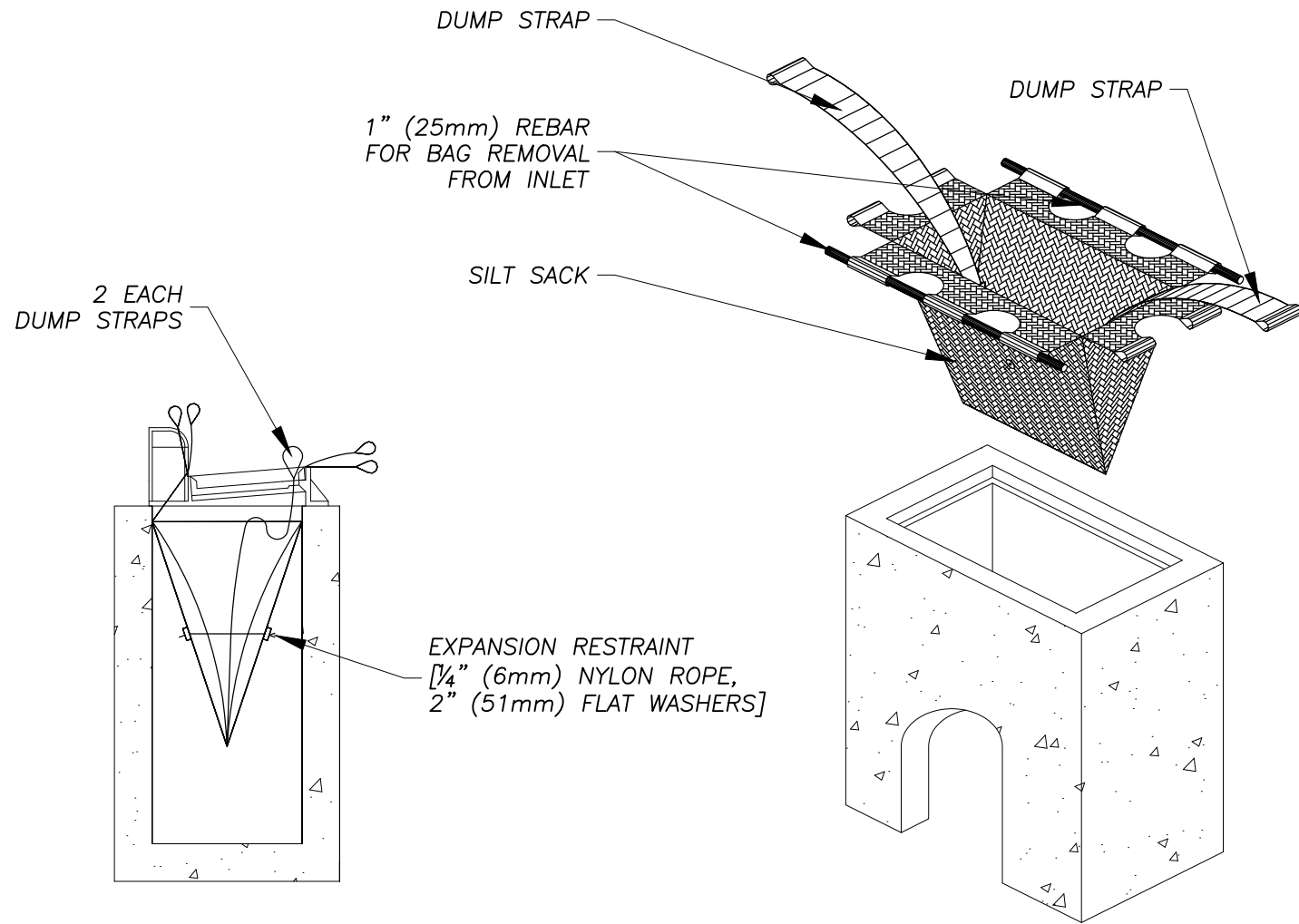
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RLA PROJ. NUMBER: 231007

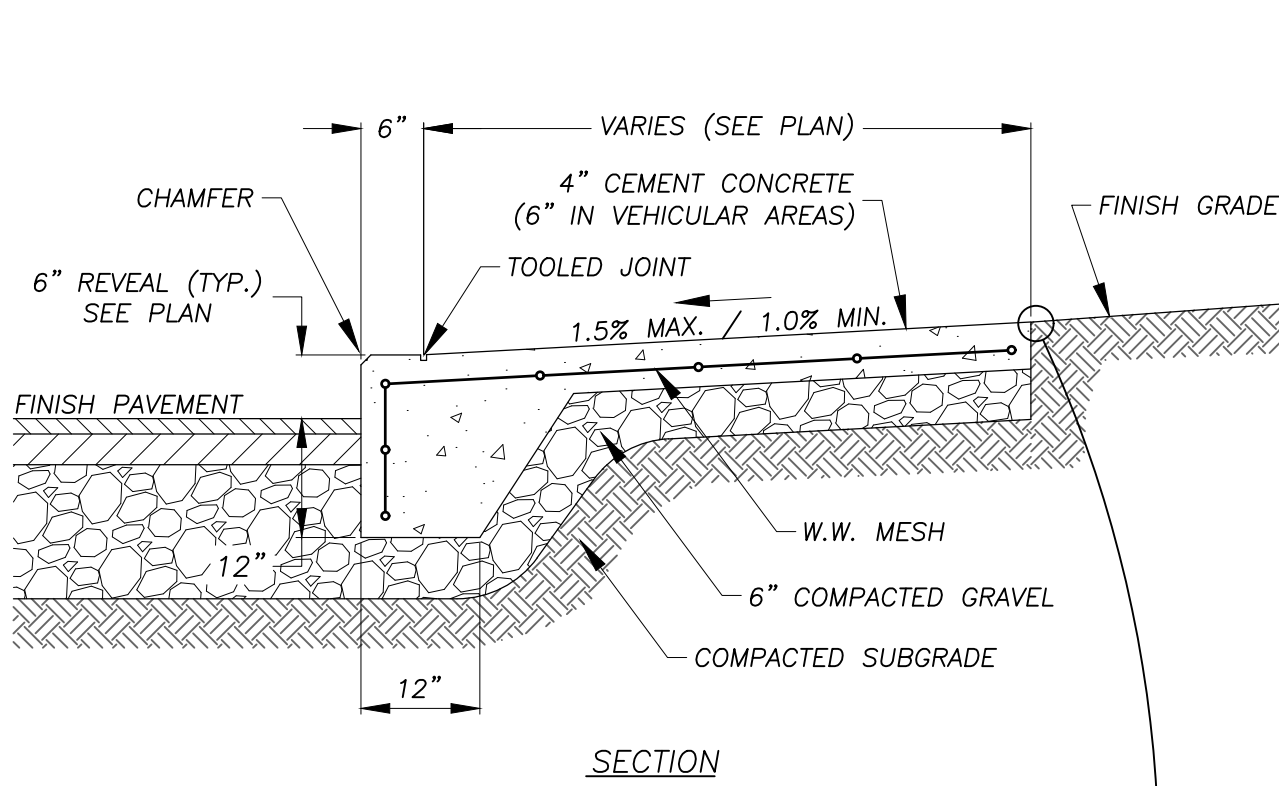
DRAWING#	REV.
VEH-1	A



SILT FENCE DETAIL
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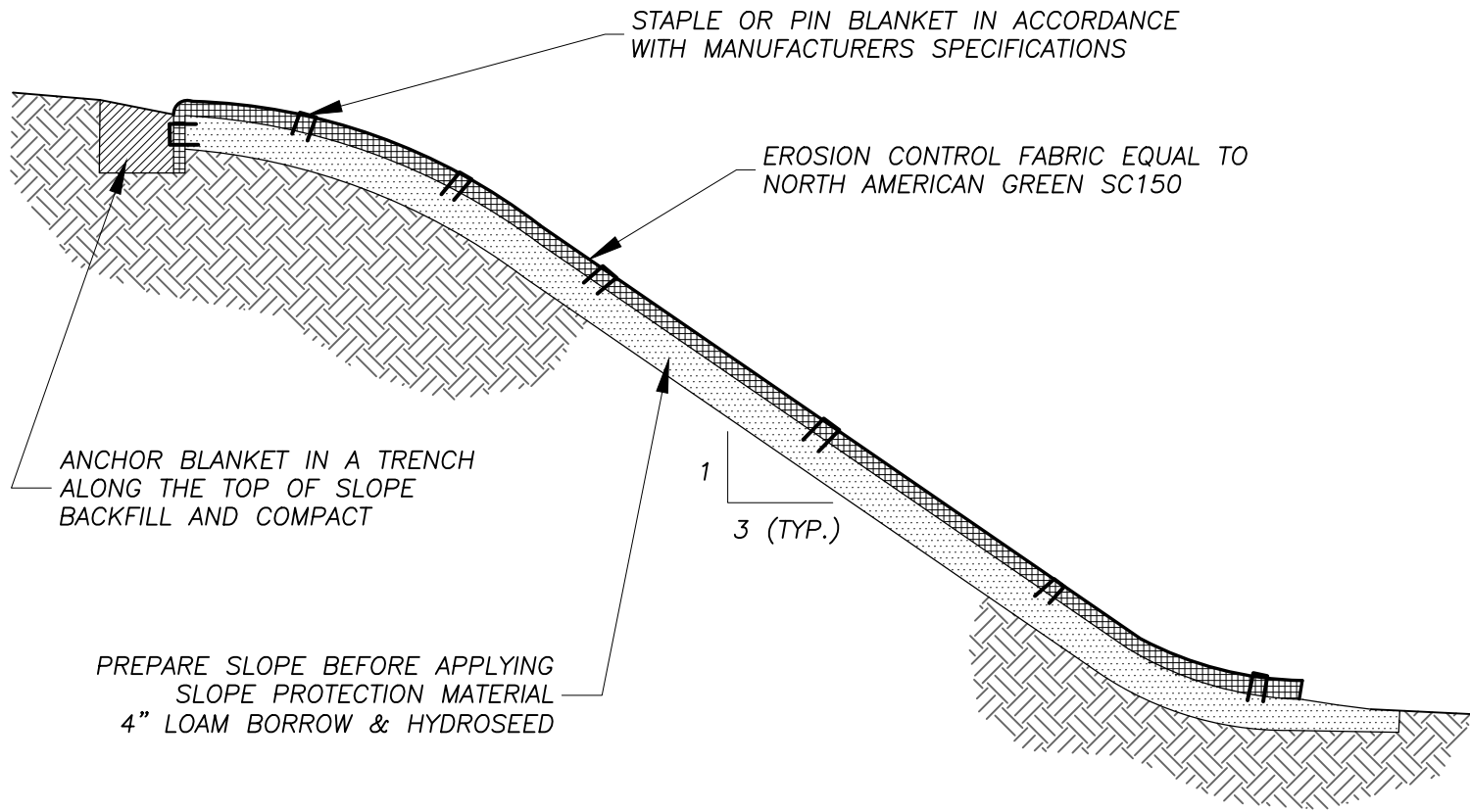


INLET PROTECTION - SEDIMENT FILTER SACK
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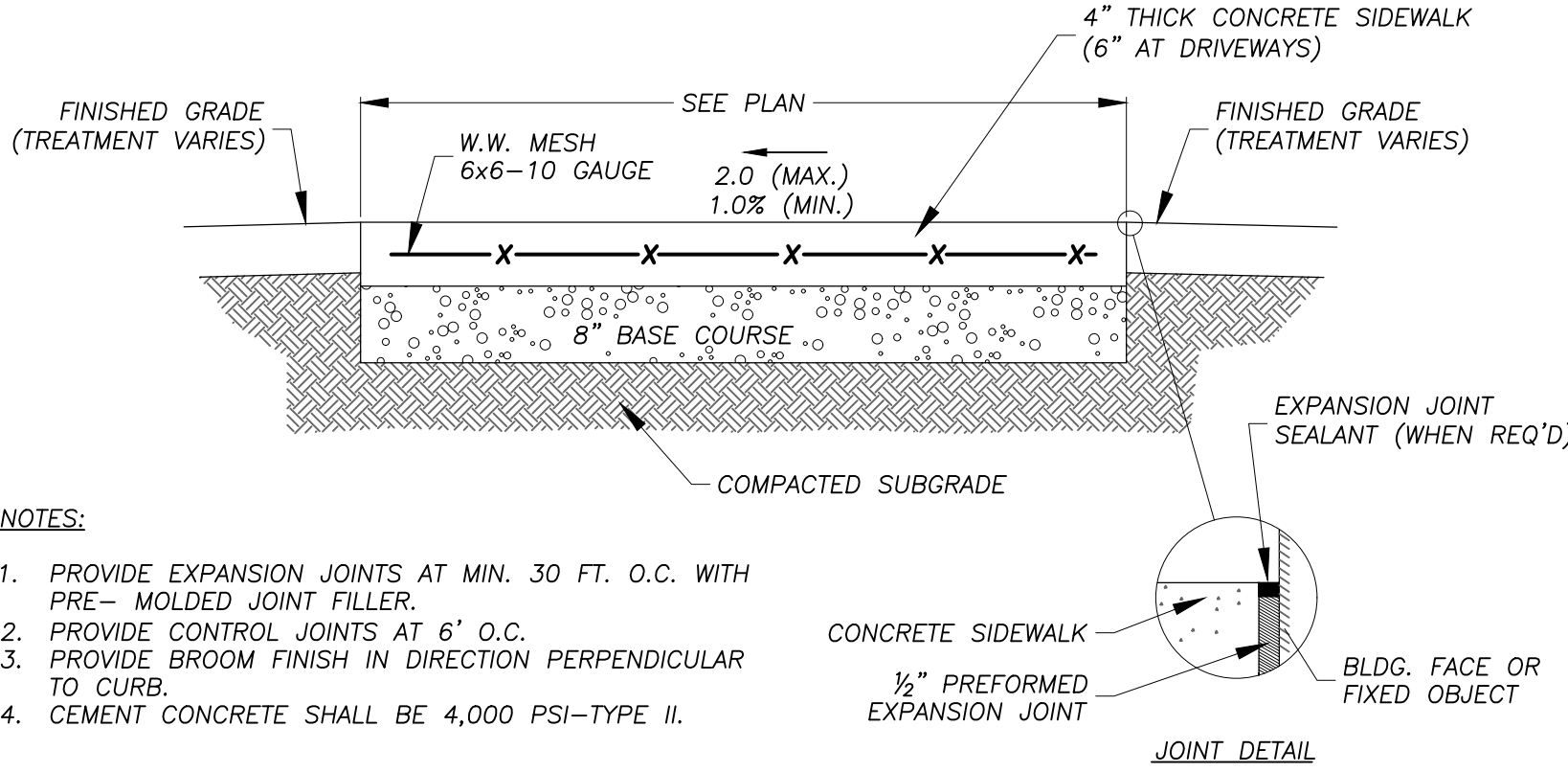


- NOTES:
1. PROVIDE EXPANSION JOINTS AT MINIMUM 30 FEET O.C. WITH PRE-MOLDED JOINT FILLER.
 2. PROVIDE CONTROL JOINTS AT 6 FEET O.C.
 3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
 4. CEMENT CONCRETE SHALL BE 4,000 PSI, TYPE II.

MONOLITHIC CONCRETE CURB & SIDEWALK
NO SCALE

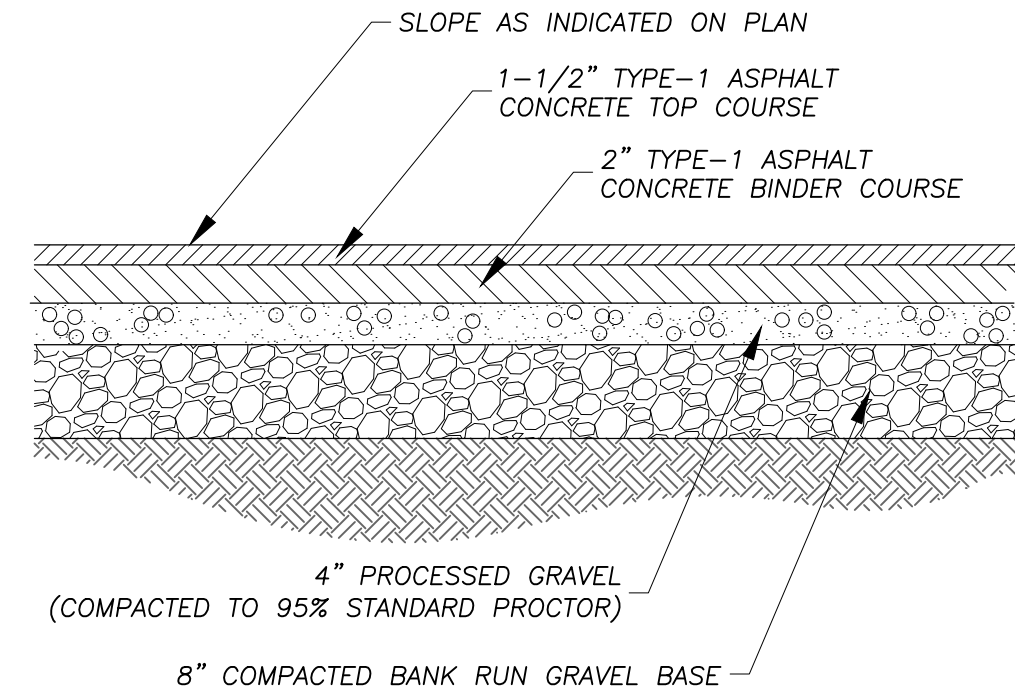


SLOPE PROTECTION MATERIAL INSTALLATION (AS REQ'D)
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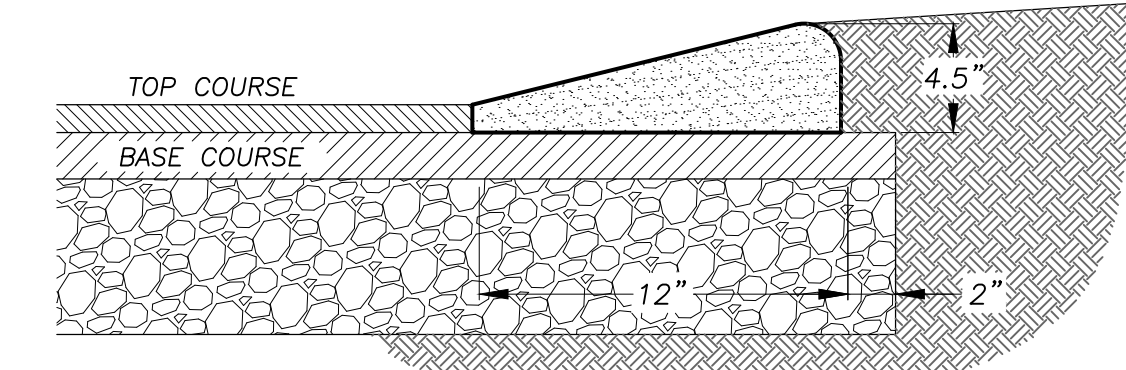


- NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE-MOLDED JOINT FILLER.
 2. PROVIDE CONTROL JOINTS AT 6' O.C.
 3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
 4. CEMENT CONCRETE SHALL BE 4,000 PSI-TYPE II.

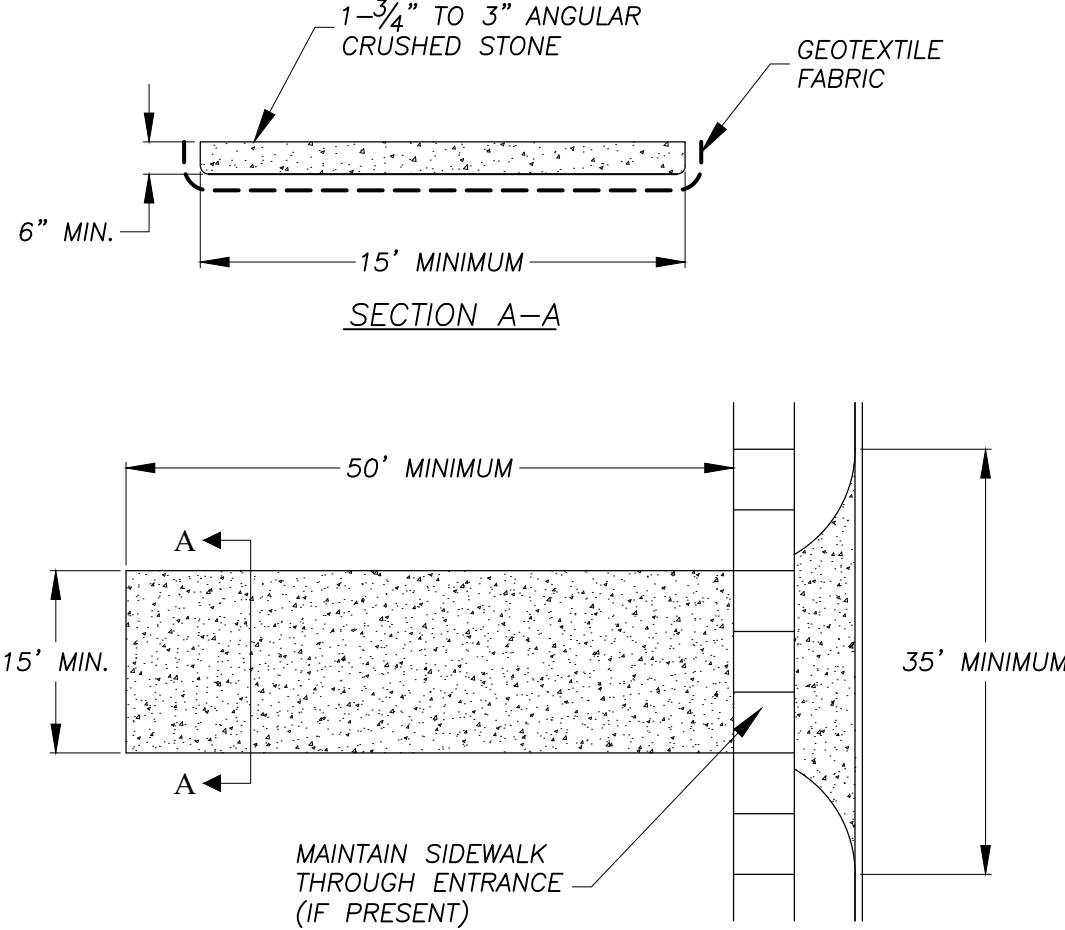
REINFORCED CONCRETE SIDEWALK SECTION
NO SCALE



BITUMINOUS CONCRETE PAVING DETAIL
NO SCALE

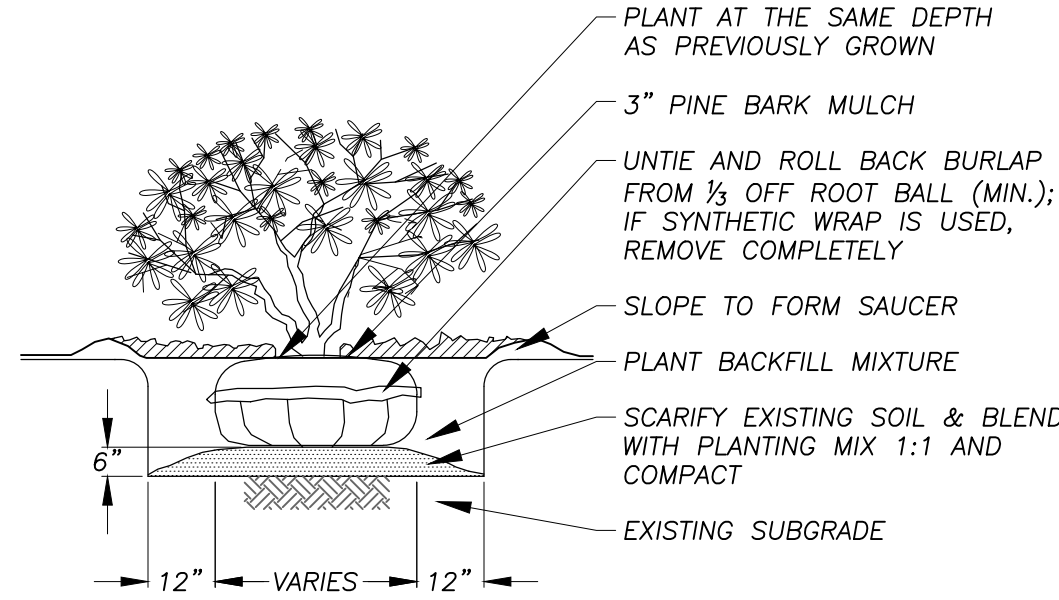


BITUMINOUS CONCRETE BERM (CAPE COD)
NO SCALE



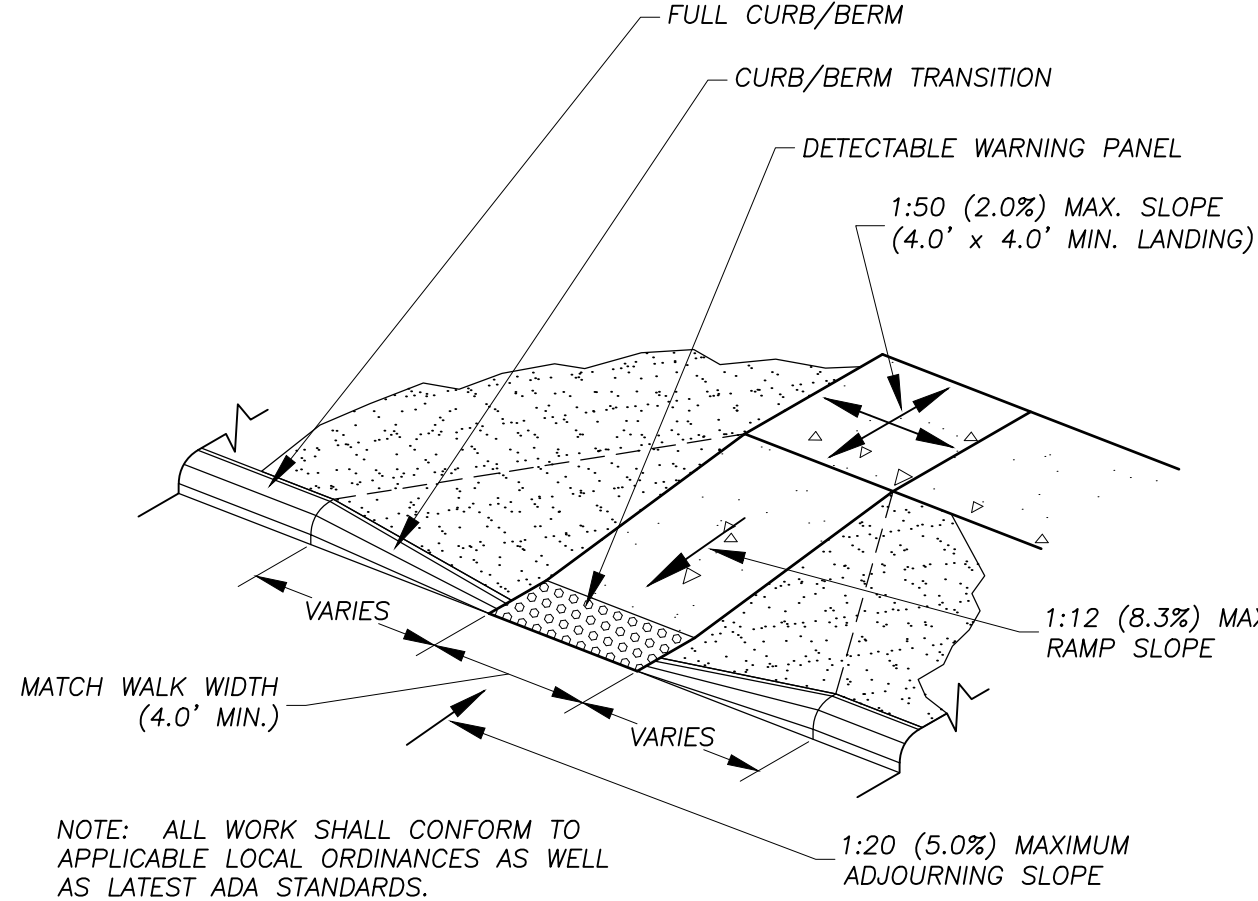
- NOTES
1. EACH SITE ENTRANCE IS TO HAVE A TEMPORARY CONSTRUCTION ENTRANCE.
 2. STONE IS TO BE 1-3/4" TO 3" ANGULAR CRUSHED STONE.
 3. PLACE GEOTEXTILE OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 4. ANY SEDIMENT TRACKED INTO THE ROADWAY NEEDS TO BE CLEANED IMMEDIATELY.
 5. ADDITIONAL STONE IS TO BE ADDED TO THE PAD AS NEEDED TO MAINTAIN THE ORIGINAL DEPTH.
 6. ANY SIDEWALK DAMAGED DURING CONSTRUCTION MUST BE REPLACED AT THE CONTRACTORS/DEVELOPERS EXPENSE.
 7. SIDEWALK MUST REMAIN PASSABLE, IF THE SIDEWALK BECOMES UNSAFE OR IMPASSABLE, A TEMPORARY SIDEWALK/ SIDEWALK DETOUR MUST BE PROVIDED.

ANTI-TRACKING APRON (AS REQ'D)
NO SCALE

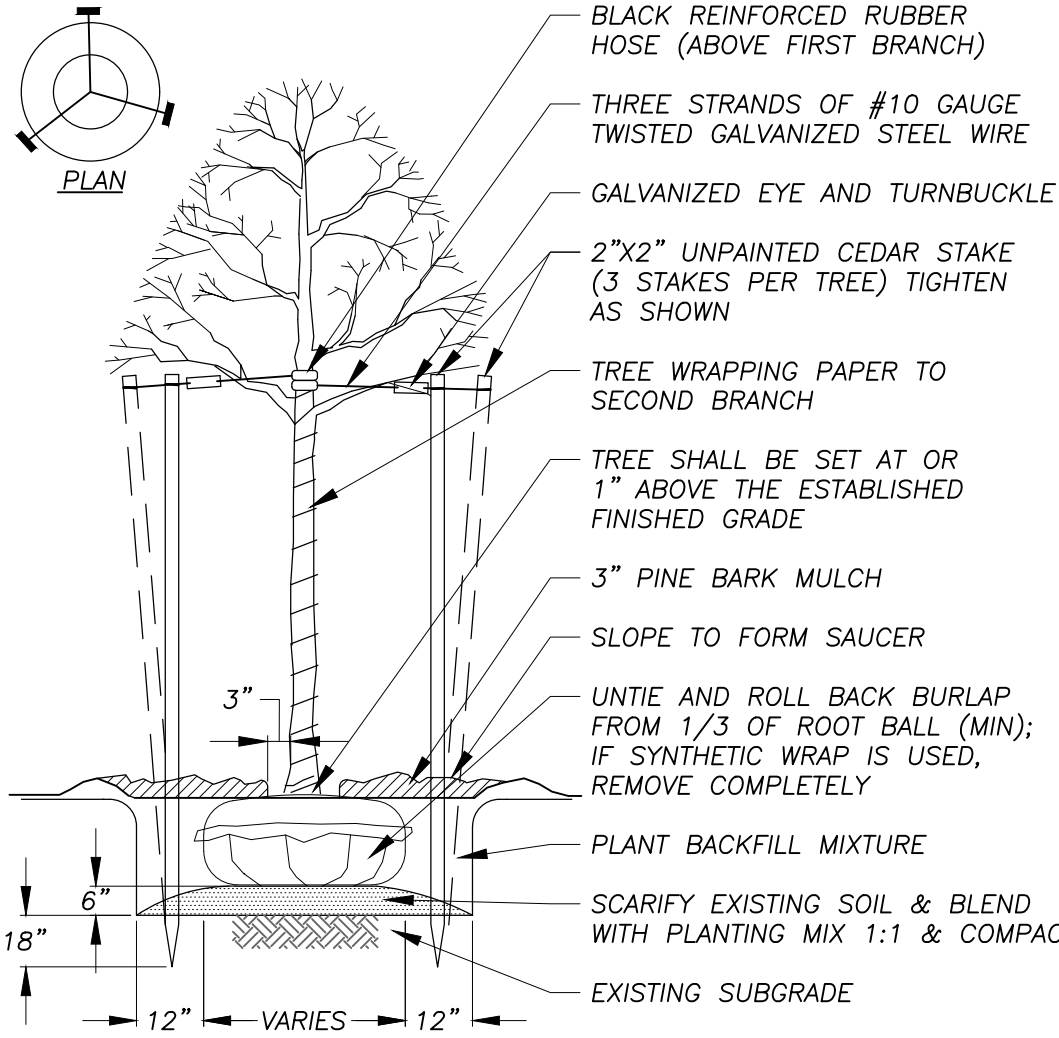


SHRUB PLANTING DETAIL
NO SCALE

- NOTES:
1. ALL SIDEWALK SLOPES ARE MAXIMUMS.
 2. ALL SIDEWALKS ARE TO BE CONSTRUCTED TO THE SAME SPECIFICATION FOUND IN MHD SUPPLEMENTAL SPECIFICATIONS TO THE 1988 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, ENGLISH UNITS, JUNE 6, 2006 SECTIONS 701.00 TO 701.61 INCLUSIVE, AS AMENDED - UNLESS OTHERWISE SPECIFIED.
 3. ALL SIDEWALKS ARE TO BE 4000 PSI (28 DAY) PORTLAND CEMENT CONCRETE, 6%±1% AIR ENTRAINED.
 4. TOOL ALL JOINTS AND EDGES.
 5. SIDEWALK IS TO BE POURED IN ALTERNATING 20' LENGTHS TO ACCOUNT FOR PANEL CONTRACTION DURING DRYING.
 6. INSTALL 1/2" THICK PREFORMED EXPANSION JOINT FILLER (M.9.14.0) AT 20' INTERVALS.
 7. BROOM FINISH SIDEWALK OPPOSITE TO THE DIRECTION OF TRAVEL.
 8. SIDEWALK IS REQUIRED TO BE COVERED WITH PLASTIC AND KEPT MOIST FOR MINIMUM OF 72 HOURS AFTER IT HAS SET-UP.
 9. DETECTABLE WARNING PANEL ARE TO COMPLY WITH ADA 4.29.2
 10. DETECTABLE WARNING PANEL TO BE CAST IN PLACE DETECTABLE WARNING PANEL.



ACCESSIBLE CURB RAMP - NO FLARES
NO SCALE



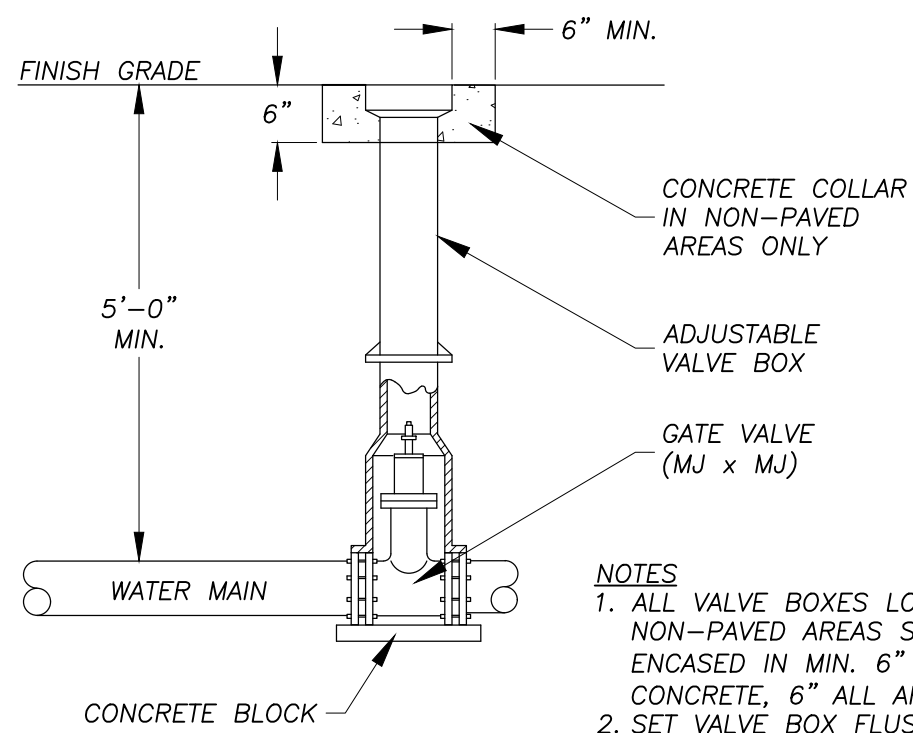
TREE PLANTING DETAIL
NO SCALE

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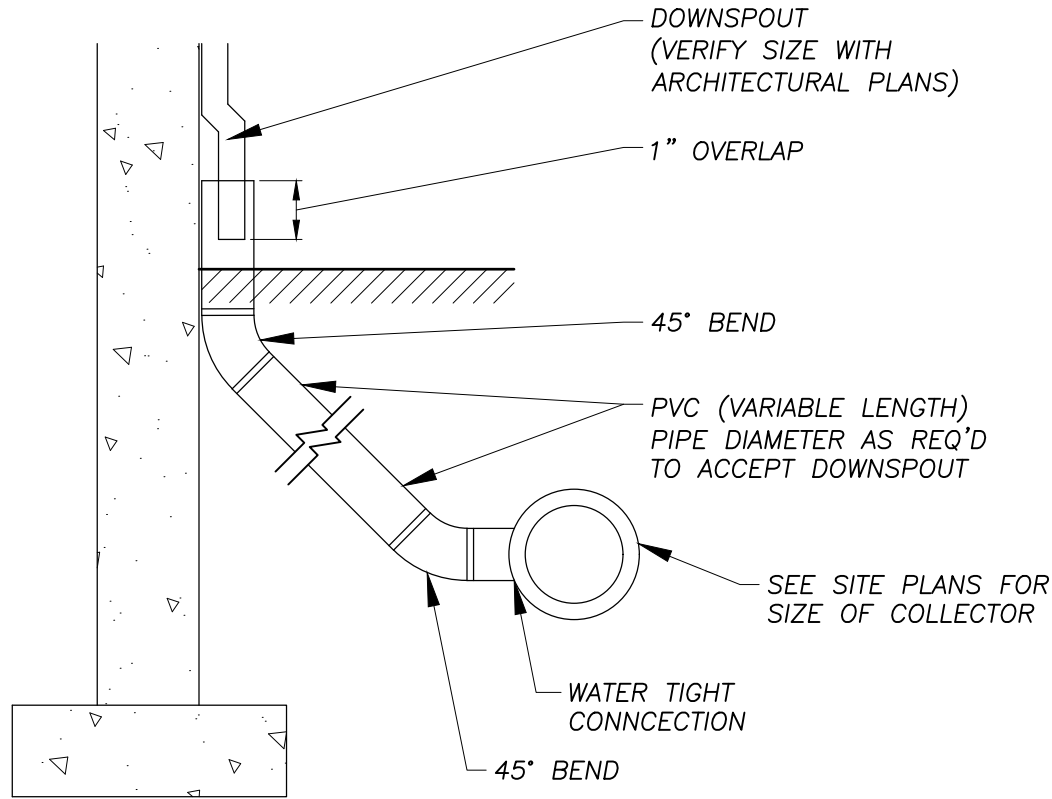
DETAILS
1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

MASSACHUSETTS
REGISTERED LANDSCAPE ARCHITECT
1986
9/24/24
PREPARED FOR:
Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.
ISSUANCE DATE: May 23, 2024
REVISIONS:
A. Engineering & peer review comments
DATE:
9/24/24
DRAFTED BY: M.B. & J.T.
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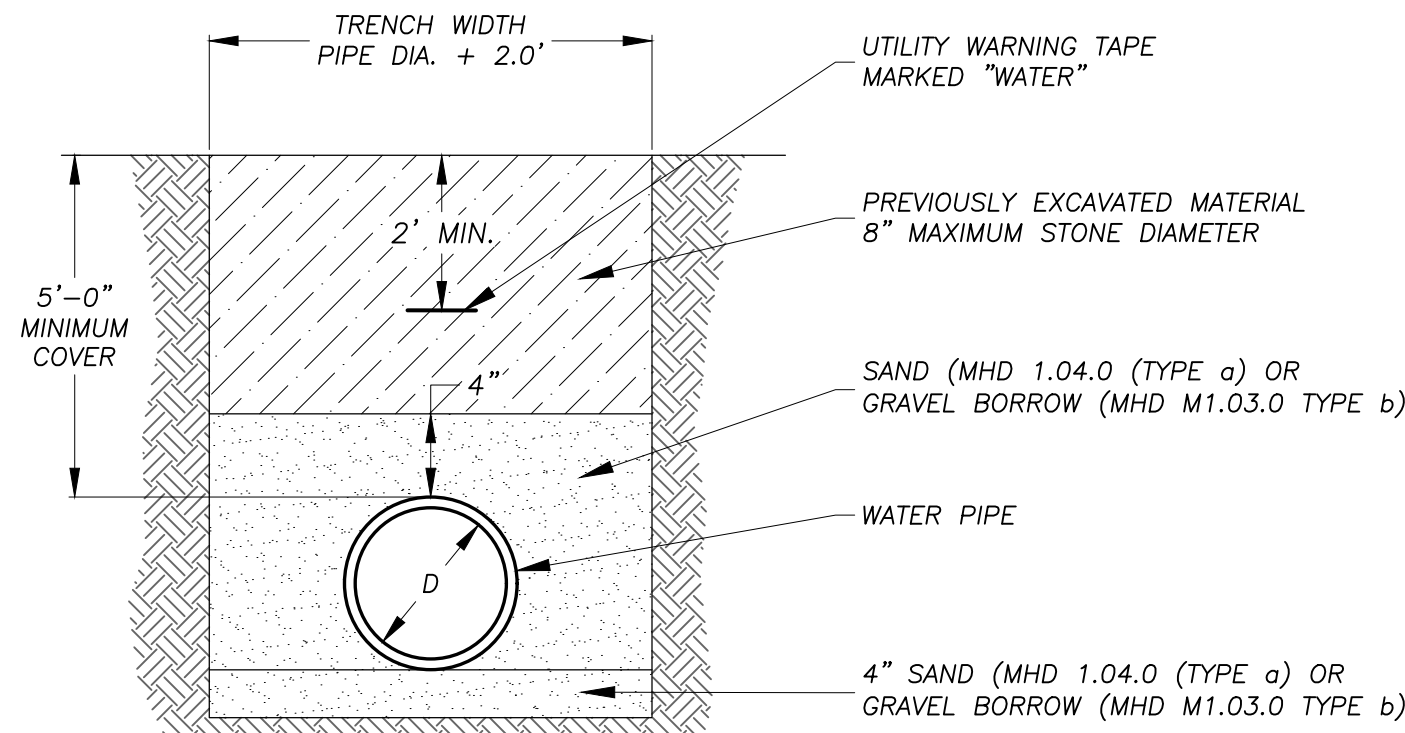
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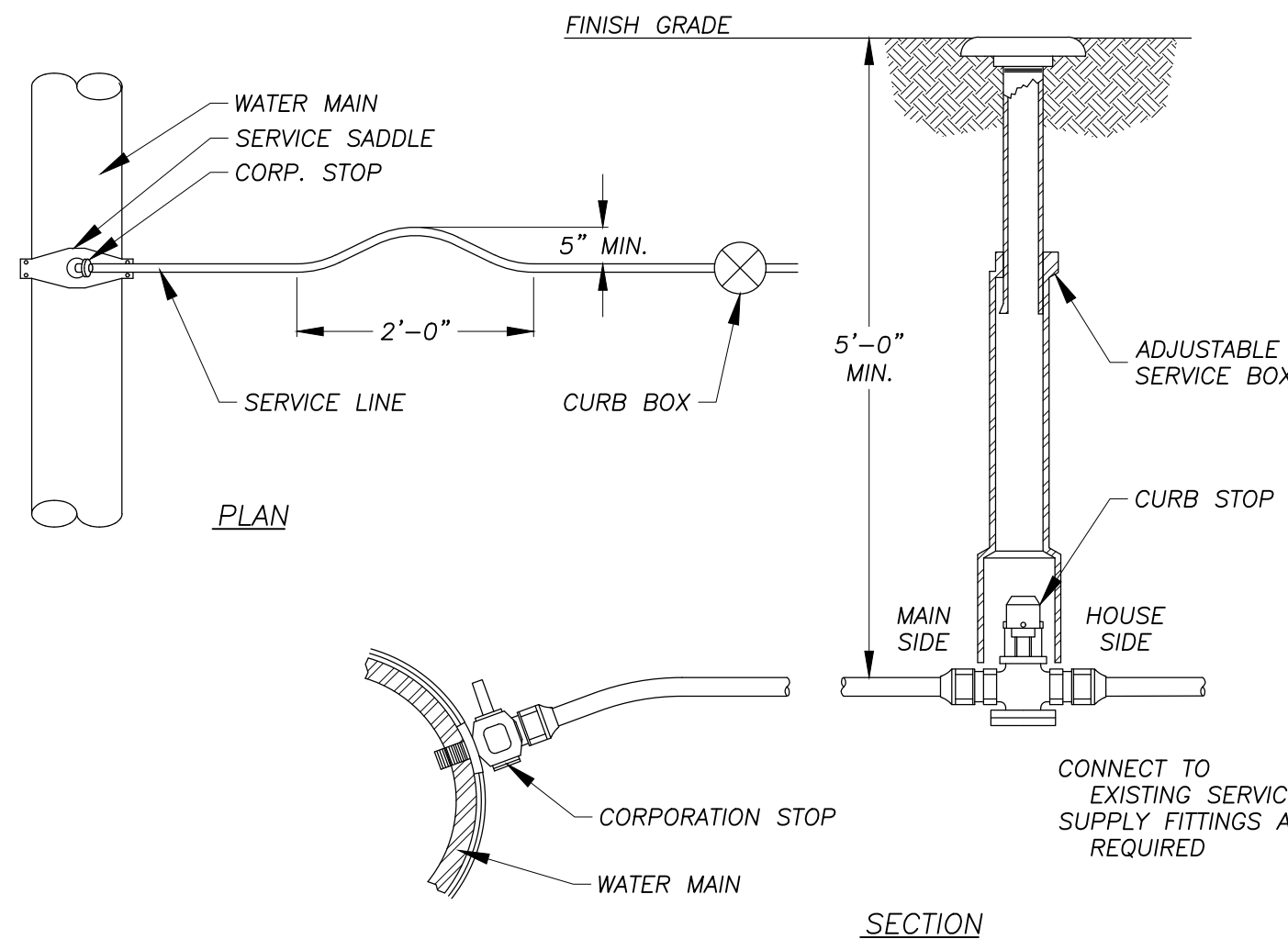
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NO SCALE



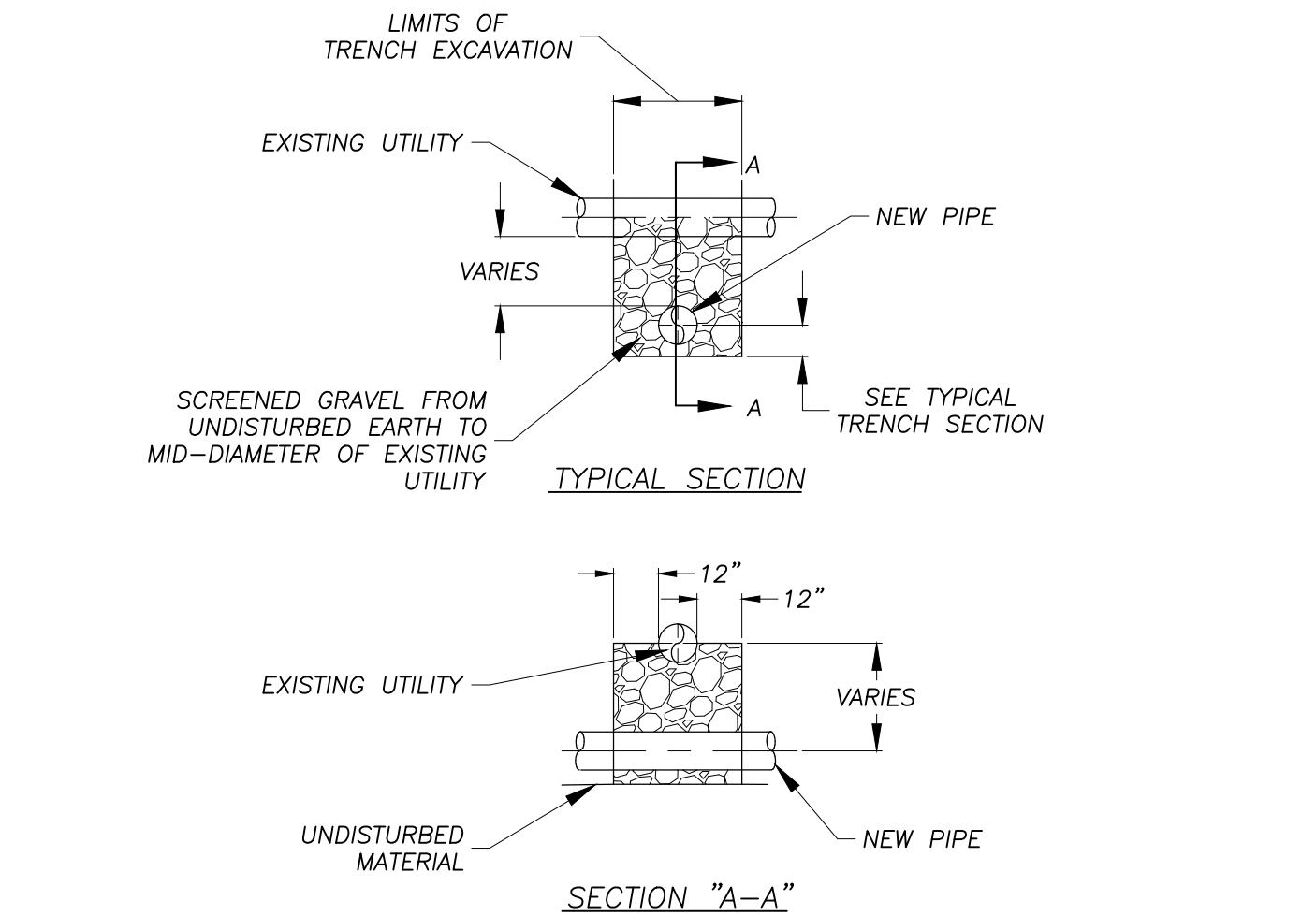
DOWNSPOUT COLLECTOR DETAIL
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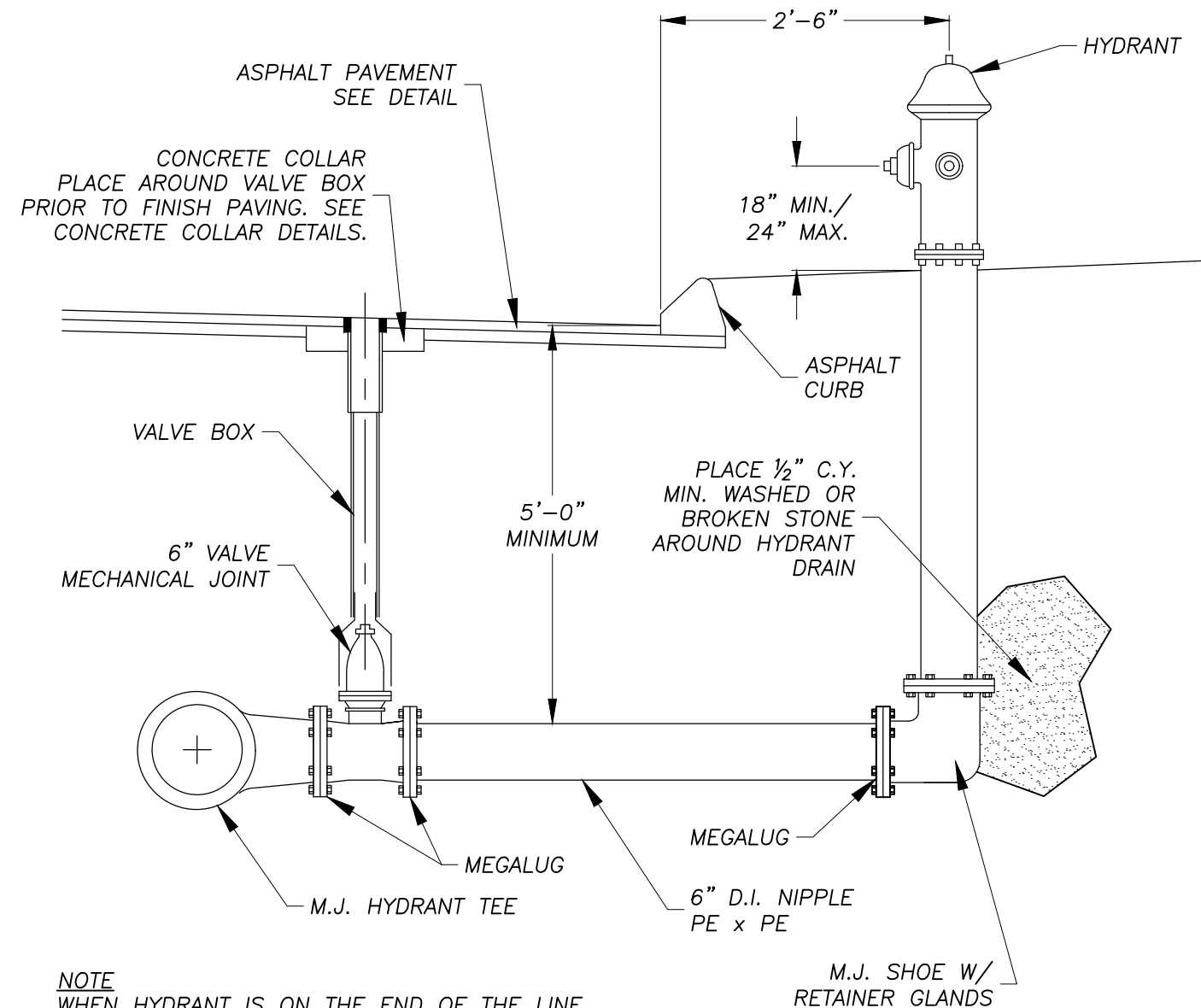
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NO SCALE



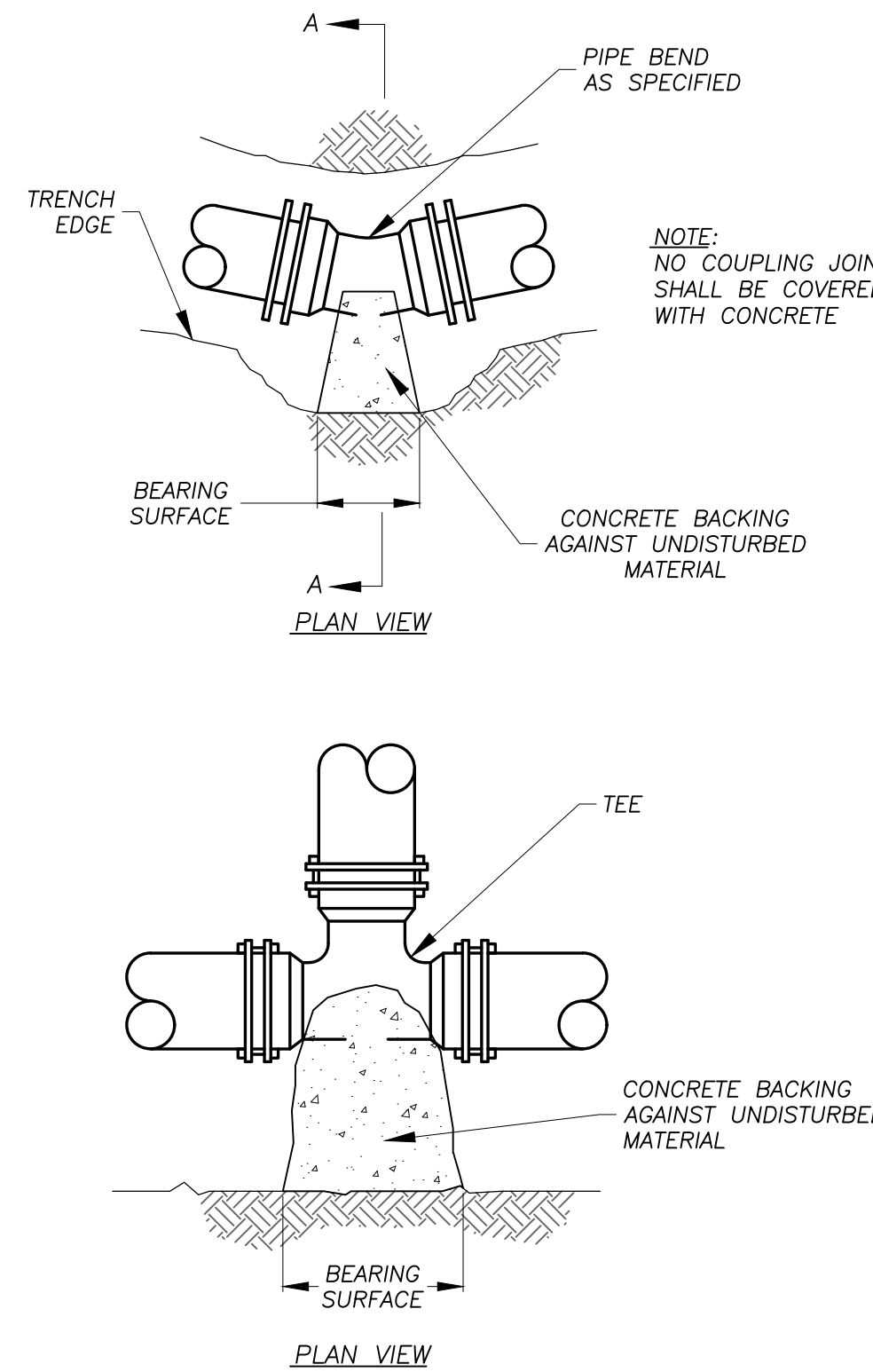
TYPICAL WATER SERVICE CONNECTION
NO SCALE



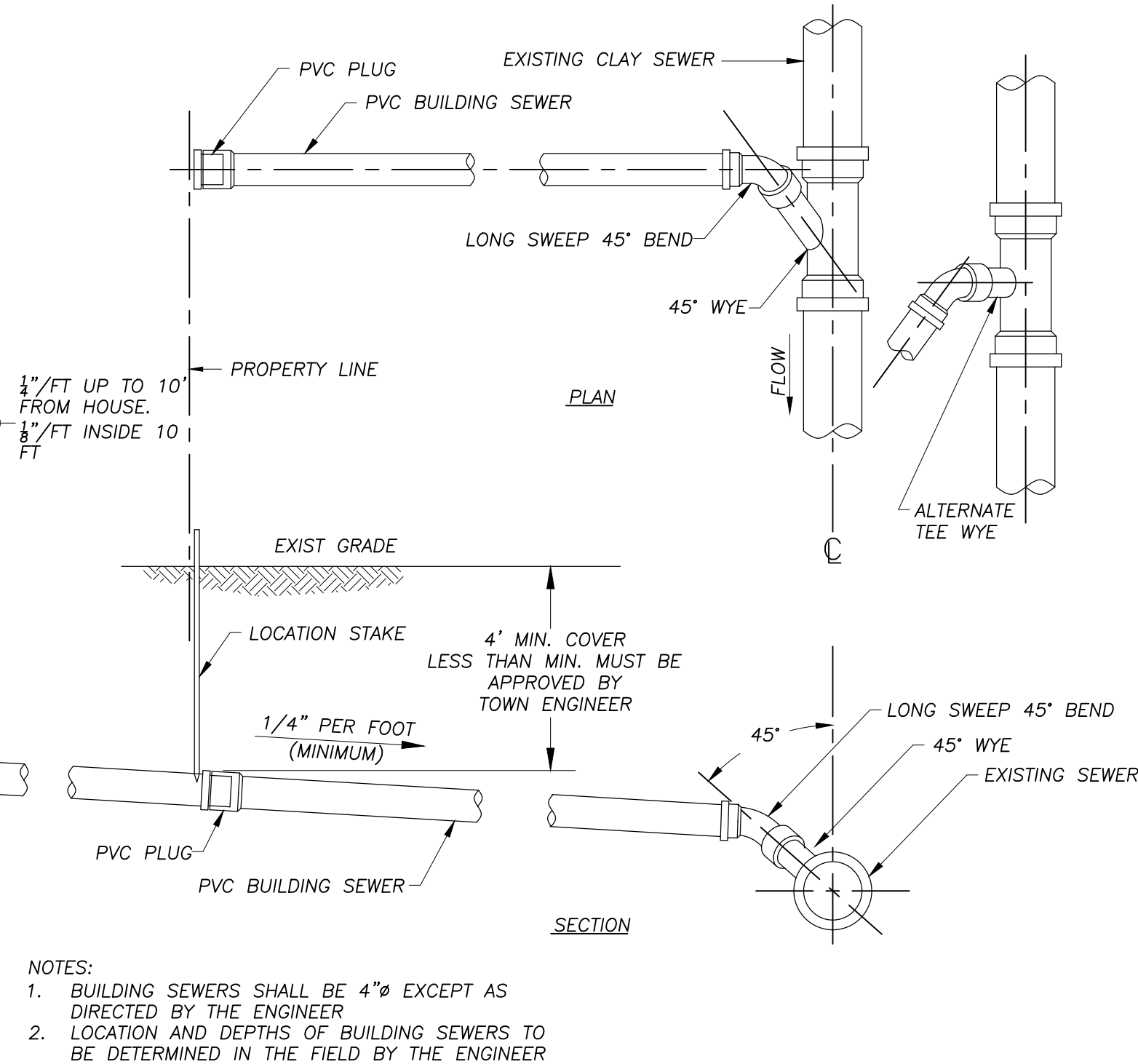
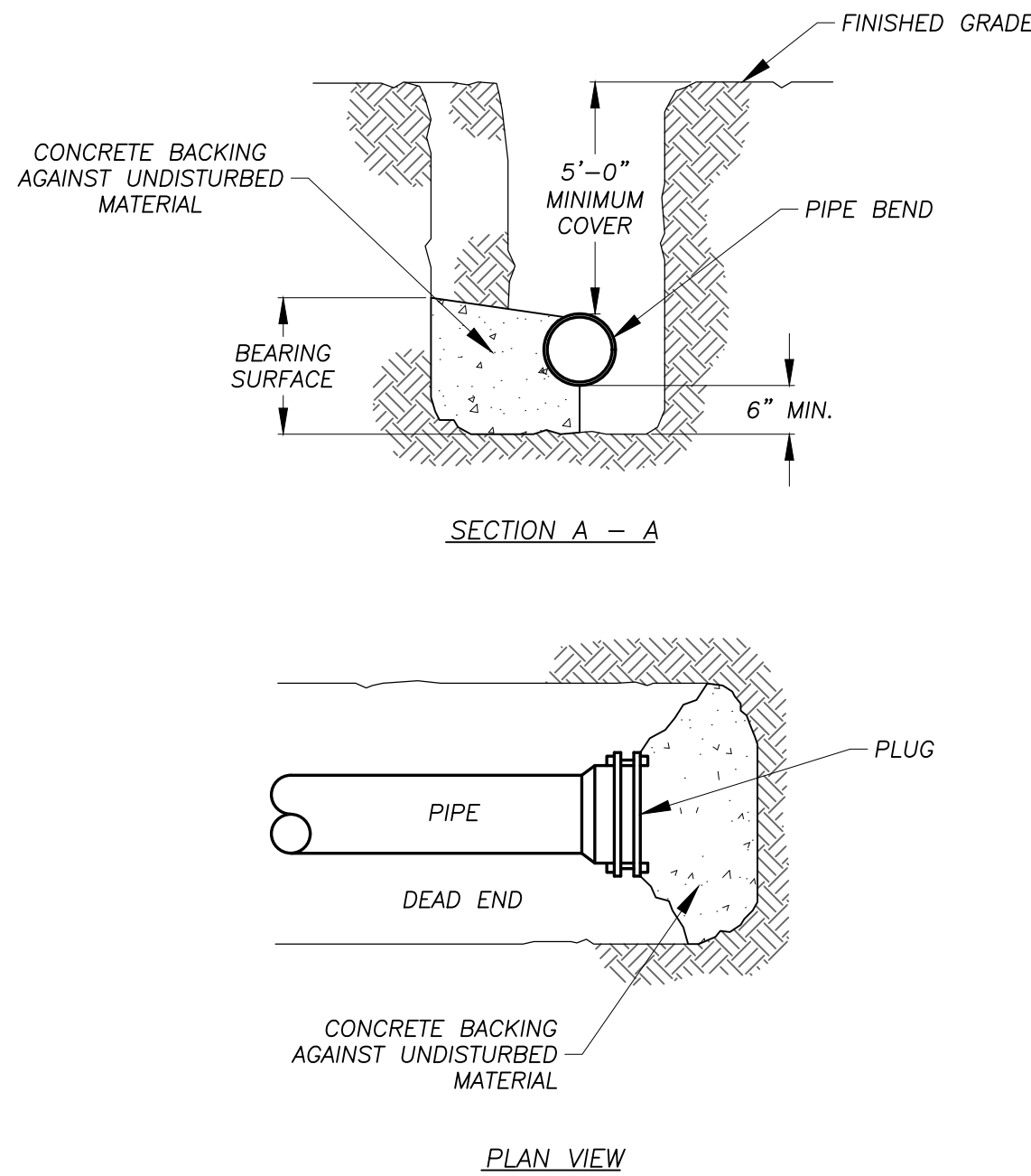
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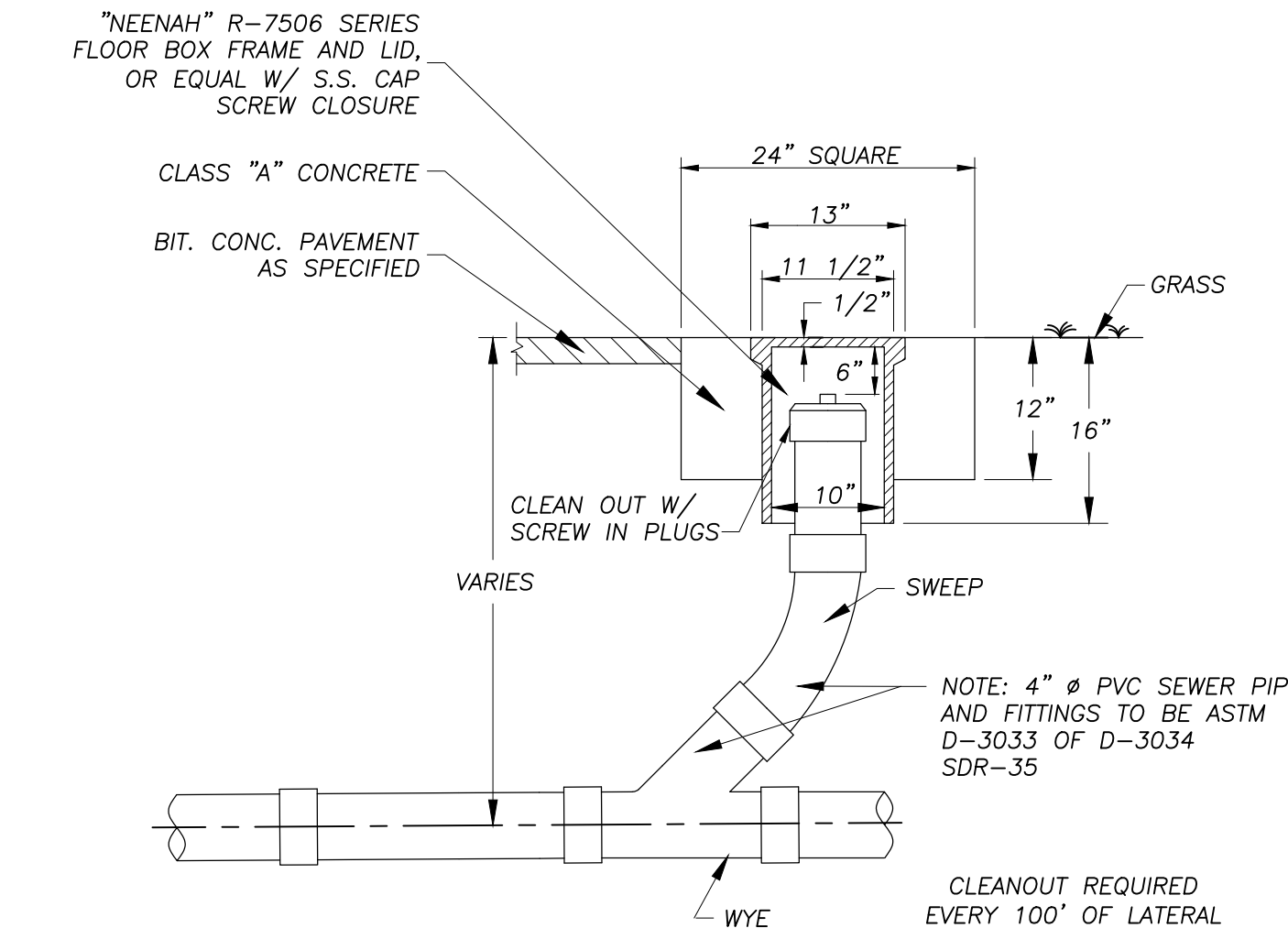
FIRE HYDRANT DETAIL
NO SCALE



WATER MAIN · HORIZONTAL THRUST BLOCK DETAILS
NO SCALE



TYPICAL BUILDING SEWER CONNECTION DETAIL
NO SCALE



TYPICAL SANITARY CLEANOUT
NO SCALE

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DETAILS
1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13

COMMONWEALTH OF MASSACHUSETTS
FILIPPE J. CRAVO
CIVIL
No. 83376
REGISTERED PROFESSIONAL ENGINEER
5/23/24

PREPARED FOR:
Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

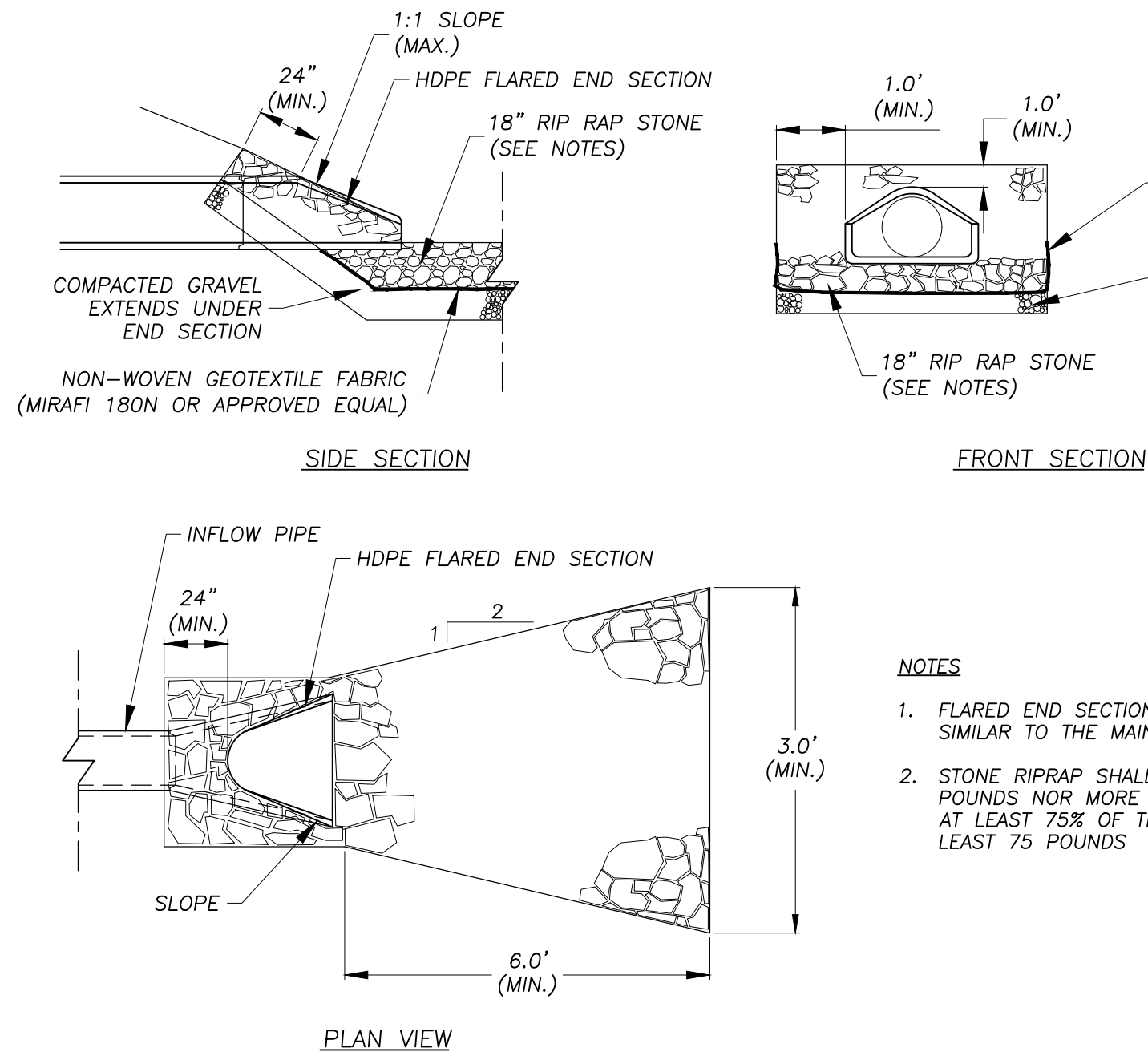
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REVISIONS:
DATE:

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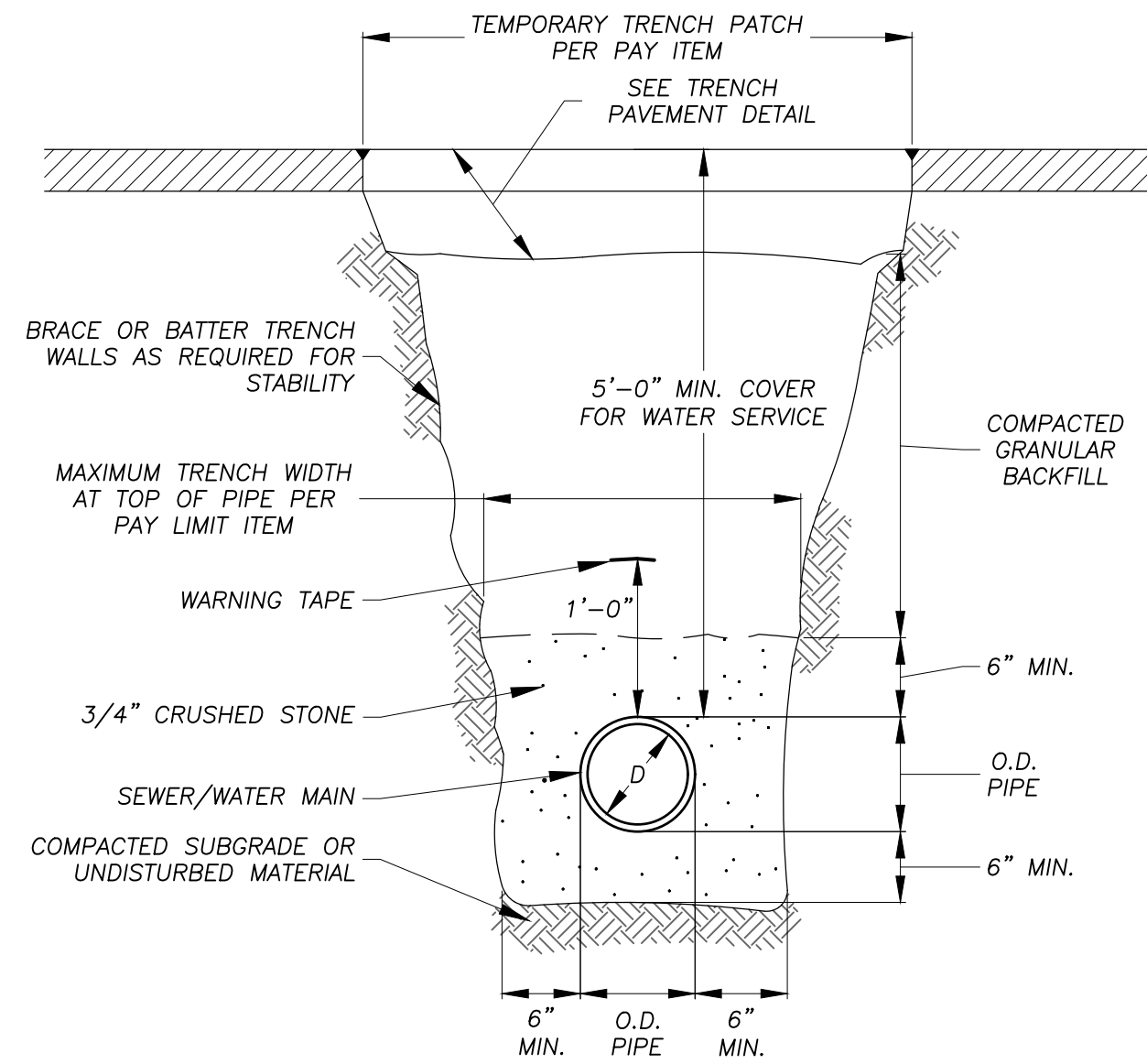
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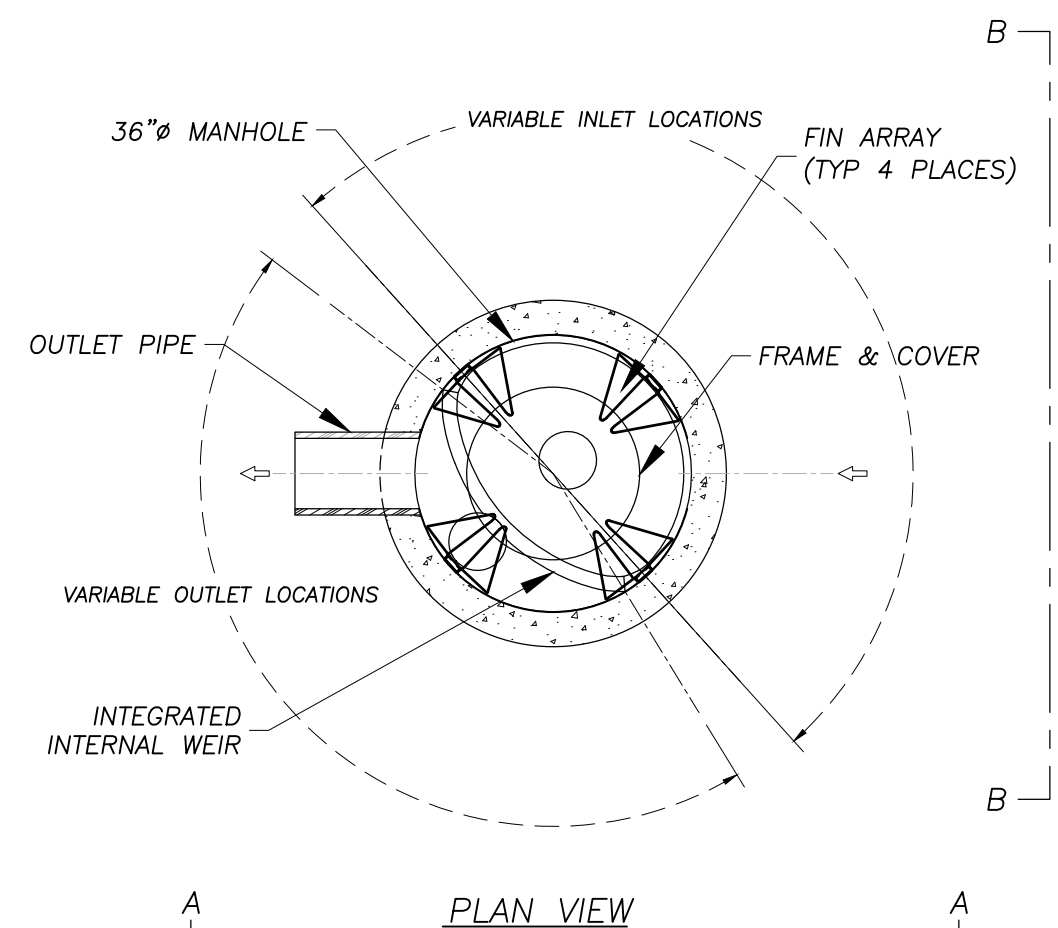
STANDARD RIP RAP PIPE OUTLET

NO SCALE



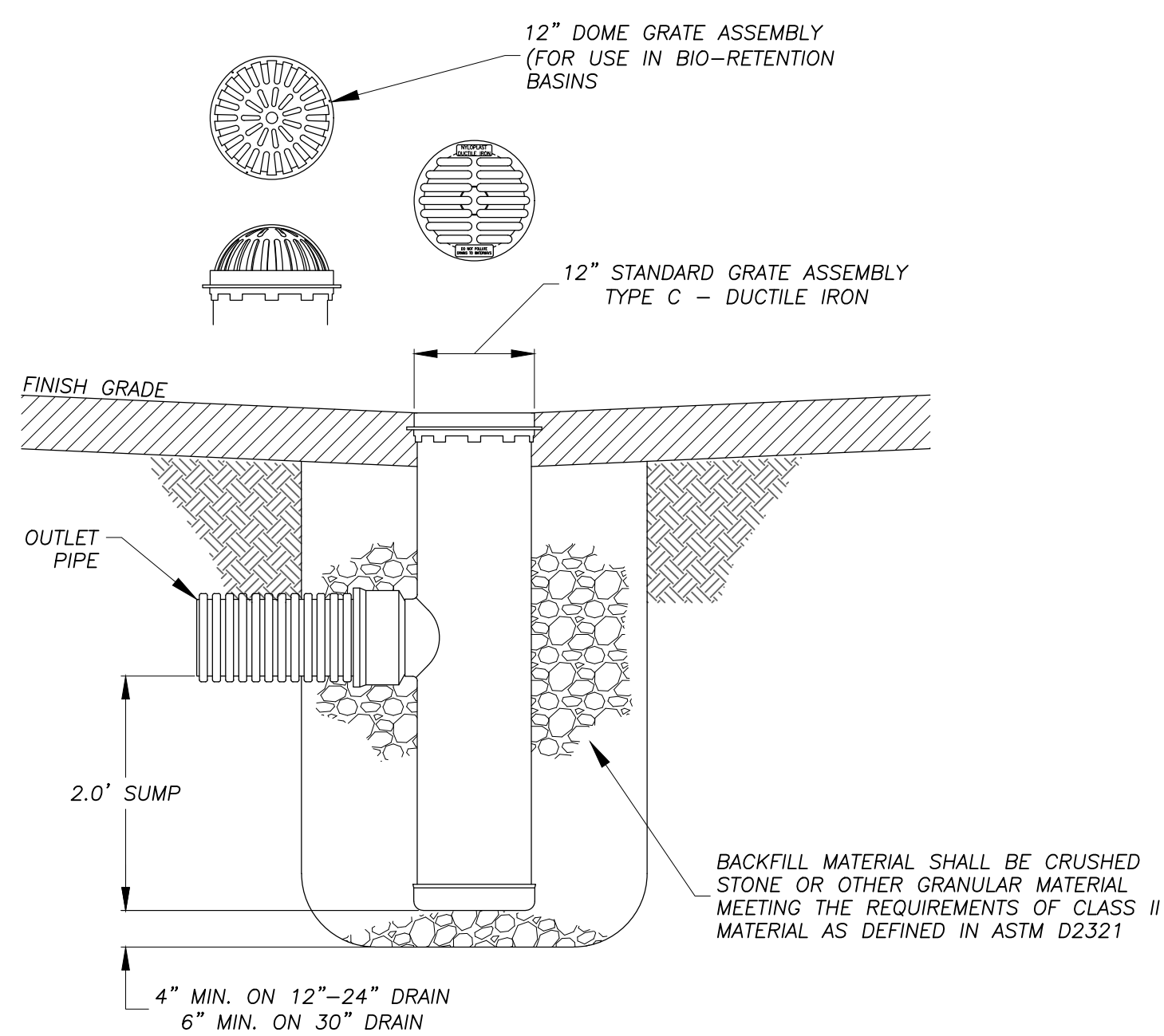
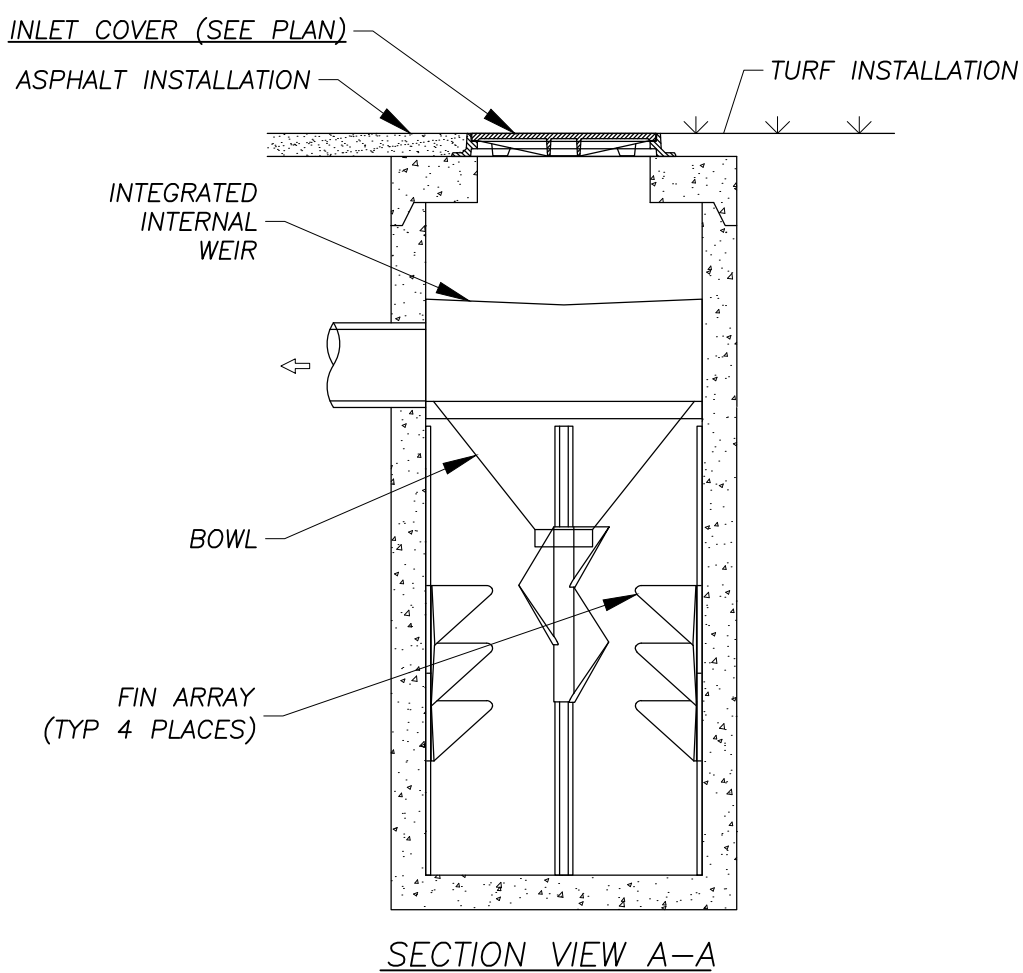
TYPICAL PIPE TRENCH DETAIL (SEWER & WATER PIPE)

NO SCALE



WATER QUALITY UNIT - BARRACUDA S3 (PWQU-1 & PWQU-2)

NO SCALE

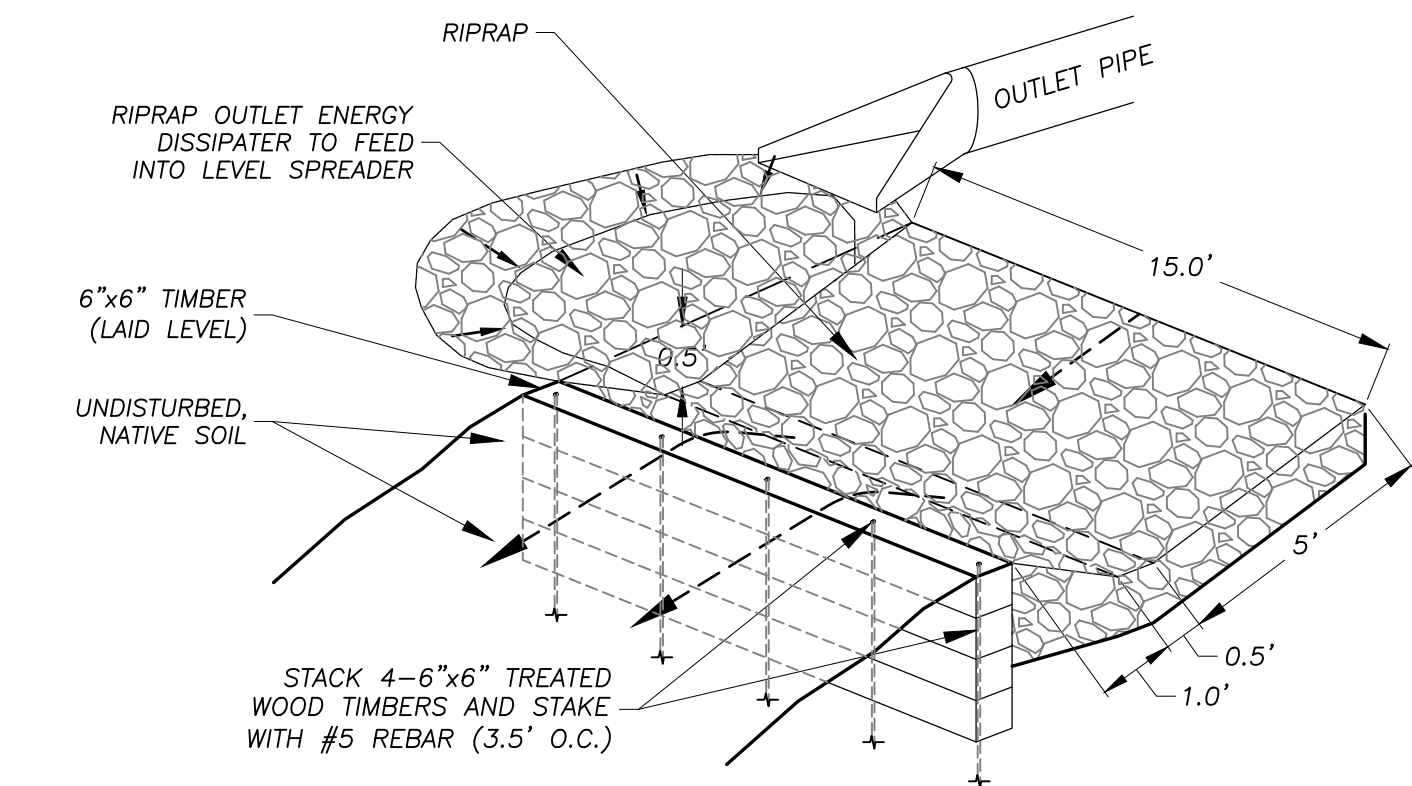
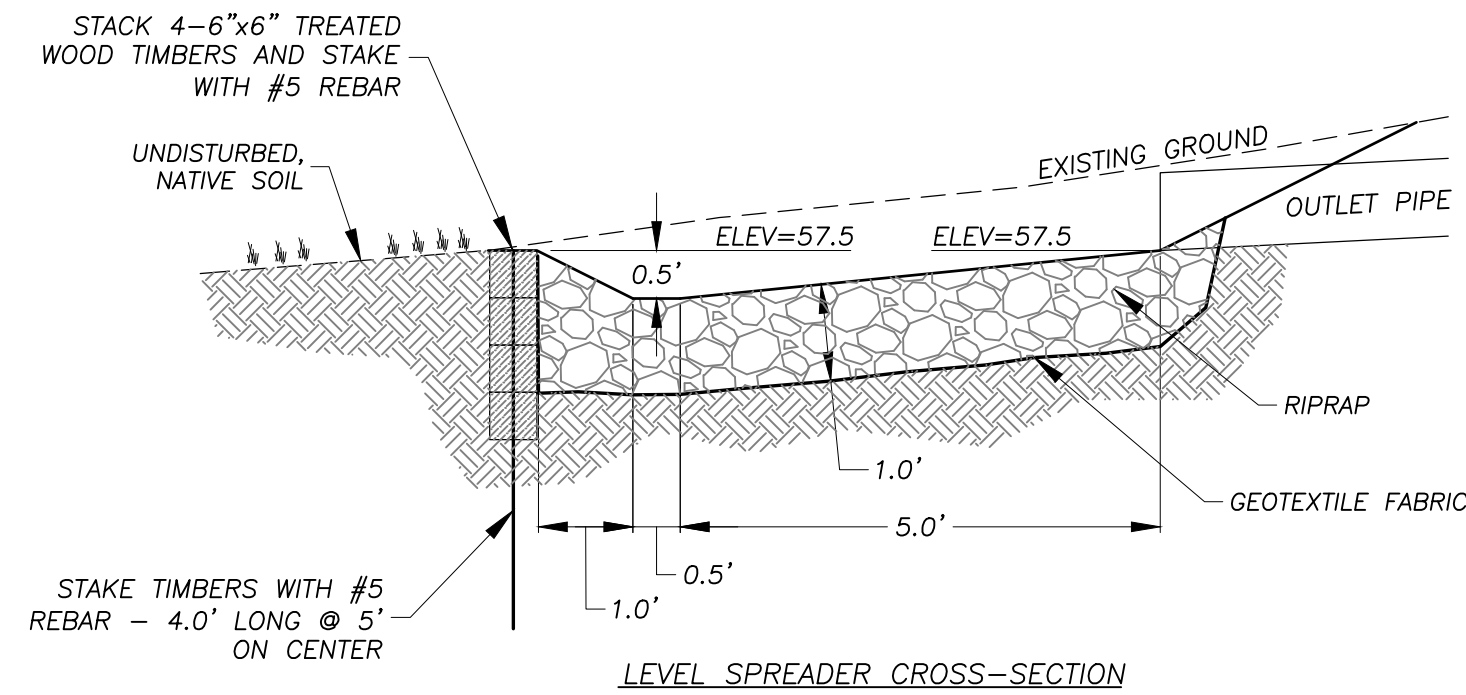
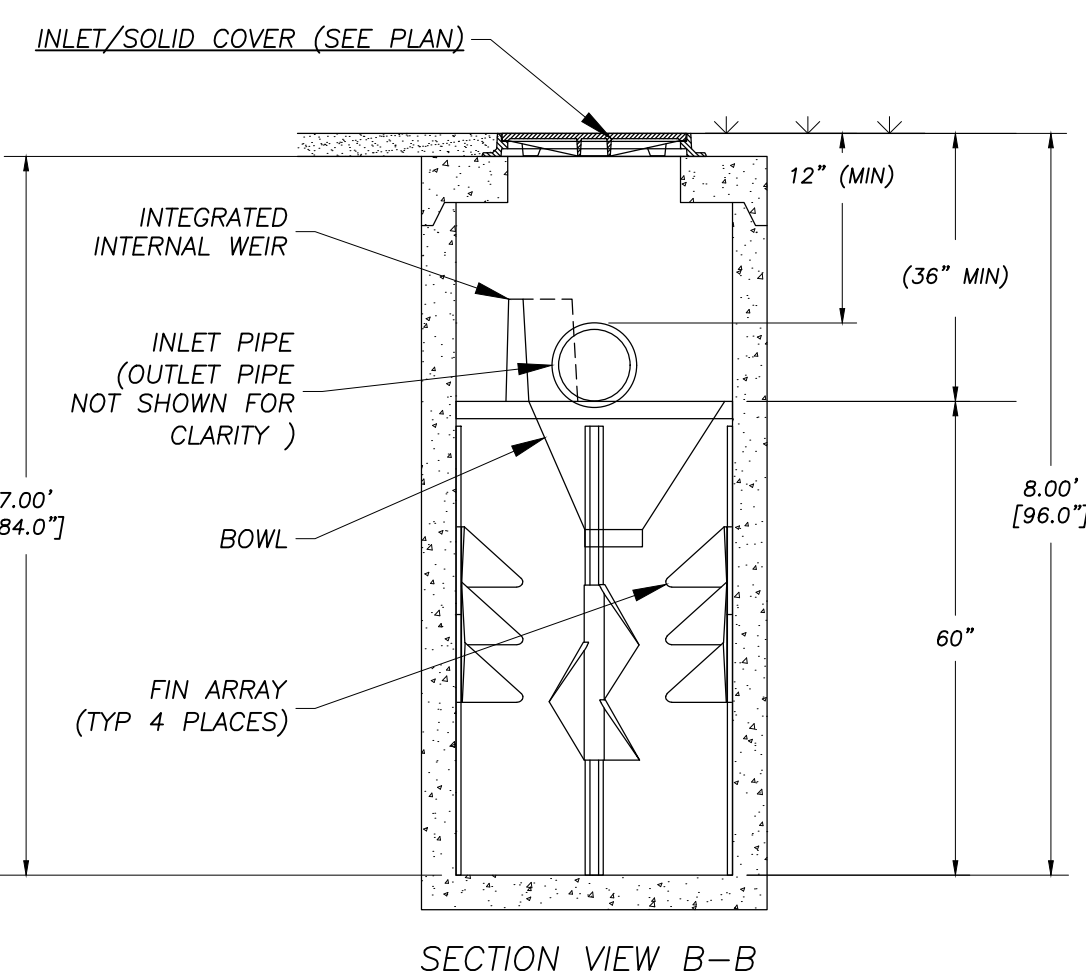


ADS NYLOPLAST YARD DRAIN BASIN

NO SCALE

TRENCH NOTES

- TRENCHES LOCATED ON THE ROAD SHOULDER SHALL BE TREATED THE SAME AS STREET EXCEPT FOR PAVING.
- PROVIDE AT LEAST ONE IMPERVIOUS DAM-IN CRUSHED STONE BEDDING BETWEEN EACH MANHOLE WHERE DIRECTED, OR EVERY 300 FT., WHICHEVER IS LESS.
- COMPACT ALL BACKFILL MATERIAL TO A MINIMUM DENSITY OF 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698.
- PLACE BACKFILL MATERIALS IN MAXIMUM ONE FOOT LIFTS.
- THE INSTALLATION OF PVC SEWER PIPE SHALL CONFORM TO ASTM STANDARD D-2321.
- AT LOCATIONS WHERE NEW SEWER CROSSES AN EXISTING WATER MAIN, SUPPORT PIPE THROUGH CONSTRUCTION AND BACKFILL TRENCH WITH FLOWABLE FILL. CONTRACTOR SHALL LOCATE NEW SEWER JOINTS AS FAR AWAY FROM CROSSING OF NEW SEWER AND EXISTING WATER MAIN AS POSSIBLE.
- DUCTILE IRON WATER MAIN PIPING TO BE PROTECTED WITH POLYETHYLENE ENCASEMENT.
- 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

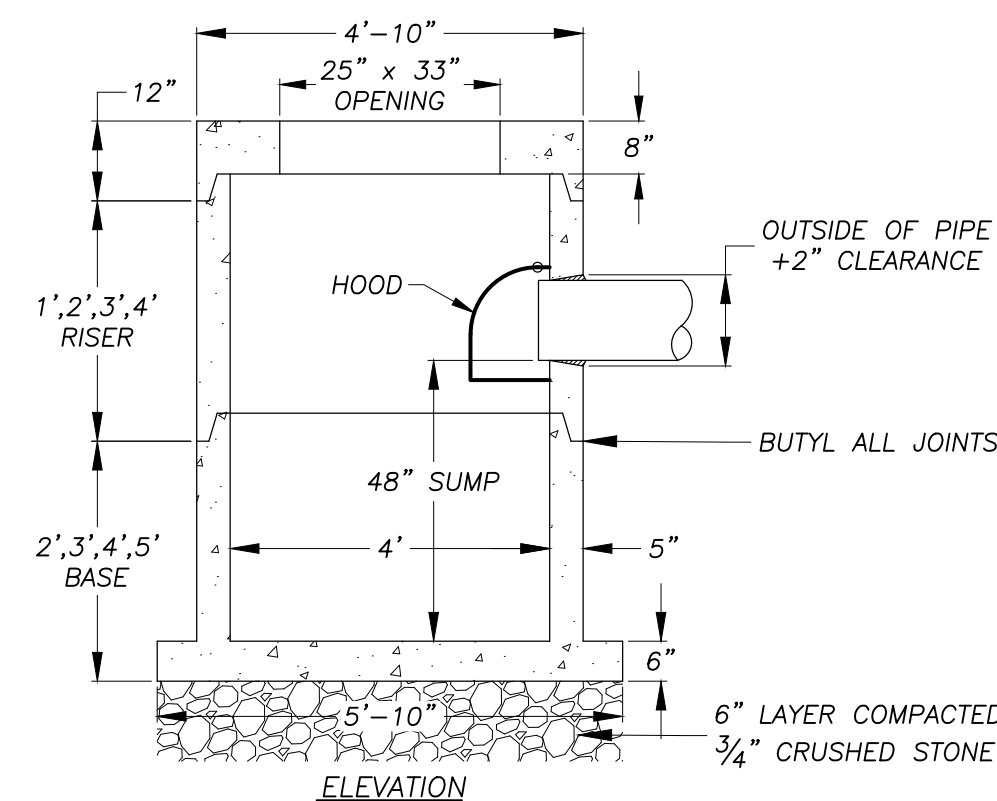
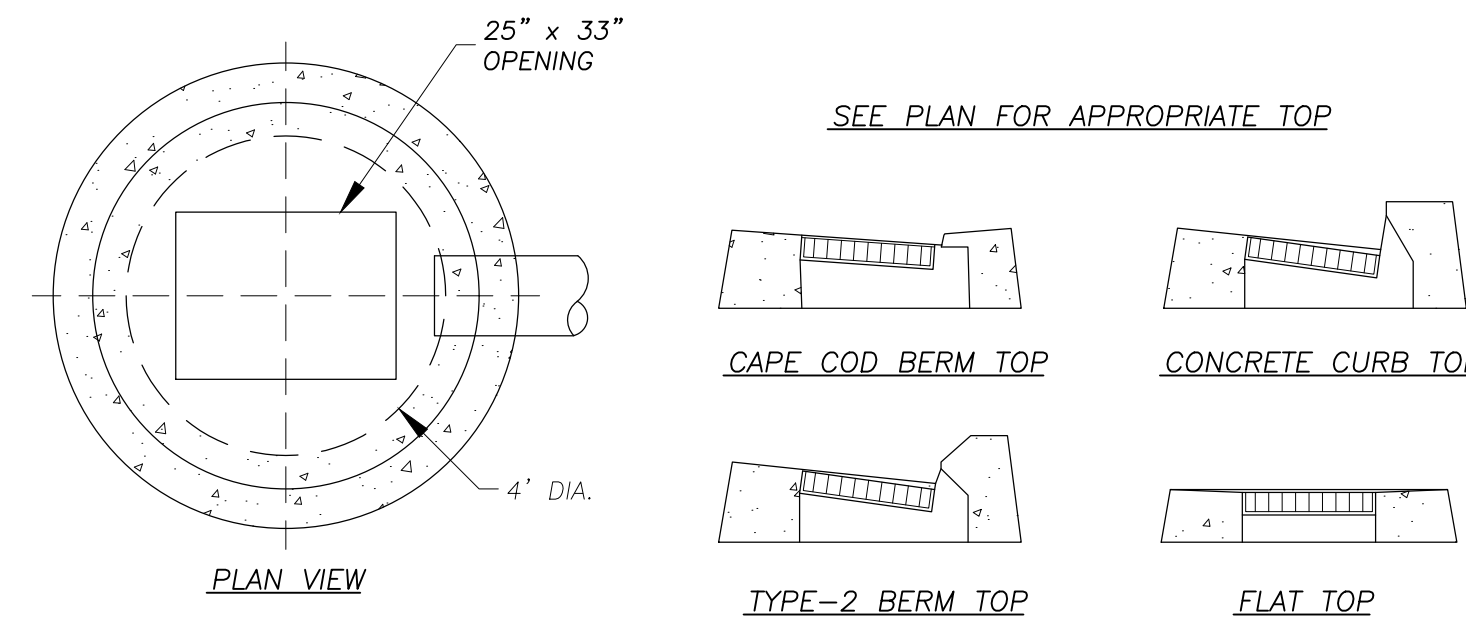


NOTES

- LEVEL SPREADER SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL UP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL.
- CONSTRUCTION OF LEVEL SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES AND UNDISTURBED BY EARTHWORK OR EQUIPMENT.
- CONSTRUCT SPREADER WITH LIP AT EXISTING GRADE AS SPECIFIED.
- DOWNGRADIENT RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.

LEVEL SPREADER DETAIL

NO SCALE



DESIGN NOTES

- CONCRETE: 5,000 PSI, 28 DAYS
- REINFORCING STEEL CONFORMS TO LATEST ASTM A615 AND A82 OR A185 SPECS.
- MANHOLE DESIGN SPECS. CONFORM TO LATEST ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS"
- H-20 DESIGN LOADING PER AASHTO HS-20-44
- BUTYL RUBBER JOINT SEALANT CONFORMS TO LATEST ASTM C990-91 SPEC., FED. SPEC. SS-S-210 (210A), AND AASHTO M-198B

PRECAST CONCRETE CATCH BASIN-CT STYLE/ROUND BASE

NO SCALE

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Landscape Architects
Civil Engineers - Land Surveyors
Environmental Consultants
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Westfield, MA 01085
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DETAILS

1422 Main Street
Agawam, MA
Map K4 Block I Parcels 5, 6, 7, & 13



PREPARED FOR:

Kenny Patel
Shield Hotels
63 Myron Street
West Springfield MA.

ISSUANCE DATE: May 23, 2024

REVISIONS:	DATE:
A. Peer review comments	9/9/24
B. Engineering & peer review comments	9/24/24

DRAFTED BY: M.B. & J.T.

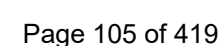
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RLA PROJ. NUMBER: 231007

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D-4	B

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R LEVESQUE ASSOCIATES, INC Landscape Architects - Civil Engineers - Land Surveys - Environmental Consultants 40 School Street - P.O. Box 640 - Westfield, MA 01086 ph: 413.568.0985 fax: 413.568.0986 rland.com	
BLSF Cut/Fill Areas	
Proposed Hotel 1422-1444 Main Street Agawam, MA 01001	Kenny Patel - Shields Hotels 63 Myron Street West Springfield, MA 01089
JOB NO.: 231007	
DATE: 9/24/24	
SCALE: As noted	
SK-2	

Stormwater Drainage Report

Proposed Hotel & Site Improvement Plan

1422-1444 Main Street
Agawam, Massachusetts
(Map K4 Block 1 Parcels 5, 6, 7, & 13)

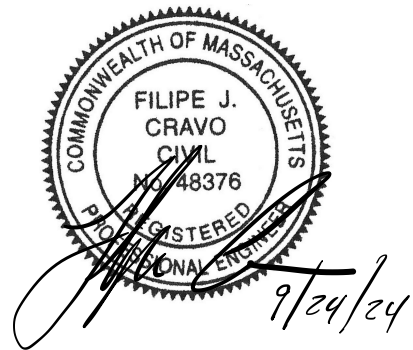
Applicant/Owner:

Shield Hotels
c/o Kenny Patel
63 Myron Street
West Springfield, MA 01089

RLA Project File: 231007

May 23, 2024

Revised: September 24, 2024



R LEVESQUE ASSOCIATES, INC
A LAND PLANNING SERVICES COMPANY

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- APPENDIX A: CHECKLIST FOR STORMWATER REPORT
APPENDIX B: SOILS INFORMATION
APPENDIX C: PRE- AND POST- DEVELOPMENT HYDROLOGIC ANALYSIS
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APPENDIX D: HYDRAULIC ANALYSIS
APPENDIX E: MASSDEP CALCULATIONS
APPENDIX F: CONSTRUCTION PERIOD EROSION CONTROL PLAN
APPENDIX G: LONG-TERM OPERATION AND MAINTENANCE PLAN
APPENDIX H: ILLICIT DISCHARGE COMPLIANCE STATEMENT
APPENDIX I: LOW IMPACT DEVELOPMENT ALTERNATIVES ANALYSIS NARRATIVE

I. INTRODUCTION

The purpose of this report is to present information regarding the technical aspects of the stormwater management system for the proposed project. All work is intended to be in full compliance with Agawam Stormwater Management Ordinance as well as the Massachusetts Department of Environmental Protection Stormwater Management Handbook. The stormwater management system includes approved best management practices (BMPs) to meet the requirements.

The applicant, Shield Hotels, is proposing to construct a new hotel building and various site improvements at 1422-1444 Main Street in Agawam, Massachusetts. The proposed project spans across parcels identified by the Agawam Assessor's office as map K4 Block 1 parcels 5, 6, 7, & 13. For the purposes of this report, reference to the "project site" shall include all of the parcels to be modified. The easterly portion of the project site has been historically developed and cleared of mature vegetation and is the location of a commercial building that is being utilized as a restaurant with associated paved drive aisles and various other improvements which are to remain. The westerly and southerly portions of the site are wooded with various jurisdictional areas. Currently, the only stormwater best management practice being utilized is located on the easterly side of the project site and includes a landscape pond.

The proposed project involves the following:

1. Demolition of the existing site improvements including the paved surface areas;
2. Construction of a hotel building;
3. Construction of associated site improvements including access drives and landscaping;
4. Installation of underground utilities including water, sanitary sewer, and electric and telecommunication services;
5. Construction of a stormwater management system including deep-sump hooded catch basins, proprietary sedimentation devices, bio-retention basins, and a level spreader.

The new drainage infrastructure has been designed utilizing the Agawam Stormwater Management Ordinance as well as the Massachusetts Department of Environmental Protection Stormwater Management Handbook. The proposed development will generally maintain the existing drainage patterns of the site and direct treated stormwater toward the same bordering vegetated wetlands as in pre-development conditions.

2. SITE DESCRIPTION

2.1 Predevelopment Conditions

The properties to be developed are located at 1422-144 Main Street and listed as map K4 Block 1 parcels 5, 6, 7, & 13 by the Town of Agawam's GIS database. The locus parcels are zoned Business A (BA) as referenced from the Town of Agawam's zoning map. The property is bounded to the north and south by split zoned and residentially occupied buildings, to the West by the Massachusetts Veterans Memorial Cemetery, and to the east by Main Street. The total area of the parcels is approximately 4.04 acres in size. Figure 1 – USGS Map illustrates the location of the project.

Portions of the site have been historically developed with various site improvements including a commercially occupied building utilized as a restaurant, outdoor lawn areas, paved access drives, and paved parking areas. In general, the topography of the site can be described in two different sections; an upper wooded terrace and the lower historically developed section directly fronting on Main Street. The upper terrace is at a higher elevation and is gently sloped toward the westerly property line. From the top of slope at the edge of the terrace, the topography is fairly steep and slopes down to the lower area where the existing restaurant building is located. The topography adjacent to the existing building is gently sloped within the paved parking and driving areas. Please refer to the existing conditions plan submitted herewith for more detailed topographical information.

2.2 Resource Areas

Portions of the parcel are located within jurisdictional buffer zone areas associated with on-site bordering vegetated wetlands, bordering land subject to flooding, and riverfront area. Please refer to the Notice of Intent filing for detailed information regarding the jurisdictional areas.

2.2.1 Floodplain

R. Levesque Associates, Inc. performed due diligence research on the property in regard to FEMA flood zone mapping. As demonstrated by the most recent FEMA Flood Insurance Rate Map 25013C0411E, the property is located within a flood hazard area subject to inundation by the 100-year flood event, see Figure 2 – FEMA FIRM Map.

2.2.2 Natural Heritage and Endangered Species Program

R. Levesque Associates, Inc. performed due diligence research on the property in regard to Natural Heritage and Endangered Species Program (NHESP) areas. The properties are not located within areas delineated by NHESP as priority habitats of endangered species, see Figure 3 – NHESP & Zone II Map.

2.2.3 Aquifer Protection District

R. Levesque Associates, Inc. performed due diligence research on the property in regard to wellhead protection overlay districts. The property is not located within an area delineated as a Zone II Wellhead Protection Area, see Figure 3 – NHESP & Zone II Map.

2.3 Soils

R. Levesque Associates, Inc. researched the soils located on site with information available from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Based on a review of the USDA Soil Survey of Hampshire County, Massachusetts, the site is comprised of the following soil types:

Table 2.4: Hydrologic Soil Group Classification		
Soil Description	Map Unit Symbol	Hydrologic Soil Group
Swansea Muck	51A	D
Unadilla Very Fine Sandy Loam	230B	C
Unadilla Very Fine Sandy Loam	250C	C
Buxton Variant Silt Loam	729B	C

A series of test pits were conducted by Ryan Nelson, SE#14394 to evaluate the ability of the site to support the stormwater drainage system components. A total of ten (10) test holes were dug on the property in the vicinity of the proposed building and stormwater basin areas. The test pits showed evidence of groundwater at depths ranging from 36-inches to 110-inches. See Appendix B for the United States Department of Agriculture Natural Resources Conservation Service Soil Resource Report (NRCS) and Soil Evaluation log sheets. In general, the soil evaluations confirmed the NRCS mapping.

2.4 Post Development Conditions

The proposed site improvements include a number of stormwater management features to properly meet the requirements set forth by the Town of Agawam Stormwater Management Ordinance as well as the Massachusetts Department of Environmental Protection Stormwater Management Handbook. The proposed stormwater features include:

- Deep-Sump Hooded Catch Basins;

- Proprietary sedimentation devices;
- Bio-retention basins;
- Level Spreader

The developer is proposing to construct a new hotel building and associated site improvements including paved access drives with associated parking areas, sidewalks and stormwater management system. New utilities for the proposed building including water, sewer, gas, and electric services will be brought on-site via the frontage with Main Street.

The proposed stormwater management system will collect runoff from the impervious surfaces via sheet flow and deep sump catch basins strategically located at low points across the site. The stormwater management system has been de-centralized into two separate treatment train paths; the stormwater management system for the upper elevations adjacent to the proposed hotel and the stormwater management system for the lower elevations adjacent to the existing restaurant building. In both scenarios, the treatment trains are the same with the inlet structures collecting and conveying runoff via a network of underground infrastructure toward a proprietary sedimentation device, prior to discharging to a bio-retention basin.

The bio-retention basins were designed to provide the necessary water quality treatment and peak discharge rate attenuation for the proposed site improvements. Each basin has been equipped with an outlet control structure designed to control the discharge of runoff to match or reduce pre-development discharge rates. The proposed site improvements will maintain the general drainage patterns of the site by discharging runoff to the same design points in post-development as pre-development conditions. Each component of the proposed stormwater management systems has been designed to meet the standards set forth by the Town of Agawam Stormwater Management Ordinance as well as the Massachusetts Department of Environmental Protection Stormwater Management Handbook.

3. STORMWATER MANAGEMENT SYSTEM

R. Levesque Associates, Inc. has prepared the following drainage system calculations for the proposed project site. These calculations were performed to document compliance with the guidelines set forth by the Town of Agawam Stormwater Management Permit requirements and the Massachusetts Department of Environmental Protection Stormwater Management Handbook (MassDEP Handbook). A detailed hydrologic analysis of the system was completed in order to evaluate the performance of the stormwater management system components, see Appendix C – Pre- and Post-Development Hydrologic Analysis. The proposed stormwater management system will collect runoff from on-site impervious areas and utilize stormwater best management practices to provide water quality treatment and peak discharge rate attenuation.

3.1 Drainage Calculations

R. Levesque Associates, Inc. utilized the HydroCAD software program, Version 10.10-7c, developed by HydroCAD Software Solutions LLC, in order to create and analyze the site hydrology. The HydroCAD software is based upon the Soil Conservation Service (SCS) “Technical Release 20 – Urban Hydrology for Small Watersheds” and “Technical Release 55 – Urban Hydrology for small Watersheds” which are generally accepted industry standard methodologies. The analysis was conducted in order to establish the peak discharge rates from the project site. This was accomplished to properly evaluate pre- and post-development conditions during various storm events. Contributing drainage areas were identified and soils, surface cover, watershed slope, and flow paths were evaluated to develop the necessary HydroCAD model input parameters.

Drainage calculations were performed for the Pre- and Post-Development conditions for the 24-hour, 2, 10, and 100-year Type III storm events. The total rainfall for each of the storm events was based upon data provided by the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 point precipitation frequency estimates. The total rainfall values used in the hydrologic modeling for each event are shown in the following table:

Table 3.1: Design Rainfall Data		
2-year, 24-hour storm	10-year, 24-hour storm	100-year, 24-hour storm
3.19 inches	5.12 inches	8.19 inches

3.1.1 Design Points

In order to compare the difference between pre- and post-development peak flows, existing and proposed watersheds were delineated. Two Design Points (DP) were established with flow paths representing the longest time of concentration of run-off in each tributary watershed. For this analysis, the design points were determined as follows:

- DP-1 (Offsite to East): This design point represents runoff from the property which is tributary to the bordering vegetated wetlands and perennial stream located on-site. Ultimately, the stream passes through a culvert under Main Street and off-site toward the East;
- DP-2 (Offsite to West): This design point represents runoff from the property which is tributary off-site to the west toward the cemetery property.

3.1.2 Pre-Development Hydrology

The project area under existing conditions was broken down into two (2) sub-catchments discharging to the design points as described above. The sub-catchments were delineated based on the existing topography of the parcel and surrounding areas. The existing watershed areas are shown on the attached Figure 4 entitled "Pre-Development Watershed Plan". Peak discharge rates for the design point are depicted in Table 3.1.4 below.

3.1.3 Post-Development Hydrology

The project area under proposed conditions was broken down into four (4) sub-catchments discharging to the same design points as the existing conditions. The proposed watershed areas are shown on the attached Figure 5 entitled "Post-Development Watershed Plan". Peak discharge rates for the design point are depicted in Table 3.1.4 below.

3.1.4 Peak Discharge Rates

The table below summarizes the Pre- and Post-Development peak discharge rates for each Design Point:

Table 3.1.4 Pre- and Post-Development Peak Discharge Rates						
	2-year storm (cfs)		10-year storm (cfs)		100-year storm (cfs)	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Design Point 1	1.7	1.6	3.7	3.7	7.2	7.0
Design Point 2	0.7	0.2	2.0	0.6	4.4	1.4

As depicted in the table, the post-development peak discharge rates do not increase over pre-development peak discharge rates for each of the storm events presented. This is accomplished by providing onsite attenuation with the bio-retention basins.

3.2 Hydraulic Analysis

R. Levesque Associates, Inc. utilized the Hydraflow Storm Sewer Extension for AutoCAD Civil 3D 2020 software program, Version 9, developed by Autodesk, Inc., in order to analyze the hydraulic capacity of the proposed underground infrastructure. The analysis was conducted in order to verify that the proposed conveyance piping has sufficient capacity to convey up to and including the 24-hour, 100-year storm event. The data from the analysis was used to properly size the conveyance piping such that there is no or minimal surcharge of stormwater above the rim elevations within the paved areas. As part of the input parameters required for the hydraulic analysis, the tributary inlet areas were delineated based on topography, any additional connected discharges, characteristic land use coverages and flow paths, see Figure 6 – Inlet Area Plan. A minimum Time of Concentration (Tc) of (6) minutes was used in the calculations. Please refer to Appendix D for the hydraulic analysis of the proposed stormwater management system.

3.3 MassDEP Stormwater Management Standards

R. Levesque Associates, Inc. has designed the proposed stormwater management system to be in compliance with the MassDEP Stormwater Management Standards. Chapter 1, Volume 3 of the MassDEP Handbook outlines specific calculations, and other information, that must be submitted with each report to document compliance. The following summary highlights elements of the proposed project and how they apply to each standard.

- *Standard #1 - No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

The proposed stormwater management system has been designed to provide best management practices to the guidelines of the MassDEP Handbook. Therefore, no new untreated stormwater is discharged.

- *Standard #2 – Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.*

The proposed stormwater management system has been designed such that the post-development peak discharge rates are less than or equal to the pre-development discharge rates for the 2-year, 10-year, and 100-year 24-hour storms. See Appendix C for the Hydrologic Analysis.

- *Standard #3 - Loss of annual recharge to groundwater shall be eliminated or minimized through the use of environmentally sensitive site design, low impact development techniques, stormwater BMPs, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required volume as determined in accordance with the Massachusetts Stormwater Handbook.*

This standard has been met to the maximum extent practicable. The NRCS mapping of the site shows the entirety of the site comprised of hydrologic soil class "C" and "D" soils. In order to verify the soil conditions of the property, a number of on-site soil evaluations were performed across the property. The soil evaluations corroborated the NRCS mapping where materials similar to the Swansea Muck and Unadilla Very Fine Sandy Loam series were discovered across the site with relatively high groundwater elevations. As such, and as allowed by the MassDEP Stormwater Management Handbook, the proposed stormwater management system was designed utilizing best management practices to meet all other Handbook standards and provide recharge to the maximum extent practicable.

- *Standard #4 – Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of TSS. It is presumed that this standard is met when:*
 - a. Suitable practices for source control and pollution prevention are identified in a long term pollution prevention plan, and thereafter are implemented and maintained;*

- b. Structural stormwater BMPs practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook*

The stormwater management system has been designed to provide the required total suspended solids pre-treatment prior to discharge to the bio-retention basins. The treatment train for each basin is identical and utilizes pretreatment BMPs which include deep-sump hooded catch basins and proprietary sedimentation devices in addition to the bio-retention basins. See Appendix E for the Water Quality and Total Suspended Solids Removal Calculations.

- *Standard #5 - For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by MassDEP to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.*

This standard is not applicable.

- *Standard #6 – Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater BMPs determined by MassDEP to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A “storm water discharge” as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.*

The perennial stream located on-site is a Cold Water Fishery Resource, which is classified as a critical area. The proposed stormwater management system has been designed to demonstrate compliance with the requirements of Standard 6.

- *Standard #7 – A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural BMPs requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.*

This standard is not applicable.

- *Standard #8 – A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention) shall be developed and implemented.*

A Construction Period Erosion Control Plan has been provided in Appendix F.

- *Standard #9 – A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

A Long-term Operation & Maintenance Plan has been provided in Appendix G.

- *Standard #10 - All illicit discharges to the stormwater management system are prohibited.*

An illicit discharge statement will be provided prior to discharge of stormwater to post-construction BMPs. See Appendix H for a copy of the Illicit Discharge Statement.

3.4 Stormwater Best Management Practices

The proposed stormwater management system was designed utilizing stormwater best management practices (BMP) as set forth by the MassDEP Handbook. The BMPs utilized as part of the stormwater management system include deep-sump hooded catch basins, proprietary sedimentation devices, and bio-retention basins. All of the BMPs were designed to meet the requirements of the MassDEP Handbook and will provide water quality treatment and peak rate attenuation in order to mitigate the impacts of the proposed site improvements. See Appendix E – MassDEP Calculations for the calculations required to document compliance. The following section provides a description of the best management practices (BMPs) being utilized on site.

3.4.1 Deep Sump Catch Basins

Deep-sump catch basins equipped with oil/gas hoods are being utilized as structural pretreatment devices within the proposed stormwater management system. The catch basins will be constructed

with a 4'-0" deep sump to act as a settling chamber and allow for adequate storage of collected sediments. Catch basins are typically first in the line of water quality treatment.

3.4.2 Proprietary Sedimentation Devices

Proprietary sedimentation devices are being utilized on site for the pretreatment of stormwater runoff prior to conveyance to the bio-retention basins. The stormwater management system is utilizing the proprietary treatment devices in order to ensure that the required water quality treatment is being performed prior to discharge to down gradient infrastructure.

3.4.3 Bio-retention Basin

Bio-retention basins are being utilized on site as part of the stormwater management system treatment train process to enhance water runoff quality and attenuate peak-discharge rates. Bio-retention basins utilize soils, plants, and microbes to treat stormwater before discharge. The bio-retention basins associated with this project were designed with an impermeable liner and underdrain. With the installation of an outlet control structure, the basin can retain stormwater over a period of time to allow for peak rate attenuation and water quality treatment. The proposed bio-retention basins have been designed to attenuate flows up to and including the 100-year storm event.

3.5 Protection of Stormwater Best Management Practices during Construction

Protection of the stormwater best management practices during construction will ensure the proper functioning of the stormwater management system and provide protection to the undisturbed areas until the site has been stabilized. Certain specific erosion and sedimentation controls and good practices to be performed by the site contractor have been documented in a Construction Period Erosion Control Plan. See Appendix F – Construction Period Erosion Control Plan.

3.6 Inspection and Maintenance of Stormwater Best Management Practices

Frequent maintenance of the stormwater best management practices is essential to ensuring that the stormwater management system will function properly long-term. The MassDEP provides guidelines for the regular inspection and maintenance of the proposed stormwater best management practices. A Long-Term Stormwater Operation and Maintenance Plan has been prepared which dictates the inspection frequency and maintenance operations for each BMP. See Appendix G – Long-Term Operation and Maintenance Plan.

3.7 Illicit Discharge Compliance Statement

RLA has prepared an Illicit Discharge Compliance Statement to document compliance with the Massachusetts Department of Environmental Protection Stormwater Management Handbook, see Appendix H.

3.8 Low-Impact Development Alternatives Analysis Narrative

RLA has prepared a Low-Impact Development Alternatives Analysis Narrative as part of the Stormwater Drainage Report, see Appendix I.

4. CONCLUSION

The proposed stormwater management system has been designed to mitigate the impacts of the proposed site improvements by providing a control for runoff water quality and water quantity. Since the site is comprised entirely of hydrologic soil group "C" and "D" soils, the Massachusetts Stormwater Management Handbook is applicable only to the maximum extent practicable. As such, the proposed stormwater management system and site design recharges runoff only to the maximum extent practicable due to the on-site soil conditions limiting the ability to infiltrate. The stormwater management system has been designed to meet all other stormwater standards and the only relief needed is from the infiltration requirements. Implementation of stormwater best management practices such as deep-sump hooded catch basins, proprietary sedimentation devices, bio-retentions basins, and a level spreader allow for a stormwater drainage design in compliance with the Agawam Stormwater Management Ordinance as well as the Massachusetts Department of Environmental Protection Stormwater Management Handbook.

Figure 1: Site Locus – USGS Map



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	40 School Street · P.O. Box 640 · Westfield, MA 01085 ph: 413.568.0985 fax: 413.568.0986 rland.com

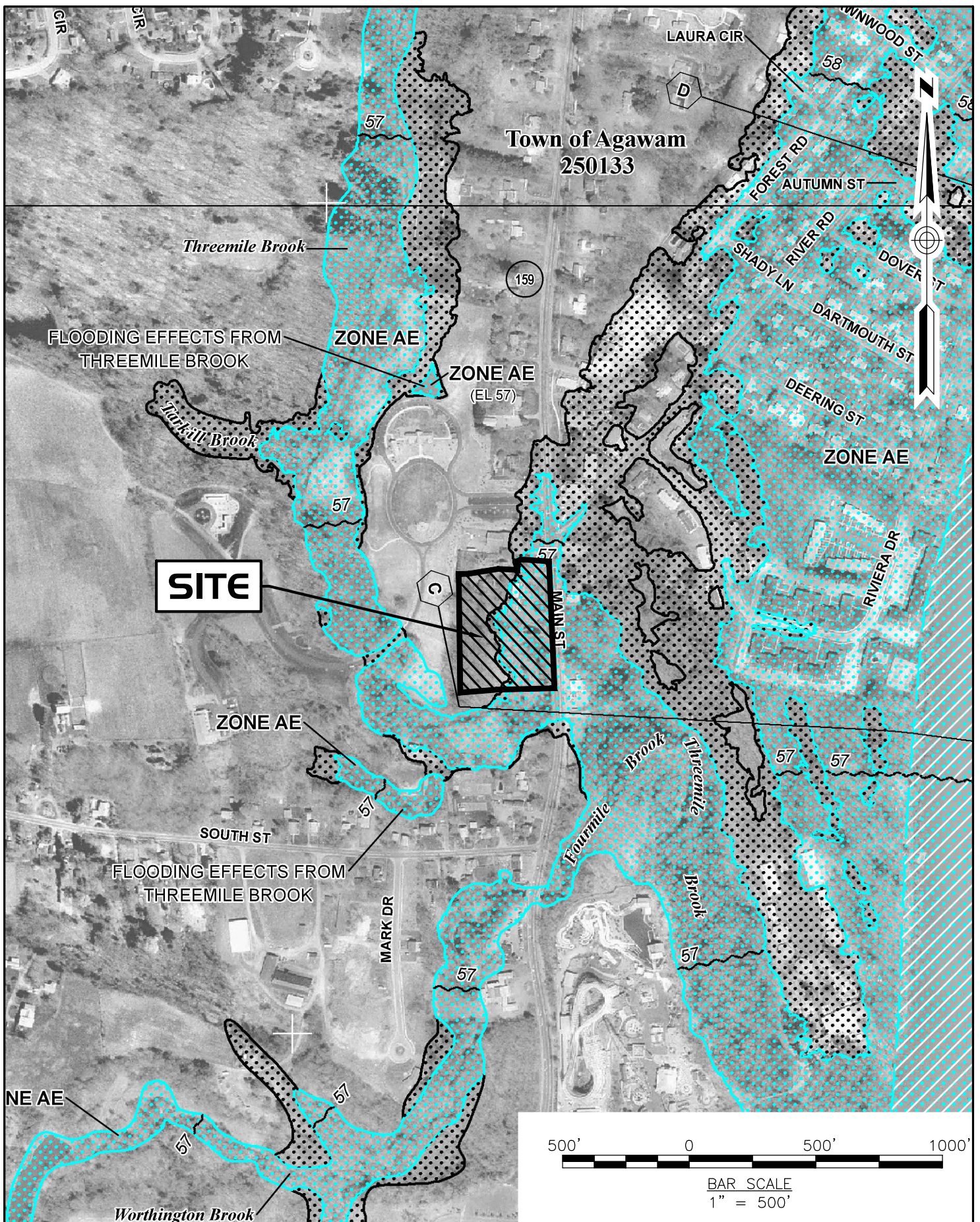
SITE LOCUS
USGS MAP

Shield Hotels
63 Myron Street
West Springfield, Massachusetts

Proposed Commercial Development
1422-1444 Main Street
Agawam, Massachusetts

JOB NO: 231007
DATE: 5/23/24
SCALE: AS NOTED
FIG-1

Figure 2: FEMA Flood Map





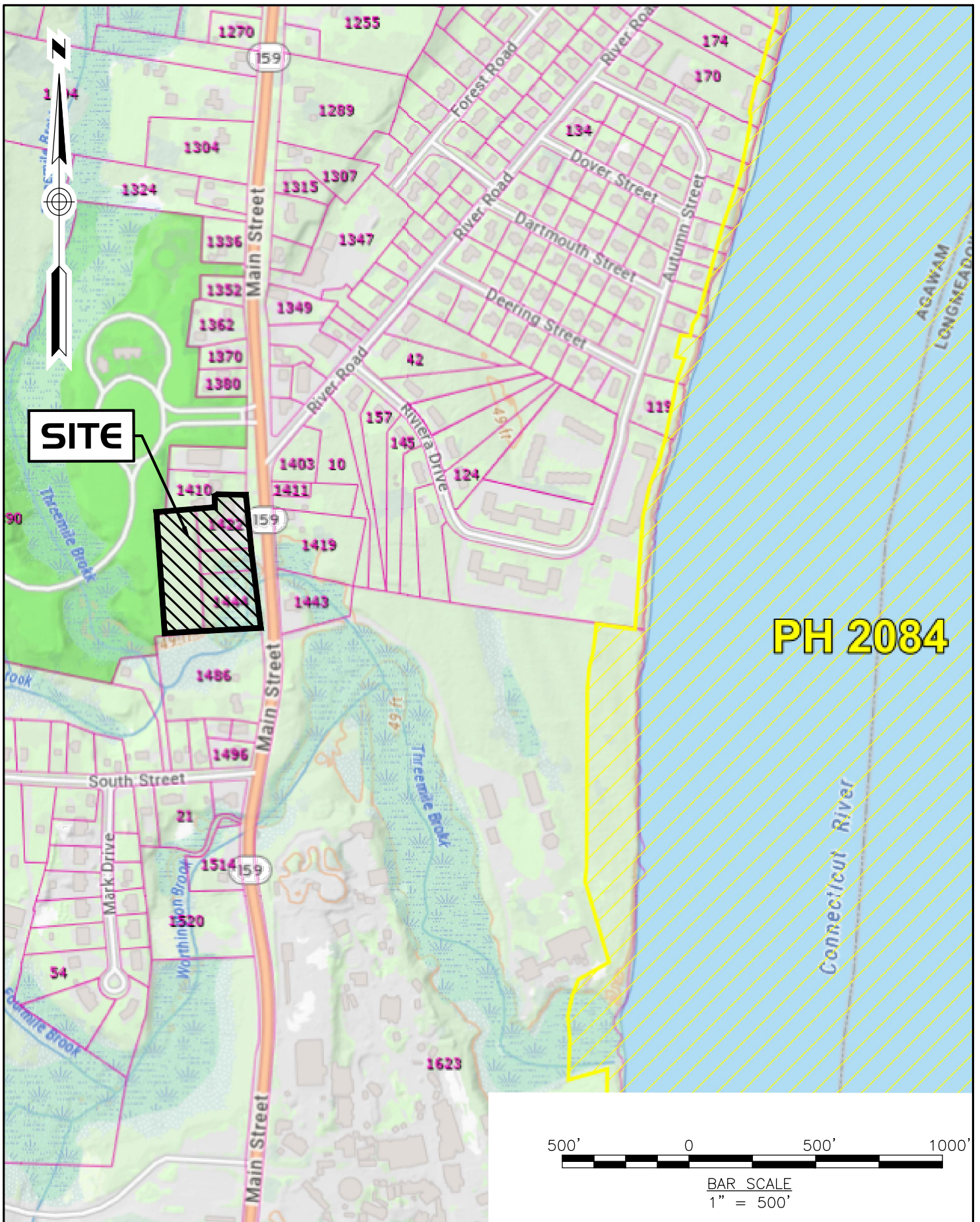
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**FLOOD RATE
INSURANCE MAP**

Shield Hotels
 63 Myron Street
 West Springfield, Massachusetts
 Proposed Commercial Development
 1422-1444 Main Street
 Agawam, Massachusetts

JOB NO: 231007
DATE: 5/23/24
SCALE: AS NOTED
FIG-2

Figure 3: NHESP and Zone II Map



PH 2084



BAR SCALE
1" = 500'



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NHESP Area Map

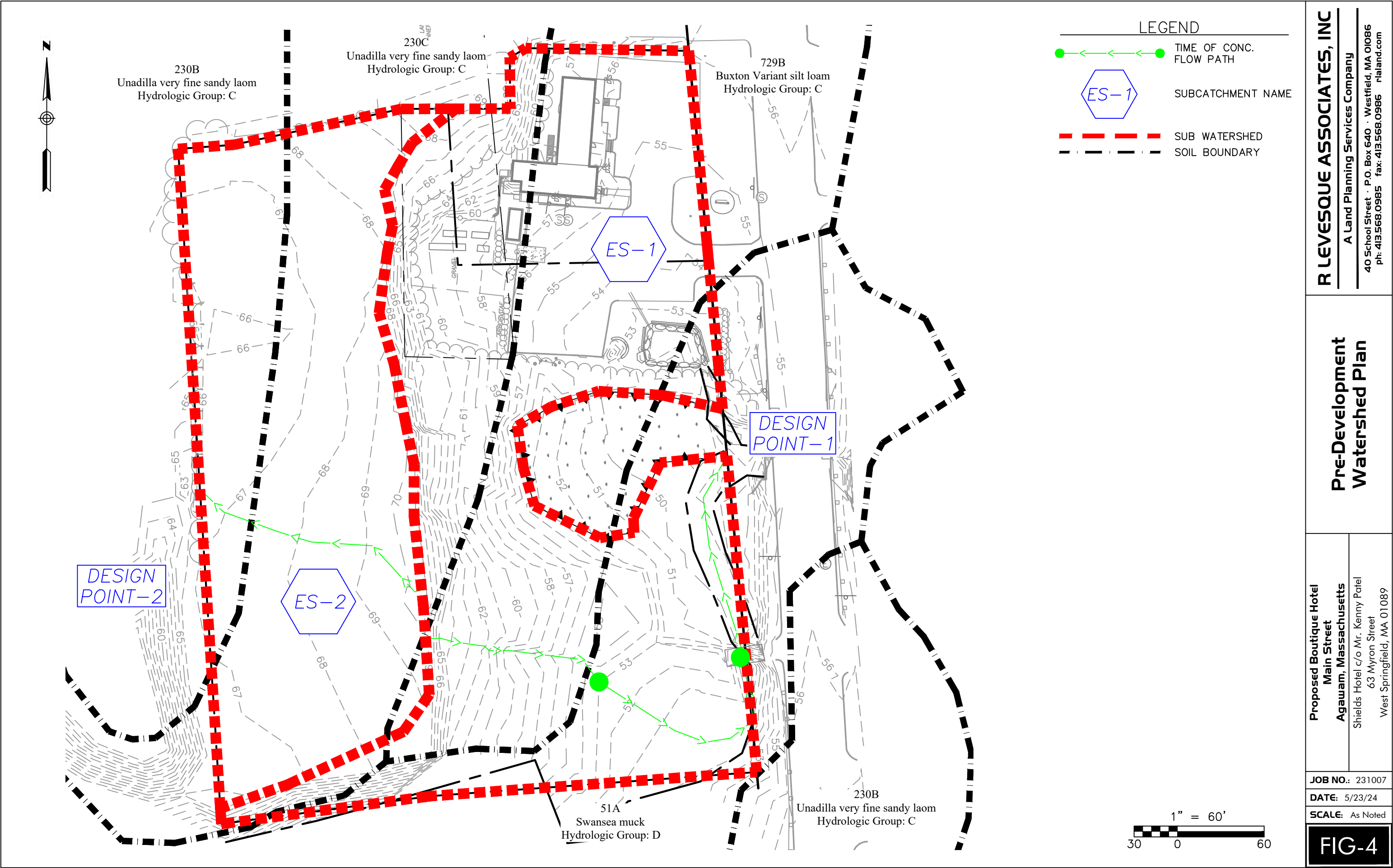
Shield Hotels
63 Myron Street
West Springfield, Massachusetts

Proposed Commercial Development
1422-1444 Main Street
Agawam, Massachusetts

JOB NO: 231007
DATE: 5/23/24
SCALE: AS NOTED

FIG-3

Figure 4: Pre-Development Watershed Plan



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Pre-Development Watershed Plan	
Proposed Boutique Hotel Main Street Agawam, Massachusetts	Shields Hotel c/o Mr. Kenny Patel 63 Myron Street West Springfield, MA 01089
JOB NO.: 231007	
DATE: 5/23/24	
SCALE: As Noted	
FIG-4	

Figure 5: Post-Development Watershed Plan

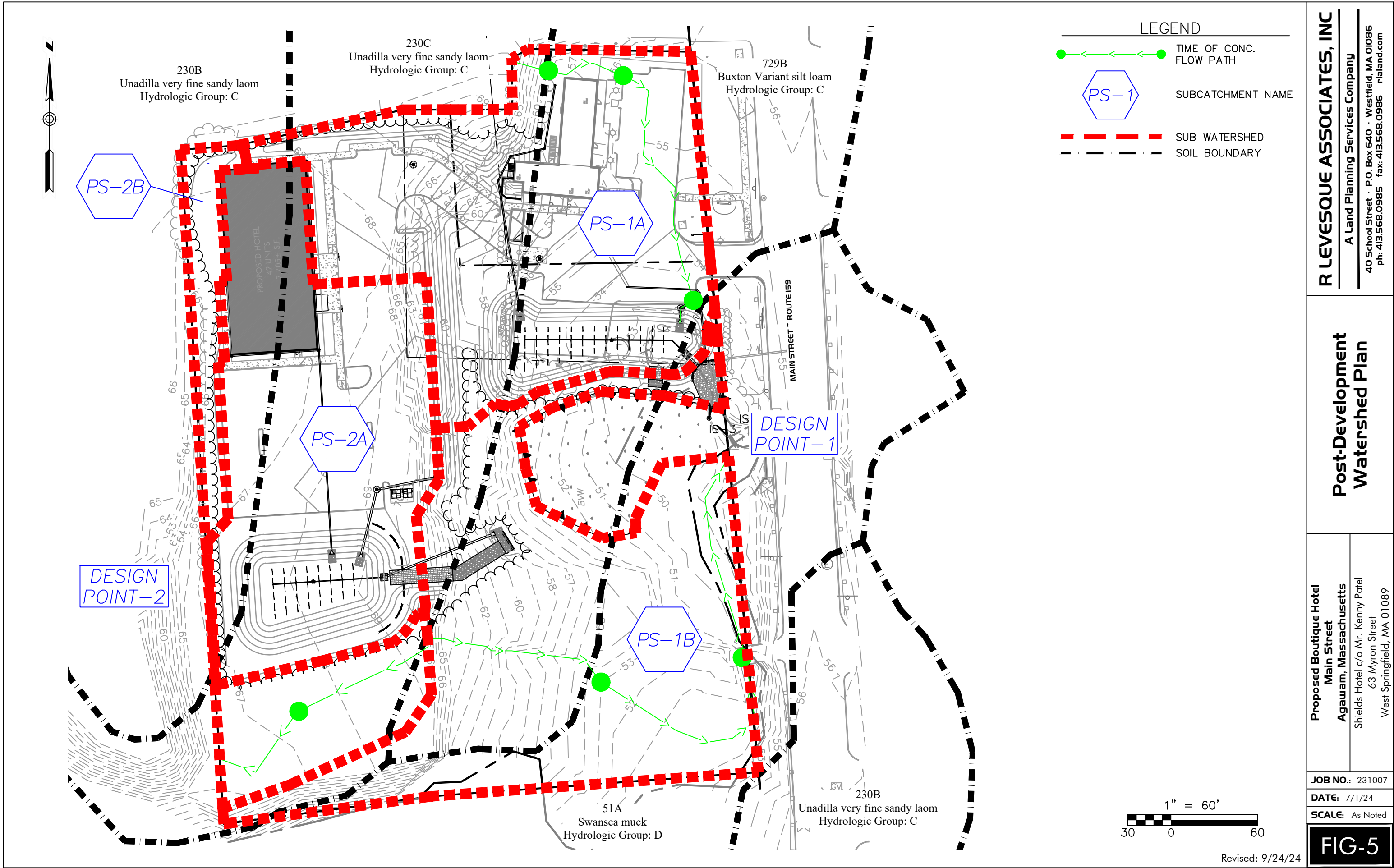
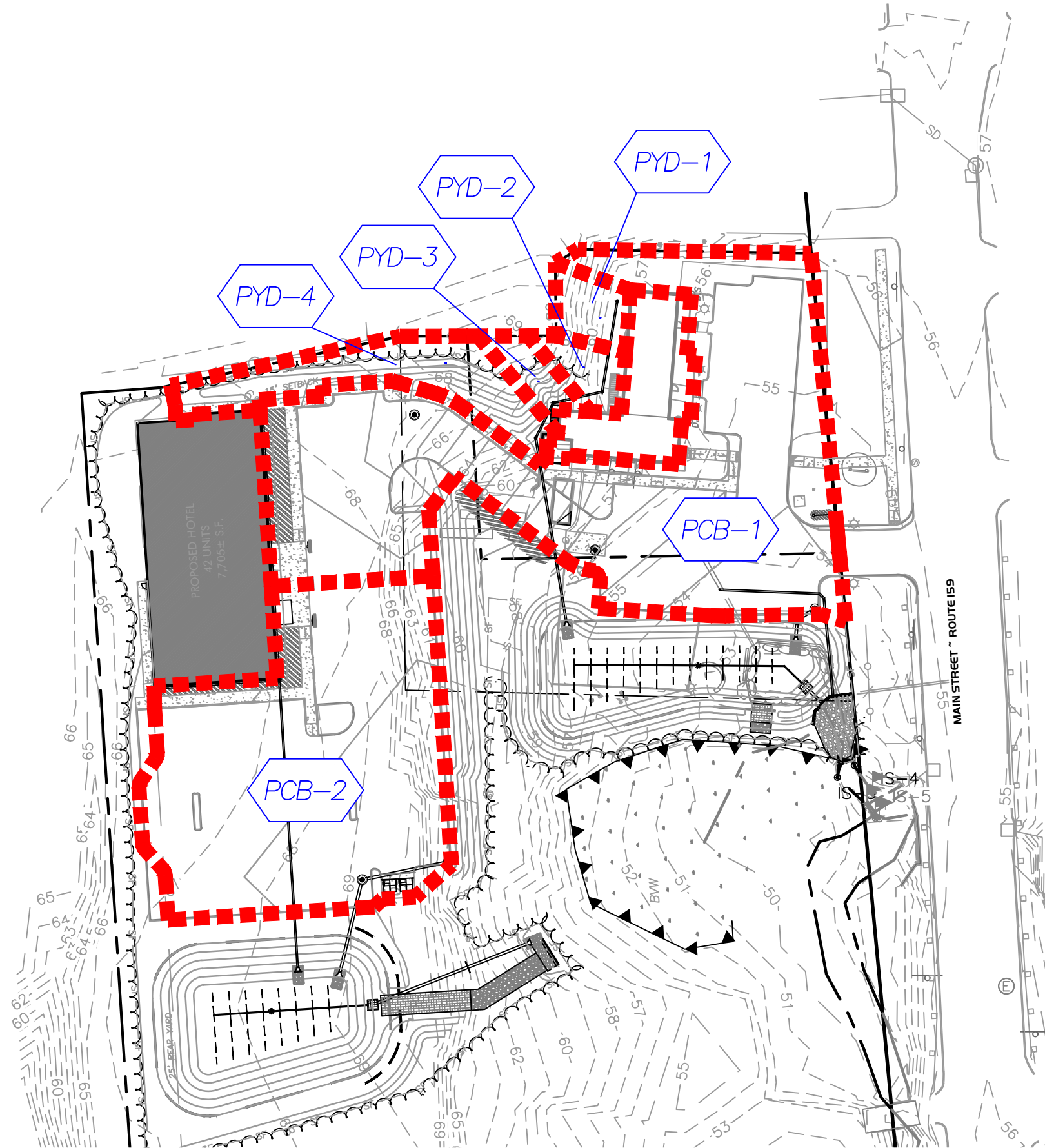


Figure 6: Inlet Area Plan



LEGEND

- | | |
|--|----------------|
| | STRUCTURE NAME |
| | SUB WATERSHED |
| | SOIL BOUNDARY |

Inlet Area Plan

Proposed Boutique Hotel
Main Street
Agawam, Massachusetts
Shields Hotel c/o Mr. Kenny Patel
63 Myron Street
West Springfield, MA 01089

JOB NO.: 231007
DATE: 5/23/24
SCALE: As Noted

FIG-6

Revised: 9/24/24

Appendix A: Checklist for Stormwater Report



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

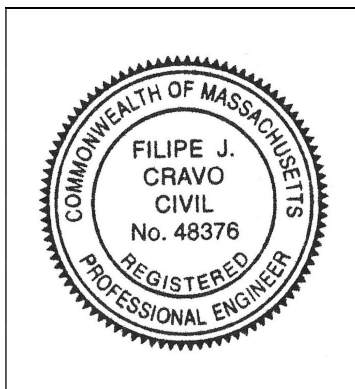
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

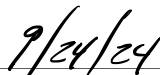
A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



 
Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☐ New development
- ☐ Redevelopment
- ☒ Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☒ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Proprietary Sedimentation Devices, and Level Spreader

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☒ Soil Analysis provided.
- ☐ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☐ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☒ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☒ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☒ The BMP is sized (and calculations provided) based on:
 - ☐ The ½" or 1" Water Quality Volume or
 - ☒ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☒ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☒ Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
 - ☐ Redevelopment Project
 - ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☒ Description and delineation of public safety features;
 - ☒ Estimated operation and maintenance budget; and
 - ☒ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☒ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

Appendix B: Soils Information

- NRCS Soils Report
- Soil Evaluation Logs



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Hampden County, Massachusetts, Central Part

Main Street - Agawam



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hampden County, Massachusetts, Central Part
Survey Area Data: Version 17, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
51A	Swansea muck, 0 to 1 percent slopes	0.7	18.2%
230B	Unadilla very fine sandy loam, 3 to 8 percent slopes	0.4	9.8%
230C	Unadilla very fine sandy loam, 8 to 15 percent slopes	1.7	41.0%
729B	Buxton Variant silt loam, 0 to 8 percent slopes	1.3	31.0%
Totals for Area of Interest		4.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Hampden County, Massachusetts, Central Part

51A—Swansea muck, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2trl2
Elevation: 0 to 1,140 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Swansea and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swansea

Setting

Landform: Bogs, swamps
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed organic material over loose sandy and gravelly glaciofluvial deposits

Typical profile

Oa1 - 0 to 24 inches: muck
Oa2 - 24 to 34 inches: muck
Cg - 34 to 79 inches: coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 16.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: B/D
Ecological site: F144AY043MA - Acidic Organic Wetlands
Hydric soil rating: Yes

Minor Components

Freetown

Percent of map unit: 10 percent
Landform: Bogs, swamps

Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Scarboro

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Whitman

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

230B—Unadilla very fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 99rn
Elevation: 50 to 1,800 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Unadilla and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Unadilla

Setting

Landform: Lakebeds (relict)
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Hard coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: very fine sandy loam
H2 - 10 to 23 inches: very fine sandy loam

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H3 - 23 to 60 inches: stratified very fine sand to silt

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F144AY024NY - Well Drained Eolian Outwash

Hydric soil rating: No

Minor Components

Belgrade

Percent of map unit: 10 percent

Landform: Lakebeds (relict)

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Raynham

Percent of map unit: 10 percent

Landform: Depressions

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

230C—Unadilla very fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 99rp

Elevation: 0 to 1,800 feet

Mean annual precipitation: 32 to 50 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Unadilla and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Unadilla

Setting

Landform: Lakebeds (relict)

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Riser

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Hard coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: very fine sandy loam

H2 - 10 to 23 inches: very fine sandy loam

H3 - 23 to 60 inches: stratified very fine sand to silt

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: F144AY024NY - Well Drained Eolian Outwash

Hydric soil rating: No

Minor Components

Belgrade

Percent of map unit: 10 percent

Landform: Lakebeds (relict)

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Amostown

Percent of map unit: 10 percent

Landform: Terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

729B—Buxton Variant silt loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 99n7
Elevation: 0 to 1,000 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Buxton variant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton Variant

Setting

Landform: Lakebeds (relict)
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Soft coarse-silty glaciolacustrine deposits derived from mica schist over hard clayey glaciolacustrine deposits derived from mica schist

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 24 inches: silt loam
H3 - 24 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 20 to 30 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

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Hydrologic Soil Group: C
Ecological site: F145XY005MA - Moist Lake Plain
Hydric soil rating: No

Minor Components

Belgrade

Percent of map unit: 10 percent
Landform: Lakebeds (relict)
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Scantic variant

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

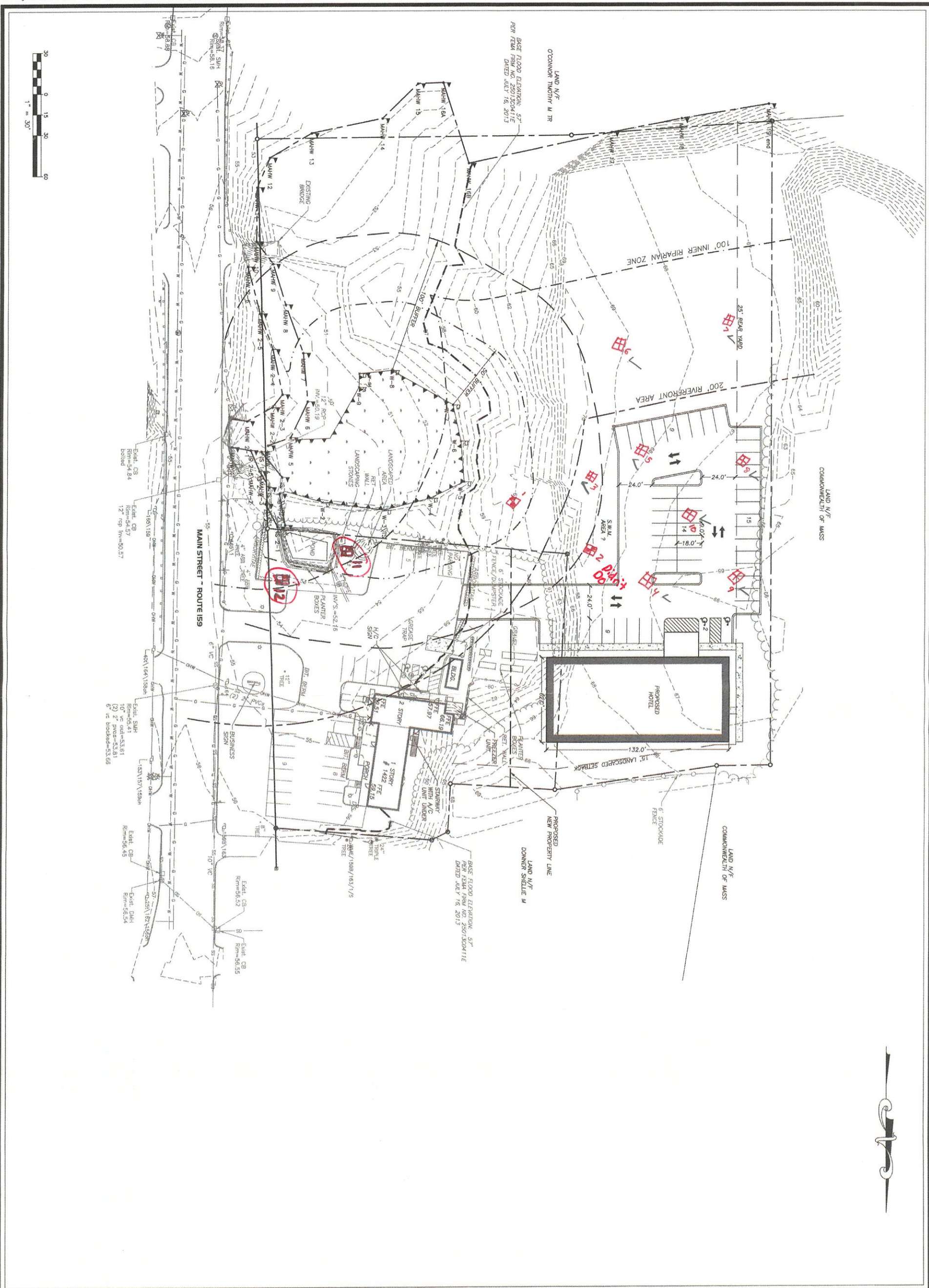
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Landscape Architects
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rlaland.com

GRADING

REV

C-5

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ISSUANCE DATE: December 13, 2023

REVISIONS:

DATE:

PREPARED FOR:

Kenny Fazio
Shelbi Hebb
63 Myron Street
West Springfield, MA

DRAFTED BY: lsa

SCALE: As Shown

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GRADING, EROSION & SEDIMENTATION CONTROL PLAN

1422 Main Street
Agawam, MA.

Page 186 of 419



Commonwealth of Massachusetts
City/Town of

1422 Main St, Agawam

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 1 Hole # 12-21-23 Date 2:30 pm Time 39°F Clear Weather 5-8 Longitude
Land Use: Woodland (e.g., woodland, agricultural field, vacant lot, etc.) Maple + Cherry Vegetation N/A Surface Stones (e.g., cobbles, stones, boulders, etc.) 5-8 Slope (%)

Description of Location:

Soil Parent Material: BS Landform BS Position on Landscape (SU, SH, BS, FS, TS, Plain) BS

Distances from: Open Water Body 750 feet Drainage Way 50 feet Wetlands 50 feet
Property Line 50 feet Drinking Water Well 100 feet Other feet

Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

Groundwater Observed: ☒ Yes ☐ No If yes: 116" Depth to Weeping in Hole Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume			Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones				
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	-	G	Friable		
12-120"	C	Silt loam	2.5Y 5/3	78"	Cnc : 10YR 5/6 Dpl:	20%	-	-	M	"	Smooth Silty Dense	
					Cnc : Dpl:							
					Cnc : Dpl:							
					Cnc : Dpl:							
					Cnc : Dpl:							
					Cnc : Dpl:							

Additional Notes:



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 3 Hole # 12-21-23 Date 1:20 pm Weather 32°F Clear Latitude _____ Longitude 1-2
Land Use: Woodland (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Maple Surface Stones (e.g., cobbles, stones, boulders, etc.) _____ Slope (%) 1-2

Description of Location: _____

2. Soil Parent Material: _____

SH

3. Distances from: Open Water Body >100 feet Landform _____ Position on Landscape (SU, SH, BS, FS, TS, Plain) _____
Property Line >100 feet Drainage Way >50 feet Wetlands >50 feet
Drinking Water Well >100 feet Other _____ feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones		
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	-	Frable	
12-115	C	Silt loam	2.5Y 5/3	-	Cnc : Dpl:	-	-	-	"	Smooth Sidewalls Dense
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes: _____



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

- Deep Observation Hole Number:** 4 **Date:** 12-21-23 **Time:** 9:45 AM **Weather:** 30°F Clear **Latitude:** _____ **Longitude:** _____
- 1. Land Use:** Woodland **Vegetation:** Maple + Cottonwood **Surface Stones (e.g., cobbles, stones, boulders, etc.):** N/A **Slope (%):** 2-3
- Description of Location:** _____
- 2. Soil Parent Material:** _____ **Landform:** _____ **Position on Landscape (SU, SH, BS, FS, TS, Plain):** SH
- 3. Distances from:** **Open Water Body** >100 feet **Drainage Way** >100 feet **Wetlands** >75 feet
- Property Line** >50 feet **Drinking Water Well** >100 feet **Other** _____ feet
- 4. Unsuitable Materials Present:** ☐ Yes ☒ No **If Yes:** ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
- 5. Groundwater Observed:** ☐ Yes ☒ No **If yes:** _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel			
0-10	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	G	Friable	
10-112"	C	Silt loam	2.5Y 5/3	-	Cnc : Dpl:	-	-	M	"	Smooth Sidewalls Dense
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes:



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

- Deep Observation Hole Number:** 5+8 **Hole #** 12-21-23 **Date** 11:15 AM **Time** 32°F clear **Weather** Latitude Longitude
Woodland **Land Use:** Maple + Cottonwood **Vegetation** N/A **Surface Stones (e.g., cobbles, stones, boulders, etc.)** 1-2 **Slope (%)**
- Description of Location:** Plain
- 2. Soil Parent Material:** Landform Position on Landscape (SU, SH, BS, FS, TS, Plain)
- 3. Distances from:** Open Water Body >100 feet Drainage Way >100 feet Wetlands >100 feet
Property Line >10 feet Drinking Water Well >100 feet Other _____ feet
- 4. Unsuitable Materials Present:** ☐ Yes ☒ No ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
- 5. Groundwater Observed:** ☐ Yes ☒ No **If yes:** _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones		
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	-	Friable	
12-120"	C	Silt loam	2.5Y 5/3	-	Cnc : Dpl:	-	-	-	"	
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes:



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 6 Hole # 6 Date 12-21-23 Time 11:40 AM Weather 35°F Clear Longitude 1-2
Land Use: Woodland (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Maple Surface Stones (e.g., cobbles, stones, boulders, etc.) N/A Slope (%) 1-2

Description of Location: _____

2. Soil Parent Material: _____ Landform _____ Position on Landscape (SU, SH, BS, FS, TS, Plain) _____
3. Distances from: Open Water Body > 100 feet Drainage Way > 100 feet Wetlands > 100 feet
Property Line > 100 feet Drinking Water Well > 100 feet Other _____ feet
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel			
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	G	Friable	
12-115+	C	Silt loam	2.5Y 5/3	110"	Cnc : 10YR 5/6 Dpl:	15%	-	M	"	Smooth Sidewalls Dense
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes: _____



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

- Deep Observation Hole Number: 7 Hole # 12-21-23 Date 12:30 pm Time 35°F Clear Weather 1-2 Longitude
Land Use: Woodland (e.g., woodland, agricultural field, vacant lot, etc.) Oak + Maple Vegetation N/A Surface Stones (e.g., cobbles, stones, boulders, etc.) 1-2 Slope (%)
- Description of Location: _____
2. Soil Parent Material: _____ Landform Plain Position on Landscape (SU, SH, BS, FS, TS, Plain) _____ Wetlands >100 feet
3. Distances from: Open Water Body >100 feet Drainage Way >100 feet Other >100 feet
Property Line >50 feet Drinking Water Well >100 feet Other _____ feet
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones		
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	-	Friable	
12-96	C	Silt loam	2.5Y 5/3	-	Cnc : Dpl:	-	-	-	"	Smooth sidewalls
96-118+	C ₂	Coarse Sand	7.5YR 5/4	-	Cnc : Dpl:	-	-	-	Single grain	Dense
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes:



Commonwealth of Massachusetts
City/Town of

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 9 Date: 12-21-2023 Time: 10:30 AM Weather: 30°F Clear Latitude: _____ Longitude: _____
Land Use: Woodland (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation: Maple + Cottonwood Surface Stones (e.g., cobbles, stones, boulders, etc.): N/A Slope (%): 1-2

Description of Location: _____

2. Soil Parent Material: _____

Landform: _____ Position on Landscape (SU, SH, BS, FS, TS, Plain): _____
Distances from: Open Water Body >100 feet Drainage Way >100 feet Wetlands >100 feet
Property Line >10 feet Drinking Water Well >100 feet Other _____ feet

4. Unsuitable Materials Present: ☐ Yes ☐ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☐ No If Yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume			Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	-	G	Friable	
12-120"	C	Silt loam	2.5Y 5/3	110"	Cnc : 10YR 5/6 Dpl:	25%	-	-	M	"	Smooth side walls Dense
					Cnc : Dpl:						
					Cnc : Dpl:						
					Cnc : Dpl:						
					Cnc : Dpl:						
					Cnc : Dpl:						

Additional Notes: _____



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 10 Hole # 10 Date 12-21-23 Time 10:50 AM Weather 32°F Clear Latitude _____ Longitude _____
1. Land Use: Woodland (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Maple + Cottonwood Surface Stones (e.g., cobbles, stones, boulders, etc.) N/A Slope (%) 1-2

Description of Location: _____

2. Soil Parent Material: _____ Landform Plain Position on Landscape (SU, SH, BS, FS, TS, Plain) _____
3. Distances from: Open Water Body >100 feet Drainage Way >100 feet Wetlands >100 feet
Property Line >50 feet Drinking Water Well >100 feet Other _____ feet
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel			
0-12	A	Sandy loam	10YR 4/4	-	Cnc : Dpl:	-	-	G	Friable	
12-118"	C	Silt loam	2.5Y 5/3	-	Cnc : Dpl:	-	-	M	"	
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes: _____



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

- Deep Observation Hole Number:** 11 **Hole #** 12-21-23 **Date** 3:45 pm **Weather** 32°F clear **Latitude** _____ **Longitude** 1-2
- 1. Land Use:** Lawn/parking lot **Vegetation** Grass **Surface Stones** (e.g., cobbles, stones, boulders, etc.) N/A **Slope (%)** _____
- Description of Location:** _____
- 2. Soil Parent Material:** _____ **Landform** _____ **Position on Landscape** (SU, SH, BS, FS, TS, Plain) FS
- 3. Distances from:** **Open Water Body** > 10 feet **Drainage Way** > 10 feet **Wetlands** > 20 feet
- Property Line** > 20 feet **Drinking Water Well** _____ feet **Other** _____ feet
- 4. Unsuitable Materials Present:** ☒ Yes ☐ No **If Yes:** ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
- 5. Groundwater Observed:** ☒ Yes ☐ No **If Yes:** 32 Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel			
0-6	A	Sandy loam	10YR 4/3	-	On: Dpl:	-	5	G	Friable	
6-62	Fill	mostly silt loam	Varies	-	On: Dpl:	-	5	M	"	Various sizes sand, pebbles - some trash
62-90"	C	Silt loam	10YR 7/1	62"	On: 10YR 5/6 Dpl: Grayed	10%	-	M	"	
					On: Dpl:					
					On: Dpl:					
					On: Dpl:					
					On: Dpl:					

Additional Notes:



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 12 Hole # 12-21-23 Date 3:00 PM Weather 32°F clear Latitude _____ Longitude _____
Land Use: Lawn/Parking Lot Vegetation Grass Surface Stones (e.g., cobbles, stones, boulders, etc.) N/A Slope (%) 1-2

Description of Location: _____

Soil Parent Material: _____ Landform _____ Position on Landscape (SU, SH, BS, FS, TS, Plain) _____
Distances from: Open Water Body >10 feet Drainage Way >10 feet Wetlands >20 feet

Property Line >10 feet Drinking Water Well >100 feet Other _____ feet

Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☒ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

Groundwater Observed: ☒ Yes ☐ No If yes: 72 Depth to Weeping in Hole _____ Depth Standing Water in Hole _____

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features		Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel			
0-6	A	Sandy loam	10YR 4/3	-	Cnc : Dpl:	-	5	G	Friable	
6-80+	Fill	mostly silt loam	Varies	36"	Cnc : 10YR 5/8 Dpl: 10YR 6/1	15	5	M	"	Various loam, sand, peastone
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					
					Cnc : Dpl:					

Additional Notes:

Mottling @ 36" hard to distinguish if from fill or native conditions

Solid depleted matrix @ 56"

Appendix C: Pre- and Post- Development Hydrologic Analysis (2, 10 & 100 Year Storm Events)

- NOAA Atlas Report
- Pre-Development Hydrologic Model
- Post-Development Hydrologic Model



NOAA Atlas 14, Volume 10, Version 3
Location name: Agawam, Massachusetts, USA*
Latitude: 42.0452°, Longitude: -72.6167°
Elevation: 58 ft**

* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.340 (0.262-0.438)	0.409 (0.315-0.528)	0.522 (0.401-0.676)	0.615 (0.470-0.802)	0.744 (0.551-1.02)	0.841 (0.611-1.17)	0.942 (0.665-1.37)	1.05 (0.708-1.57)	1.21 (0.786-1.88)	1.34 (0.850-2.12)
10-min	0.482 (0.371-0.621)	0.579 (0.446-0.748)	0.739 (0.567-0.956)	0.871 (0.666-1.14)	1.05 (0.780-1.44)	1.19 (0.865-1.66)	1.34 (0.943-1.94)	1.49 (1.00-2.22)	1.72 (1.11-2.66)	1.90 (1.20-3.01)
15-min	0.567 (0.437-0.730)	0.681 (0.525-0.880)	0.869 (0.668-1.13)	1.02 (0.783-1.34)	1.24 (0.918-1.69)	1.40 (1.02-1.96)	1.57 (1.11-2.28)	1.76 (1.18-2.62)	2.02 (1.31-3.13)	2.24 (1.42-3.54)
30-min	0.764 (0.589-0.985)	0.921 (0.710-1.19)	1.18 (0.905-1.53)	1.39 (1.06-1.82)	1.68 (1.25-2.30)	1.91 (1.38-2.66)	2.14 (1.51-3.10)	2.39 (1.61-3.56)	2.76 (1.78-4.26)	3.05 (1.93-4.82)
60-min	0.962 (0.742-1.24)	1.16 (0.895-1.50)	1.49 (1.14-1.93)	1.76 (1.34-2.29)	2.13 (1.58-2.91)	2.41 (1.75-3.37)	2.70 (1.91-3.92)	3.03 (2.03-4.51)	3.49 (2.26-5.39)	3.86 (2.44-6.10)
2-hr	1.23 (0.957-1.58)	1.48 (1.15-1.90)	1.89 (1.46-2.43)	2.22 (1.71-2.88)	2.68 (2.00-3.65)	3.03 (2.22-4.22)	3.40 (2.43-4.94)	3.83 (2.58-5.68)	4.47 (2.90-6.88)	5.01 (3.18-7.87)
3-hr	1.42 (1.10-1.81)	1.70 (1.32-2.17)	2.17 (1.68-2.78)	2.56 (1.97-3.30)	3.09 (2.32-4.20)	3.49 (2.57-4.86)	3.92 (2.82-5.70)	4.43 (2.99-6.55)	5.22 (3.39-8.01)	5.89 (3.74-9.23)
6-hr	1.77 (1.39-2.25)	2.15 (1.68-2.73)	2.77 (2.16-3.53)	3.28 (2.55-4.21)	3.99 (3.01-5.40)	4.51 (3.35-6.27)	5.08 (3.69-7.40)	5.79 (3.92-8.53)	6.92 (4.51-10.6)	7.89 (5.03-12.3)
12-hr	2.17 (1.71-2.73)	2.68 (2.11-3.38)	3.51 (2.76-4.44)	4.20 (3.28-5.35)	5.15 (3.92-6.95)	5.85 (4.37-8.11)	6.62 (4.85-9.64)	7.60 (5.16-11.1)	9.17 (6.00-13.9)	10.6 (6.75-16.4)
24-hr	2.54 (2.02-3.18)	3.19 (2.53-4.00)	4.25 (3.36-5.34)	5.12 (4.03-6.48)	6.33 (4.85-8.51)	7.21 (5.43-9.97)	8.19 (6.05-11.9)	9.48 (6.46-13.8)	11.6 (7.58-17.5)	13.4 (8.60-20.7)
2-day	2.88 (2.30-3.57)	3.64 (2.91-4.53)	4.89 (3.89-6.11)	5.93 (4.69-7.46)	7.37 (5.68-9.86)	8.40 (6.38-11.6)	9.57 (7.13-13.9)	11.1 (7.62-16.1)	13.7 (9.02-20.6)	16.0 (10.3-24.6)
3-day	3.14 (2.52-3.89)	3.98 (3.19-4.93)	5.35 (4.27-6.65)	6.48 (5.15-8.12)	8.05 (6.23-10.7)	9.18 (6.99-12.6)	10.5 (7.82-15.2)	12.2 (8.35-17.6)	15.0 (9.91-22.5)	17.6 (11.3-26.9)
4-day	3.38 (2.72-4.17)	4.28 (3.44-5.28)	5.74 (4.59-7.11)	6.95 (5.53-8.67)	8.62 (6.68-11.5)	9.82 (7.50-13.5)	11.2 (8.38-16.2)	13.0 (8.94-18.8)	16.0 (10.6-24.0)	18.8 (12.1-28.7)
7-day	4.05 (3.28-4.97)	5.06 (4.09-6.22)	6.71 (5.40-8.28)	8.08 (6.46-10.0)	9.96 (7.76-13.2)	11.3 (8.67-15.4)	12.9 (9.65-18.5)	14.9 (10.3-21.4)	18.2 (12.1-27.2)	21.2 (13.7-32.2)
10-day	4.71 (3.82-5.76)	5.78 (4.69-7.08)	7.53 (6.08-9.26)	8.98 (7.21-11.1)	11.0 (8.57-14.4)	12.4 (9.53-16.8)	14.1 (10.5-20.0)	16.2 (11.2-23.1)	19.6 (13.0-29.1)	22.6 (14.6-34.3)
20-day	6.78 (5.54-8.23)	7.91 (6.46-9.62)	9.76 (7.94-11.9)	11.3 (9.13-13.9)	13.4 (10.5-17.4)	15.0 (11.5-19.9)	16.7 (12.4-23.2)	18.8 (13.0-26.6)	21.9 (14.6-32.3)	24.6 (16.0-37.2)
30-day	8.52 (6.99-10.3)	9.68 (7.93-11.7)	11.6 (9.45-14.1)	13.2 (10.7-16.1)	15.3 (12.0-19.7)	16.9 (13.0-22.3)	18.7 (13.8-25.6)	20.6 (14.4-29.1)	23.5 (15.7-34.5)	25.8 (16.8-38.8)
45-day	10.7 (8.81-12.9)	11.9 (9.79-14.4)	13.9 (11.4-16.8)	15.5 (12.6-18.9)	17.7 (13.9-22.6)	19.5 (14.9-25.3)	21.2 (15.6-28.7)	23.0 (16.1-32.3)	25.5 (17.1-37.3)	27.4 (17.9-41.0)
60-day	12.5 (10.3-15.0)	13.8 (11.4-16.6)	15.8 (13.0-19.1)	17.5 (14.3-21.3)	19.8 (15.6-25.1)	21.7 (16.6-28.0)	23.4 (17.2-31.4)	25.2 (17.7-35.2)	27.3 (18.4-39.8)	28.9 (18.9-43.2)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

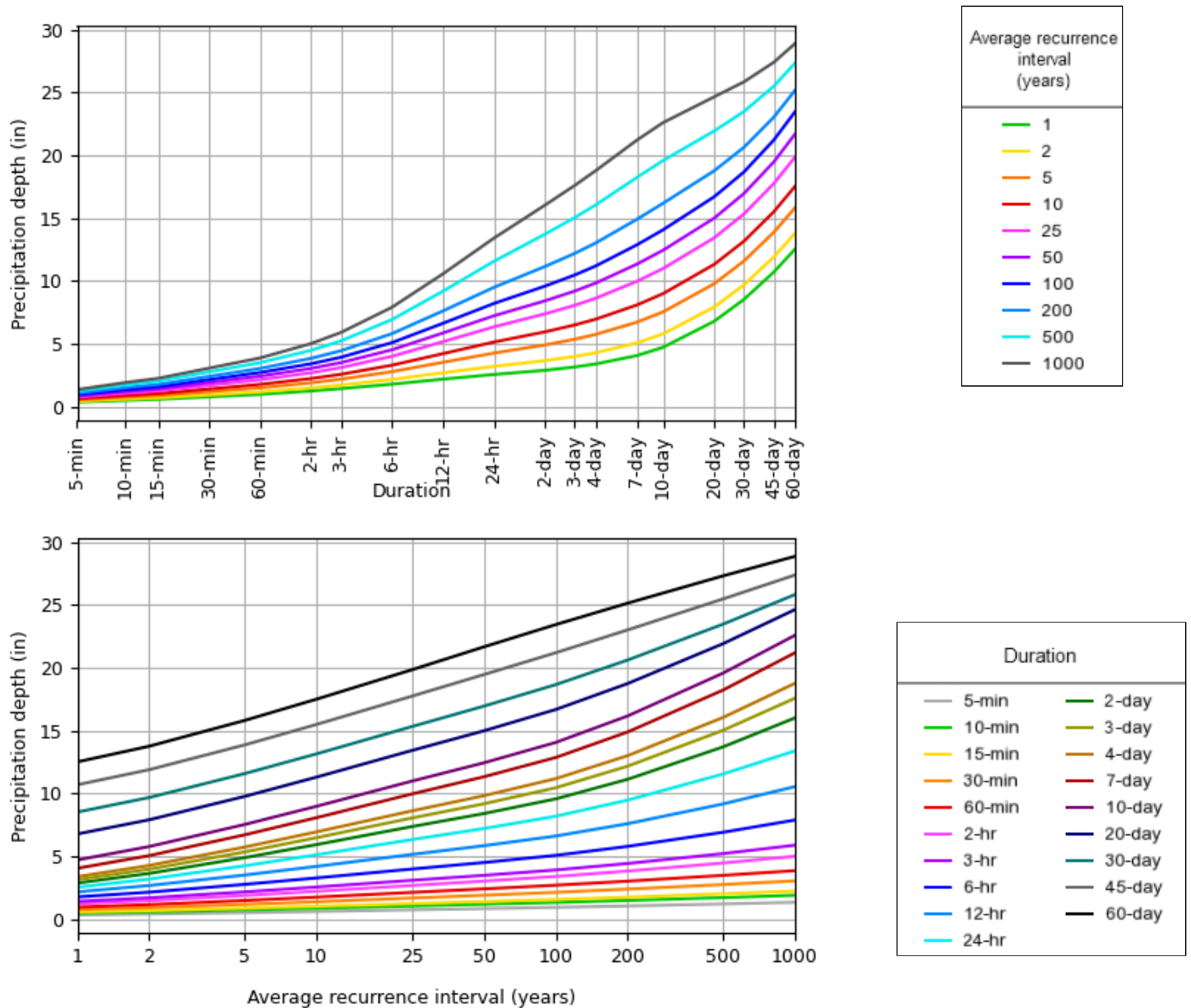
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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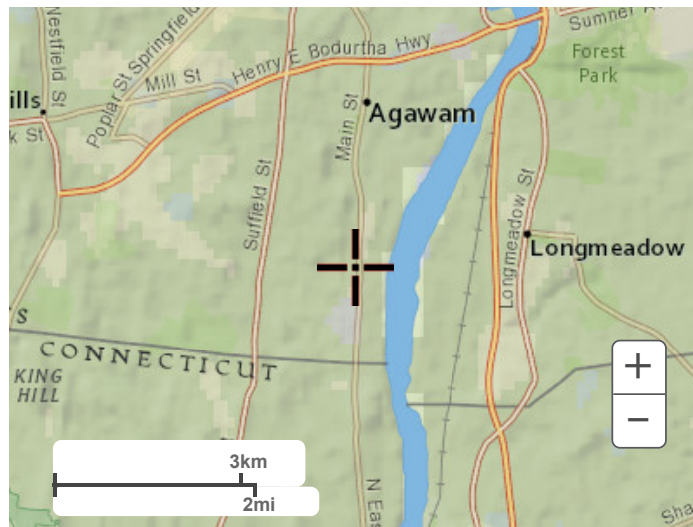
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 42.0452°, Longitude: -72.6167°

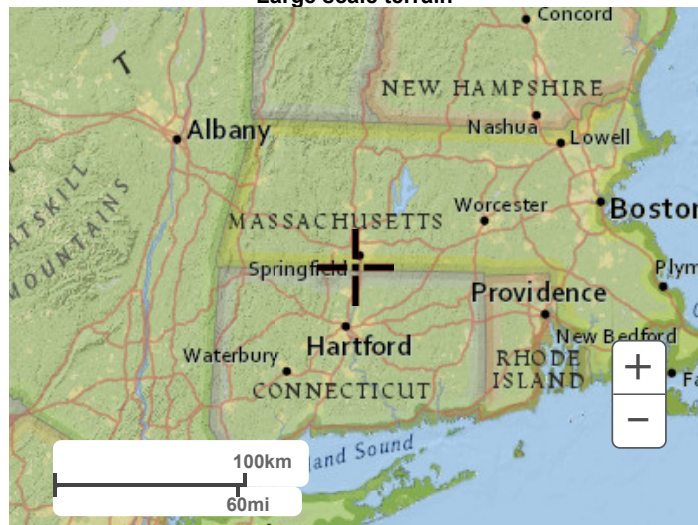


Maps & aerials

Small scale terrain



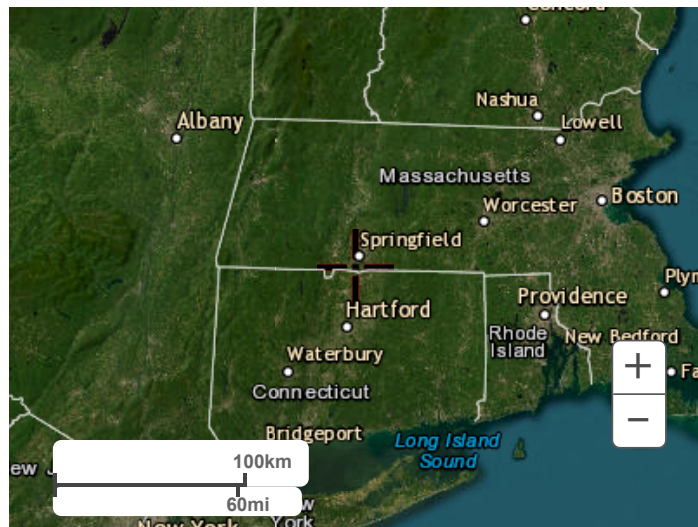
Large scale terrain



Large scale map



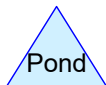
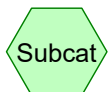
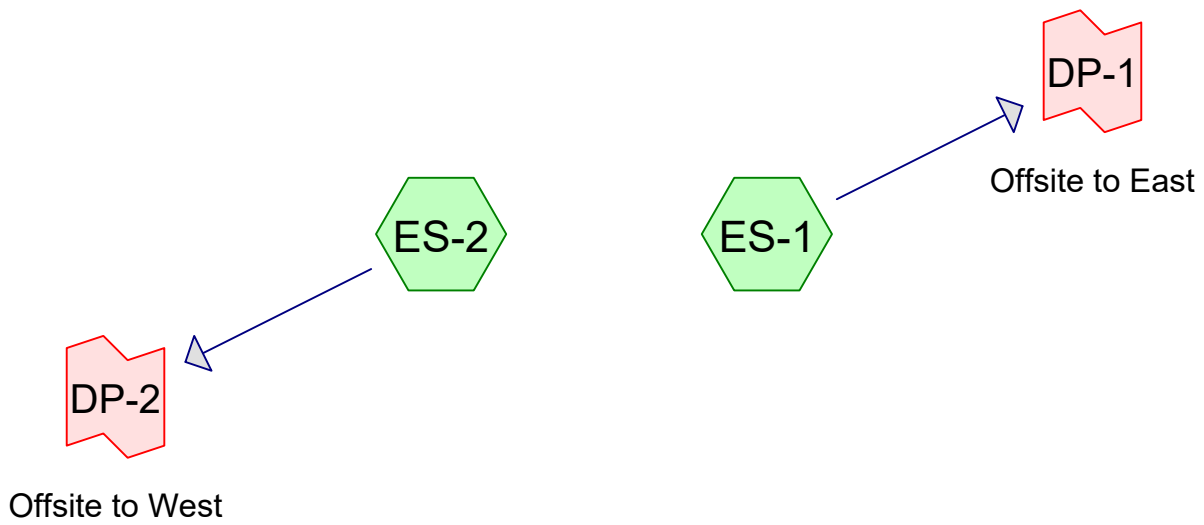
Large scale aerial



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[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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Routing Diagram for 231007 - PRE
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231007 - PRE

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.19	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.12	2
3	100-Year	Type III 24-hr		Default	24.00	1	8.19	2

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Type III 24-hr 2-Year Rainfall=3.19"

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Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES-1:

Runoff Area=102,579 sf 18.91% Impervious Runoff Depth=1.40"
Flow Length=440' Tc=41.2 min CN=WQ Runoff=1.7 cfs 11,984 cf

Subcatchment ES-2:

Runoff Area=64,294 sf 0.00% Impervious Runoff Depth=0.82"
Flow Length=176' Slope=0.0240 '/' Tc=32.4 min CN=70 Runoff=0.7 cfs 4,406 cf

Link DP-1: Offsite to East

Inflow=1.7 cfs 11,984 cf
Primary=1.7 cfs 11,984 cf

Link DP-2: Offsite to West

Inflow=0.7 cfs 4,406 cf
Primary=0.7 cfs 4,406 cf

Total Runoff Area = 166,872 sf Runoff Volume = 16,390 cf Average Runoff Depth = 1.18"
88.38% Pervious = 147,476 sf 11.62% Impervious = 19,397 sf

231007 - PRE

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Type III 24-hr 2-Year Rainfall=3.19"

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Summary for Subcatchment ES-1:

Runoff = 1.7 cfs @ 12.59 hrs, Volume= 11,984 cf, Depth= 1.40"

Routed to Link DP-1 : Offsite to East

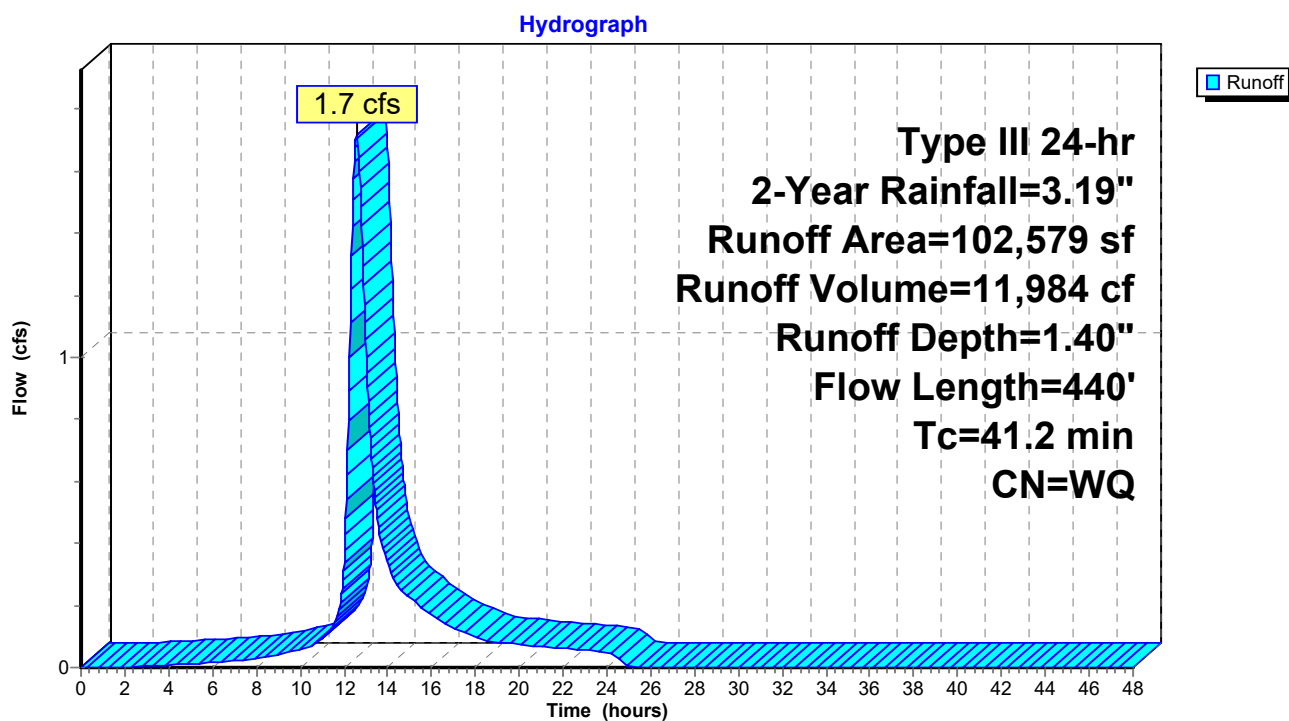
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Type III 24-hr 2-Year Rainfall=3.19"

Area (sf)	CN	Description
13,727	74	>75% Grass cover, Good, HSG C
1,165	80	>75% Grass cover, Good, HSG D
2,216	96	Gravel surface, HSG C
15,898	98	Paved parking, HSG C
3,499	98	Roofs, HSG C
39,216	70	Woods, Good, HSG C
26,858	77	Woods, Good, HSG D
102,579		Weighted Average
83,182	74	81.09% Pervious Area
19,397	98	18.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	125	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
27.2	168	0.0340	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
1.5	147	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
41.2	440	Total			

Subcatchment ES-1:



Summary for Subcatchment ES-2:

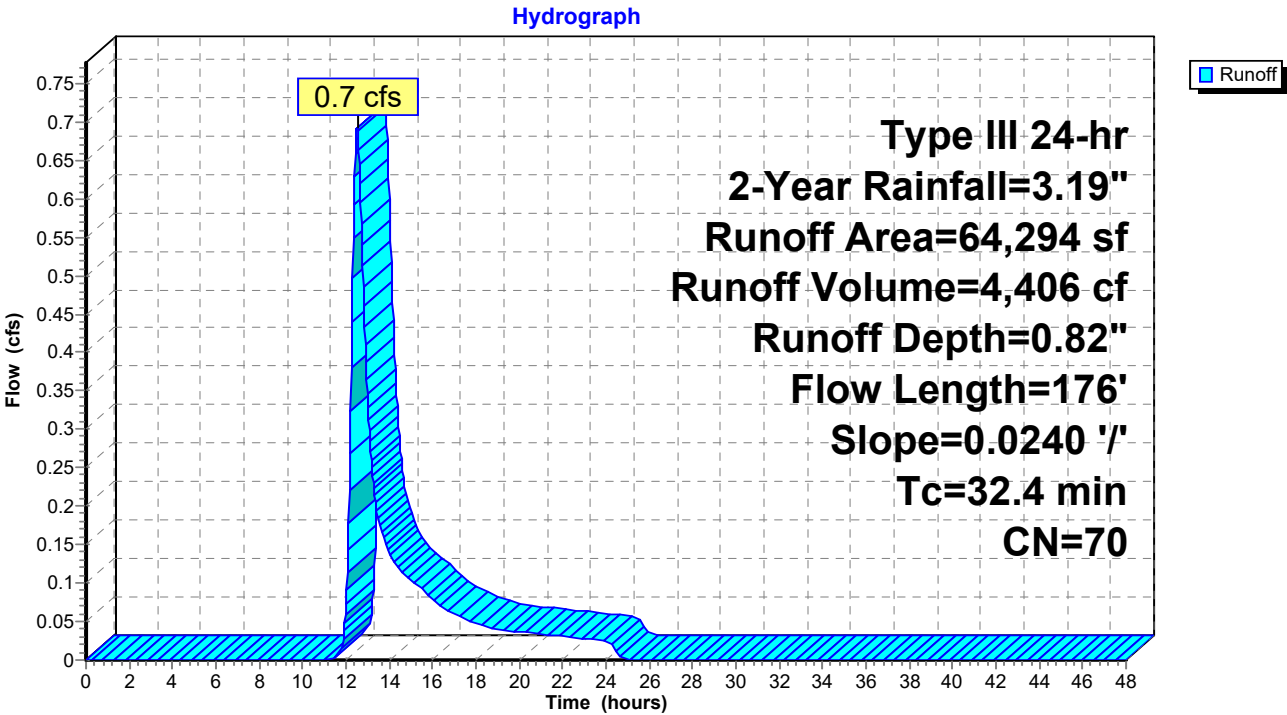
Runoff = 0.7 cfs @ 12.51 hrs, Volume= 4,406 cf, Depth= 0.82"
Routed to Link DP-2 : Offsite to West

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.19"

Area (sf)	CN	Description
64,294	70	Woods, Good, HSG C
64,294	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.4	176	0.0240	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"

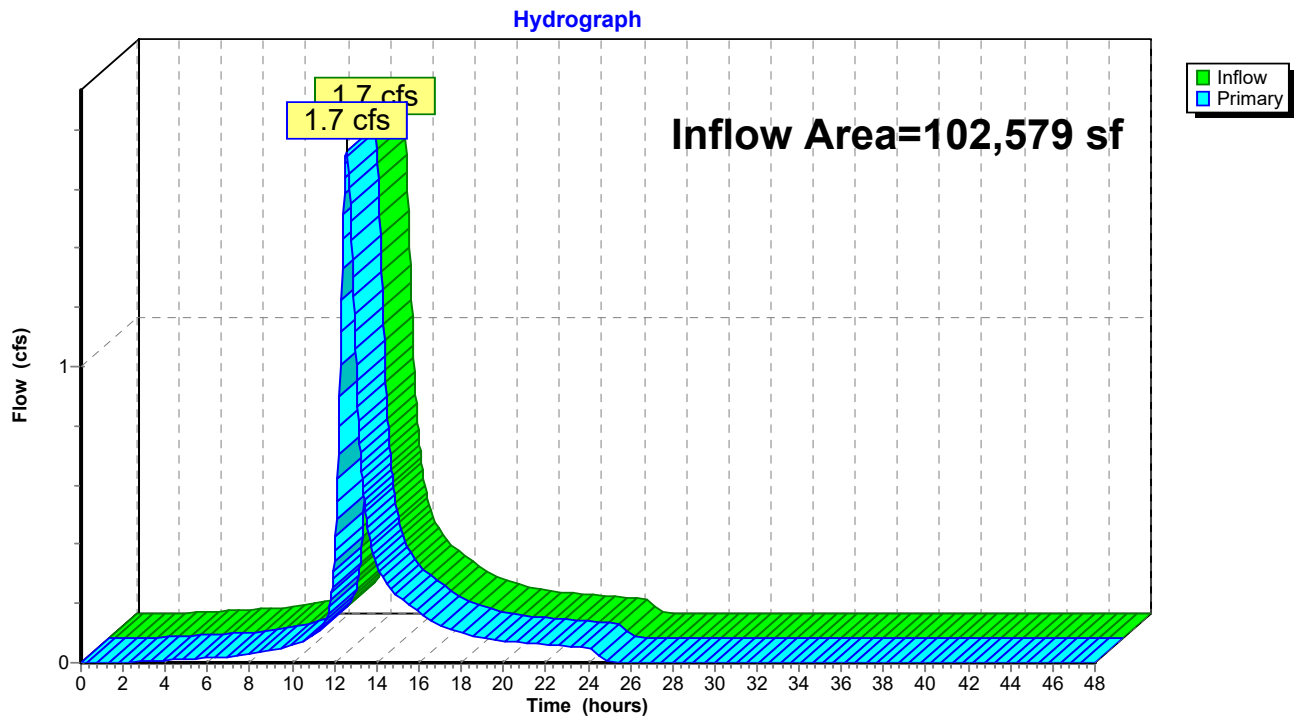
Subcatchment ES-2:



Summary for Link DP-1: Offsite to East

Inflow Area = 102,579 sf, 18.91% Impervious, Inflow Depth = 1.40" for 2-Year event
Inflow = 1.7 cfs @ 12.59 hrs, Volume= 11,984 cf
Primary = 1.7 cfs @ 12.59 hrs, Volume= 11,984 cf, Atten= 0%, Lag= 0.0 min

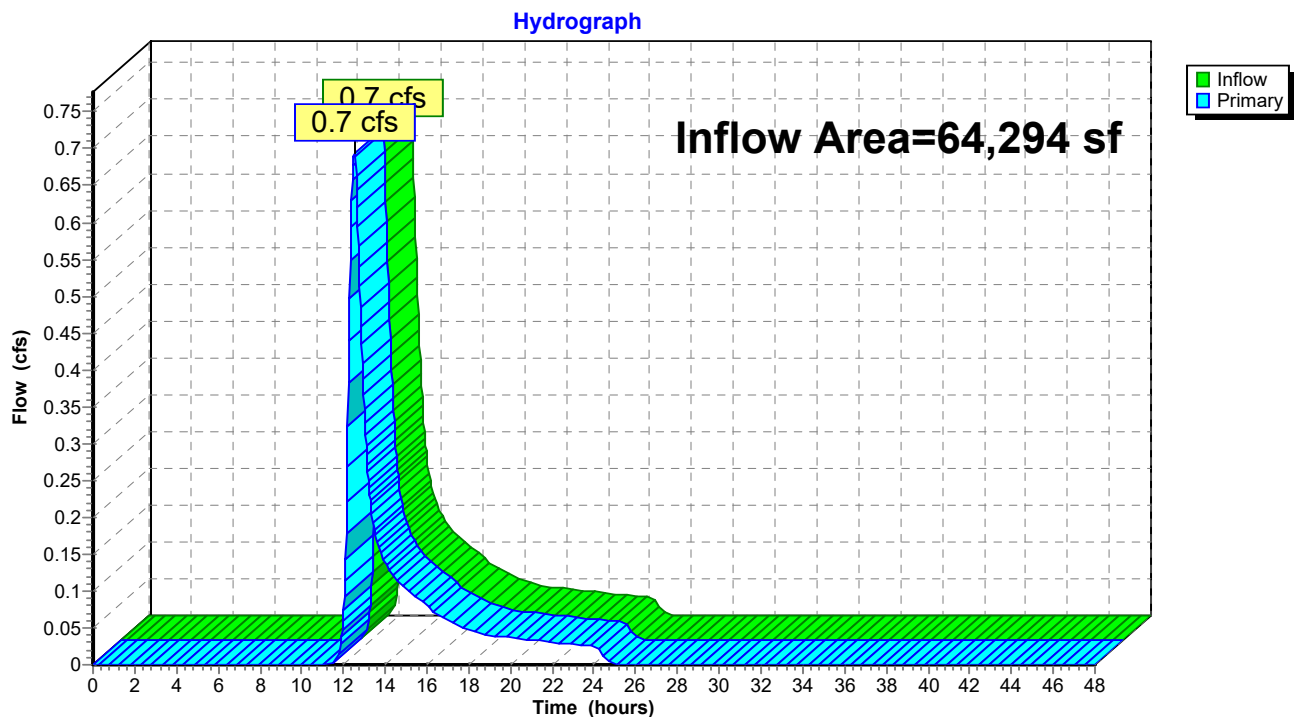
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite to East

Summary for Link DP-2: Offsite to West

Inflow Area = 64,294 sf, 0.00% Impervious, Inflow Depth = 0.82" for 2-Year event
Inflow = 0.7 cfs @ 12.51 hrs, Volume= 4,406 cf
Primary = 0.7 cfs @ 12.51 hrs, Volume= 4,406 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Offsite to West

231007 - PRE*Type III 24-hr 10-Year Rainfall=5.12"*

Prepared by R Levesque Associates

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Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES-1:

Runoff Area=102,579 sf 18.91% Impervious Runoff Depth=2.91"
Flow Length=440' Tc=41.2 min CN=WQ Runoff=3.7 cfs 24,900 cf

Subcatchment ES-2:

Runoff Area=64,294 sf 0.00% Impervious Runoff Depth=2.13"
Flow Length=176' Slope=0.0240 '/' Tc=32.4 min CN=70 Runoff=2.0 cfs 11,389 cf

Link DP-1: Offsite to East

Inflow=3.7 cfs 24,900 cf
Primary=3.7 cfs 24,900 cf

Link DP-2: Offsite to West

Inflow=2.0 cfs 11,389 cf
Primary=2.0 cfs 11,389 cf

Total Runoff Area = 166,872 sf Runoff Volume = 36,289 cf Average Runoff Depth = 2.61"
88.38% Pervious = 147,476 sf 11.62% Impervious = 19,397 sf

Summary for Subcatchment ES-1:

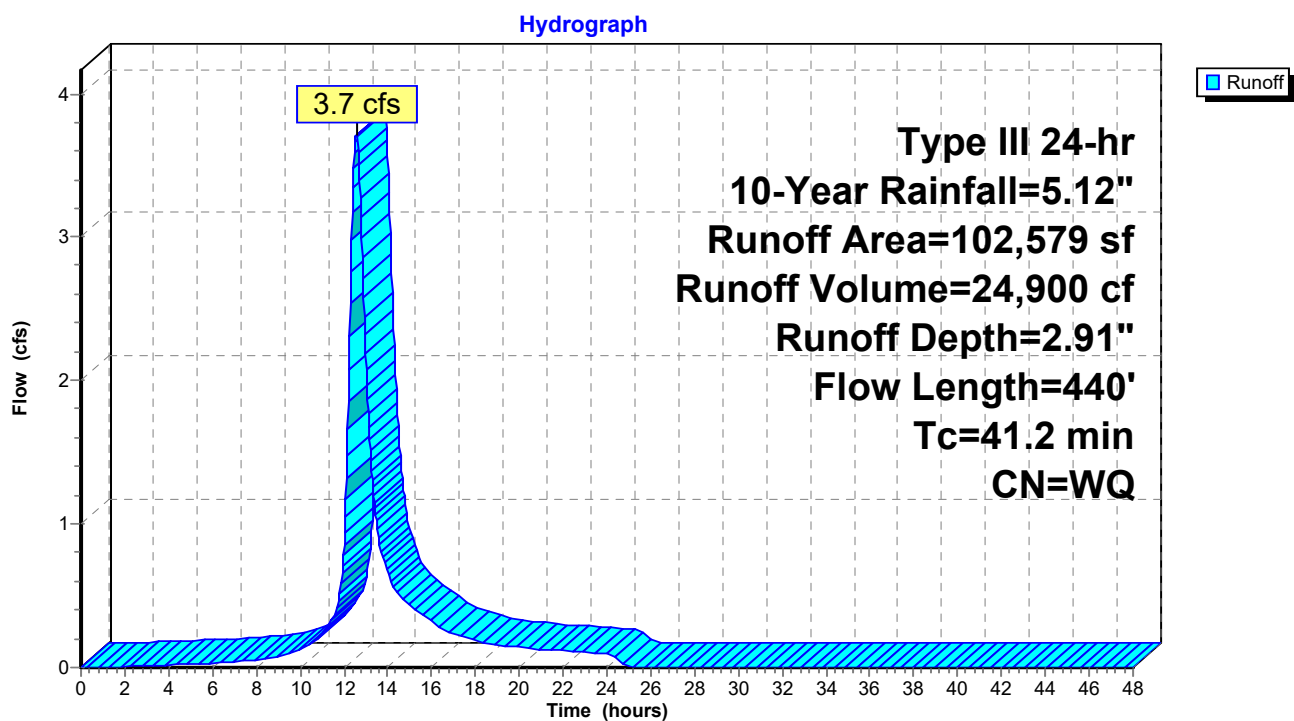
Runoff = 3.7 cfs @ 12.57 hrs, Volume= 24,900 cf, Depth= 2.91"
 Routed to Link DP-1 : Offsite to East

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
 Type III 24-hr 10-Year Rainfall=5.12"

Area (sf)	CN	Description
13,727	74	>75% Grass cover, Good, HSG C
1,165	80	>75% Grass cover, Good, HSG D
2,216	96	Gravel surface, HSG C
15,898	98	Paved parking, HSG C
3,499	98	Roofs, HSG C
39,216	70	Woods, Good, HSG C
26,858	77	Woods, Good, HSG D
102,579		Weighted Average
83,182	74	81.09% Pervious Area
19,397	98	18.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	125	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
27.2	168	0.0340	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
1.5	147	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
41.2	440	Total			

Subcatchment ES-1:



Summary for Subcatchment ES-2:

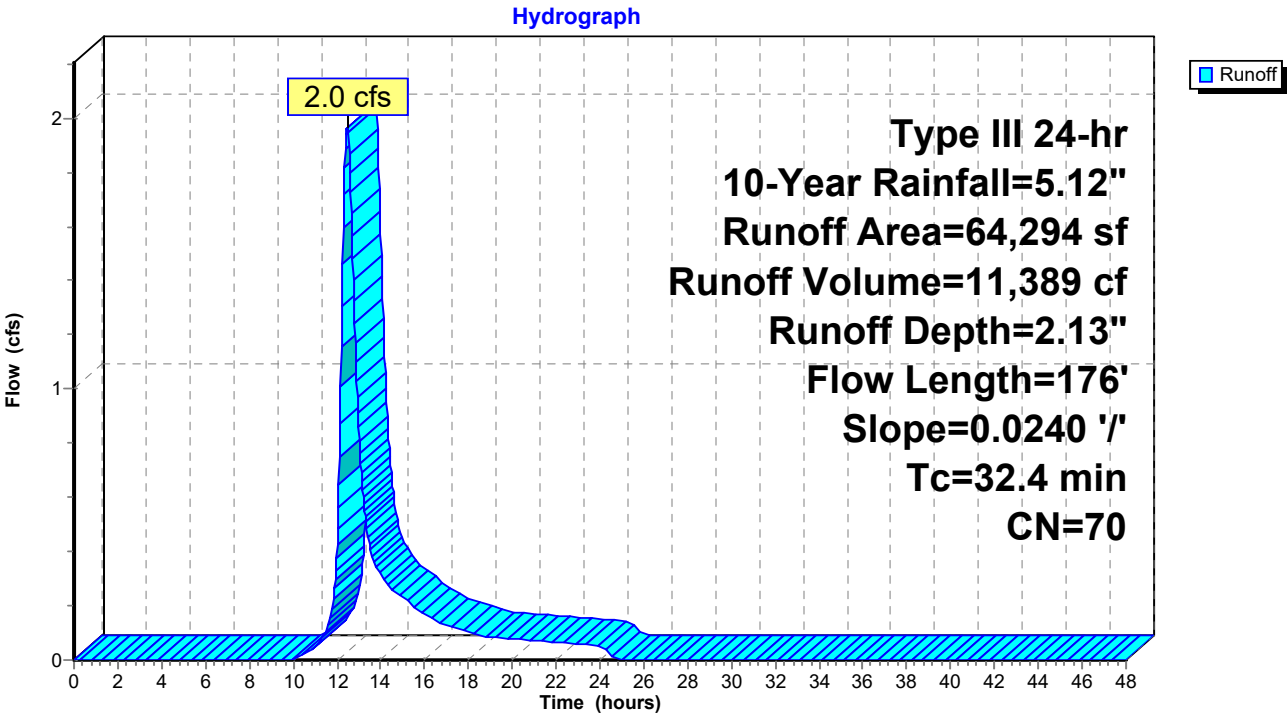
Runoff = 2.0 cfs @ 12.47 hrs, Volume= 11,389 cf, Depth= 2.13"
Routed to Link DP-2 : Offsite to West

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.12"

Area (sf)	CN	Description
64,294	70	Woods, Good, HSG C
64,294	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.4	176	0.0240	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"

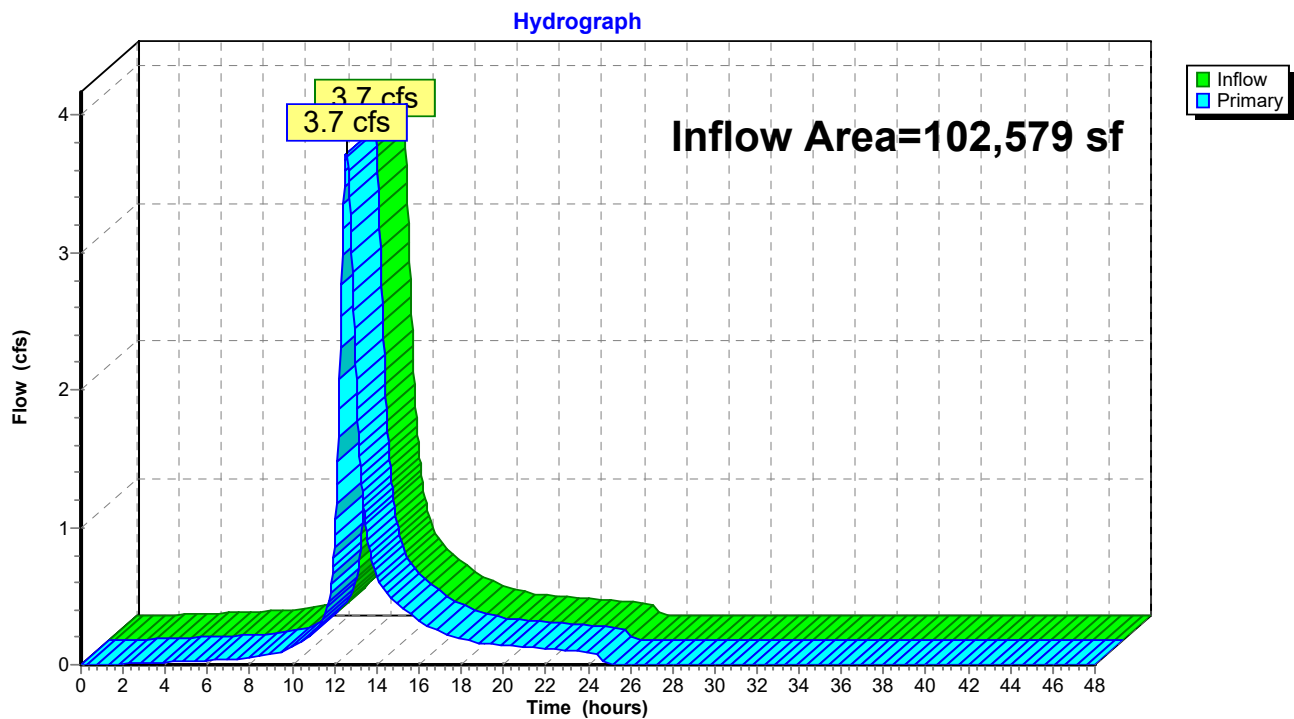
Subcatchment ES-2:



Summary for Link DP-1: Offsite to East

Inflow Area = 102,579 sf, 18.91% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 3.7 cfs @ 12.57 hrs, Volume= 24,900 cf
Primary = 3.7 cfs @ 12.57 hrs, Volume= 24,900 cf, Atten= 0%, Lag= 0.0 min

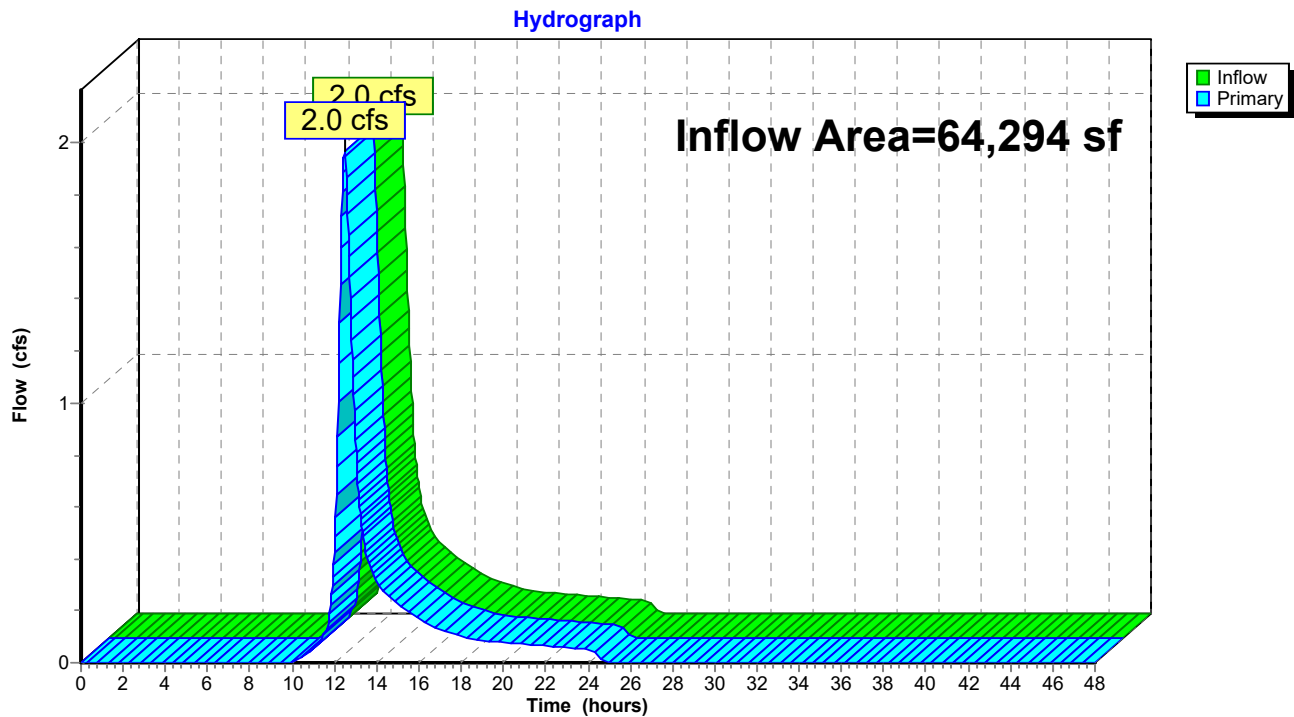
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite to East

Summary for Link DP-2: Offsite to West

Inflow Area = 64,294 sf, 0.00% Impervious, Inflow Depth = 2.13" for 10-Year event
Inflow = 2.0 cfs @ 12.47 hrs, Volume= 11,389 cf
Primary = 2.0 cfs @ 12.47 hrs, Volume= 11,389 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Offsite to West

231007 - PRE*Type III 24-hr 100-Year Rainfall=8.19"*

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Printed 6/27/2024

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Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES-1:

Runoff Area=102,579 sf 18.91% Impervious Runoff Depth=5.61"
Flow Length=440' Tc=41.2 min CN=WQ Runoff=7.2 cfs 47,987 cf

Subcatchment ES-2:

Runoff Area=64,294 sf 0.00% Impervious Runoff Depth=4.63"
Flow Length=176' Slope=0.0240 '/' Tc=32.4 min CN=70 Runoff=4.4 cfs 24,796 cf

Link DP-1: Offsite to East

Inflow=7.2 cfs 47,987 cf
Primary=7.2 cfs 47,987 cf

Link DP-2: Offsite to West

Inflow=4.4 cfs 24,796 cf
Primary=4.4 cfs 24,796 cf

Total Runoff Area = 166,872 sf Runoff Volume = 72,783 cf Average Runoff Depth = 5.23"
88.38% Pervious = 147,476 sf 11.62% Impervious = 19,397 sf

231007 - PRE

Prepared by R Levesque Associates

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Type III 24-hr 100-Year Rainfall=8.19"

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Summary for Subcatchment ES-1:

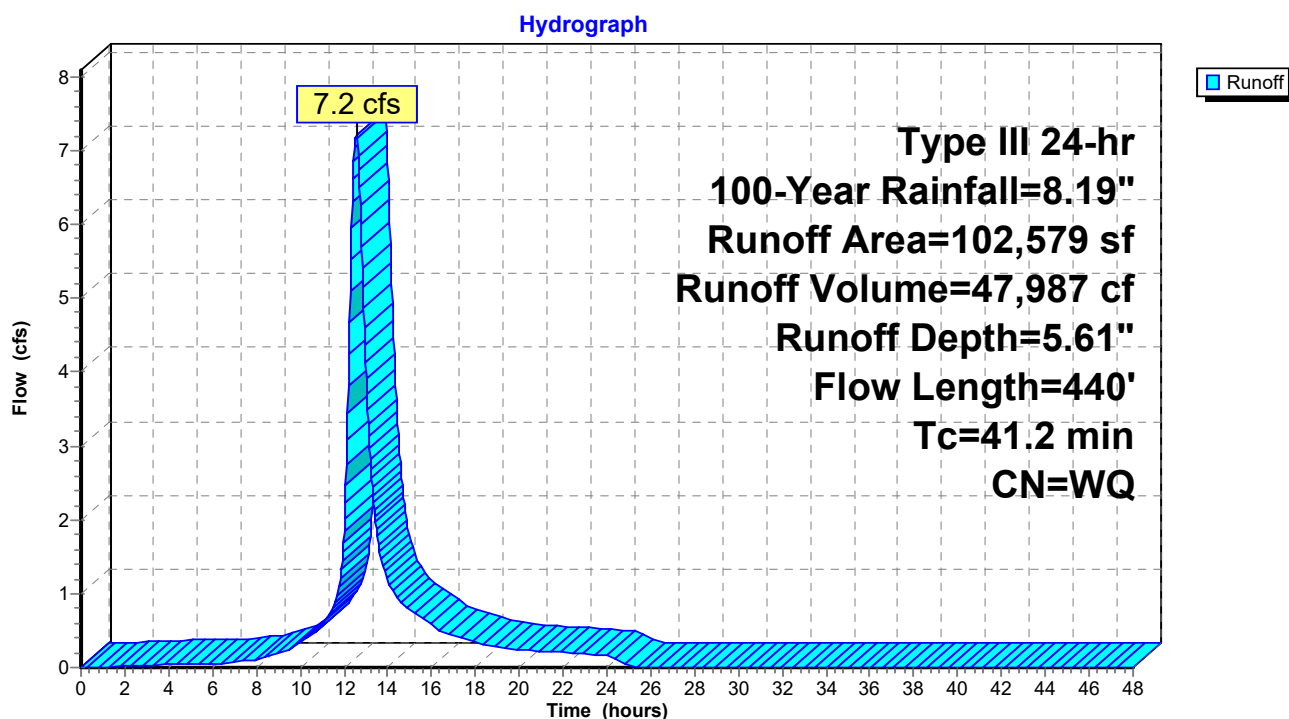
Runoff = 7.2 cfs @ 12.56 hrs, Volume= 47,987 cf, Depth= 5.61"
 Routed to Link DP-1 : Offsite to East

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
 Type III 24-hr 100-Year Rainfall=8.19"

Area (sf)	CN	Description
13,727	74	>75% Grass cover, Good, HSG C
1,165	80	>75% Grass cover, Good, HSG D
2,216	96	Gravel surface, HSG C
15,898	98	Paved parking, HSG C
3,499	98	Roofs, HSG C
39,216	70	Woods, Good, HSG C
26,858	77	Woods, Good, HSG D
102,579		Weighted Average
83,182	74	81.09% Pervious Area
19,397	98	18.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	125	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
27.2	168	0.0340	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
1.5	147	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
41.2	440	Total			

Subcatchment ES-1:



Summary for Subcatchment ES-2:

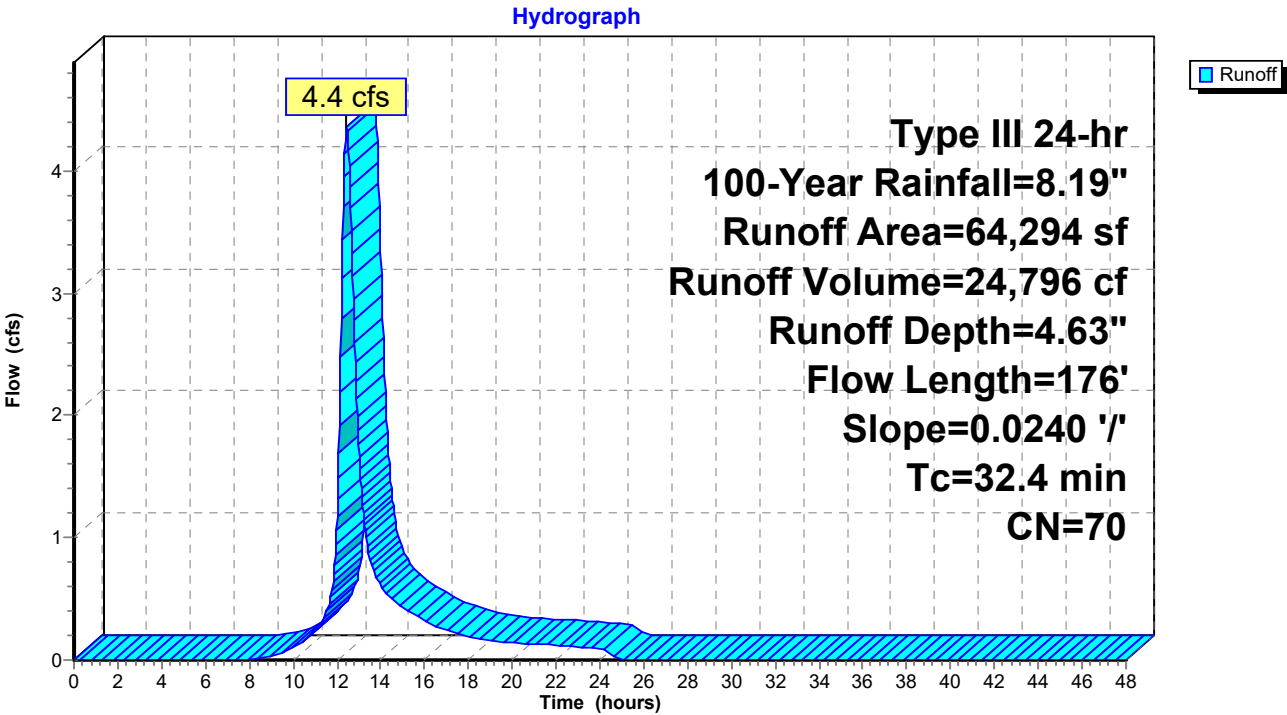
Runoff = 4.4 cfs @ 12.45 hrs, Volume= 24,796 cf, Depth= 4.63"
Routed to Link DP-2 : Offsite to West

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (sf)	CN	Description
64,294	70	Woods, Good, HSG C
64,294	70	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.4	176	0.0240	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"

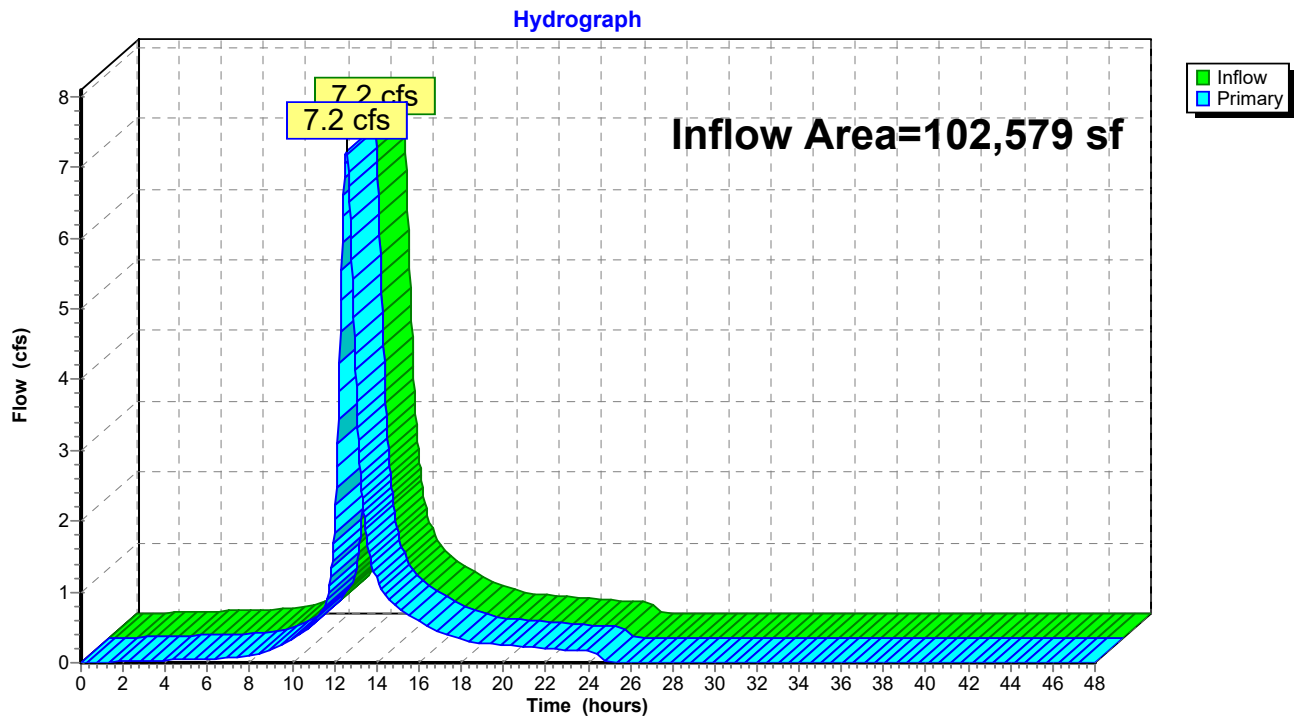
Subcatchment ES-2:



Summary for Link DP-1: Offsite to East

Inflow Area = 102,579 sf, 18.91% Impervious, Inflow Depth = 5.61" for 100-Year event
Inflow = 7.2 cfs @ 12.56 hrs, Volume= 47,987 cf
Primary = 7.2 cfs @ 12.56 hrs, Volume= 47,987 cf, Atten= 0%, Lag= 0.0 min

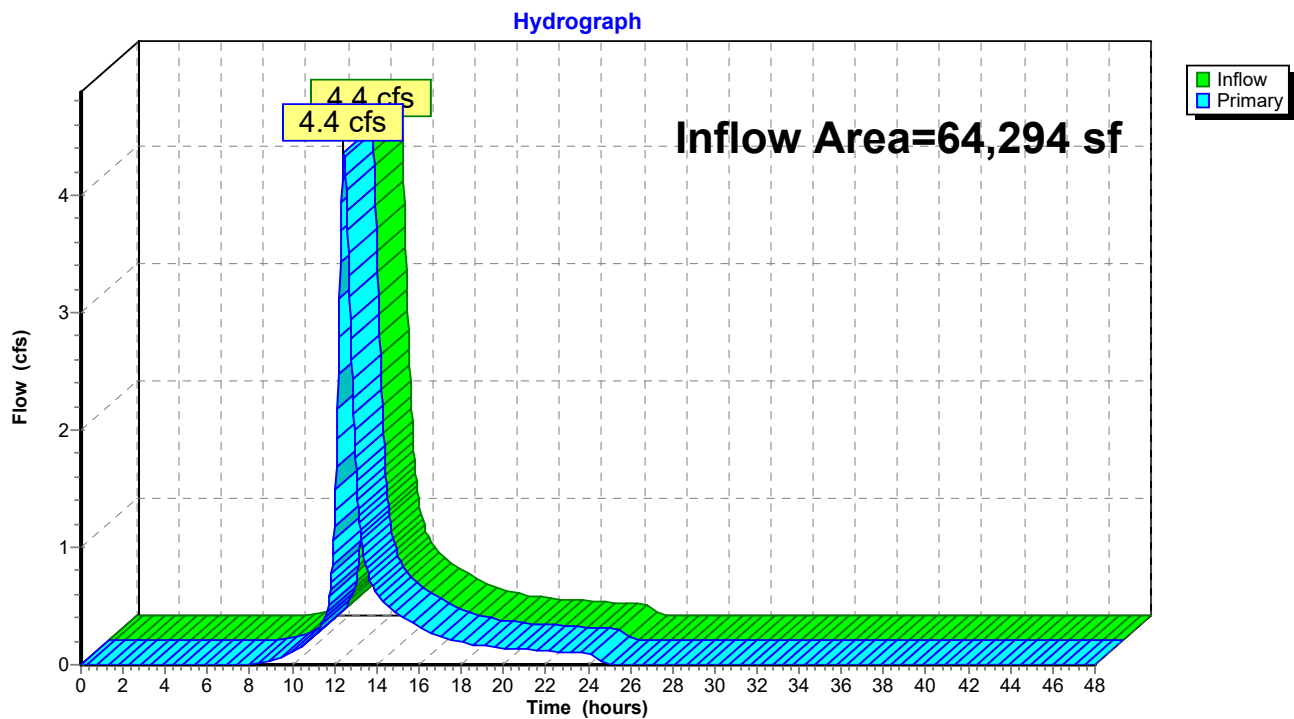
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

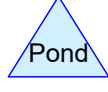
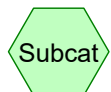
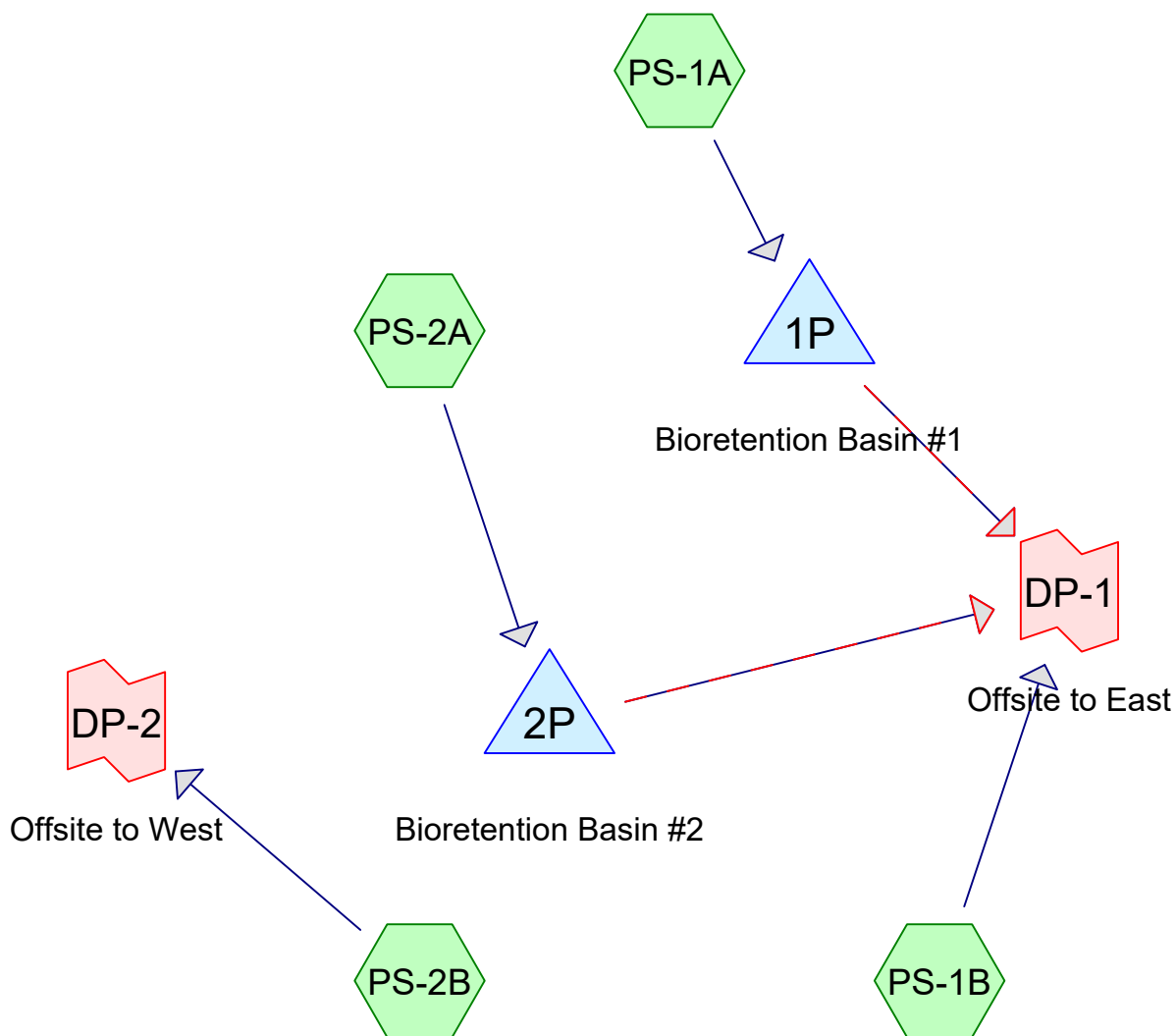
Link DP-1: Offsite to East

Summary for Link DP-2: Offsite to West

Inflow Area = 64,294 sf, 0.00% Impervious, Inflow Depth = 4.63" for 100-Year event
Inflow = 4.4 cfs @ 12.45 hrs, Volume= 24,796 cf
Primary = 4.4 cfs @ 12.45 hrs, Volume= 24,796 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Offsite to West



Routing Diagram for 231007 - POST
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231007 - POST*Type III 24-hr 2-Year Rainfall=3.19"*

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Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS-1A: Runoff Area=52,584 sf 49.74% Impervious Runoff Depth=1.98"
Flow Length=258' Tc=10.2 min CN=WQ Runoff=2.2 cfs 8,692 cf

Subcatchment PS-1B: Runoff Area=54,570 sf 0.00% Impervious Runoff Depth=1.03"
Flow Length=440' Tc=41.2 min CN=WQ Runoff=0.7 cfs 4,662 cf

Subcatchment PS-2A: Runoff Area=42,787 sf 68.35% Impervious Runoff Depth=2.34"
Tc=6.0 min CN=WQ Runoff=2.4 cfs 8,358 cf

Subcatchment PS-2B: Runoff Area=16,930 sf 0.00% Impervious Runoff Depth=0.87"
Flow Length=179' Tc=21.1 min CN=WQ Runoff=0.2 cfs 1,223 cf

Pond 1P: Bioretention Basin #1 Peak Elev=51.74' Storage=2,824 cf Inflow=2.2 cfs 8,692 cf
Primary=0.4 cfs 8,693 cf Secondary=0.0 cfs 0 cf Outflow=0.4 cfs 8,693 cf

Pond 2P: Bioretention Basin #2 Peak Elev=61.93' Storage=2,898 cf Inflow=2.4 cfs 8,358 cf
Primary=0.5 cfs 8,358 cf Secondary=0.0 cfs 0 cf Outflow=0.5 cfs 8,358 cf

Link DP-1: Offsite to East Inflow=1.6 cfs 21,713 cf
Primary=1.6 cfs 21,713 cf

Link DP-2: Offsite to West Inflow=0.2 cfs 1,223 cf
Primary=0.2 cfs 1,223 cf

Total Runoff Area = 166,871 sf Runoff Volume = 22,935 cf Average Runoff Depth = 1.65"
66.80% Pervious = 111,469 sf 33.20% Impervious = 55,402 sf

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Type III 24-hr 2-Year Rainfall=3.19"

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Summary for Subcatchment PS-1A:

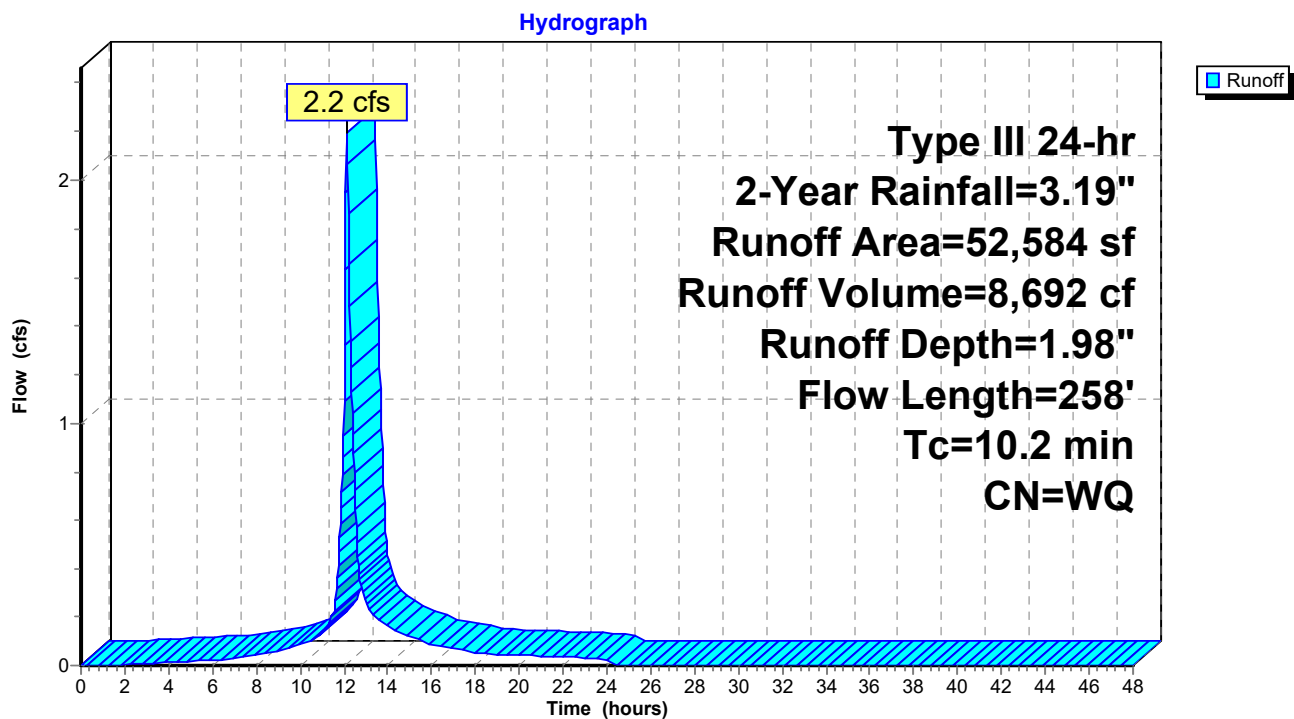
Runoff = 2.2 cfs @ 12.14 hrs, Volume= 8,692 cf, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.19"

Area (sf)	CN	Description
23,289	74	>75% Grass cover, Good, HSG C
633	80	>75% Grass cover, Good, HSG D
20,126	98	Paved parking, HSG C
3,279	98	Roofs, HSG C
2,733	98	Water Surface, HSG C
18	98	Water Surface, HSG D
2,506	70	Woods, Good, HSG C
52,584		Weighted Average
26,429	74	50.26% Pervious Area
26,155	98	49.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	28	0.2600	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
6.0	54	0.0550	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
1.3	176	0.0125	2.27		Shallow Concentrated Flow, Paved Kv= 20.3 fps
10.2	258	Total			

Subcatchment PS-1A:



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Type III 24-hr 2-Year Rainfall=3.19"

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Summary for Subcatchment PS-1B:

Runoff = 0.7 cfs @ 12.61 hrs, Volume= 4,662 cf, Depth= 1.03"

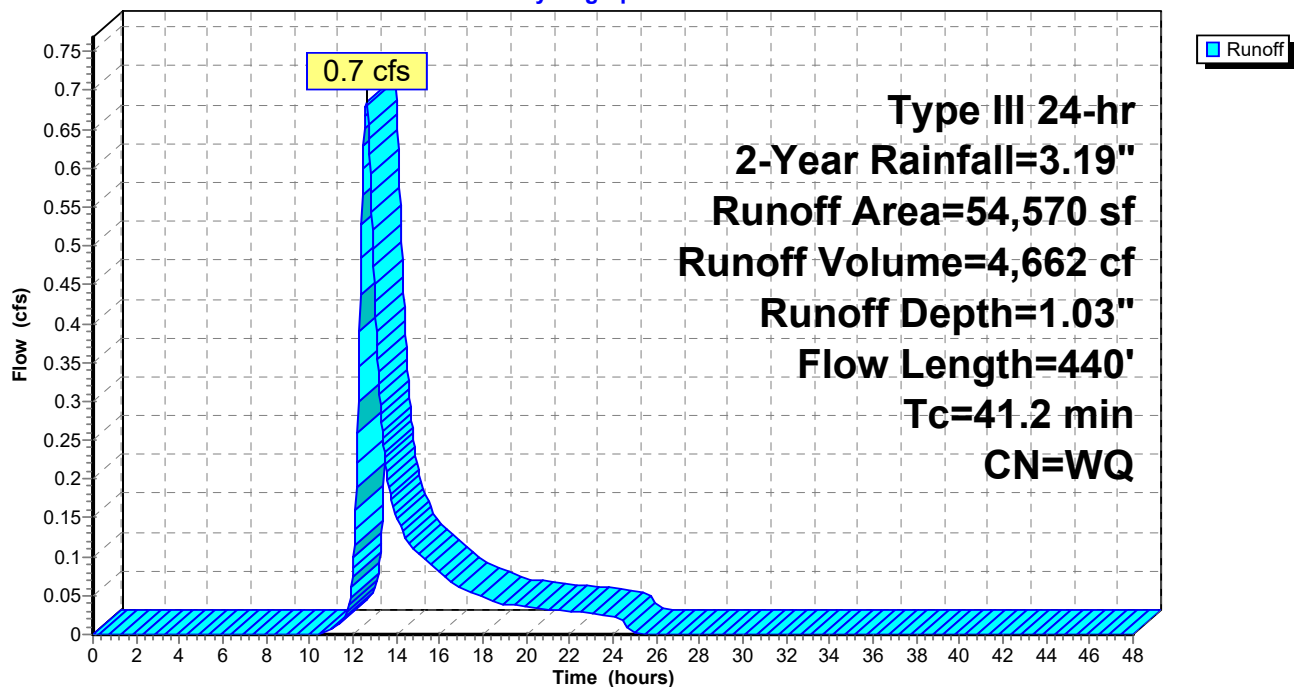
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.19"

Area (sf)	CN	Description
2,326	74	>75% Grass cover, Good, HSG C
613	80	>75% Grass cover, Good, HSG D
24,873	70	Woods, Good, HSG C
26,758	77	Woods, Good, HSG D
54,570		Weighted Average
54,570	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	125	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
27.2	168	0.0340	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
1.5	147	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
41.2	440	Total			

Subcatchment PS-1B:

Hydrograph



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Type III 24-hr 2-Year Rainfall=3.19"

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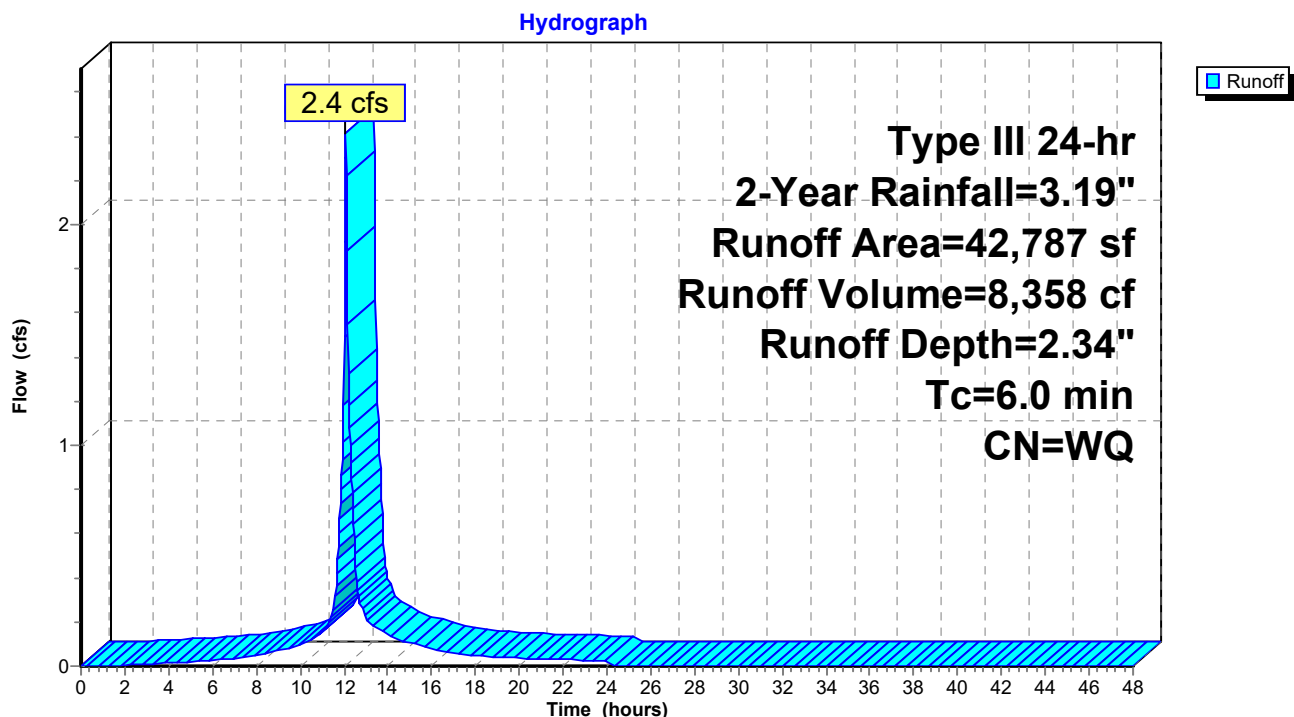
Summary for Subcatchment PS-2A:

Runoff = 2.4 cfs @ 12.09 hrs, Volume= 8,358 cf, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.19"

Area (sf)	CN	Description
12,759	74	>75% Grass cover, Good, HSG C
19,200	98	Paved parking, HSG C
7,704	98	Roofs, HSG C
2,342	98	Water Surface, HSG C
782	70	Woods, Good, HSG C
42,787		Weighted Average
13,541	74	31.65% Pervious Area
29,247	98	68.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment PS-2A:

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Type III 24-hr 2-Year Rainfall=3.19"

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Summary for Subcatchment PS-2B:

Runoff = 0.2 cfs @ 12.33 hrs, Volume= 1,223 cf, Depth= 0.87"

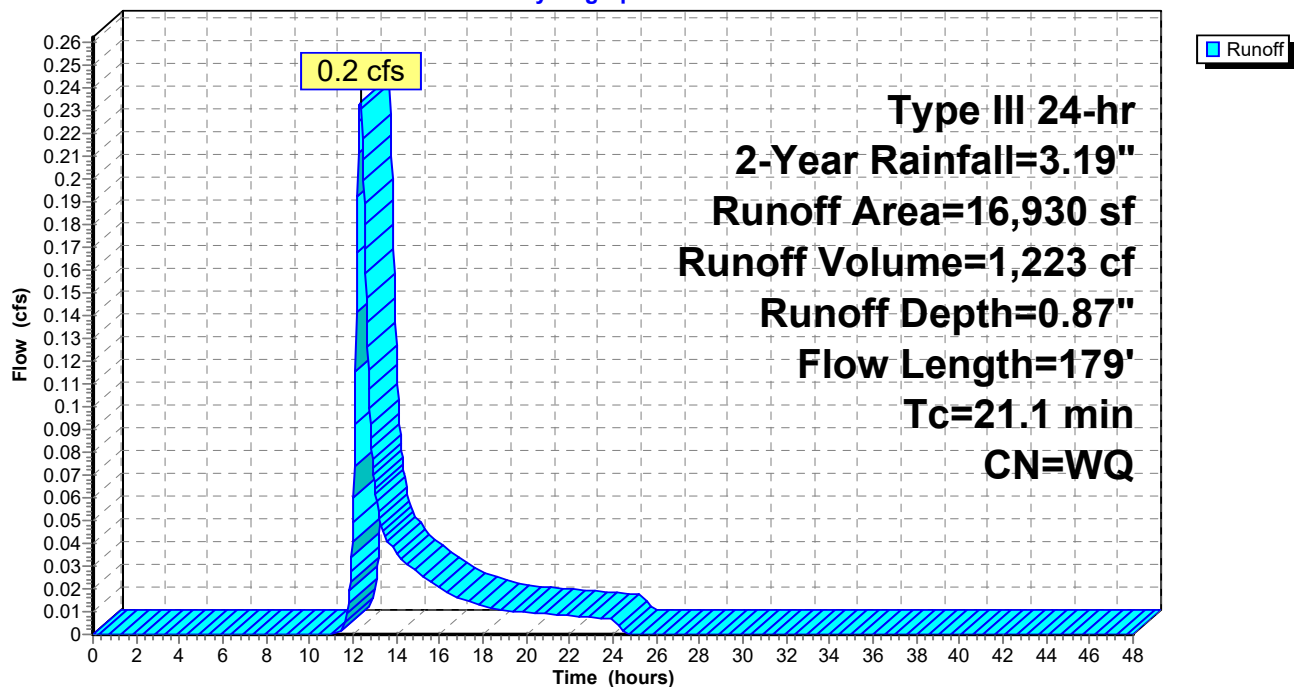
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.19"

Area (sf)	CN	Description
3,602	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
13,327	70	Woods, Good, HSG C
16,930		Weighted Average
16,930	71	100.00% Pervious Area
0	98	0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.3	100	0.0250	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	79	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
21.1	179	Total			

Subcatchment PS-2B:

Hydrograph



Summary for Pond 1P: Bioretention Basin #1

Inflow Area = 52,584 sf, 49.74% Impervious, Inflow Depth = 1.98" for 2-Year event
 Inflow = 2.2 cfs @ 12.14 hrs, Volume= 8,692 cf
 Outflow = 0.4 cfs @ 12.63 hrs, Volume= 8,693 cf, Atten= 80%, Lag= 29.5 min
 Primary = 0.4 cfs @ 12.63 hrs, Volume= 8,693 cf
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 51.74' @ 12.63 hrs Surf.Area= 4,149 sf Storage= 2,824 cf

Plug-Flow detention time= 78.5 min calculated for 8,687 cf (100% of inflow)
 Center-of-Mass det. time= 78.5 min (866.3 - 787.8)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	14,362 cf	Bioretention Area #1 (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
51.00	3,473	298.0	0	0	3,473
52.00	4,398	317.0	3,926	3,926	4,452
53.00	5,559	370.0	4,967	8,894	7,370
54.00	5,379	336.0	5,469	14,362	9,313

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	12.0" Round 12" Outlet Pipe L= 12.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 48.00' / 47.80' S= 0.0167 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	48.00'	3.0" Vert. 3" Orifice C= 0.600
#3	Device 1	51.75'	15.0" W x 4.0" H Vert. 4"x15" Orifice C= 0.600
#4	Device 1	52.90'	48.0" x 48.0" Horiz. OCS Rim C= 0.600 Limited to weir flow at low heads
#5	Device 2	48.00'	4.0" Round 4" Underdrain L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 48.00' / 48.00' S= 0.0000 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#6	Device 5	51.60'	12.0" Horiz. Yard drain/WQV C= 0.600 Limited to weir flow at low heads
#7	Device 5	51.00'	2.410 in/hr Exfiltration thru media over Surface area Phase-In= 0.01'
#8	Secondary	53.00'	10.00' long x 3.00' breadth Emergency Overflow Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

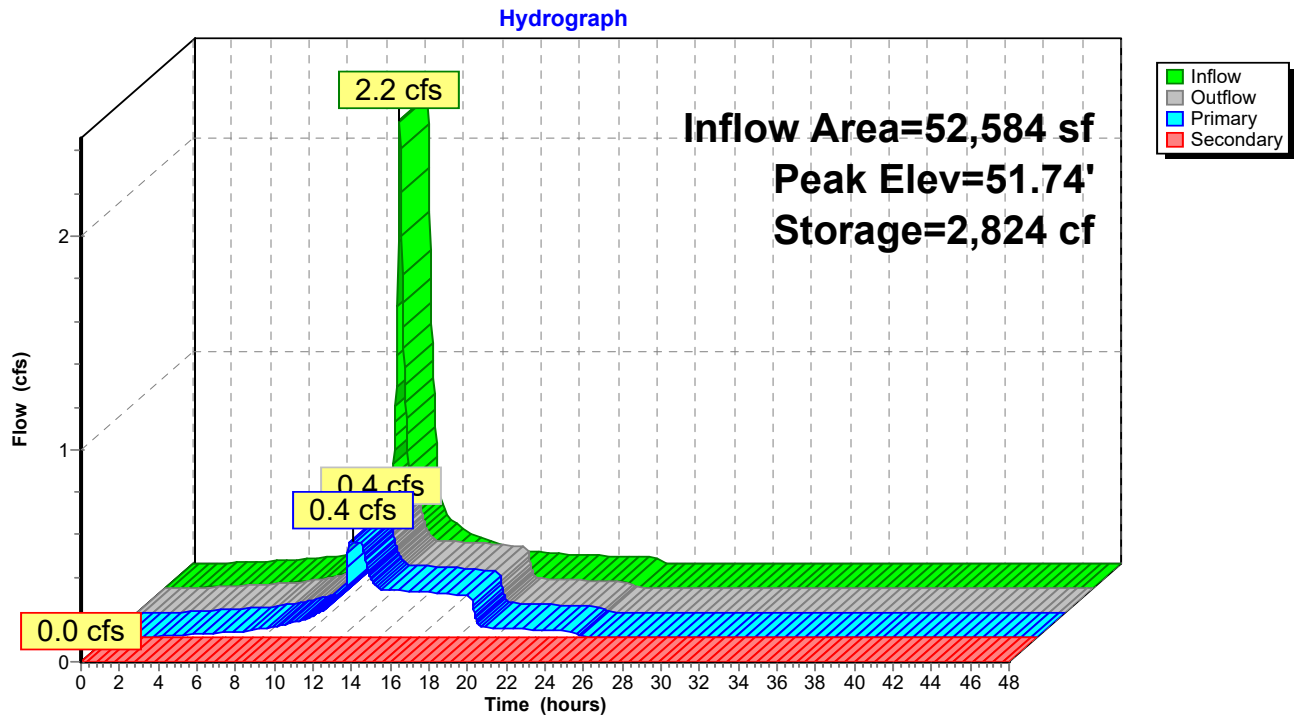
Primary OutFlow Max=0.4 cfs @ 12.63 hrs HW=51.74' (Free Discharge)

- 1=12" Outlet Pipe (Passes 0.4 cfs of 8.5 cfs potential flow)
- 2=3" Orifice (Orifice Controls 0.4 cfs @ 9.16 fps)
- 5=4" Underdrain (Passes 0.4 cfs of 0.8 cfs potential flow)
- 6=Yard drain/WQV (Passes < 0.6 cfs potential flow)
- 7=Exfiltration thru media (Passes < 0.2 cfs potential flow)
- 3=4"x15" Orifice (Controls 0.0 cfs)
- 4=OCS Rim (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=51.00' (Free Discharge)

- 8=Emergency Overflow (Controls 0.0 cfs)

Pond 1P: Bioretention Basin #1



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Type III 24-hr 2-Year Rainfall=3.19"

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Summary for Pond 2P: Bioretention Basin #2

Inflow Area = 42,787 sf, 68.35% Impervious, Inflow Depth = 2.34" for 2-Year event
 Inflow = 2.4 cfs @ 12.09 hrs, Volume= 8,358 cf
 Outflow = 0.5 cfs @ 12.53 hrs, Volume= 8,358 cf, Atten= 81%, Lag= 26.7 min
 Primary = 0.5 cfs @ 12.53 hrs, Volume= 8,358 cf
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs / 2

Peak Elev= 61.93' @ 12.53 hrs Surf.Area= 3,545 sf Storage= 2,898 cf

Plug-Flow detention time= 101.5 min calculated for 8,353 cf (100% of inflow)

Center-of-Mass det. time= 101.5 min (872.6 - 771.1)

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	26,340 cf	Bioretention Area #2 (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	2,704	214.0	0	0	2,704
62.00	3,613	239.0	3,148	3,148	3,633
63.00	4,622	264.0	4,107	7,255	4,665
64.00	5,733	290.0	5,168	12,422	5,844
65.00	6,943	315.0	6,328	18,751	7,085
66.00	8,254	340.0	7,589	26,340	8,429

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	12.0" Round 12" Outlet Pipe L= 80.3' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 58.00' / 57.50' S= 0.0062 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	58.00'	3.0" Vert. 3" Orifice C= 0.600
#3	Device 1	64.75'	48.0" x 48.0" Horiz. OCS Rim C= 0.600 Limited to weir flow at low heads
#4	Device 2	58.00'	4.0" Round 4" Underdrain L= 3.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 58.00' / 58.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#5	Device 4	61.80'	12.0" Horiz. Yard drain/WQV C= 0.600 Limited to weir flow at low heads
#6	Device 4	61.00'	2.410 in/hr Exfiltration thru media over Surface area Phase-In= 0.01'
#7	Secondary	65.00'	10.00' long x 6.00' breadth Emergency Overflow Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.5 cfs @ 12.53 hrs HW=61.93' (Free Discharge)

1=12" Outlet Pipe (Passes 0.5 cfs of 6.1 cfs potential flow)

2=3" Orifice (Orifice Controls 0.5 cfs @ 9.39 fps)

4=4" Underdrain (Passes 0.5 cfs of 1.0 cfs potential flow)

5=Yard drain/WQV (Passes < 0.5 cfs potential flow)

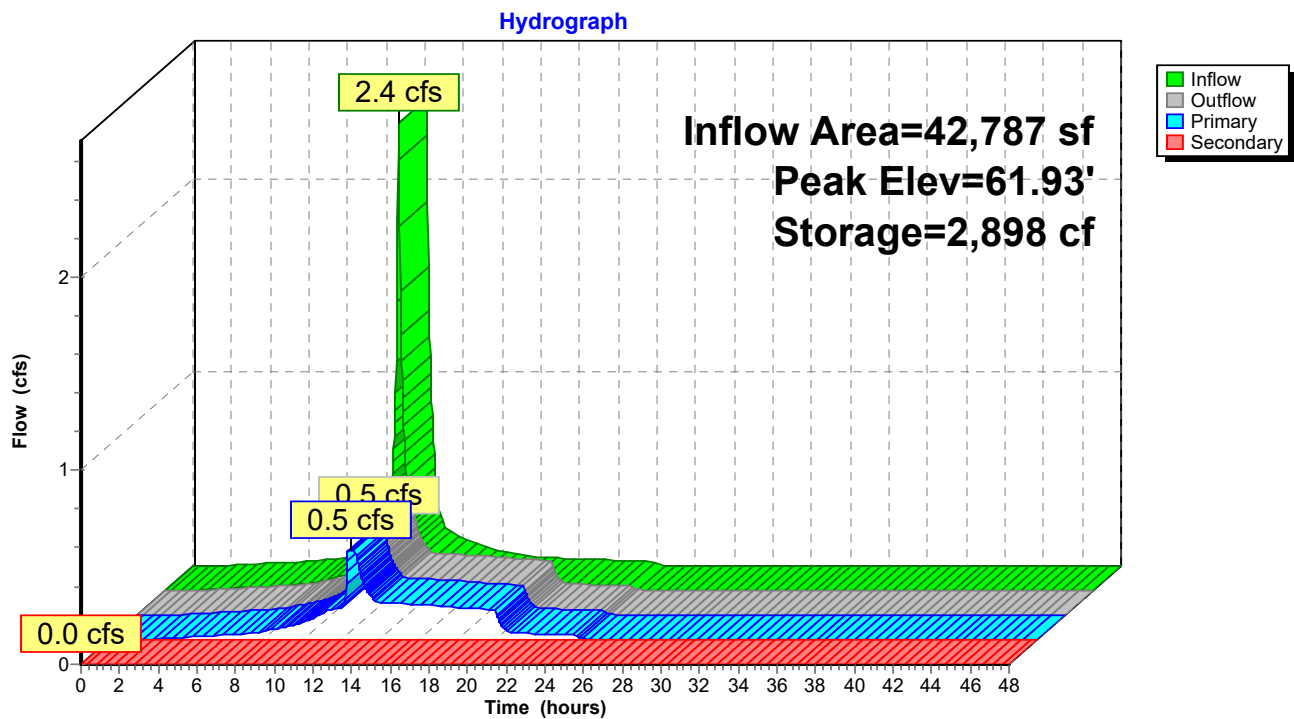
6=Exfiltration thru media (Passes < 0.2 cfs potential flow)

3=OCS Rim (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=61.00' (Free Discharge)

7=Emergency Overflow (Controls 0.0 cfs)

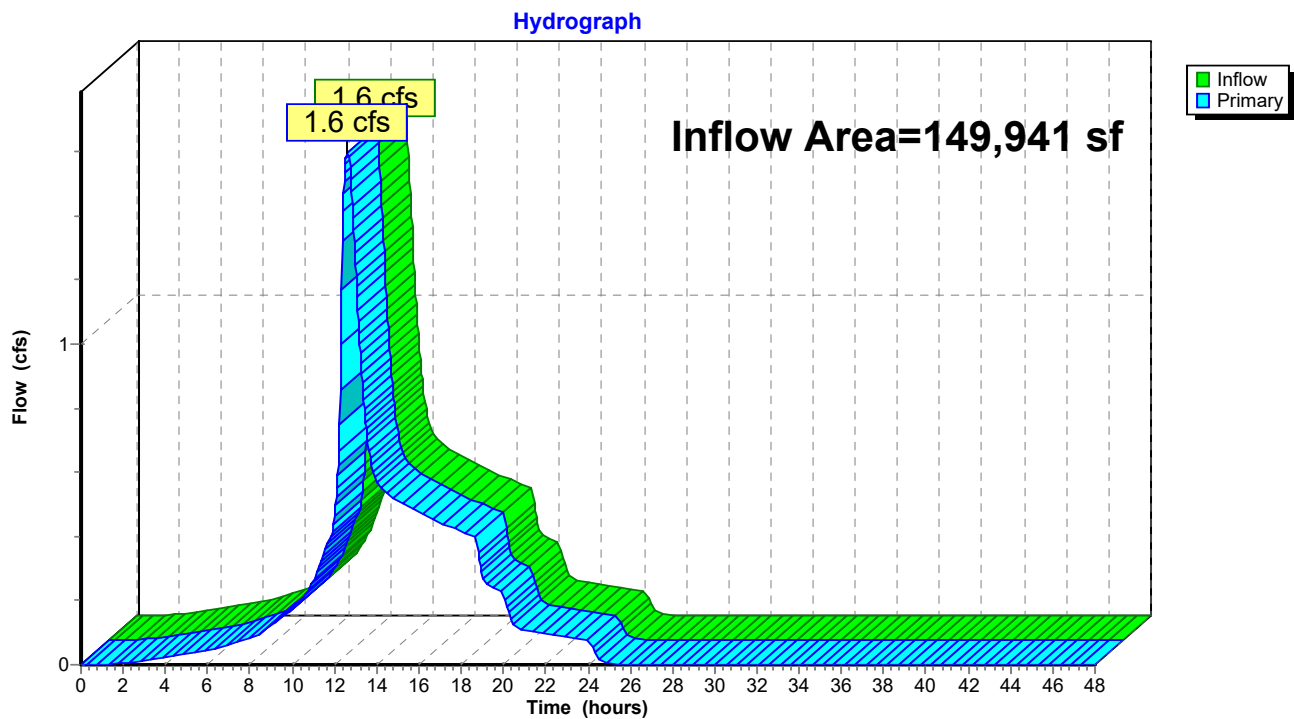
Pond 2P: Bioretention Basin #2



Summary for Link DP-1: Offsite to East

Inflow Area = 149,941 sf, 36.95% Impervious, Inflow Depth = 1.74" for 2-Year event
Inflow = 1.6 cfs @ 12.61 hrs, Volume= 21,713 cf
Primary = 1.6 cfs @ 12.61 hrs, Volume= 21,713 cf, Atten= 0%, Lag= 0.0 min

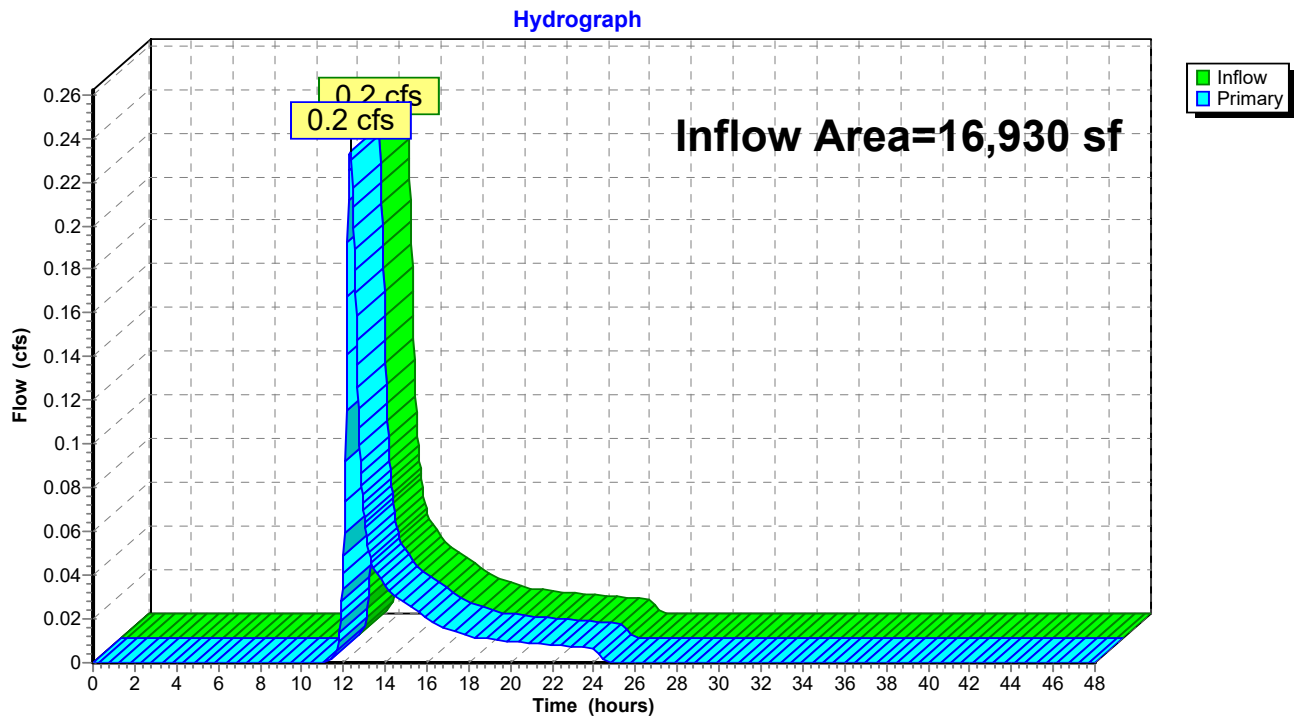
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite to East

Summary for Link DP-2: Offsite to West

Inflow Area = 16,930 sf, 0.00% Impervious, Inflow Depth = 0.87" for 2-Year event
Inflow = 0.2 cfs @ 12.33 hrs, Volume= 1,223 cf
Primary = 0.2 cfs @ 12.33 hrs, Volume= 1,223 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Offsite to West

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Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS-1A: Runoff Area=52,584 sf 49.74% Impervious Runoff Depth=3.66"
Flow Length=258' Tc=10.2 min CN=WQ Runoff=4.1 cfs 16,020 cf

Subcatchment PS-1B: Runoff Area=54,570 sf 0.00% Impervious Runoff Depth=2.44"
Flow Length=440' Tc=41.2 min CN=WQ Runoff=1.7 cfs 11,110 cf

Subcatchment PS-2A: Runoff Area=42,787 sf 68.35% Impervious Runoff Depth=4.11"
Tc=6.0 min CN=WQ Runoff=4.2 cfs 14,655 cf

Subcatchment PS-2B: Runoff Area=16,930 sf 0.00% Impervious Runoff Depth=2.20"
Flow Length=179' Tc=21.1 min CN=WQ Runoff=0.6 cfs 3,099 cf

Pond 1P: Bioretention Basin #1 Peak Elev=52.20' Storage=4,824 cf Inflow=4.1 cfs 16,020 cf
Primary=1.5 cfs 16,021 cf Secondary=0.0 cfs 0 cf Outflow=1.5 cfs 16,021 cf

Pond 2P: Bioretention Basin #2 Peak Elev=62.67' Storage=5,804 cf Inflow=4.2 cfs 14,655 cf
Primary=0.5 cfs 14,655 cf Secondary=0.0 cfs 0 cf Outflow=0.5 cfs 14,655 cf

Link DP-1: Offsite to East Inflow=3.7 cfs 41,785 cf
Primary=3.7 cfs 41,785 cf

Link DP-2: Offsite to West Inflow=0.6 cfs 3,099 cf
Primary=0.6 cfs 3,099 cf

Total Runoff Area = 166,871 sf Runoff Volume = 44,884 cf Average Runoff Depth = 3.23"
66.80% Pervious = 111,469 sf 33.20% Impervious = 55,402 sf

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Type III 24-hr 10-Year Rainfall=5.12"

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Summary for Subcatchment PS-1A:

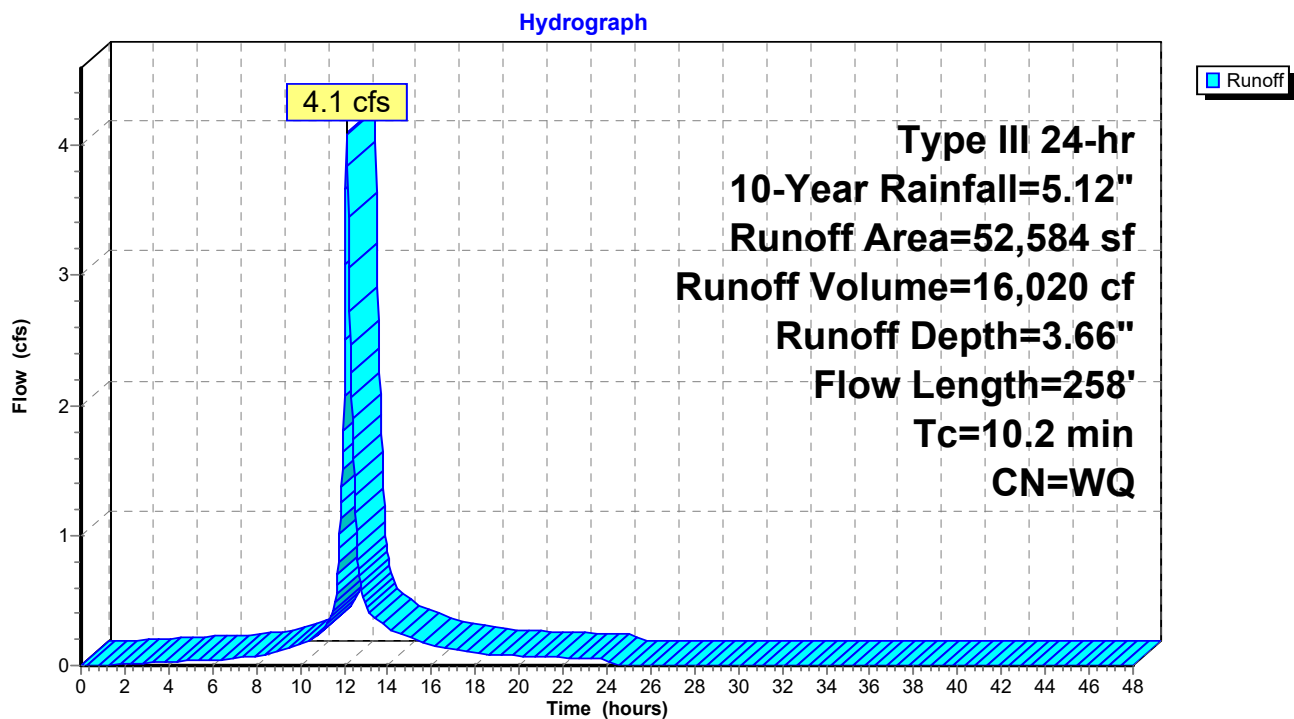
Runoff = 4.1 cfs @ 12.14 hrs, Volume= 16,020 cf, Depth= 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.12"

Area (sf)	CN	Description
23,289	74	>75% Grass cover, Good, HSG C
633	80	>75% Grass cover, Good, HSG D
20,126	98	Paved parking, HSG C
3,279	98	Roofs, HSG C
2,733	98	Water Surface, HSG C
18	98	Water Surface, HSG D
2,506	70	Woods, Good, HSG C
52,584		Weighted Average
26,429	74	50.26% Pervious Area
26,155	98	49.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	28	0.2600	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
6.0	54	0.0550	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
1.3	176	0.0125	2.27		Shallow Concentrated Flow, Paved Kv= 20.3 fps
10.2	258	Total			

Subcatchment PS-1A:



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Type III 24-hr 10-Year Rainfall=5.12"

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Summary for Subcatchment PS-1B:

Runoff = 1.7 cfs @ 12.59 hrs, Volume= 11,110 cf, Depth= 2.44"

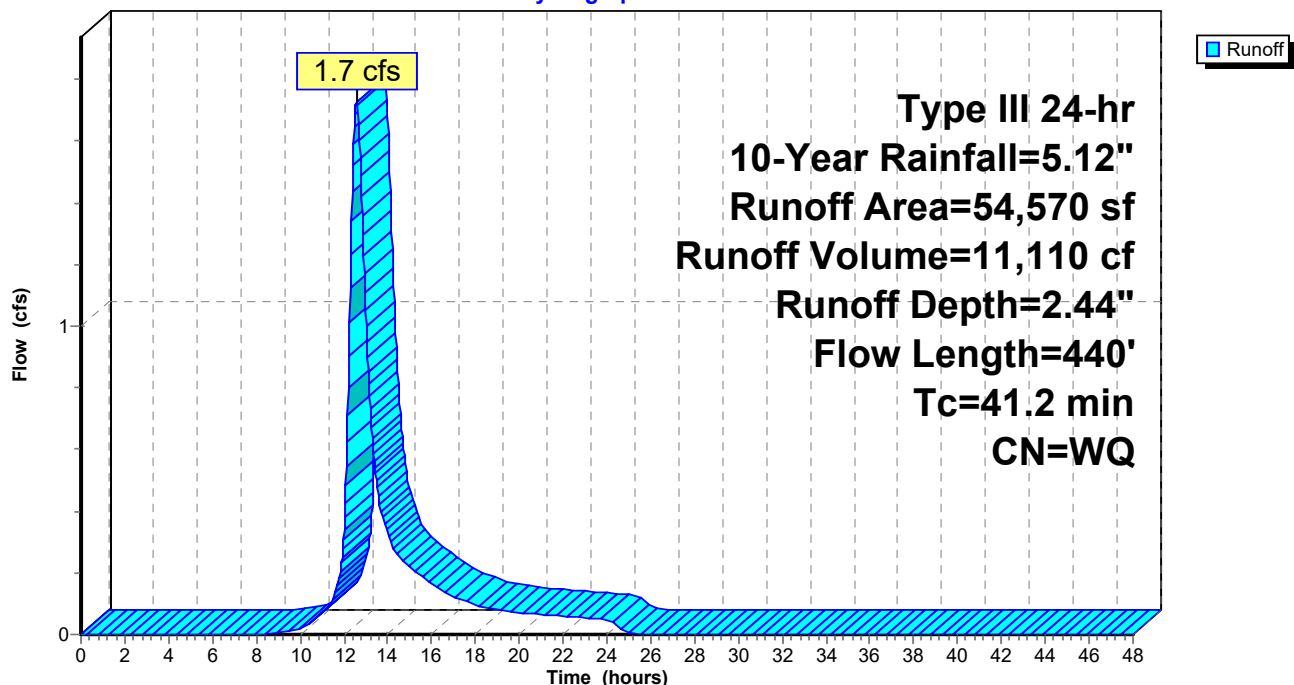
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.12"

Area (sf)	CN	Description
2,326	74	>75% Grass cover, Good, HSG C
613	80	>75% Grass cover, Good, HSG D
24,873	70	Woods, Good, HSG C
26,758	77	Woods, Good, HSG D
54,570		Weighted Average
54,570	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	125	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
27.2	168	0.0340	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
1.5	147	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
41.2	440	Total			

Subcatchment PS-1B:

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.12"

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Summary for Subcatchment PS-2A:

Runoff = 4.2 cfs @ 12.09 hrs, Volume= 14,655 cf, Depth= 4.11"

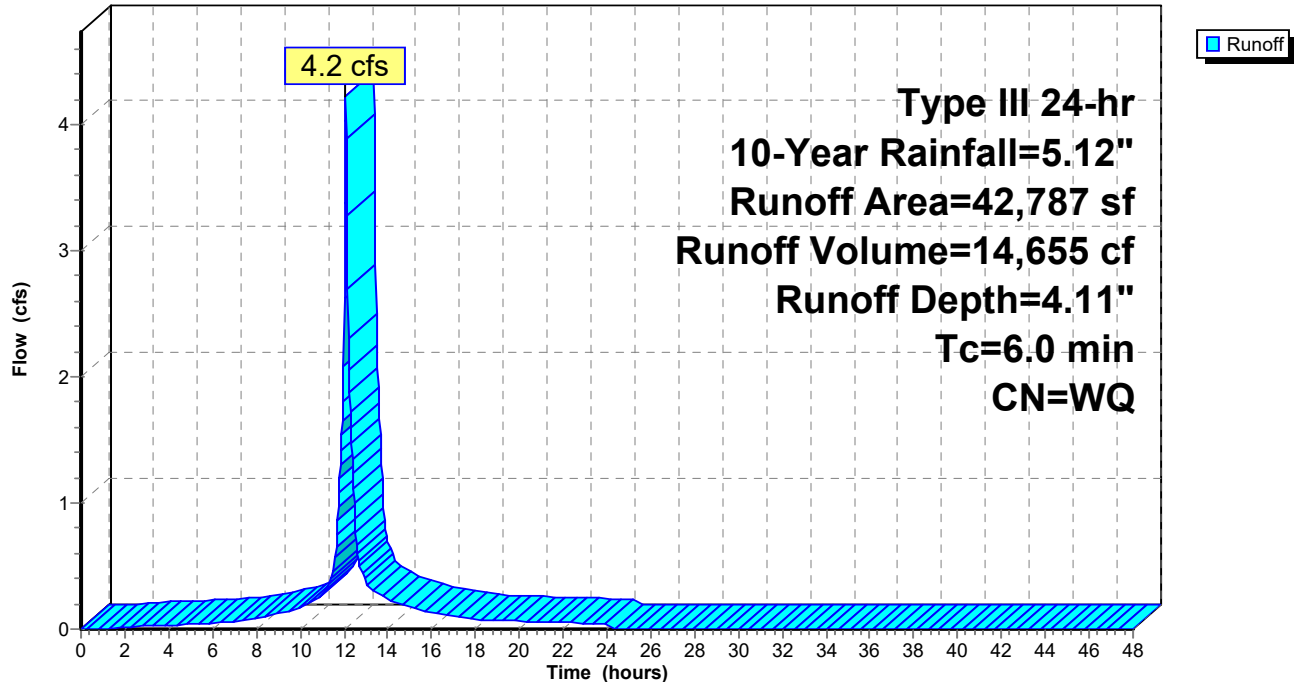
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.12"

Area (sf)	CN	Description
12,759	74	>75% Grass cover, Good, HSG C
19,200	98	Paved parking, HSG C
7,704	98	Roofs, HSG C
2,342	98	Water Surface, HSG C
782	70	Woods, Good, HSG C
42,787		Weighted Average
13,541	74	31.65% Pervious Area
29,247	98	68.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment PS-2A:

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.12"

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Summary for Subcatchment PS-2B:

Runoff = 0.6 cfs @ 12.30 hrs, Volume= 3,099 cf, Depth= 2.20"

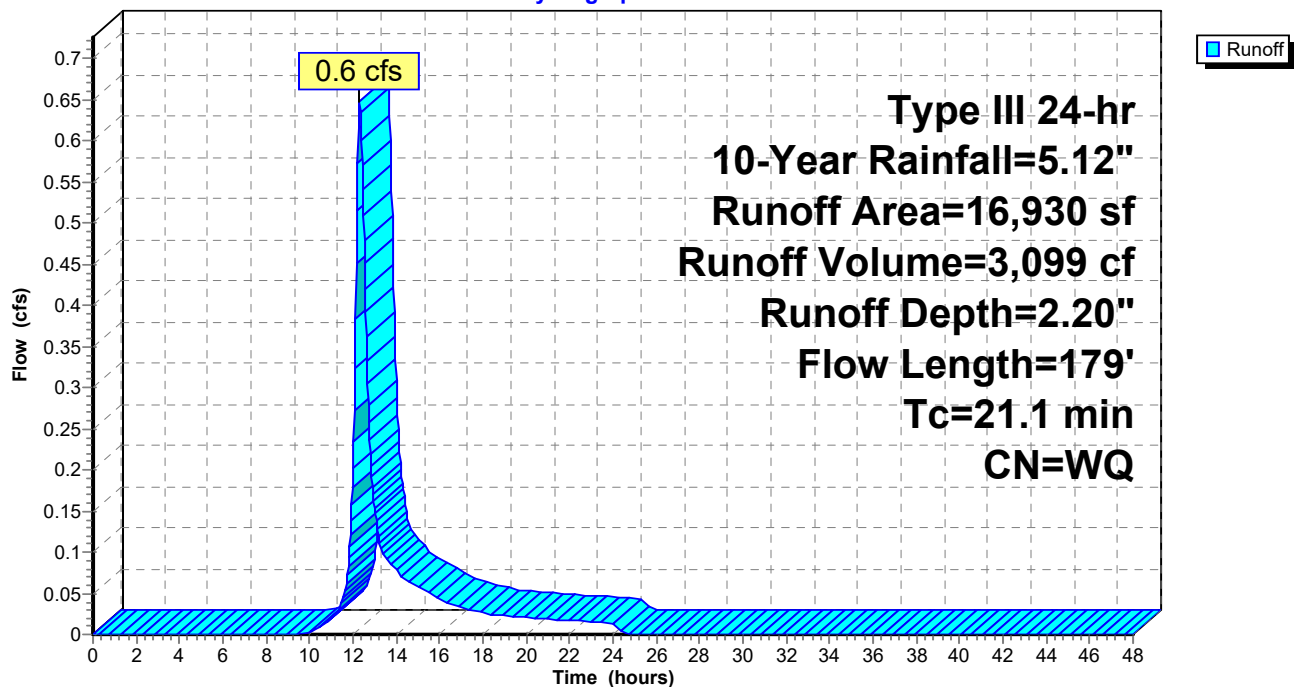
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.12"

Area (sf)	CN	Description
3,602	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
13,327	70	Woods, Good, HSG C
16,930		Weighted Average
16,930	71	100.00% Pervious Area
0	98	0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.3	100	0.0250	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	79	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
21.1	179	Total			

Subcatchment PS-2B:

Hydrograph



Summary for Pond 1P: Bioretention Basin #1

Inflow Area = 52,584 sf, 49.74% Impervious, Inflow Depth = 3.66" for 10-Year event
 Inflow = 4.1 cfs @ 12.14 hrs, Volume= 16,020 cf
 Outflow = 1.5 cfs @ 12.46 hrs, Volume= 16,021 cf, Atten= 63%, Lag= 19.5 min
 Primary = 1.5 cfs @ 12.46 hrs, Volume= 16,021 cf
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 52.20' @ 12.46 hrs Surf.Area= 4,618 sf Storage= 4,824 cf

Plug-Flow detention time= 72.2 min calculated for 16,011 cf (100% of inflow)
 Center-of-Mass det. time= 72.2 min (853.6 - 781.4)

Volume	Invert	Avail.Storage	Storage Description		
#1	51.00'	14,362 cf	Bioretention Area #1 (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
51.00	3,473	298.0	0	0	3,473
52.00	4,398	317.0	3,926	3,926	4,452
53.00	5,559	370.0	4,967	8,894	7,370
54.00	5,379	336.0	5,469	14,362	9,313

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	12.0" Round 12" Outlet Pipe L= 12.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 48.00' / 47.80' S= 0.0167 ' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	48.00'	3.0" Vert. 3" Orifice C= 0.600
#3	Device 1	51.75'	15.0" W x 4.0" H Vert. 4"x15" Orifice C= 0.600
#4	Device 1	52.90'	48.0" x 48.0" Horiz. OCS Rim C= 0.600 Limited to weir flow at low heads
#5	Device 2	48.00'	4.0" Round 4" Underdrain L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 48.00' / 48.00' S= 0.0000 ' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#6	Device 5	51.60'	12.0" Horiz. Yard drain/WQV C= 0.600 Limited to weir flow at low heads
#7	Device 5	51.00'	2.410 in/hr Exfiltration thru media over Surface area Phase-In= 0.01'
#8	Secondary	53.00'	10.00' long x 3.00' breadth Emergency Overflow Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

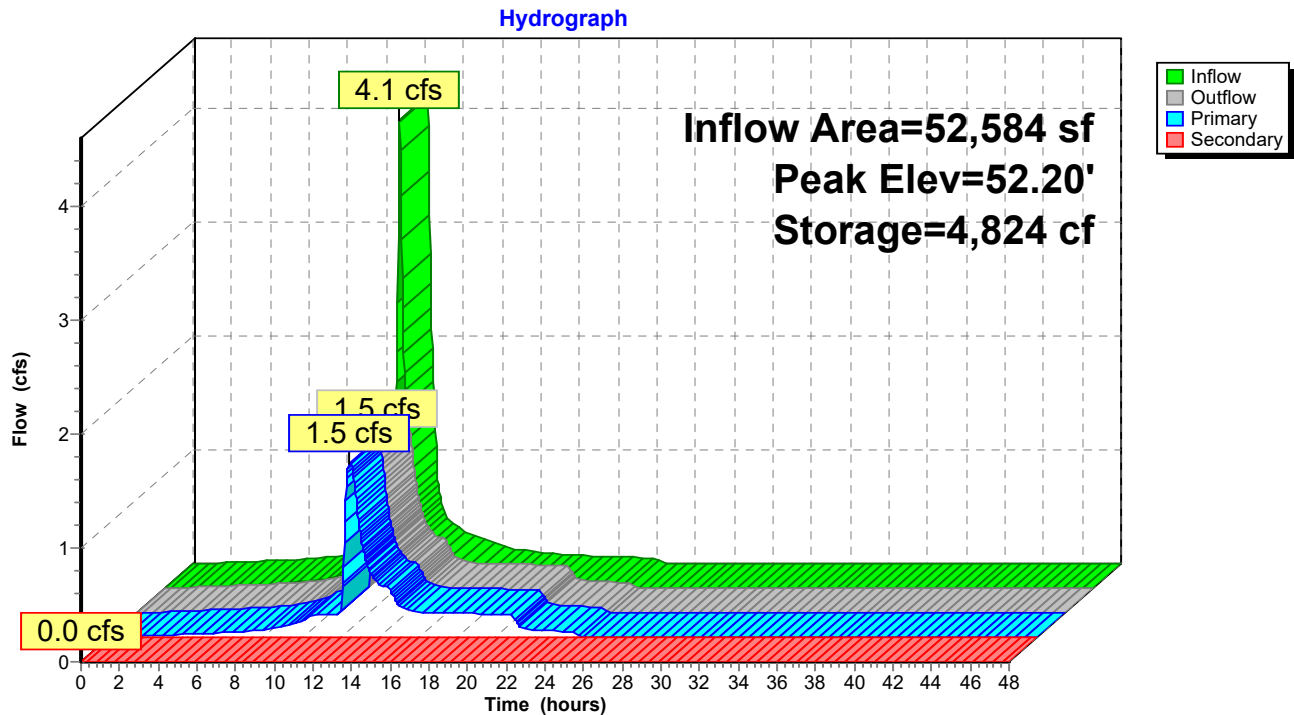
Primary OutFlow Max=1.5 cfs @ 12.46 hrs HW=52.20' (Free Discharge)

- 1=12" Outlet Pipe (Passes 1.5 cfs of 9.1 cfs potential flow)
- 2=3" Orifice (Orifice Controls 0.5 cfs @ 9.72 fps)
- 5=4" Underdrain (Passes 0.5 cfs of 0.8 cfs potential flow)
- 6=Yard drain/WQV (Passes < 2.9 cfs potential flow)
- 7=Exfiltration thru media (Passes < 0.3 cfs potential flow)
- 3=4"x15" Orifice (Orifice Controls 1.0 cfs @ 2.52 fps)
- 4=OCS Rim (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=51.00' (Free Discharge)

- 8=Emergency Overflow (Controls 0.0 cfs)

Pond 1P: Bioretention Basin #1



Summary for Pond 2P: Bioretention Basin #2

Inflow Area = 42,787 sf, 68.35% Impervious, Inflow Depth = 4.11" for 10-Year event
 Inflow = 4.2 cfs @ 12.09 hrs, Volume= 14,655 cf
 Outflow = 0.5 cfs @ 12.70 hrs, Volume= 14,655 cf, Atten= 88%, Lag= 36.9 min
 Primary = 0.5 cfs @ 12.70 hrs, Volume= 14,655 cf
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 62.67' @ 12.70 hrs Surf.Area= 4,279 sf Storage= 5,804 cf

Plug-Flow detention time= 122.1 min calculated for 14,655 cf (100% of inflow)
 Center-of-Mass det. time= 122.0 min (886.4 - 764.4)

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	26,340 cf	Bioretention Area #2 (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	2,704	214.0	0	0	2,704
62.00	3,613	239.0	3,148	3,148	3,633
63.00	4,622	264.0	4,107	7,255	4,665
64.00	5,733	290.0	5,168	12,422	5,844
65.00	6,943	315.0	6,328	18,751	7,085
66.00	8,254	340.0	7,589	26,340	8,429

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	12.0" Round 12" Outlet Pipe L= 80.3' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 58.00' / 57.50' S= 0.0062 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	58.00'	3.0" Vert. 3" Orifice C= 0.600
#3	Device 1	64.75'	48.0" x 48.0" Horiz. OCS Rim C= 0.600 Limited to weir flow at low heads
#4	Device 2	58.00'	4.0" Round 4" Underdrain L= 3.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 58.00' / 58.00' S= 0.0000 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#5	Device 4	61.80'	12.0" Horiz. Yard drain/WQV C= 0.600 Limited to weir flow at low heads
#6	Device 4	61.00'	2.410 in/hr Exfiltration thru media over Surface area Phase-In= 0.01'
#7	Secondary	65.00'	10.00' long x 6.00' breadth Emergency Overflow Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.5 cfs @ 12.70 hrs HW=62.67' (Free Discharge)

1=12" Outlet Pipe (Passes 0.5 cfs of 6.7 cfs potential flow)

2=3" Orifice (Orifice Controls 0.5 cfs @ 10.27 fps)

4=4" Underdrain (Passes 0.5 cfs of 1.1 cfs potential flow)

5=Yard drain/WQV (Passes < 3.5 cfs potential flow)

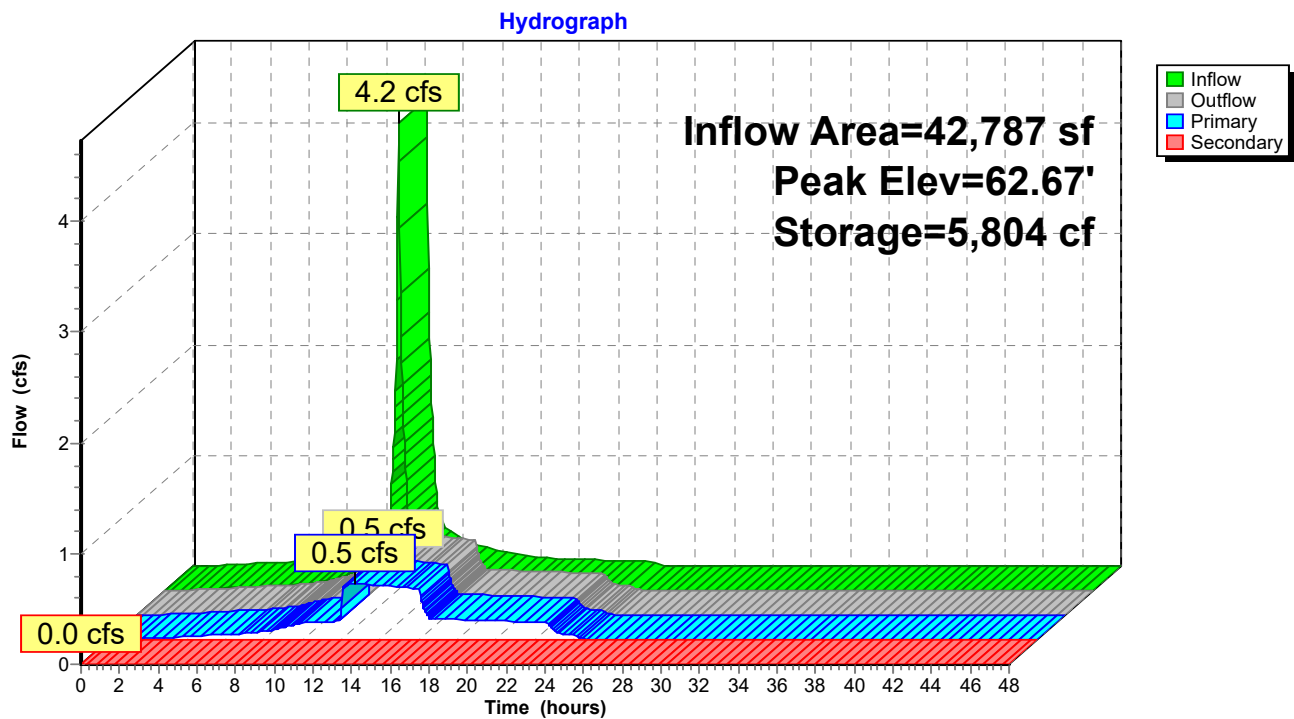
6=Exfiltration thru media (Passes < 0.2 cfs potential flow)

3=OCS Rim (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=61.00' (Free Discharge)

7=Emergency Overflow (Controls 0.0 cfs)

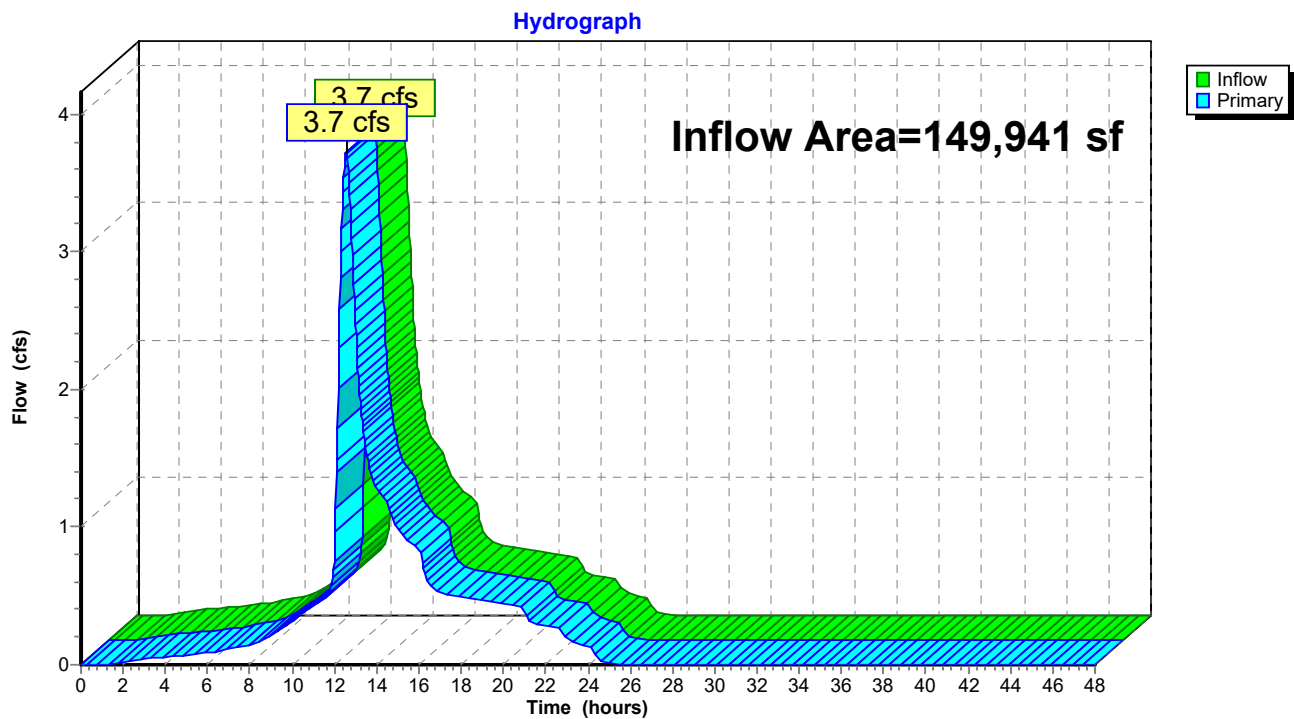
Pond 2P: Bioretention Basin #2



Summary for Link DP-1: Offsite to East

Inflow Area = 149,941 sf, 36.95% Impervious, Inflow Depth = 3.34" for 10-Year event
Inflow = 3.7 cfs @ 12.54 hrs, Volume= 41,785 cf
Primary = 3.7 cfs @ 12.54 hrs, Volume= 41,785 cf, Atten= 0%, Lag= 0.0 min

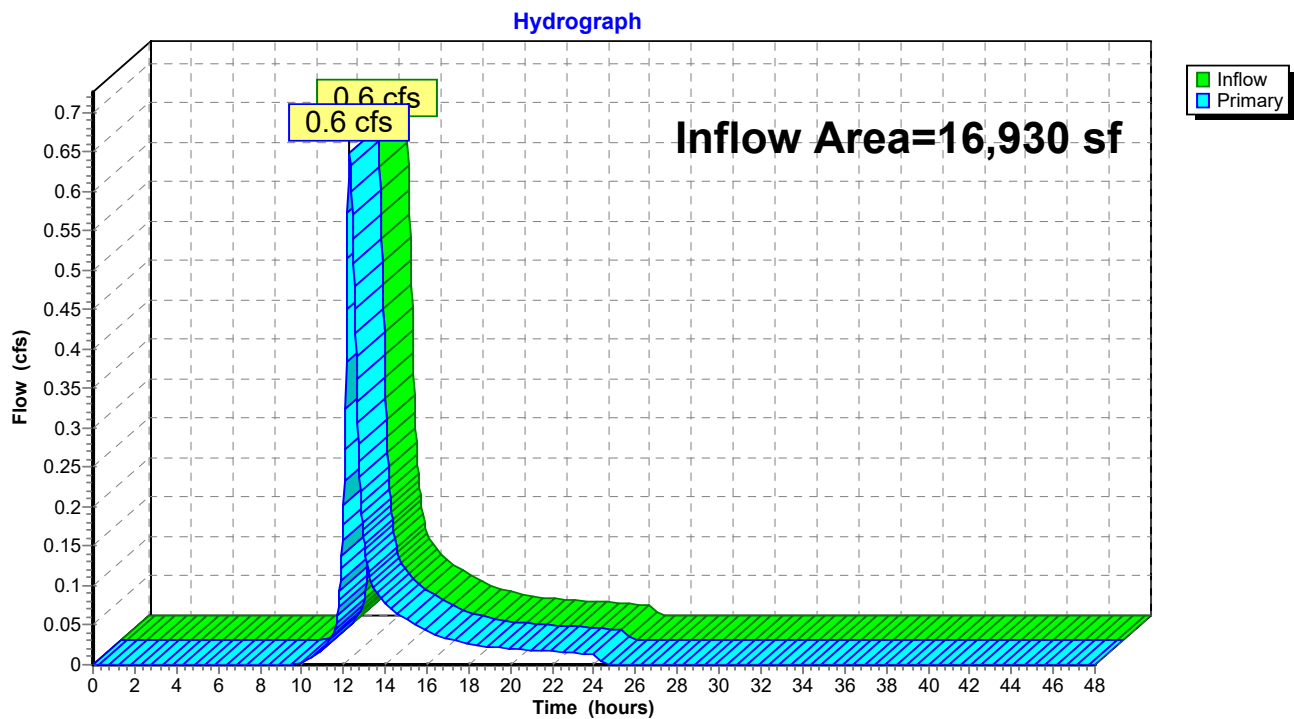
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite to East

Summary for Link DP-2: Offsite to West

Inflow Area = 16,930 sf, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 0.6 cfs @ 12.30 hrs, Volume= 3,099 cf
Primary = 0.6 cfs @ 12.30 hrs, Volume= 3,099 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Offsite to West

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Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS-1A: Runoff Area=52,584 sf 49.74% Impervious Runoff Depth=6.50"
Flow Length=258' Tc=10.2 min CN=WQ Runoff=7.3 cfs 28,491 cf

Subcatchment PS-1B: Runoff Area=54,570 sf 0.00% Impervious Runoff Depth=5.06"
Flow Length=440' Tc=41.2 min CN=WQ Runoff=3.6 cfs 23,027 cf

Subcatchment PS-2A: Runoff Area=42,787 sf 68.35% Impervious Runoff Depth=7.04"
Tc=6.0 min CN=WQ Runoff=7.2 cfs 25,096 cf

Subcatchment PS-2B: Runoff Area=16,930 sf 0.00% Impervious Runoff Depth=4.73"
Flow Length=179' Tc=21.1 min CN=WQ Runoff=1.4 cfs 6,670 cf

Pond 1P: Bioretention Basin #1 Peak Elev=52.95' Storage=8,625 cf Inflow=7.3 cfs 28,491 cf
Primary=3.2 cfs 28,489 cf Secondary=0.0 cfs 0 cf Outflow=3.2 cfs 28,489 cf

Pond 2P: Bioretention Basin #2 Peak Elev=63.86' Storage=11,608 cf Inflow=7.2 cfs 25,096 cf
Primary=0.6 cfs 25,096 cf Secondary=0.0 cfs 0 cf Outflow=0.6 cfs 25,096 cf

Link DP-1: Offsite to East Inflow=7.0 cfs 76,612 cf
Primary=7.0 cfs 76,612 cf

Link DP-2: Offsite to West Inflow=1.4 cfs 6,670 cf
Primary=1.4 cfs 6,670 cf

Total Runoff Area = 166,871 sf Runoff Volume = 83,283 cf Average Runoff Depth = 5.99"
66.80% Pervious = 111,469 sf 33.20% Impervious = 55,402 sf

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Type III 24-hr 100-Year Rainfall=8.19"

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Summary for Subcatchment PS-1A:

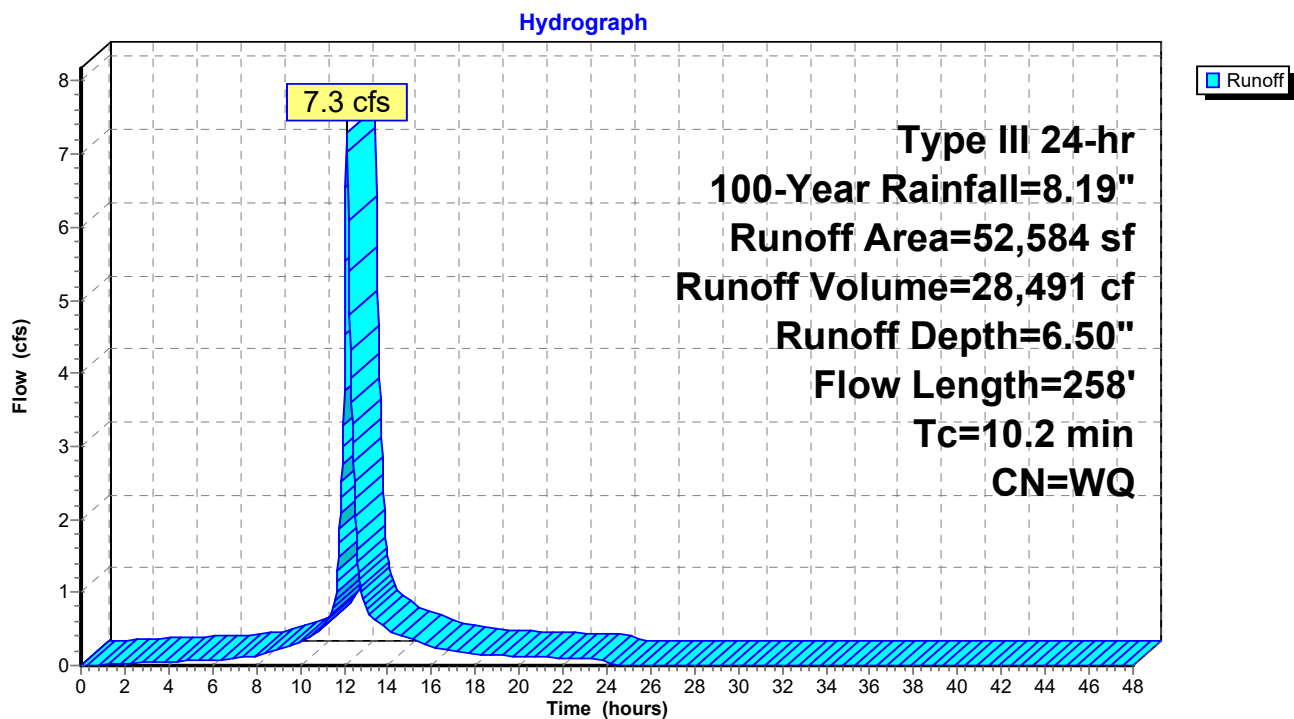
Runoff = 7.3 cfs @ 12.14 hrs, Volume= 28,491 cf, Depth= 6.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (sf)	CN	Description
23,289	74	>75% Grass cover, Good, HSG C
633	80	>75% Grass cover, Good, HSG D
20,126	98	Paved parking, HSG C
3,279	98	Roofs, HSG C
2,733	98	Water Surface, HSG C
18	98	Water Surface, HSG D
2,506	70	Woods, Good, HSG C
52,584		Weighted Average
26,429	74	50.26% Pervious Area
26,155	98	49.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	28	0.2600	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
6.0	54	0.0550	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.00"
1.3	176	0.0125	2.27		Shallow Concentrated Flow, Paved Kv= 20.3 fps
10.2	258	Total			

Subcatchment PS-1A:



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Type III 24-hr 100-Year Rainfall=8.19"

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Summary for Subcatchment PS-1B:

Runoff = 3.6 cfs @ 12.57 hrs, Volume= 23,027 cf, Depth= 5.06"

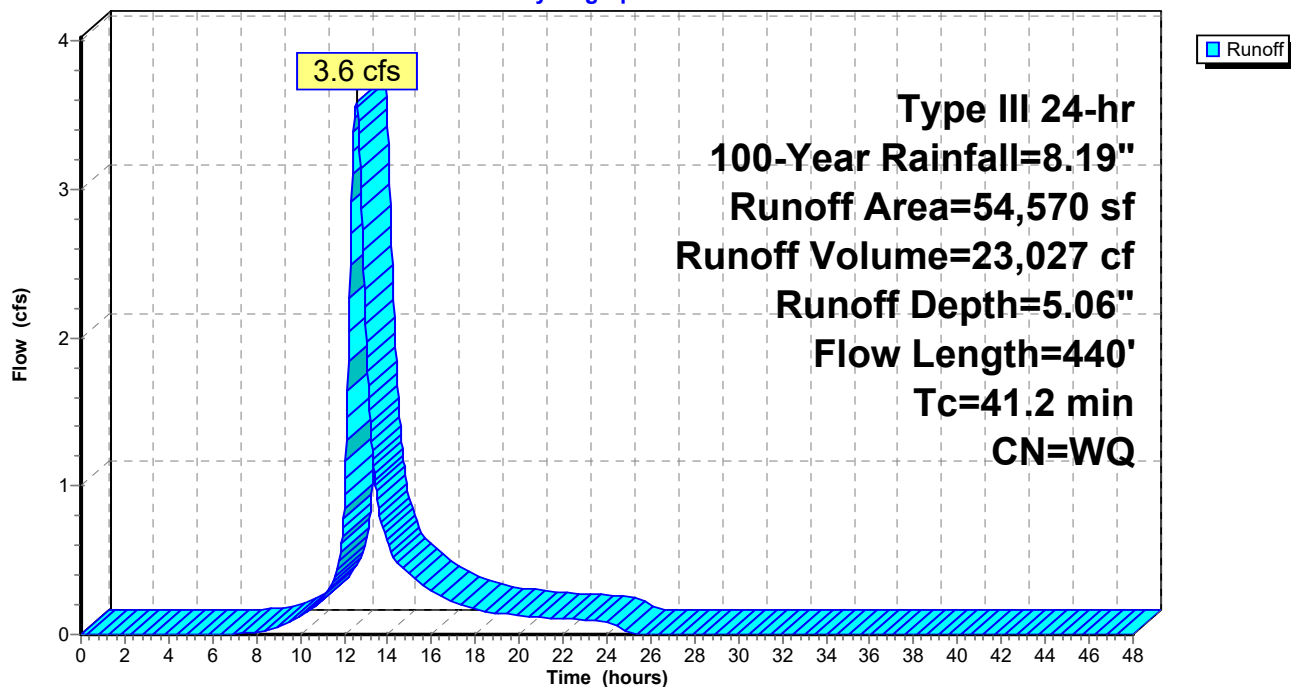
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (sf)	CN	Description
2,326	74	>75% Grass cover, Good, HSG C
613	80	>75% Grass cover, Good, HSG D
24,873	70	Woods, Good, HSG C
26,758	77	Woods, Good, HSG D
54,570		Weighted Average
54,570	74	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	125	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
27.2	168	0.0340	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
1.5	147	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
41.2	440	Total			

Subcatchment PS-1B:

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.19"

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Summary for Subcatchment PS-2A:

Runoff = 7.2 cfs @ 12.09 hrs, Volume= 25,096 cf, Depth= 7.04"

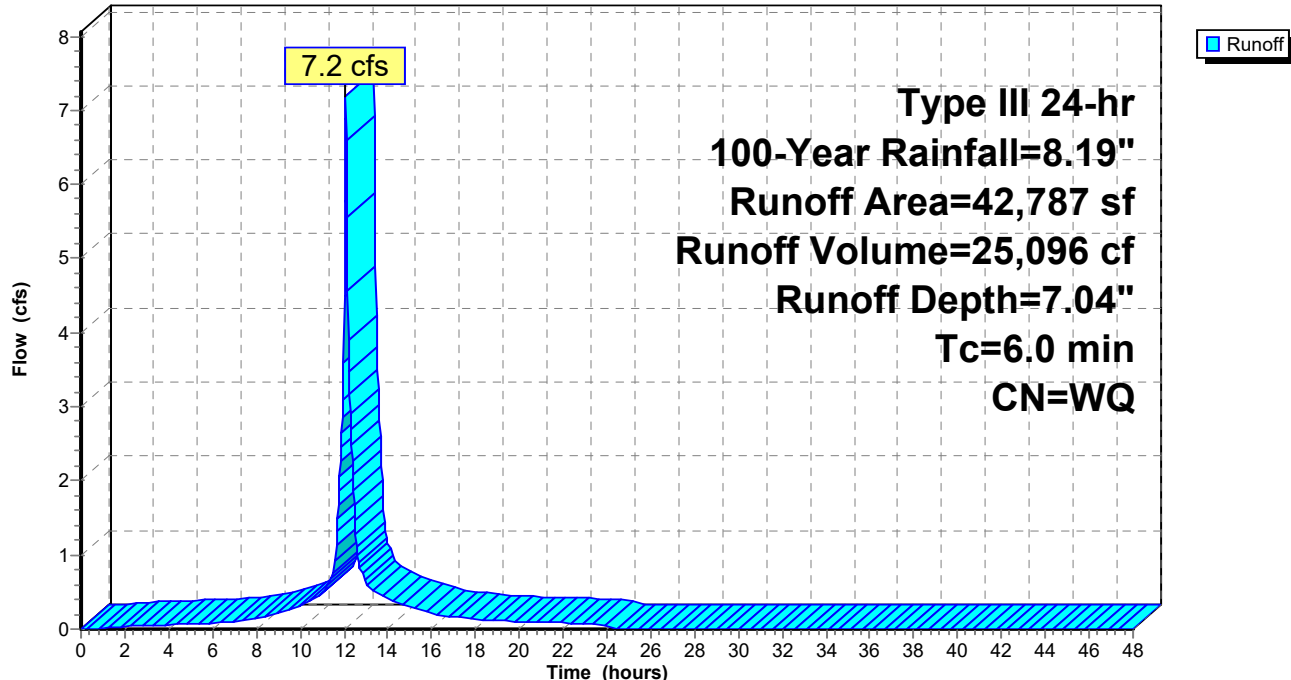
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (sf)	CN	Description
12,759	74	>75% Grass cover, Good, HSG C
19,200	98	Paved parking, HSG C
7,704	98	Roofs, HSG C
2,342	98	Water Surface, HSG C
782	70	Woods, Good, HSG C
42,787		Weighted Average
13,541	74	31.65% Pervious Area
29,247	98	68.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment PS-2A:

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.19"

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Summary for Subcatchment PS-2B:

Runoff = 1.4 cfs @ 12.29 hrs, Volume= 6,670 cf, Depth= 4.73"

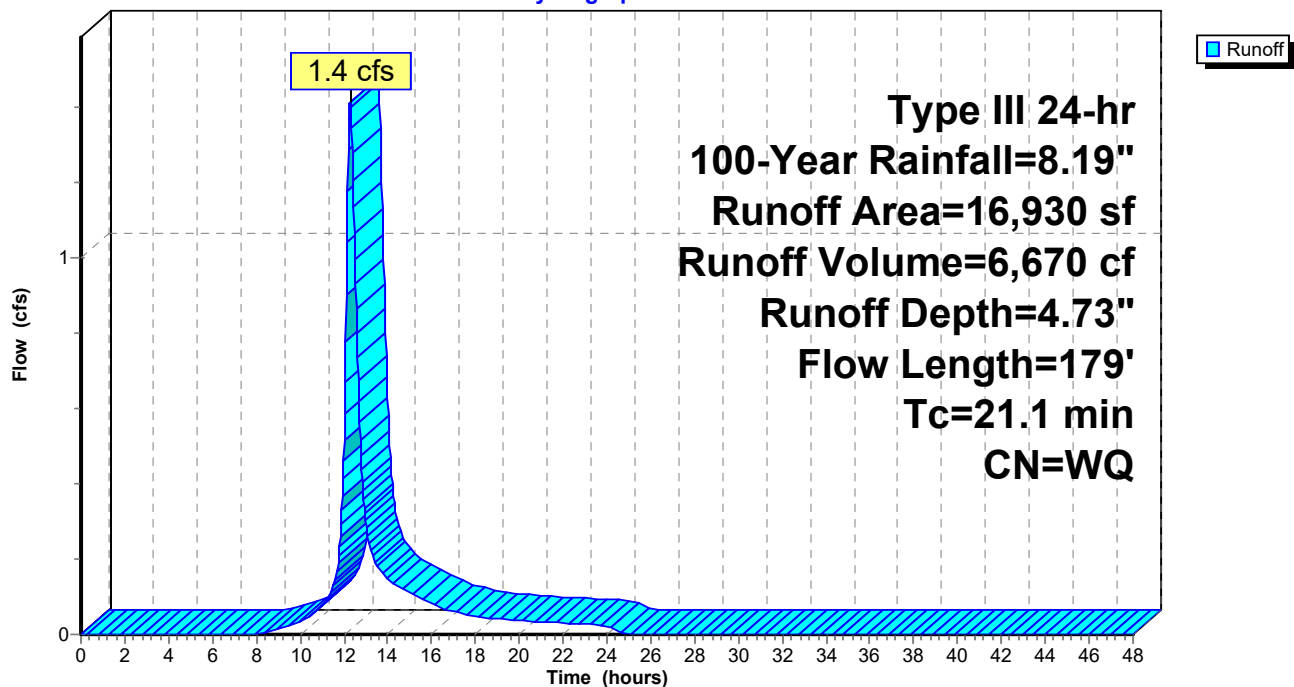
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (sf)	CN	Description
3,602	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
13,327	70	Woods, Good, HSG C
16,930		Weighted Average
16,930	71	100.00% Pervious Area
0	98	0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.3	100	0.0250	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.00"
0.8	79	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
21.1	179	Total			

Subcatchment PS-2B:

Hydrograph



Summary for Pond 1P: Bioretention Basin #1

Inflow Area = 52,584 sf, 49.74% Impervious, Inflow Depth = 6.50" for 100-Year event
 Inflow = 7.3 cfs @ 12.14 hrs, Volume= 28,491 cf
 Outflow = 3.2 cfs @ 12.41 hrs, Volume= 28,489 cf, Atten= 57%, Lag= 16.0 min
 Primary = 3.2 cfs @ 12.41 hrs, Volume= 28,489 cf
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 52.95' @ 12.41 hrs Surf.Area= 5,500 sf Storage= 8,625 cf

Plug-Flow detention time= 69.5 min calculated for 28,471 cf (100% of inflow)
 Center-of-Mass det. time= 69.4 min (843.5 - 774.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	51.00'	14,362 cf	Bioretention Area #1 (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
51.00	3,473	298.0	0	0	3,473
52.00	4,398	317.0	3,926	3,926	4,452
53.00	5,559	370.0	4,967	8,894	7,370
54.00	5,379	336.0	5,469	14,362	9,313

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	12.0" Round 12" Outlet Pipe L= 12.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 48.00' / 47.80' S= 0.0167 ' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	48.00'	3.0" Vert. 3" Orifice C= 0.600
#3	Device 1	51.75'	15.0" W x 4.0" H Vert. 4"x15" Orifice C= 0.600
#4	Device 1	52.90'	48.0" x 48.0" Horiz. OCS Rim C= 0.600 Limited to weir flow at low heads
#5	Device 2	48.00'	4.0" Round 4" Underdrain L= 3.0' Ke= 0.500 Inlet / Outlet Invert= 48.00' / 48.00' S= 0.0000 ' Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#6	Device 5	51.60'	12.0" Horiz. Yard drain/WQV C= 0.600 Limited to weir flow at low heads
#7	Device 5	51.00'	2.410 in/hr Exfiltration thru media over Surface area Phase-In= 0.01'
#8	Secondary	53.00'	10.00' long x 3.00' breadth Emergency Overflow Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

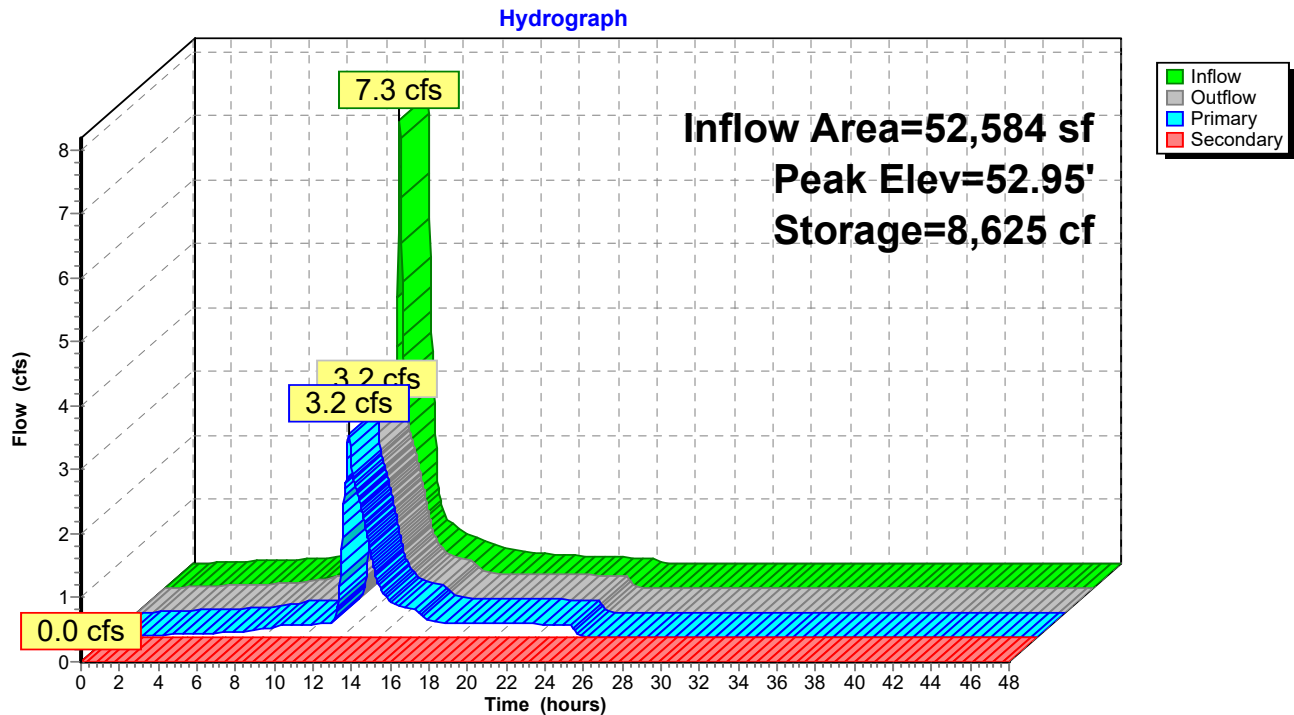
Primary OutFlow Max=3.2 cfs @ 12.41 hrs HW=52.95' (Free Discharge)

- 1=12" Outlet Pipe (Passes 3.2 cfs of 10.0 cfs potential flow)
- 2=3" Orifice (Orifice Controls 0.5 cfs @ 10.58 fps)
- 5=4" Underdrain (Passes 0.5 cfs of 0.9 cfs potential flow)
- 6=Yard drain/WQV (Passes < 4.4 cfs potential flow)
- 7=Exfiltration thru media (Passes < 0.3 cfs potential flow)
- 3=4"x15" Orifice (Orifice Controls 2.0 cfs @ 4.89 fps)
- 4=OCS Rim (Weir Controls 0.6 cfs @ 0.74 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=51.00' (Free Discharge)

- 8=Emergency Overflow (Controls 0.0 cfs)

Pond 1P: Bioretention Basin #1



Summary for Pond 2P: Bioretention Basin #2

Inflow Area = 42,787 sf, 68.35% Impervious, Inflow Depth = 7.04" for 100-Year event
 Inflow = 7.2 cfs @ 12.09 hrs, Volume= 25,096 cf
 Outflow = 0.6 cfs @ 13.11 hrs, Volume= 25,096 cf, Atten= 92%, Lag= 61.5 min
 Primary = 0.6 cfs @ 13.11 hrs, Volume= 25,096 cf
 Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 63.86' @ 13.11 hrs Surf.Area= 5,566 sf Storage= 11,608 cf

Plug-Flow detention time= 205.2 min calculated for 25,081 cf (100% of inflow)
 Center-of-Mass det. time= 205.2 min (963.2 - 758.0)

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	26,340 cf	Bioretention Area #2 (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	2,704	214.0	0	0	2,704
62.00	3,613	239.0	3,148	3,148	3,633
63.00	4,622	264.0	4,107	7,255	4,665
64.00	5,733	290.0	5,168	12,422	5,844
65.00	6,943	315.0	6,328	18,751	7,085
66.00	8,254	340.0	7,589	26,340	8,429

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	12.0" Round 12" Outlet Pipe L= 80.3' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 58.00' / 57.50' S= 0.0062 ' / Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	58.00'	3.0" Vert. 3" Orifice C= 0.600
#3	Device 1	64.75'	48.0" x 48.0" Horiz. OCS Rim C= 0.600 Limited to weir flow at low heads
#4	Device 2	58.00'	4.0" Round 4" Underdrain L= 3.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 58.00' / 58.00' S= 0.0000 ' / Cc= 0.900 n= 0.013, Flow Area= 0.09 sf
#5	Device 4	61.80'	12.0" Horiz. Yard drain/WQV C= 0.600 Limited to weir flow at low heads
#6	Device 4	61.00'	2.410 in/hr Exfiltration thru media over Surface area Phase-In= 0.01'
#7	Secondary	65.00'	10.00' long x 6.00' breadth Emergency Overflow Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.6 cfs @ 13.11 hrs HW=63.86' (Free Discharge)

1=12" Outlet Pipe (Passes 0.6 cfs of 7.6 cfs potential flow)

2=3" Orifice (Orifice Controls 0.6 cfs @ 11.53 fps)

4=4" Underdrain (Passes 0.6 cfs of 1.3 cfs potential flow)

5=Yard drain/WQV (Passes < 5.4 cfs potential flow)

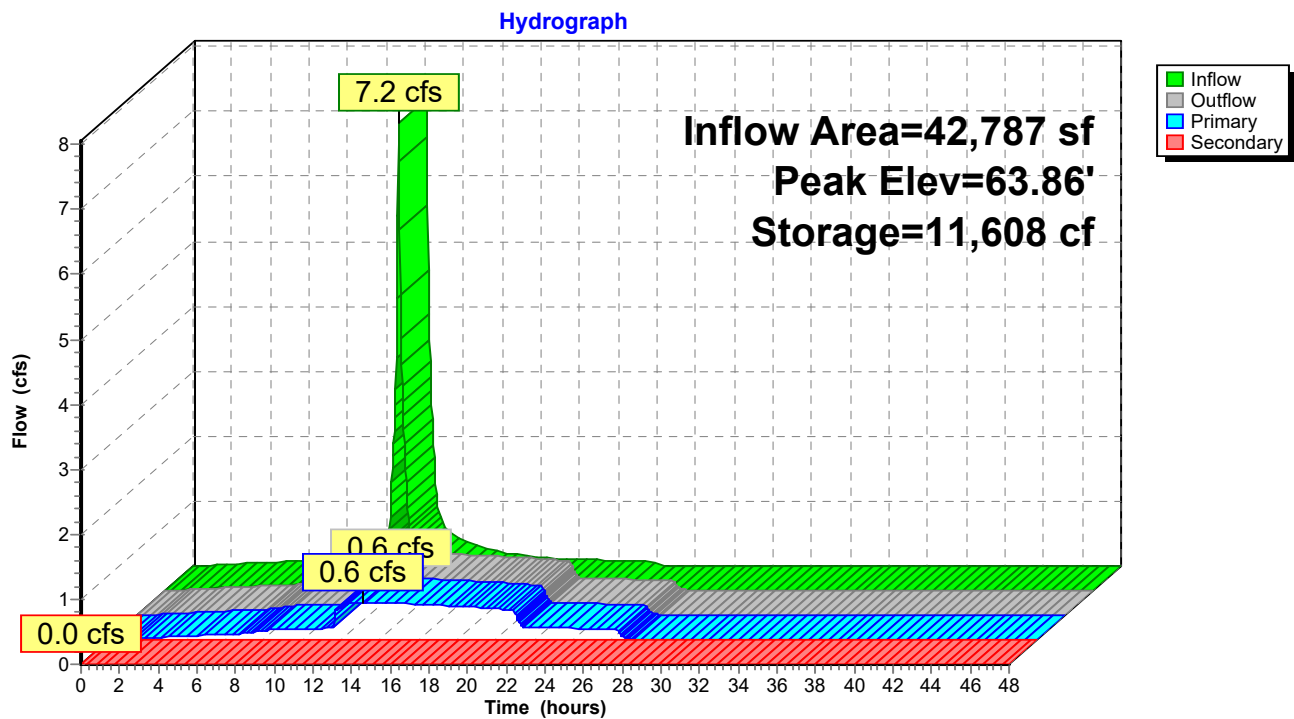
6=Exfiltration thru media (Passes < 0.3 cfs potential flow)

3=OCS Rim (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=61.00' (Free Discharge)

7=Emergency Overflow (Controls 0.0 cfs)

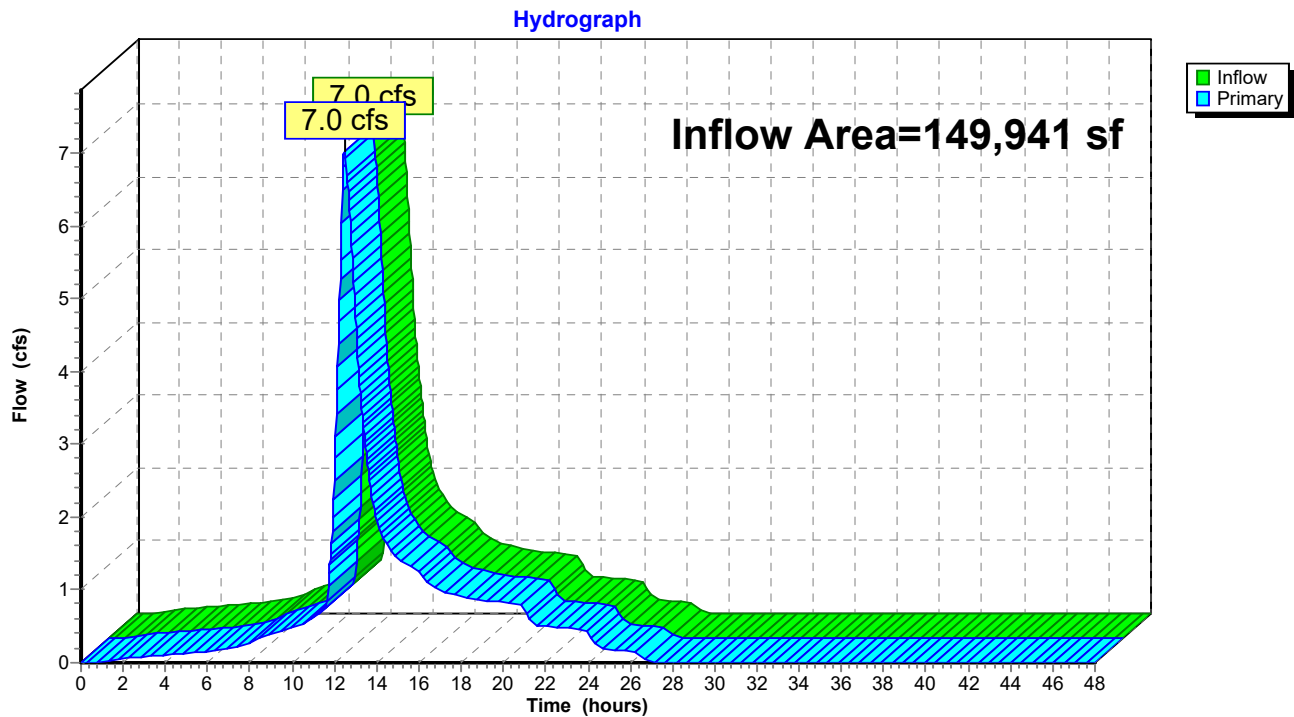
Pond 2P: Bioretention Basin #2



Summary for Link DP-1: Offsite to East

Inflow Area = 149,941 sf, 36.95% Impervious, Inflow Depth = 6.13" for 100-Year event
Inflow = 7.0 cfs @ 12.46 hrs, Volume= 76,612 cf
Primary = 7.0 cfs @ 12.46 hrs, Volume= 76,612 cf, Atten= 0%, Lag= 0.0 min

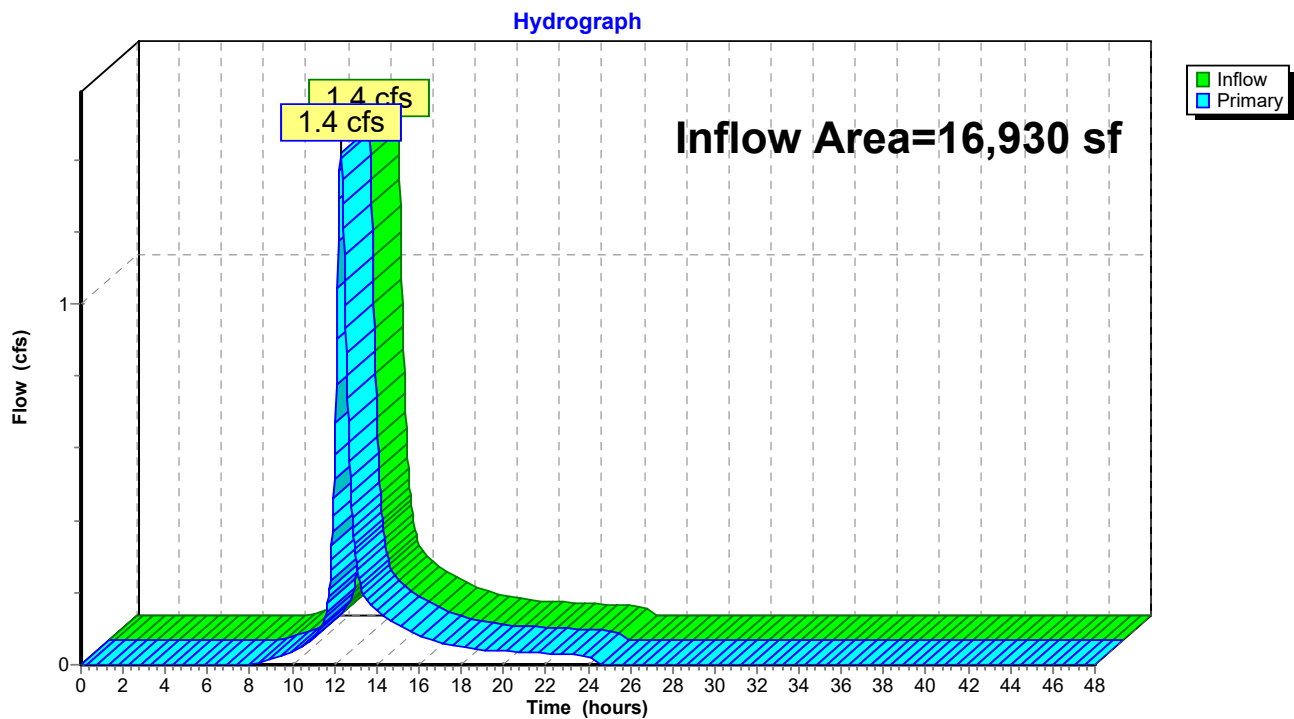
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite to East

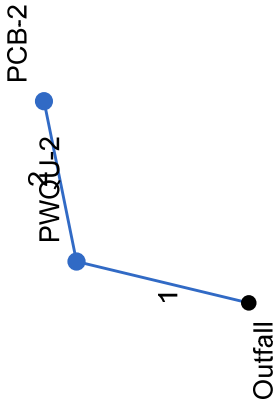
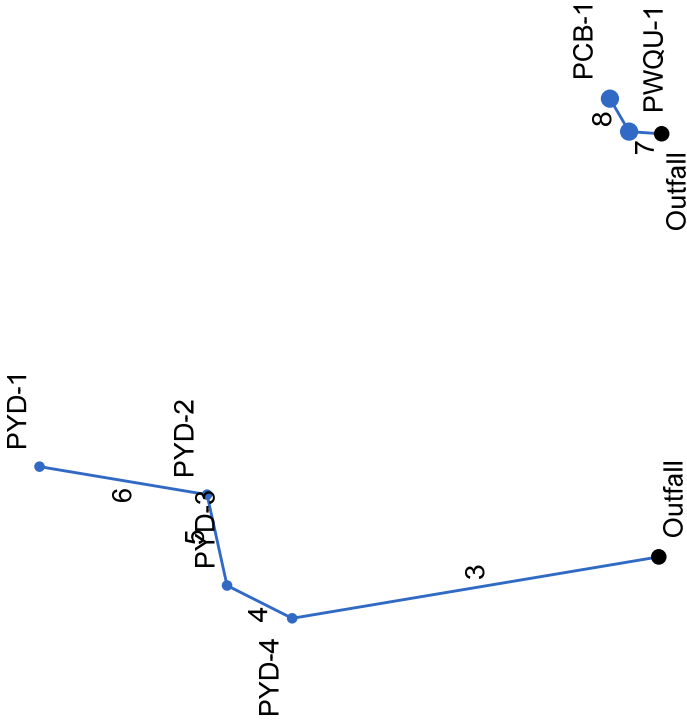
Summary for Link DP-2: Offsite to West

Inflow Area = 16,930 sf, 0.00% Impervious, Inflow Depth = 4.73" for 100-Year event
Inflow = 1.4 cfs @ 12.29 hrs, Volume= 6,670 cf
Primary = 1.4 cfs @ 12.29 hrs, Volume= 6,670 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Offsite to West

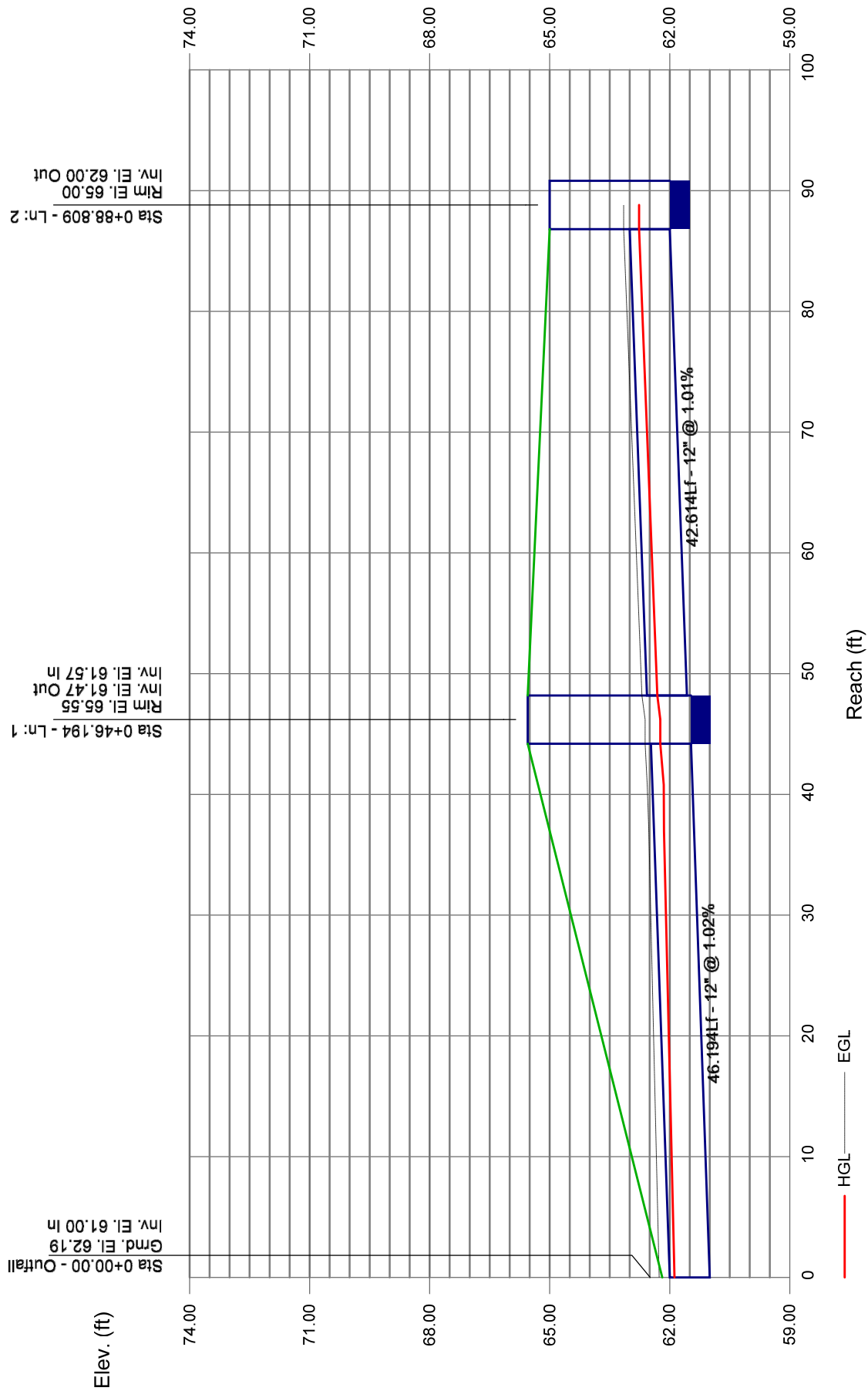
Appendix D: Hydraulic Analysis

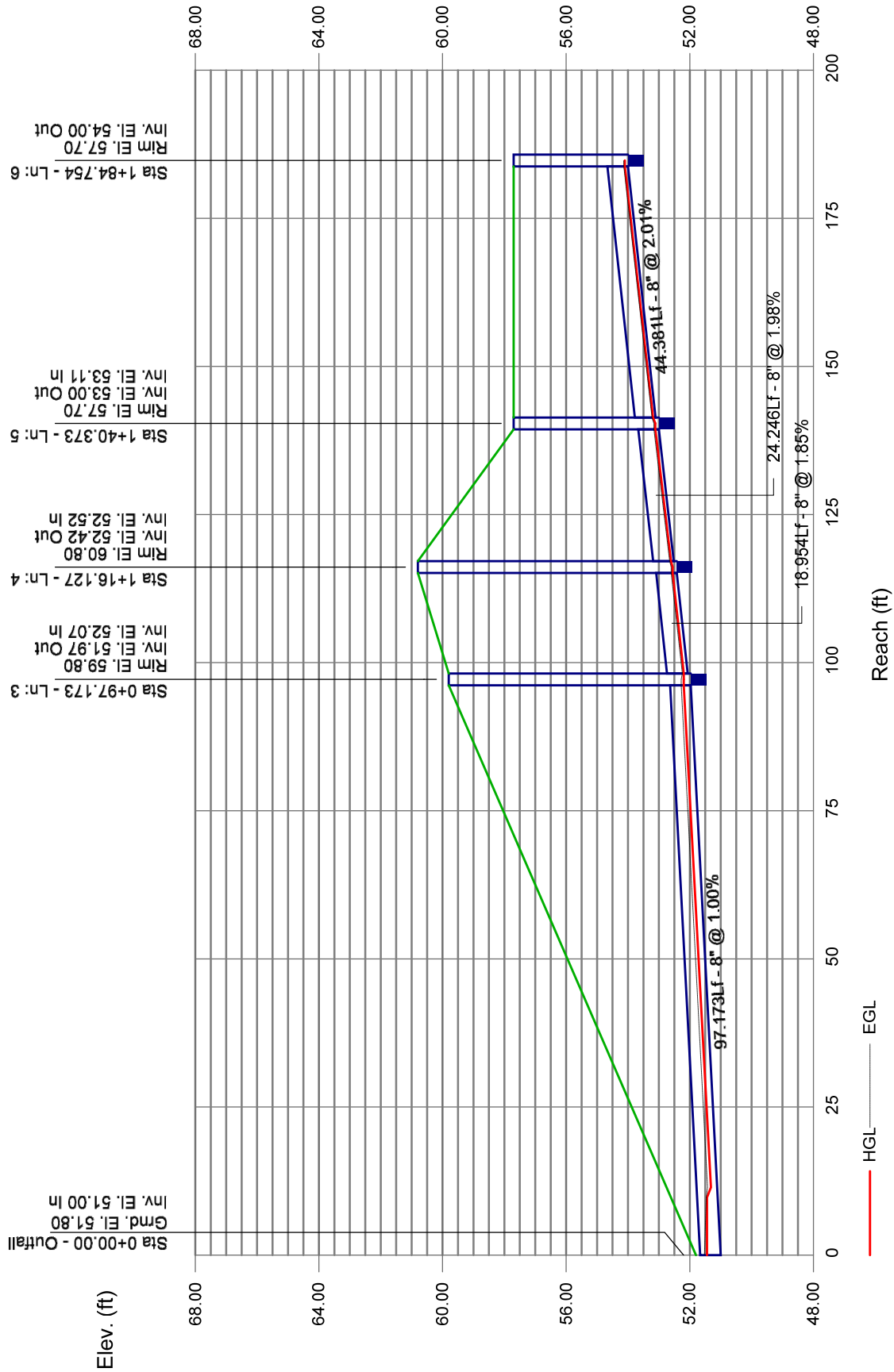


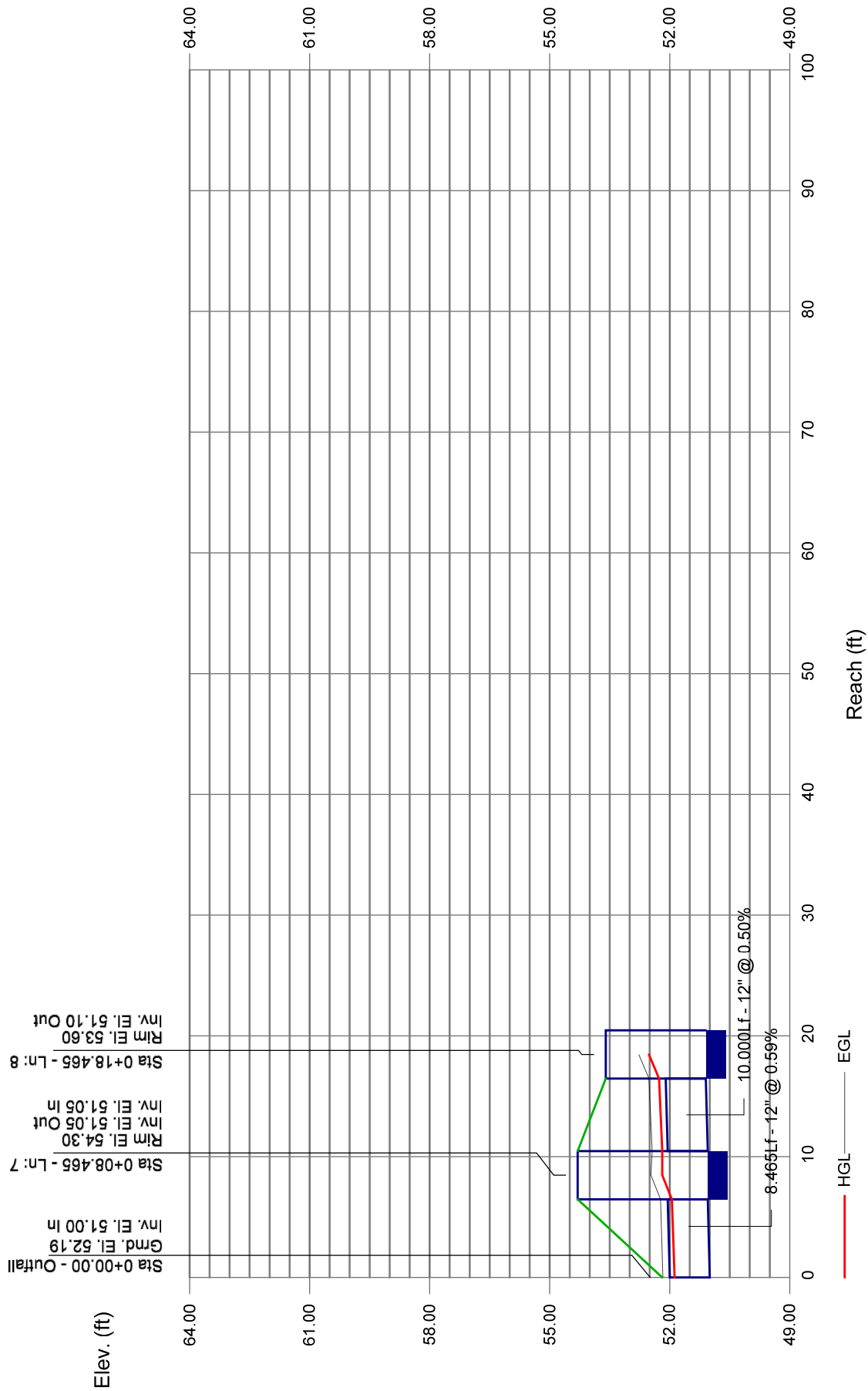
Project File: 231007 - STORM.stm	Number of lines: 8	Date: 8/30/2024
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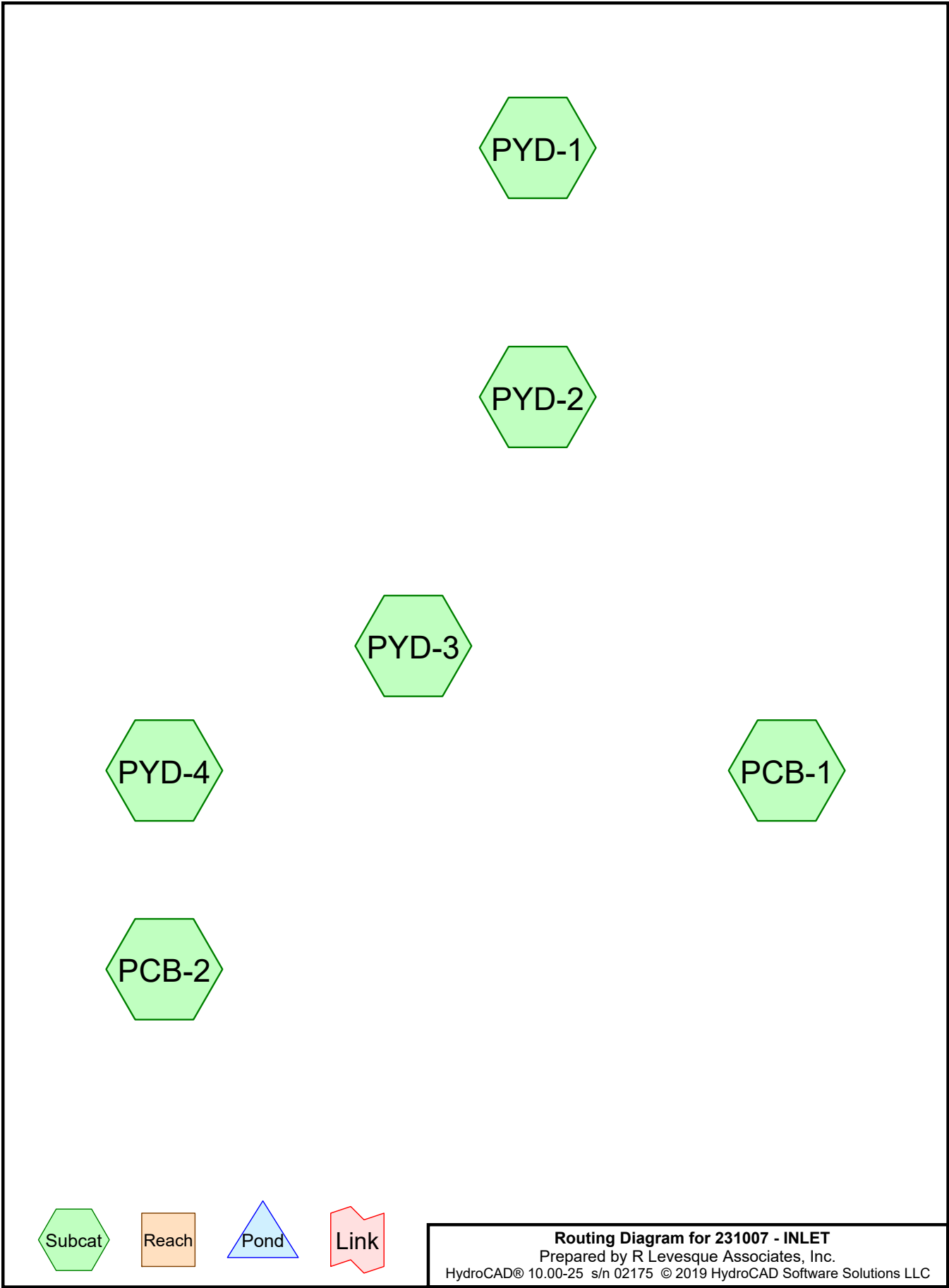
Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (l)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr	Total	(C)	Incr	Total	Inlet	Syst	(in/hr)	(cfs)	(cfs)	(ft/s)	Size	Slope	Dn	Up	Dn	Up	Dn	Up	(ft)
			(ac)	(ac)				(min)	(min)					(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1	End	46.194	0.00	0.45	0.00	0.00	0.39	0.0	6.2	8.2	3.19	3.59	4.65	12	1.02	61.00	61.47	61.88	62.23	62.19	65.55	P-D-PIPE-(8)
2	1	42.614	0.45	0.45	0.86	0.39	0.39	6.0	6.0	8.3	3.22	3.58	5.06	12	1.01	61.57	62.00	62.31	62.77	65.55	65.00	P-D-PIPE-(4)
3	End	97.173	0.10	0.17	0.24	0.02	0.04	0.0	13.9	6.3	0.24	1.21	1.63	8	1.00	51.00	51.97	51.45	52.19	51.80	59.80	P-D-PIPE-(13)
4	3	18.954	0.02	0.07	0.20	0.00	0.01	0.0	12.9	6.4	0.09	1.64	1.88	8	1.85	52.07	52.42	52.19	52.56	59.80	60.80	P-D-PIPE-(12)
5	4	24.246	0.02	0.05	0.20	0.00	0.01	6.0	11.2	6.8	0.07	1.70	2.00	8	1.98	52.52	53.00	52.61	53.12	60.80	57.70	P-D-PIPE-(11)
6	5	44.381	0.03	0.03	0.20	0.01	0.01	6.0	6.0	8.3	0.05	1.71	1.83	8	2.01	53.11	54.00	53.19	54.10	57.70	57.70	P-D-PIPE-(10)
7	End	8.465	0.00	0.62	0.00	0.00	0.45	0.0	10.0	7.1	3.16	2.74	4.29	12	0.59	51.00	51.05	51.88	51.95	52.19	54.30	P-D-PIPE-(6)
8	7	10.000	0.62	0.62	0.72	0.45	0.45	10.0	10.0	7.1	3.17	2.52	4.04	12	0.50	51.05	51.10	52.19	52.27	54.30	53.60	P-D-PIPE-(5)
Project File: 231007 - STORM.stm																						Run Date: 8/30/2024
Number of lines: 8																						
NOTES:Intensity = 80.27 / (Inlet time + 12.00) ^ 0.78; Return period =Yrs. 100 ; c = cir e = ellip b = box																						









231007 - INLET

Type III 24-hr 100-Year Rainfall=8.19"

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Page 2

Summary for Subcatchment PCB-1:

Runoff = 4.1 cfs @ 12.13 hrs, Volume= 0.372 af, Depth= 7.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (ac)	CN	Description
0.156	74	>75% Grass cover, Good, HSG C
0.001	80	>75% Grass cover, Good, HSG D
0.456	98	Paved parking, HSG C
0.006	70	Woods, Good, HSG C
0.620		Weighted Average
0.164	74	26.45% Pervious Area
0.456	98	73.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Summary for Subcatchment PCB-2:

Runoff = 3.5 cfs @ 12.08 hrs, Volume= 0.290 af, Depth= 7.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
0.422	98	Paved parking, HSG C
0.446		Weighted Average
0.024	74	5.38% Pervious Area
0.422	98	94.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment PYD-1:

Runoff = 0.1 cfs @ 12.09 hrs, Volume= 0.011 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

231007 - INLET

Type III 24-hr 100-Year Rainfall=8.19"

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Area (ac)	CN	Description
0.008	74	>75% Grass cover, Good, HSG C
0.019	70	Woods, Good, HSG C
0.027		Weighted Average
0.027	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment PYD-2:

Runoff = 0.1 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 4.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (ac)	CN	Description
0.016	74	>75% Grass cover, Good, HSG C
0.008	70	Woods, Good, HSG C
0.024		Weighted Average
0.024	73	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment PYD-3:

Runoff = 0.1 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 5.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.19"

Area (ac)	CN	Description
0.015	74	>75% Grass cover, Good, HSG C
0.000	98	Paved parking, HSG C
0.006	70	Woods, Good, HSG C
0.021		Weighted Average
0.021	73	99.04% Pervious Area
0.000	98	0.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

231007 - INLET

Type III 24-hr 100-Year Rainfall=8.19"

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Summary for Subcatchment PYD-4:

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Type III 24-hr 100-Year Rainfall=8.19"

Area (ac)	CN	Description
0.073	74	>75% Grass cover, Good, HSG C
0.006	98	Paved parking, HSG C
0.019	70	Woods, Good, HSG C
0.097		Weighted Average
0.092	73	94.06% Pervious Area
0.006	98	5.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Appendix E: MassDEP Calculations

- Impervious Area Calculations
- Water Quality Flow Rate – PWQU-1
- MassDEP Water Quality Conversion Table (1-inch)
- Water Quality Flow Rate – PWQU-2
- MassDEP Water Quality Conversion Table (1-inch)
- Barracuda Selection Sheet
- NJDEP Certification Report
- Barracuda Maintenance Guide
- Water Quality Volume – Bioretention Basin #1
- Stage-storage – Bioretention Basin #1
- Water Quality Volume – Bioretention Basin #2
- Stage-storage – Bioretention Basin #2
- TSS Removal Form

Impervious Area Calculations

Existing Total Impervious Area

	Sub-Catchment	Roof (sf)	Other Impervious (sf)	Sum (sf)
Design Point 1	ES-1	3,499	15,898	19,397
Design Point 2	ES-2	0	0	0
		3,499	15,898	19,397

Proposed Total Impervious Area

	Sub-Catchment	Roof (sf)	Other Impervious (sf)	Sum (sf)	
Design Point 1	PS-1A	3,279	20,126	23,405	Tributary to Basin #1
	PS-1B	0	0	0	
Design Point 2	PS-2A	7,704	19,200	26,904	Tributary to Basin #2
	PS-2B	0	0	0	
		10,983	39,326	50,309	

Summary Table

Total Existing Impervious Area	19,397 SF
Total Proposed Impervious Area	50,309 SF
Total New Impervious Area	30,912 SF

Standard 4: Water Quality - PWQU-1

Water Quality Volume Conversion to Flow Rate

Note: Required water quality volume based on 1.0-inch of runoff

$$Q = (qu) (A) (WQV)$$

where: Q = peak flow rate associated with water quality event (c.f.s.)

qu = unit peak discharge (csm/in) - value taken from table based on t_c

A = impervious surface drainage area (sq. mi.)

WQV = water quality volume in watershed inches

· Proposed Water Quality Unit (PWQU-1)

$$t_c = 0.170 \text{ hrs}$$

$$qu = 700 \text{ csm/in} \quad (\text{from table})$$

$$A = 0.00084 \text{ sq. mi.}$$

$$WQV = 1.0 \text{ inch}$$

$$Q_{1.0} = 0.59 \text{ c.f.s.}$$

The Baracuda Max Model S3 provides pre-treatment of flows up to 1.65 c.f.s.

* Only includes impervious area tributary to PWQU-1

** Water quality depth shall equal 1-inch for discharges within a Zone II or Interim Wellhead Protection Area, to or near another critical area, runoff from a LUHPPL, or exfiltration to soils with infiltration rate greater than 2.4-inches/hour or greater; 1/2-inch for discharges near to other areas

Figure 4: for First 1-inch Runoff, Table of qu values for Ia/P Curve = 0.034, listed by tc, for Type III Storm Distribution

Tc (Hours)	qu (csm/in)	Tc (Hours)	qu (csm/in)	Tc (Hours)	qu (csm/in)
0.01	835	2.7	197	7.1	95
0.03	835	2.8	192	7.2	94
0.05	831	2.9	187	7.3	93
0.067	814	3	183	7.4	92
0.083	795	3.1	179	7.5	91
0.1	774	3.2	175	7.6	90
0.116	755	3.3	171	7.7	89
0.133	736	3.4	168	7.8	88
0.15	717	3.5	164	7.9	87
0.167	700	3.6	161	8	86
0.183	685	3.7	158	8.1	85
0.2	669	3.8	155	8.2	84
0.217	654	3.9	152	8.3	84
0.233	641	4	149	8.4	83
0.25	628	4.1	146	8.5	82
0.3	593	4.2	144	8.6	81
0.333	572	4.3	141	8.7	80
0.35	563	4.4	139	8.8	79
0.4	536	4.5	137	8.9	79
0.416	528	4.6	134	9	78
0.5	491	4.7	132	9.1	77
0.583	460	4.8	130	9.2	76
0.6	454	4.9	128	9.3	76
0.667	433	5	126	9.4	75
0.7	424	5.1	124	9.5	74
0.8	398	5.2	122	9.6	74
0.9	376	5.3	120	9.7	73
1	356	5.4	119	9.8	72
1.1	339	5.5	117	9.9	72
1.2	323	5.6	115	10	71
1.3	309	5.7	114		
1.4	296	5.8	112		
1.5	285	5.9	111		
1.6	274	6	109		
1.7	264	6.1	108		
1.8	255	6.2	106		
1.9	247	6.3	105		
2	239	6.4	104		
2.1	232	6.5	102		
2.2	225	6.6	101		
2.3	219	6.7	100		
2.4	213	6.8	99		
2.5	207	6.9	98		
2.6	202	7	96		

Standard 4: Water Quality - PWQU-2

Water Quality Volume Conversion to Flow Rate

Note: Required water quality volume based on 1.0-inch of runoff

$$Q = (qu) (A) (WQV)$$

where: Q = peak flow rate associated with water quality event (c.f.s.)

qu = unit peak discharge (csm/in) - value taken from table based on t_c

A = impervious surface drainage area (sq. mi.)

WQV = water quality volume in watershed inches

· Proposed Water Quality Unit (PWQU-2)

$$\begin{aligned} t_c &= 0.100 \text{ hrs} \\ qu &= 774 \text{ csm/in} && \text{(from table)} \\ A &= 0.00097 \text{ sq. mi.} \\ WQV &= 1.0 \text{ inch} \end{aligned}$$

$$Q_{1.0} = 0.75 \text{ c.f.s}$$

The Baracuda Max Model S3 provides pre-treatment of flows up to 1.65 c.f.s.

* Only includes impervious area tributary to PWQU-2

** Water quality depth shall equal 1-inch for discharges within a Zone II or Interim Wellhead Protection Area, to or near another critical area, runoff from a LUHPPL, or exfiltration to soils with infiltration rate greater than 2.4-inches/hour or greater; 1/2-inch for discharges near to other areas

Figure 4: for First 1-inch Runoff, Table of qu values for Ia/P Curve = 0.034, listed by tc, for Type III Storm Distribution

Tc (Hours)	qu (csm/in)	Tc (Hours)	qu (csm/in)	Tc (Hours)	qu (csm/in)
0.01	835	2.7	197	7.1	95
0.03	835	2.8	192	7.2	94
0.05	831	2.9	187	7.3	93
0.067	814	3	183	7.4	92
0.083	795	3.1	179	7.5	91
0.1	774	3.2	175	7.6	90
0.116	755	3.3	171	7.7	89
0.133	736	3.4	168	7.8	88
0.15	717	3.5	164	7.9	87
0.167	700	3.6	161	8	86
0.183	685	3.7	158	8.1	85
0.2	669	3.8	155	8.2	84
0.217	654	3.9	152	8.3	84
0.233	641	4	149	8.4	83
0.25	628	4.1	146	8.5	82
0.3	593	4.2	144	8.6	81
0.333	572	4.3	141	8.7	80
0.35	563	4.4	139	8.8	79
0.4	536	4.5	137	8.9	79
0.416	528	4.6	134	9	78
0.5	491	4.7	132	9.1	77
0.583	460	4.8	130	9.2	76
0.6	454	4.9	128	9.3	76
0.667	433	5	126	9.4	75
0.7	424	5.1	124	9.5	74
0.8	398	5.2	122	9.6	74
0.9	376	5.3	120	9.7	73
1	356	5.4	119	9.8	72
1.1	339	5.5	117	9.9	72
1.2	323	5.6	115	10	71
1.3	309	5.7	114		
1.4	296	5.8	112		
1.5	285	5.9	111		
1.6	274	6	109		
1.7	264	6.1	108		
1.8	255	6.2	106		
1.9	247	6.3	105		
2	239	6.4	104		
2.1	232	6.5	102		
2.2	225	6.6	101		
2.3	219	6.7	100		
2.4	213	6.8	99		
2.5	207	6.9	98		
2.6	202	7	96		

Barracuda[®] Max

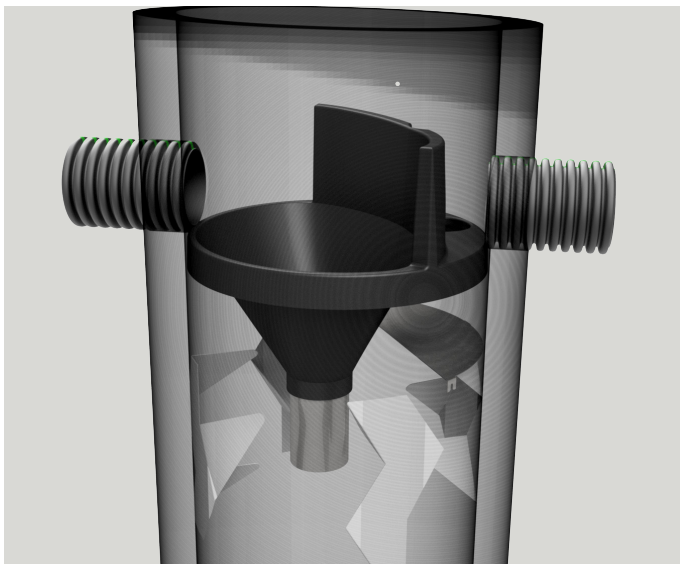
The Barracuda Max is market-changing stormwater quality technology. This high-performance vortex hydrodynamic separator is designed to remove total suspended solids in order to protect our precious receiving waters. The Barracuda Max is also an outstanding value that offers multiple pipe configurations, and quick installation. The “Max” version of the Barracuda is built on the base platform of the original ADS Barracuda with improved removal efficiencies and installation components.

Features

- Single manhole design
- No elevation loss between the inlet and outlet
- Variable inlet/outlet angle configurations (not just 180 degree orientation)
- Internal bypass for inline installation (where applicable)
- Revolutionary, patent pending “teeth” mitigate turbulence in the sump area to prevent resuspension of captured contaminants
- Available with grated drop inlet configuration
- Available with trash and/or oil capture add-ons

Benefits

- Internal components are in stock for quick delivery
- The S3, S4, S6, and S8 can be installed in a standard 36” (900 mm), 48” (1200 mm), 72” (1800 mm), and 96” (2400 mm) precast manhole, respectively
- The S3 & S4 can be provided factory installed within a 36” (900 mm) and 48” (1200 mm) ADS HP manhole and delivered to the jobsite
- The Barracuda Max “teeth” and deflector plate apparatus are fabricated and designed for quick and easy field assembly
- Designed for easy maintenance using a vacuum truck or similar equipment.
- Inspection and maintenance are performed from the surface with no confined space entry



Barracuda Specification

Materials and Design

- Concrete Structures: Designed for H-20 traffic loading and applicable soil loads or as otherwise determined by a Licensed Professional Engineer. The materials and structural design of the devices shall be per ASTM C857 and ASTM C858.
- 36" (900 mm) and 48" (1200 mm) HP Manhole Structures: Made from an impact modified copolymer polypropylene meeting the material requirements of ASTM F2764. The eccentric cone reducer shall be manufactured from polyethylene material meeting ASTM D3350 cell class 213320C. Gaskets shall be made of material meeting the requirements of ASTM F477.
- Separator internals shall be substantially constructed of stainless steel, polyethylene or other thermoplastic material approved by the manufacturer.

Performance

- The stormwater treatment unit shall be an inline unit capable of conveying 100% of the design peak flow. If peak flow rates exceed maximum hydraulic rate, the unit shall be installed offline.
- The Barracuda Max unit shall be designed to remove at least 80% of the suspended solids on an annual aggregate removal basis. Said removal shall be based on full-scale third party testing using OK-110 media gradation or equivalent and 300 mg/L influent concentration. Said full scale testing shall have included sediment capture based on actual total mass collected by the stormwater treatment unit.

- OR -

The Barracuda Max unit shall be designed to remove at least 50% of TSS using a media mix with d_{50} =75 micron and 200 mg/L influent concentration.

- OR -

The Barracuda Max unit shall be designed to remove at least 50% of TSS per current NJDEP/NJCAT HDS protocol.

- The stormwater treatment unit internals shall consist of (1) separator cone assembly, and (1) sump assembly, which includes the "teeth".

Barracuda Max Model	Manhole Diameter	OK-110 (80% removal)	Pretreatment for Infiltration ¹
S3	36" (900 mm)	0.86 CFS (24.1 L/s)	1.65 CFS (46.7 L/s)
S4	48" (1200 mm)	1.52 CFS (43.0 L/s)	2.94 CFS (83.3 L/s)
S6	72" (1800 mm)	3.42 CFS (96.8 L/s)	6.62 CFS (187.5 L/s)
S8	96" (2400 mm)	6.08 CFS (172.2 L/s)	11.76 CFS (333.0 L/s)

* Peak bypass flows are dependent on final design

¹ 50% removal of OK-110.

Installation

Installation of the stormwater treatment unit(s) shall be performed per manufacturer's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems at 800-821-6710 or by logging on to www.adspipe.com.



Barracuda[®] Max[™] & Barracuda Maintenance Guide

One of Barracuda's advantages is the ease of maintenance. Like any system that collects pollutants, the Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes 2 to 4 hours, depending on the system's size, the captured material, and the vacuum truck's capacity.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and then on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

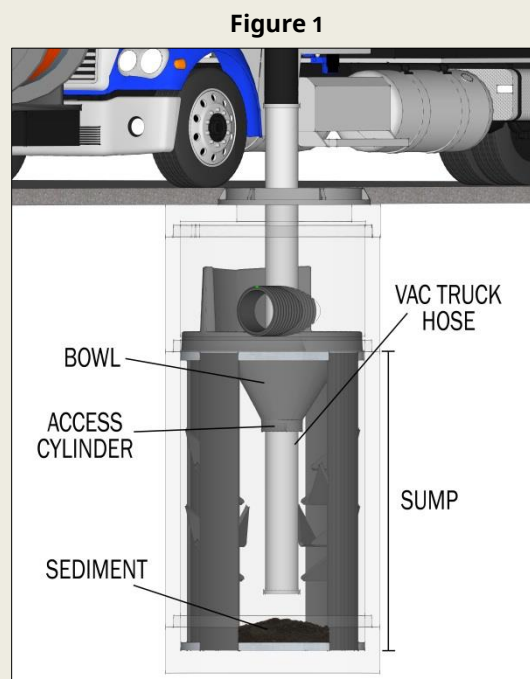
Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

Barracuda Storage Capacities

Model	Manhole Diameter in. (mm)	Total System Volume Gallons (Liters)	Treatment Chamber Capacity Gallons (Liters)	Standard Sediment Capacity (20" depth) Yards ³ (meters ³)	NJDEP Sediment Capacity (50% of standard depth) Yards ³ (meters ³)
S3	36 (900)	264 (999)	212 (803)	0.44 (0.34)	0.22 (0.17)
S4	48 (1200)	665 (2517)	564 (2135)	0.78 (0.60)	0.39 (0.30)
S5	60 (1500)	1040 (3937)	881 (3335)	1.21 (0.93)	0.61 (0.47)
S6	72 (1800)	1497 (5667)	1269 (4804)	1.75 (1.34)	0.88 (0.67)
S8	96 (2400)	4196 (15884)	3835 (14517)	3.10 (2.37)	1.55 (1.19)
S10	120 (3000)	7976 (30192)	7496 (28375)	4.85 (3.71)	2.43 (1.86)

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. Access this area through the 8" (200 mm), 10" (250 mm), 15" (375 mm) or 20" (500 mm) diameter access cylinder.
2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
 - a. Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
 - b. Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
 - c. Additional local regulations may apply to the maintenance procedure.



Maintenance Guide

BaySaver Barracuda™

July 2017

One of the advantages of the BaySaver Barracuda is the ease of maintenance. Like any system that collects pollutants, the BaySaver Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes from 2 to 4 hours, depending on the size of the system, the captured material, and the capacity of the vacuum truck.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and thereafter on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

BaySaver Barracuda Storage Capacities

Model	Manhole Diameter	Treatment Chamber Capacity	Standard Sediment Capacity (20" depth)	NJDEP Sediment Capacity (50% of standard depth)
S3	36"	212 gallons	0.44 cubic yards	0.22 cubic yards
S4	48"	564 gallons	0.78 cubic yards	0.39 cubic yards
S5	60"	881 gallons	1.21 cubic yards	0.61 cubic yards
S6	72"	1269 gallons	1.75 cubic yards	0.88 cubic yards
S8	96"	3835 gallons	3.10 cubic yards	1.55 cubic yards
S10	120"	7496 gallons	4.85 cubic yards	2.43 cubic yards

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. You'll access this area through the 10" diameter access cylinder.

2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
 - Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
 - Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
 - Additional local regulations may apply to the maintenance procedure.

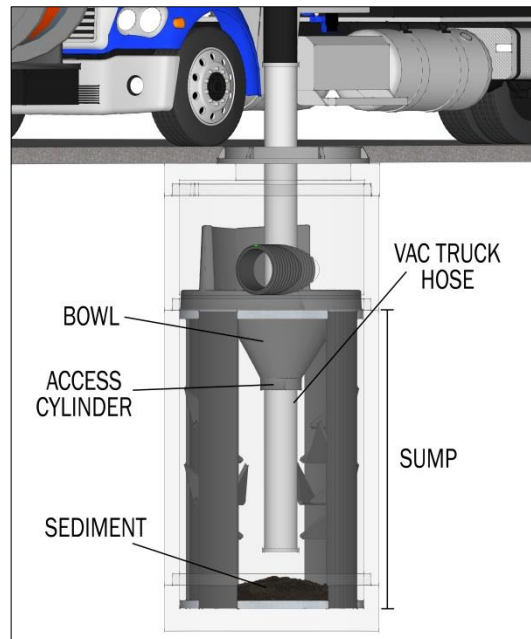


Figure 1

Standard 4: Water Quality

Water Quality Volume - Bio-Retention Basin #1

$$V_{WQ} \text{ (required)} = (D_{WQ} / 12 \text{ inches/foot}) (A_{IMP} \times 43,560 \text{ square feet/acre})$$

where: V_{WQ} = req'd water quality volume (cu. ft.)

D_{WQ} = water quality depth* (inches) = 1.0 inches

A_{IMP} = total impervious area (acres)** = 0.537 acres

$$V_{WQ} \text{ (required)} = 1,950 \text{ cu. ft.}$$

Storage Volume Provided

Recharge Facility	Volume Provided
Bio-Retention Basin #1	2,244 cu. Ft.***
	2,244 cu. ft. > 1,950 cu. ft.

*Water quality depth shall equal 1-inch for discharges within a Zone II or Interim Wellhead Protection Area, to or near another critical area, runoff from a LUHPPL, or exfiltration to soils with infiltration rate greater than 2.4 inches/hour or greater; ½-inch for discharges near or to other areas

**Only includes impervious area tributary to the surface infiltration basin subject to water quality treatment.

***Volume represents the available storage in Bio-Retention basin below yard drain rim elevation 51.60
Depth of water in basin = 0.60 feet

231007 - POST

Type III 24-hr 2-Year Rainfall=3.19"

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Page 1

Stage-Area-Storage for Pond 1P: Bioretention Basin #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
51.00	3,473	0	53.65	5,442	12,469
51.05	3,517	175	53.70	5,433	12,741
51.10	3,561	352	53.75	5,424	13,012
51.15	3,605	531	53.80	5,415	13,283
51.20	3,649	712	53.85	5,406	13,553
51.25	3,694	896	53.90	5,397	13,824
51.30	3,739	1,082	53.95	5,388	14,093
51.35	3,784	1,270	54.00	5,379	14,362
51.40	3,830	1,460			
51.45	3,876	1,653			
51.50	3,922	1,848			
51.55	3,968	2,045			
51.60	4,015	2,244			
51.65	4,062	2,446			
51.70	4,109	2,651			
51.75	4,157	2,857			
51.80	4,204	3,066			
51.85	4,252	3,278			
51.90	4,301	3,491			
51.95	4,349	3,708			
52.00	4,398	3,926			
52.05	4,453	4,148			
52.10	4,508	4,372			
52.15	4,563	4,598			
52.20	4,619	4,828			
52.25	4,676	5,060			
52.30	4,732	5,296			
52.35	4,789	5,534			
52.40	4,846	5,775			
52.45	4,904	6,018			
52.50	4,962	6,265			
52.55	5,020	6,514			
52.60	5,078	6,767			
52.65	5,137	7,022			
52.70	5,196	7,281			
52.75	5,256	7,542			
52.80	5,316	7,806			
52.85	5,376	8,073			
52.90	5,437	8,344			
52.95	5,498	8,617			
53.00	5,559	8,894			
53.05	5,550	9,171			
53.10	5,541	9,449			
53.15	5,532	9,725			
53.20	5,523	10,002			
53.25	5,514	10,278			
53.30	5,505	10,553			
53.35	5,496	10,828			
53.40	5,487	11,103			
53.45	5,478	11,377			
53.50	5,469	11,650			
53.55	5,460	11,924			
53.60	5,451	12,196			


Storage at outlet

Standard 4: Water Quality

Water Quality Volume - Bio-Retention Basin #2

$$V_{WQ} \text{ (required)} = (D_{WQ} / 12 \text{ inches/foot}) (A_{IMP} \times 43,560 \text{ square feet/acre})$$

where: V_{WQ} = req'd water quality volume (cu. ft.)

D_{WQ} = water quality depth* (inches) = 1.0 inches

A_{IMP} = total impervious area (acres)** = 0.618 acres

$$V_{WQ} \text{ (required)} = 2,242 \text{ cu. ft.}$$

Storage Volume Provided

Recharge Facility	Volume Provided
Bio-Retention Basin #1	2,444 cu. Ft.***
	2,444 cu. ft. > 2,242 cu. ft.

*Water quality depth shall equal 1-inch for discharges within a Zone II or Interim Wellhead Protection Area, to or near another critical area, runoff from a LUHPPL, or exfiltration to soils with infiltration rate greater than 2.4 inches/hour or greater; ½-inch for discharges near or to other areas

**Only includes impervious area tributary to the surface infiltration basin subject to water quality treatment.

***Volume represents the available storage in Bio-Retention basin below yard drain rim elevation 61.80
Depth of water in basin = 0.80 feet

231007 - POST

Type III 24-hr 2-Year Rainfall=3.19"

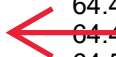
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Page 1

Stage-Area-Storage for Pond 2P: Bioretention Basin #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
61.00	2,704	0	63.65	5,331	10,487
61.05	2,746	136	63.70	5,387	10,754
61.10	2,789	275	63.75	5,444	11,025
61.15	2,832	415	63.80	5,501	11,299
61.20	2,875	558	63.85	5,559	11,575
61.25	2,919	703	63.90	5,617	11,855
61.30	2,963	850	63.95	5,675	12,137
61.35	3,007	999	64.00	5,733	12,422
61.40	3,052	1,150	64.05	5,791	12,710
61.45	3,097	1,304	64.10	5,849	13,001
61.50	3,142	1,460	64.15	5,907	13,295
61.55	3,188	1,618	64.20	5,966	13,592
61.60	3,234	1,779	64.25	6,025	13,892
61.65	3,280	1,942	64.30	6,084	14,195
61.70	3,326	2,107	64.35	6,143	14,500
61.75	3,373	2,274	64.40	6,202	14,809
61.80	3,421	2,444	64.45	6,262	15,120
61.85	3,468	2,616	64.50	6,324	15,435
61.90	3,516	2,791	64.55	6,384	15,753
61.95	3,564	2,968	64.60	6,445	16,074
62.00	3,613	3,148	64.65	6,506	16,397
62.05	3,661	3,329	64.70	6,568	16,724
62.10	3,708	3,514	64.75	6,630	17,054
62.15	3,756	3,700	64.80	6,692	17,387
62.20	3,805	3,889	64.85	6,754	17,723
62.25	3,854	4,081	64.90	6,817	18,063
62.30	3,903	4,275	64.95	6,880	18,405
62.35	3,952	4,471	65.00	6,943	18,751
62.40	4,002	4,670	65.05	7,006	19,099
62.45	4,052	4,871	65.10	7,069	19,451
62.50	4,102	5,075	65.15	7,132	19,806
62.55	4,153	5,281	65.20	7,196	20,164
62.60	4,204	5,490	65.25	7,260	20,526
62.65	4,255	5,702	65.30	7,324	20,890
62.70	4,306	5,916	65.35	7,389	21,258
62.75	4,358	6,132	65.40	7,454	21,629
62.80	4,410	6,352	65.45	7,519	22,004
62.85	4,463	6,573	65.50	7,584	22,381
62.90	4,516	6,798	65.55	7,650	22,762
62.95	4,569	7,025	65.60	7,716	23,146
63.00	4,622	7,255	65.65	7,782	23,534
63.05	4,675	7,487	65.70	7,849	23,924
63.10	4,728	7,722	65.75	7,916	24,319
63.15	4,781	7,960	65.80	7,983	24,716
63.20	4,835	8,200	65.85	8,050	25,117
63.25	4,889	8,443	65.90	8,118	25,521
63.30	4,943	8,689	65.95	8,186	25,929
63.35	4,997	8,938	66.00	8,254	26,340
63.40	5,052	9,189			
63.45	5,107	9,443			
63.50	5,163	9,700			
63.55	5,218	9,959			
63.60	5,274	10,221			



Storage at outlet

TSS Removal Form - Bio-Retention Basins #1 & #2

Pre-Treatment	BMP	TSS Removal Rate	Starting TSS Load	Amount Removed	Remaining Load
	Deep-sump Hooded Catch Basin	0.25	1.00	0.25	0.75
	Proprietary Sedimentation Device	0.80	0.75	0.60	0.15
Pre-Treatment TSS Removal =					85%
Total TSS Removal	BMP	TSS Removal Rate	Starting TSS Load	Amount Removed	Remaining Load
	Bio-retention Basin	0.90	1.00	0.90	0.10
Total TSS Removal =					90%

Appendix F: Construction Period Erosion Control Plan

Construction Period Erosion Control Plan

Proposed Hotel

1422-1444 Main Street
Agawam, Massachusetts
(Map K4 Block 1 Parcels 5, 6, 7, & 13)

Applicant/Owner:

Shield Hotels
c/o Kenny Patel
63 Myron Street
West Springfield, MA 01089

RLA Project File: 231007

May 23, 2024

R LEVESQUE ASSOCIATES, INC
A LAND PLANNING SERVICES COMPANY

40 School Street · Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com



The project shall implement a construction period erosion control plan. The following provides descriptions and guidelines to ensure that the areas surrounding the project site will be protected from excessive sedimentation and runoff during construction.

1.1 Construction Period Pollution Prevention And Erosion Control Measures

1.1.1 Preconstruction Notifications And Meetings

Prior to the start of construction, the contractor shall call together a pre-construction meeting including a representative from the Town, the design engineer, contractor, and any pertinent persons that should be in attendance. These requirements shall be the responsibility of the Contractor to arrange, attend, and document.

1.1.2 Sediment Barrier And Work Limit

Before installation of the sediment barriers, the location shall be staked in the field for review and approval by the owner or their representative. To facilitate sediment barrier installation, woody vegetation may then be removed and any required trench may be cut by machine, provided all other ground cover is left intact. No excavation, grading, filling, or removal of vegetative ground cover shall begin until sediment barriers have been installed as shown on the plans and have been inspected by the owner or their representative.

1.1.3 Silt Fence

The bottom of the fence shall be trenched into the ground a minimum of 6" and back-filled with compacted soil. Where trenching is not feasible, silt fence skirt shall be covered with compacted soil or crushed stone. The top of the fabric shall be stretched as tightly as is practical, with intermediate stakes added to correct excessive sags. Stakes shall be driven at least 12" into the ground. Splices between sections shall be made by rolling end stakes together one complete turn and driving into the ground together.

1.1.4 Straw Bales

Straw bales may be used as temporary and moveable control measures, temporary check dams, or as reinforcement for silt fence in areas of concentrated runoff or high fills. Bales shall be tightly butted and staked 12" into the ground. Where used without silt fence in front, the bales shall be trenched 4" into the ground, back-filled with compacted soil, and the spaces between bales shall be chinked with loose straw.

1.1.5 Filter Sock (Filtrex Or Equivalent)

In areas of expected sheet flow, filter sock may be placed directly on the ground without trenching or stakes. In areas of expected concentrated flow, mulch or crushed stone shall be placed along the up-slope face to control and filter underflow. Additional layers of Filter Sock may be required for adequate freeboard. The filter sock shall be staked at 10 feet on-center or in cases where they cannot be staked, utilize heavy concrete blocks to hold in place.

1.1.6 Temporary Sedimentation Basins

Temporary sediment basins may be excavations or bermed stormwater detention structures (depending on grading) that will retain runoff for a sufficient period of time to allow suspended soil particles to settle out prior to discharge. These temporary basins will be located based on construction needs as determined by the contractor and outlet devices will be designed to control velocity and sediment. Points of discharge from sediment basins will be stabilized to minimize erosion. If the temporary basin is to be located within an area of future infiltration as part of the stormwater management system, the excavation shall be limited to one foot above final grade of the infiltration structure.

1.1.7 Stocking Additional Materials

A stock of additional erosion control materials shall be available on the site for emergency repairs and temporary measures. Stock shall be replenished when decreased to 50% of the numbers below. Stock shall include:

Straw Bales – 10 (kept dry) with 20 oak stakes

Or

Silt Fence – 30 Linear feet.

Or

Filter Sock – 4 – 8 foot sections (kept dry)

Washed Stone – One (1) cubic yard, $\frac{3}{4}$ " to 2" diameter

1.1.8 Trench Protection

Open trenches shall be protected from accumulation of surface water or groundwater that could result in erosion of the trench and discharge of sediment. Where feasible, spoil shall be stockpiled on the up-slope side of the trench to prevent entrance of surface runoff. Backfill shall be crowned to allow for settlement and to avoid concentration of runoff on top of the trench.

1.1.9 Site Stabilization – Temporary

Where a portion of the site will not be subject to construction activity for over 14 days, measures shall be taken to provide temporary stabilization of that inactive portion of the site, within 14 days of the cessation of construction activity. Stabilization measures may include seeding for temporary cover, mulching, or other measures to protect exposed soil from erosion and prevent sediment movement.

1.1.10 Site Stabilization – Permanent

Within 14 days of completion of loaming and finish grading on any portion of the site, that area shall be seeded or planted for permanent cover (season permitting) in accordance with USDA NRCS guidelines or equivalent.

1.1.11 Roadway Sweeping

The entrance to the site and affected portions of the access drive or paved project areas shall be swept as needed to control sediment runoff into storm drains or waterways and to control blowing dust.

1.2 Short-Term Erosion Control Maintenance

The following provides short-term erosion control maintenance guidelines and requirements.

1. The contractor or subcontractor will be responsible for implementing each control shown on the sedimentation and erosion control plan.
2. All erosion and sediment control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control measures will be installed during construction in order to control erosion and/or off-site sedimentation if deemed necessary by on-site inspection.
3. Effective erosion control measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations that will disturb the natural protection.
4. All sediment and erosion control devices shall be inspected at least once every seven (7) calendar days and after any storm event greater than 0.5 inches of precipitation during any 24-hour period, and the inspection shall be documented in writing. Damaged or ineffective devices shall be repaired or replaced, as necessary.
5. The contractor shall take all reasonable precautions to avoid excess erosion of the site due to the construction of this project.
6. Silt shall be removed from behind barriers if greater than 6-inches deep or as needed. Sediment that is collected in structures shall be disposed of properly and covered if stored on-site.
7. Damaged or deteriorated items will be repaired immediately after identification.
8. All ditches shall be stabilized as soon as is practicable to minimize erosion.
9. The contractor shall maintain all erosion control devices in a good, working state of repair. Upon complete stabilization of any tributary areas, the erosion control devices shall be removed and disposed of so as to cause no off-site siltation.
10. Inspect and maintain construction entrance stone such that sediment does not track onto the street. Any sediment tracked onto the street shall be swept daily.
11. After catch basins have been constructed, the contractor shall protect the inlets by constructing inlet protection as shown on the plans.
12. Once the site has been paved, all catch basin inlets shall receive a silt sack type protection.
13. Erosion control measures shall remain in place until all disturbed earth has been substantially stabilized. After removal of structures, disturbed areas shall be regraded and stabilized as necessary.

Appendix G: Long-Term Operation and Maintenance Plan

- Long-Term Operation & Maintenance Plan
- Barracuda Inspection and Maintenance Guide
- O&M Checklist

Long-Term Operation & Maintenance Plan

Proposed Hotel

1422-1444 Main Street
Agawam, Massachusetts
(Map K4 Block 1 Parcels 5, 6, 7, & 13)

Applicant/Owner:

Shield Hotels
c/o Kenny Patel
63 Myron Street
West Springfield, MA 01089

RLA Project File: 231007

May 23, 2024

Revised: September 24, 2024

R LEVESQUE ASSOCIATES, INC

A LAND PLANNING SERVICES COMPANY

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I. Long-Term Stormwater Maintenance Program:

This Long-Term Operation and Maintenance Plan (O&M) identifies inspection and maintenance requirements for the proposed stormwater management system. The O&M references guidelines set forth by the Stormwater Management Handbook developed by the Massachusetts Department of Environmental Protection.

Owner/Responsible Party*:

Shield Hotels
c/o Kenny Patel
63 Myron Street
West Springfield, MA 01089

*The party listed shall be responsible for implementation and record keeping of the requirements listed in this operation and maintenance plan. Upon sale of property or any other transition of ownership, the responsible party shall be reinstated as the new owner or any other group created as determined by the owner.

Signature of Responsible Party Representative

Date

2. Inspection and Maintenance Program:

Regular inspection and routine maintenance are necessary to ensure that the stormwater management system continues to control and treat runoff. The following lists the inspection schedule and maintenance procedures for the proposed stormwater Best Management Practices:

BMP	Inspection Schedule	Maintenance Schedule	Maintenance Procedures
Bituminous Concrete Pavement	Four times per year	Twice per year	Roadway to be swept in March or April following snow melt and again in late November or early December to remove fallen leaves and debris
Catch Basins	Four times per year	Four times per year	Remove sediment once deposits reach one half the depth from the bottom sump to the lowest invert.
Stormwater Piping	Four times per year	Four times per year	Inspect pipe entrances in catch basins and manholes and remove any blockages
Proprietary Sedimentation Device*	As specified by the manufacturer	As specified by the manufacturer	Clean the unit using the method specified by the manufacturer. Vactor trucks are typically used to clean these units.
Bio-Retention Areas	Once per month	Twice per year (Spring and Fall)	- Inspect bio-retention areas for sediment build-up, structural damage, and standing water; - Inspect and repair eroded areas monthly; - Re-mulch void areas as needed; - Remove litter and debris monthly; - Treat diseased or distressed vegetation as needed; - Remove and replace dead vegetation twice per year (Spring and Fall); - Remove invasive species as needed; - Replace mulch annually. - Prune shrubs as needed; - Mow grasses as necessary to not less than four inches; - Inspect outlet control structure and remove any obstructions or accumulated sediment.

BMP	Inspection Schedule	Maintenance Schedule	Maintenance Procedures
Flared End Section	Four times per year	As Needed	Remove any debris or vegetation around the flared end section such that flow out of the structure is not impeded.
Level Spreader	Once per month	As Needed	- Remove sediment from the toe of slope and/or riprap voids. - Repair gullies and reseed bare spots immediately.
Three Mile Brook Culvert	Four times per year	As Needed	- Remove accumulated obstructions from culvert headwall - Repair/Stabilize with riprap any erosion

*See attached Barracuda Max Maintenance Guide

See the attached Long-Term O&M Inspection Checklist for record keeping purposes.

3. Additional Long-Term Operation and Maintenance Items

The following is a list of additional operation and maintenance items to be implemented by the owner/governing group to maintain the features proposed in this project.

- A. Proper storage, use, and disposal of hazardous chemicals, including automobile fluids, pesticides, paints, solvents, etc. shall be required. Information should be provided on chemicals of concern, proper use, and disposal options. Recycling programs for used motor oil, antifreeze, and other products should be developed.
- B. Vehicle Washing. This management measure involves educating the owner on the water quality impacts of the outdoor washing of vehicles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor vehicle washing has the potential to result in high loads of nutrients, metals, and hydrocarbons which is conveyed by the detergent-rich water into storm drains.
- C. Recycling, spill prevention and response plans, and proper material storage and disposal of potentially hazardous materials shall be implemented. It will be the responsibility of the owner to contain and legally remove any materials that are spilled onsite. The use of dry floor cleaners and absorbent materials and limiting the use of water to clean pavement is encouraged. Care should be taken to avoid accidental disposal of hazardous materials.
- D. Provisions for storing trash and waste products shall be implemented. The waste materials shall be collected by the owner and all materials shall be properly disposed of.
- E. Requirements for routine inspections and maintenance of stormwater best management practices. Routine inspections shall be performed to ensure the correct functioning of stormwater best management practices. See the specific maintenance criteria for detail regarding inspections and maintenance frequency.
- F. Requirements for Storage and Use of Fertilizers, Herbicides, and Pesticides. Fertilizers, pesticides, herbicides, lawn care chemicals, or other leachable materials shall be used in accordance with the Lawn Care Regulations of the Massachusetts Pesticide Board, 33 CMR 10.03 (30,31), as amended, with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater. The storage of any such materials shall be within structure designed to prevent the escape of contaminated runoff or leachate.
- G. Provisions for prevention of illicit discharges to the stormwater management system shall be implemented. Any illicit discharges to the stormwater management system shall be prohibited. It will be the owner's responsibility to ensure compliance with the legal disposal of all materials and containment/cleanup of any illicit discharges.
- H. Training for staff or personnel involved with implementation of the Long-Term Pollution Prevention Plan shall be required. The owner/governing group will be responsible for the implementation of the measures set forth in the Long-Term Pollution Prevention Plan. Documentation that personnel and owners involved with the implementation of the Long-Term Pollution Prevention Plan have been trained to conduct such tasks shall be documented.

4. Winter and Snow Conditions

The following is a list of additional operation and maintenance items to be implemented by the owner during winter and snow conditions.

- A. Snowfall shall be stored on the grassed areas surrounding the pavement areas, excluding any areas utilized for stormwater management practices. As needed, any snow that cannot be stored on site shall be trucked off site and disposed of properly.
- B. Winter road salt and/or sand use and storage restrictions shall be implemented based on any restrictions issued for the project. Sodium chloride for ice control shall be used at the minimum salt to sand ratio which is consistent with the Massachusetts Department of Environmental Protections guidelines. Sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads/drives shall not be stored on site.

5. Public Safety Features

The proposed site design utilizes the following features which have been incorporated to ensure the safety of the public:

- A. Control and collection of stormwater runoff through positive drainage and curbing directing it towards the drainage inlets;
- B. Heavy-duty stormwater drain manhole covers and catch basin grates have been designed to withstand H20 loading;
- C. Reduction of peak discharge rates from the site in the post-development condition as compared to the pre-developed conditions;
- D. Development and implementation of an Operations & Maintenance Plan to ensure the stormwater management system continues to function as designed.

6. Estimated Cost of Maintenance

The following budget was prepared as an estimate of inspection and maintenance costs for the stormwater management system. The budget is an estimate only as the costs may vary depending on the level of sediment accumulation and frequency of maintenance tasks required.

BMP Inspections	Number of Occurrences	Maintenance Cost	Number of Structures	Sum
Catch Basin	4/year	\$50	2	\$400
Proprietary Sedimentation Device	2/year	\$100	2	\$400
Level Spreader	12/year	\$50	1	\$600
Bio-retention Basin	12/year	\$50	2	\$1,200
Three Mile Brook Culvert	4/year	\$100	1	\$400
Total Estimated Annual Cost of Inspections				\$3,000

BMP Maintenance	Number of Occurrences	Maintenance Cost	Number of Structures	Sum
Catch Basin	2/year	\$150	2	\$600
Proprietary Sedimentation Device	2/year	\$500	2	\$2,000
Level Spreader	1/year	\$300	1	\$300
Bio-retention Basin	2/year	\$1,000	2	\$4,000
Three Mile Brook Culvert	2/year	\$500	1	\$1,000
Total Estimated Annual Cost of Maintenance				\$7,900

Barracuda[®] Max & Barracuda Maintenance Guide

One of Barracuda's advantages is the ease of maintenance. Like any system that collects pollutants, the Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes 2 to 4 hours, depending on the system's size, the captured material, and the vacuum truck's capacity.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and then on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

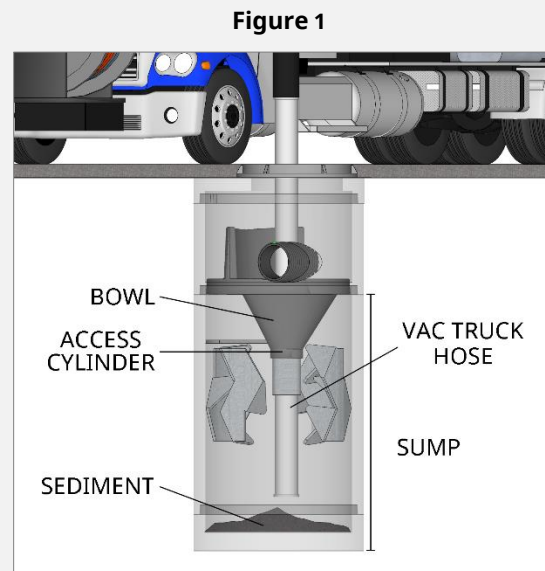
Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

Barracuda Storage Capacities

Model	Manhole Diameter in. (mm)	Total System Volume Gallons (Liters)	Treatment Chamber Capacity Gallons (Liters)	Standard Sediment Capacity (20" depth) Yards ³ (meters ³)	NJDEP Sediment Capacity (50% of standard depth) Yards ³ (meters ³)
S3	36 (900)	264 (999)	212 (803)	0.44 (0.34)	0.22 (0.17)
S4	48 (1200)	665 (2517)	564 (2135)	0.78 (0.60)	0.39 (0.30)
S6	72 (1800)	1497 (5667)	1269 (4804)	1.75 (1.34)	0.88 (0.67)
S8	96 (2400)	4196 (15884)	3835 (14517)	3.10 (2.37)	1.55 (1.19)

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. Access this area through the 8" (200 mm), 10" (250 mm), 15" (375 mm) or 20" (500 mm) diameter access cylinder.
2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
 - a. Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
 - b. Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
 - c. Additional local regulations may apply to the maintenance procedure.



Project:

Address:

BPM Name:

Responsible Party:

Date:

Page: 1 of 2

Operation & Maintenance Inspection Checklist

BMP Element:	Potential Problem:	Resolution:	Pass	Fail	Recommended Remediation
Bituminous Concrete Roadway	Build-up of sediment over the winter months and collection of leaves during the fall months.	Sweep roadway using a high-efficiency street sweeper.			
Deep-Sump Catch Basins	Sediment has accumulated to a depth greater than the original design depth for sediment storage, approximately 2-feet of sediment.	Remove the sediment and dispose of in accordance with local and state regulations.			
Stormwater Piping	Blockage of inlet/outlet pipes due to debris or sediment accumulation.	Remove any debris and sediment via proper means. Dispose of debris/sediment in accordance with local & state regulations			
Proprietary Treatment Device	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Remove sediment and disposed of in accordance with local and state regulations.			
Roof Leaders	Downspout connections have been damaged or disconnected.	Repair and reconnect downspout connections.			
Yard Drains	Blockage of inlet grate due to debris or vegetation.	Remove debris from inlet grate and cut back vegetation around frame.			
Flared End Sections	Vegetation has started to grow within the riprap area.	Remove vegetation immediately.			
	Accumulation of sediment/debris at the culvert inlet.	Remove sediment or debris such that the culvert has free flow.			
	Erosion is occurring where riprap has been dislodged.	Remedy scoured area and replace riprap immediately.			

Inspector's Signature

Date

Project: _____

Address: _____

BPM Name: _____

Responsible Party: _____

Date: _____

Page: 2 of 2

Operation & Maintenance Inspection Checklist

BMP Element:	Potential Problem:	Resolution:	Pass	Fail	Recommended Remediation
Bio-Retention Area	Sediment has accumulated over mulched surface.	Remove sediment and mulch mixture and replace mulch.			
	Erosion has occurred at inlets.	Repair any eroded areas and replace with appropriate materials.			
	Areas are devoid of mulch.	Replace mulch as necessary.			
	Litter and/or debris has accumulated in bio-retention area.	Remove litter and/or debris.			
Level Spreader	Vegetation has died or is distressed.	Replace vegetation as necessary.			
	Sediment has accumulated in riprap channel void space.	Remove the sediment and dispose of in accordance with local and state regulations and replace riprap.			
	Down-gradient gullies have formed due to sheet flow concentration.	Fill gullies with native backfill, No. 6 pea-stone, topsoil and erosion control blanket. Sod or re-seed with stabilized erosion control grass mix.			

Inspector's Signature

Date

Proprietary Separators



Description: A proprietary separator is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments, are typically designed and manufactured by private businesses, and come in different sizes to accommodate different design storms and flow conditions. Some rely solely on gravity separation and contain no swirl chamber. Since proprietary separators can be placed in almost any location on a site, they are particularly useful when either site constraints prevent the use of other stormwater techniques or as part of a larger treatment train. The effectiveness of proprietary separators varies greatly by size and design, so make sure that the units are sized correctly for the site's soil conditions and flow profiles, otherwise the unit will not work as designed.

Ability to meet specific standards

Standard	Description
2 - Peak Flow	Provides no peak flow attenuation
3 - Recharge	Provides no groundwater recharge
4 - TSS Removal	Varies by unit. Must be used for pretreatment and be placed first in the treatment train to receive TSS removal credit. Follow procedures described in Chapter 4 to determine TSS credit.
5 - Higher Pollutant Loading	Suitable as pretreatment device.
6 - Discharges near or to Critical Areas	Suitable as pretreatment device or potentially a spill control device
7 - Redevelopment	Suitable as pretreatment device or treatment device if it is not possible to provide other BMPs.

Advantages/Benefits:

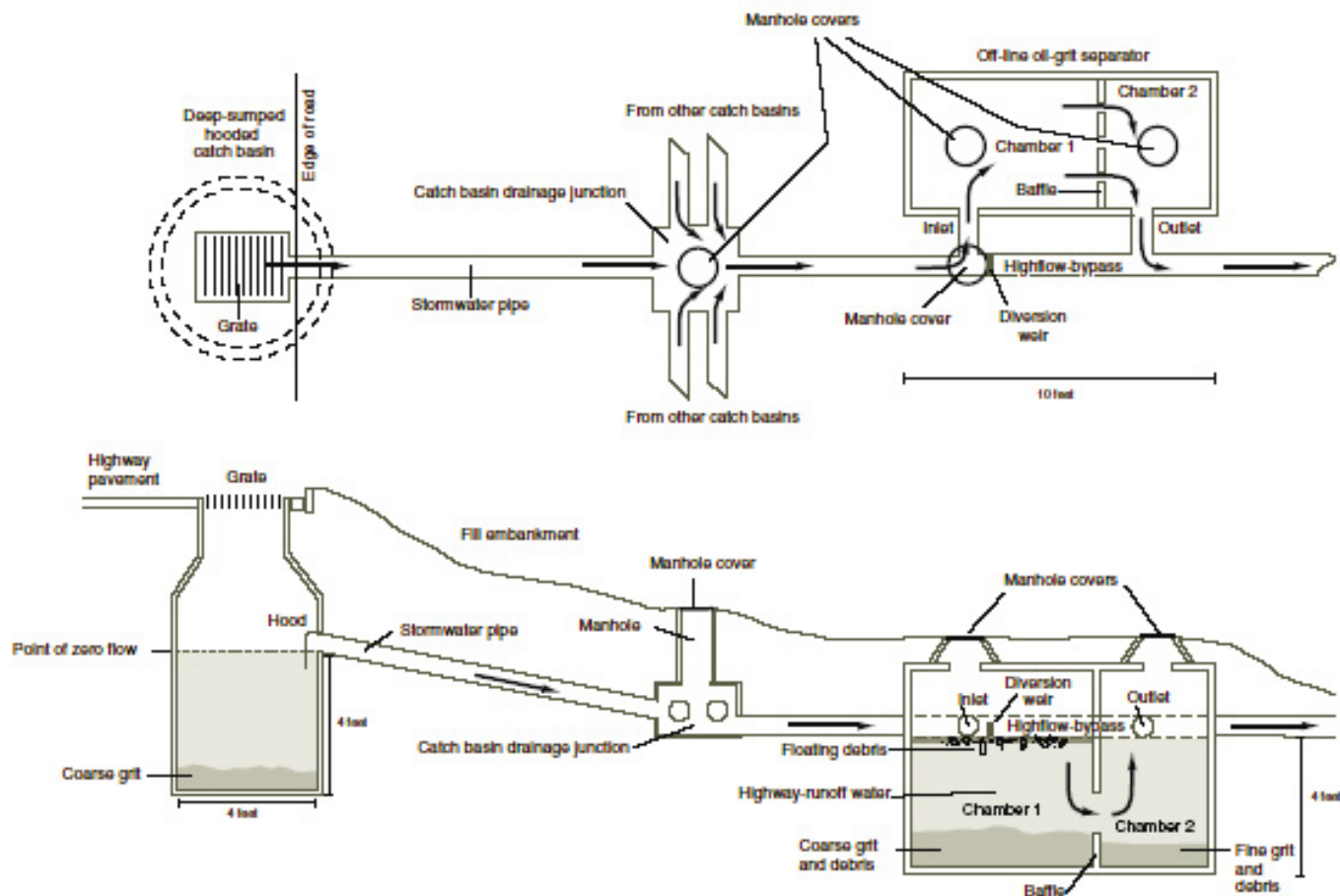
- Removes coarser sediment.
- Useful on constrained sites.
- Can be custom-designed to fit specific needs of a specific site.

Disadvantages/Limitations:

- Removes only coarse sediment fractions
- Provides no recharge to groundwater
- No control of the volume of runoff
- Frequent maintenance is essential

Pollutant Removal Efficiencies

- Total Suspended Solids (TSS) - Varies.
- Nutrients (Nitrogen, phosphorus) - Insufficient data
- Metals (copper, lead, zinc, cadmium) - Insufficient data
- Pathogens (coliform, e coli) - Insufficient data



Schematic section of a deep-sump hooded catch basin and a 1,500-gallon off-line water quality inlet.
adapted from the MassHighway Storm Water Handbook for Highways

Maintenance

Activity	Frequency
Inspect in accordance with manufacturer requirements, but no less than twice a year following installation, and no less than once a year thereafter.	See activity
Remove sediment and other trapped pollutants at frequency or level specified by manufacturer.	See manufacturer information

Special Features

Can be custom-designed to fit specific needs at a specific site.

LID Alternative

- Reduce impervious surfaces
- Disconnect runoff from non-metal roofs, roadways, and driveways

Proprietary Separators

Applicability

Because they have limited pollutant removal and storage capacity, proprietary separators must be used for pretreatment only. Because they are placed underground, proprietary separators may be the only structural pretreatment BMPs feasible on certain constrained redevelopment sites where space or storage is not available for more effective BMPs. They may be especially useful in ultra-urban settings such as Boston or Worcester. Some proprietary separators may be used for spill control.

Effectiveness

Proprietary separators have a wide range of TSS efficiencies. To assess the ability of proprietary separators to remove TSS and other pollutants, a proponent should follow the procedures set forth in Chapter 4. The specific units proposed for a particular project cannot be effective unless they are sized correctly. Proprietary separators are usually sized based on flow rate. A proprietary separator must be sized to treat the required water quality volume. To be effective at removing TSS and other pollutants the system must be designed, constructed, and maintained in accordance with the manufacturer's specifications and the specifications in this Handbook.

Planning Considerations

To receive TSS removal credit, proprietary separators must be used for pretreatment and placed at the beginning of a stormwater treatment train. They can be configured either in-line or if subject to higher flows, off-line to reduce scouring. They must be sized in accordance with the manufacturer's specifications and the specifications in this Handbook. Proprietary separators used as spill control devices may have to be sized differently than those used for TSS removal.

Design

The design of proprietary separators varies by manufacturer. Units are typically precast concrete, but larger systems may be cast in place. Units may have baffles or other devices to direct incoming water into and through a series of chambers, slowing the water down to allow sediment to drop out into internal storage areas, then directing this pre-treated water to exit to other treatment or infiltration devices. In some cases, flow will be introduced tangentially, to induce swirl or vortex. Units may include skirts or weirs, to keep trapped sediments from becoming re-

entrained. Some units combine a catch basin with the treatment function, providing off-line rather than in-line treatment.

Generally they are placed below ground on a gravel or stone base. Make sure all units contain inspection and access ports so that they may be inspected and cleaned. During design, take care to place the inspection and access ports where they will be accessible. Do not place the ports in locations such as travel lanes of roadways/highways and parking stalls.

Construction

Install construction barriers around the excavation area to prevent access by pedestrians. Use diversions and other soil erosion practices up-slope of the proprietary separator to prevent runoff from entering the site before construction of the units is complete. Implement practices to prevent construction period runoff from being discharged to the units until construction is complete and the soil is stabilized. Stabilize all surrounding area and any established outlets. Remove temporary structures after vegetation is established.

Maintenance

Inspect and clean these units in strict accordance with manufacturers' recommendations and requirements. Clean the units using the method specified by the manufacturer. Vector trucks are typically used to clean these units. Clamshell buckets typically used for cleaning catch basins are almost never allowed by manufacturers. Sometimes it will be necessary to remove sediment manually.

Adapted from:

MassHighway. Storm Water Handbook for Highways and Bridges. May 2004.

Bioretention Areas & Rain Gardens



Description: Bioretention is a technique that uses soils, plants, and microbes to treat stormwater before it is infiltrated and/or discharged.

Bioretention cells (also called rain gardens in residential applications) are shallow depressions filled with sandy soil topped with a thick layer of mulch and planted with dense native vegetation. Stormwater runoff is directed into the cell via piped or sheet flow. The runoff percolates through the soil media that acts as a filter.

There are two types of bioretention cells: those that are designed solely as an organic filter filtering bioretention areas and those configured to recharge groundwater in addition to acting as a filter exfiltrating bioretention areas. A filtering bioretention area includes an impermeable liner and underdrain that intercepts the runoff before it reaches the water table so that it may be conveyed to a discharge outlet, other best management practices, or the municipal storm drain system. An exfiltrating bioretention area has an underdrain that is designed to enhance exfiltration of runoff into the groundwater.

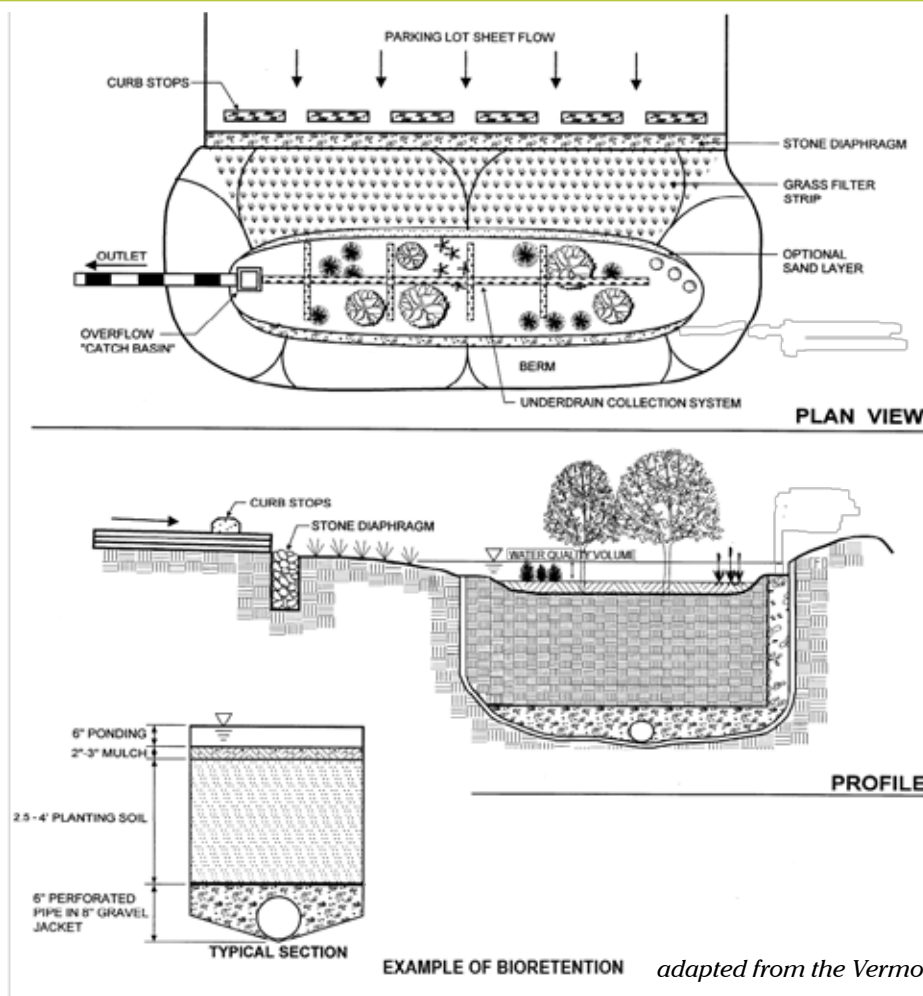
Ability to meet specific standards

Standard	Description
2 - Peak Flow	N/A
3 - Recharge	An exfiltrating bioretention area provides groundwater recharge.
4 - TSS Removal	90% TSS removal credit with adequate pretreatment
5 - Higher Pollutant Loading	Can be used for certain land uses with higher potential pollutant loads if lined and sealed until adequate pretreatment is provided. Adequate pretreatment must include 44% TSS removal prior to infiltration. For land uses that have the potential to generate runoff with high concentrations of oil and grease such as high intensity use parking lots and gas stations, adequate pretreatment may also include an oil grit separator, sand filter or equivalent. In lieu of an oil grit separator or sand filter, a filtering bioretention area also may be used as a pretreatment device for infiltration practices exfiltrating runoff from land uses with a potential to generate runoff with high concentrations of oil and grease.
6 - Discharges near or to Critical Areas	Good option for discharges near cold-water fisheries. Should not be used near bathing beaches and shellfish growing areas.
7 - Redevelopment	Suitable with appropriate pretreatment

Pollutant Removal Efficiencies

• Total Suspended Solids (TSS)	90% with vegetated filter strip or equivalent
• Total Nitrogen	30% to 50% if soil media at least 30 inches
• Total Phosphorus	30% to 90%
• Metals (copper, lead, zinc, cadmium)	40% to 90%
• Pathogens (coliform, e coli)	Insufficient data

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Special Features:

- Can be lined and sealed to prevent recharge where appropriate
- Adequate pretreatment is essential
- Not recommended in areas with steep slope
- Depth of soil media depends on type of vegetation that is proposed
- Soil media must be 30 inches deep to achieve removal of nitrogen

Advantages/Benefits:

- Can be designed to provide groundwater recharge and preserves the natural water balance of the site
- Can be designed to prevent recharge where appropriate
- Supplies shade, absorbs noise, and provides windbreaks
- Can remove other pollutants besides TSS including phosphorus, nitrogen and metals
- Can be used as a stormwater retrofit by modifying existing landscape or if a parking lot is being resurfaced
- Can be used on small lots with space constraints
- Small rain gardens are mosquito death traps
- Little or no hazard for amphibians or other small animals

Disadvantages/Limitations:

- Requires careful landscaping and maintenance
- Not suitable for large drainage areas

Maintenance

Activity	Frequency
Inspect and remove trash	Monthly
Mow	2 to 12 times per year
Mulch	Annually
Fertilize	Annually
Remove dead vegetation	Annually
Prune	Annually

Bioretention Areas & Rain Gardens

Not all bioretention cells are designed to exfiltrate. Only the infiltration requirements are applicable to bioretention cells intended to exfiltrate.

Applicability

Bioretention areas can provide excellent pollutant removal for the “first flush” of stormwater runoff. Properly designed and maintained cells remove suspended solids, metals, and nutrients, and can infiltrate an inch or more of rainfall. Distributed around a property, vegetated bioretention areas can enhance site aesthetics. In residential developments they are often described as “rain gardens” and marketed as property amenities. Routine maintenance is simple and can be handled by homeowners or conventional landscaping companies, with proper direction.

Bioretention systems can be applied to a wide range of commercial, residential, and industrial developments in many geologic conditions; they work well on small sites and on large sites divided into multiple small drainage areas. Bioretention systems are often well suited for ultra-urban settings where little pervious area exists. Although they require significant space (approximately 5% to 7% of the area that drains to them), they can be integrated into parking lots, parking lot islands, median strips, and traffic islands. Sites can be retrofitted with bioretention areas by replacing existing parking lot islands or by re-configuring a parking lot during resurfacing. On residential sites, they are commonly used for rooftop and driveway runoff.

Effectiveness

Bioretention areas remove pollutants through filtration, microbe activity, and uptake by plants; contact with soil and roots provides water quality treatment better than conventional infiltration structures. Studies indicate that bioretention areas can remove from 80% to 90% of TSS. If properly designed and installed, bioretention areas remove phosphorus, nitrogen, metals, organics, and bacteria to varying degrees.

Bioretention areas help reduce stress in watersheds that experience severe low flows due to excessive impervious cover. Low-tech, decentralized bioretention areas are also less costly to design, install, and maintain than conventional stormwater technologies that treat runoff at the end of the pipe.

Decentralized bioretention cells can also reduce the size of storm drain pipes, a major component of stormwater treatment costs. Bioretention areas enhance the landscape in a variety of ways: they improve the appearance of developed sites, provide windbreaks, absorb noise, provide wildlife habitat, and reduce the urban heat island effect.

Planning Considerations

Filtering bioretention areas are designed with an impermeable liner and underdrain so that the stormwater may be transported to additional BMPs for treatment and/or discharge. Exfiltrating bioretention areas are designed so that following treatment by the bioretention area the stormwater may recharge the groundwater.

Both types of bioretention areas may be used to treat runoff from land uses with higher potential pollutant loads. However, exfiltrating bioretention areas may be used to treat runoff from land uses with higher potential pollutant loads, only if pretreatment has been provided to achieve TSS removal of at least 44%. If the land use has the potential to generate runoff with high concentrations of oil and grease, other types of pretreatment, i.e., a deep sump catch basin and oil grit separator or a sand filter, is required prior to discharge of runoff to an exfiltrating bioretention area. A filtering bioretention area may also be used as a pretreatment device for an exfiltrating bioretention area or other infiltration practice that exfiltrates runoff from land uses with a potential to generate runoff with high concentrations of oil and grease.

To receive 90% TSS removal credit, adequate pretreatment must be provided. If the flow is piped to the bioretention area a deep sump catch catch basin and sediment forebay should be used to provide pretreatment. For sheet flow, there are a number of pretreatment options. These options include:

- A vegetated filter strip, grass channel or water quality swale designed in accordance with the specifications set forth in Chapter 2.
- A grass and gravel combination. This should consist of at least 8 inches of gravel followed by 3 to 5 feet of sod. (source: North Carolina Stormwater Manual, 2007, http://h2o.enr.state.nc.us/su/documents/Ch12-Bioretention_001.pdf)
- Pea diaphragm combined with a vegetated filter strip specially designed to provide pretreatment for a bioretention area as set forth in the following table. (source: Georgia Stormwater Manual and Claytor and Schuler 1996)

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Dimensions for Filter Strip Designed Specially to Provide Pretreatment for Bioretention Area

Parameter	Impervious Area				Pervious Areas (lawns, etc.)			
Maximum inflow approach length (feet)	35		75		75		100	
Filter strip slope (max=6%)	<2%	>2%	<2%	>2%	<2%	>2%	<2%	>2%
Filter strip minimum length (feet)	10	15	20	25	10	12	15	18

Bioretention areas must not be located on slopes greater than 20%. When the bioretention area is designed to exfiltrate, the design must ensure vertical separation of at least 2 feet from the seasonal high groundwater table to the bottom of the bioretention cell.

For residential rain gardens, pick a low spot on the property, and route water from a downspout or sump pump into it. It is best to choose a location with full sun, but if that is not possible, make sure it gets at least a half-day of sunlight.

Do not excavate an extensive rain garden under large trees. Digging up shallow feeder roots can weaken or kill a tree. If the tree is not a species that prefers moisture, the additional groundwater could damage it. Size the bioretention area using the methodology set forth in Volume 3.

Design

Size the bioretention area to be 5% to 7% of the area draining to it. Determine the infiltrative capacity of the underlying native soil by performing a soil evaluation in accordance with Volume 3. Do not use a standard septic system (i.e., Title 5) percolation test to determine soil permeability.

The depth of the soil media must be between 2 and 4 feet. This range reflects the fact that most of the pollutant removal occurs within the first 2 feet of soil and that excavations deeper than 4 feet become expensive. The depth selected should accommodate the vegetation. If the minimum depth is used, only shallow rooted plants and grasses may be used. If there is a Total Maximum Daily Load that requires nitrogen to be removed from the stormwater discharges, the bioretention area should have a soil media with a depth of at least 30 inches, because nitrogen removal takes place 30 inches below the ground surface. If trees and shrubs are to be planted, the soil media should be at least 3 feet.

Size the cells (based on void space and ponding area) at a minimum to capture and treat the required water quality volume (the first 0.5 inch or 1 inch

of runoff) if intended to be used for water quality treatment (Stormwater Standard No. 4), the required recharge volume if used for recharge (Stormwater Standard No. 3), or the larger of the two volumes if used to achieve compliance with both Stormwater Standards 3 and 4.

Cover the bottom of the excavation with coarse gravel, over pea gravel, over sand. Earlier designs used filter fabric as a bottom blanket, but more recent experiences show that filter fabric is prone to clogging. Consequently, do not use fabric filters or sand curtains. Use the Engineered Soil Mix below.

Engineered Soil Mix for Bioretention Systems Designed to Exfiltrate

- The soil mix for bioretention areas should be a mixture of sand compost and soil.
 - o 40 % sand,
 - o 20-30% topsoil, and
 - o 30-40% compost.
- The soil mix must be uniform, free of stones, stumps, roots or similar objects larger than 2 inches. Clay content should not exceed 5%.
- Soil pH should generally be between 5.5-6.5, a range that is optimal for microbial activity and adsorption of nitrogen, phosphorus, and other pollutants.
- Use soils with 1.5% to 3% organic content and maximum 500-ppm soluble salts.
- The sand component should be gravelly sand that meets ASTM D 422.

Sieve Size	Percent Passing
2-inch	100
¾-inch	70-100
¼-inch	50-80
U.S. No. 40	15-40
U.S. No. 200	0-3

- The topsoil component shall be a sandy loam, loamy sand or loam texture.
- The compost component must be processed from yard waste in accordance with MassDEP Guidelines (see <http://www.mass.gov/dep/recycle/reduce/leafguid.doc>). The compost shall not contain biosolids.

On-site soil mixing or placement is not allowed if soil is saturated or subject to water within 48 hours. Cover and store soil to prevent wetting or saturation.

Test soil for fertility and micro-nutrients and, only if necessary, amend mixture to create optimum conditions for plant establishment and early growth.

Grade the area to allow a ponding depth of 6 to 8 inches; depending on site conditions, more or less ponding may be appropriate.

Cover the soil with 2 to 3 inches of fine-shredded hardwood mulch.

The planting plan shall include a mix of herbaceous perennials, shrubs, and (if conditions permit) understory trees that can tolerate intermittent ponding, occasional saline conditions due to road salt, and extended dry periods. A list of plants that are suitable for bioretention areas can be found at the end of this section. To avoid a monoculture, it is a good practice to include one tree or shrub per 50 square feet of bioretention area, and at least 3 species each of herbaceous perennials and shrubs. Invasive and exotic species are prohibited. The planting plan should also meet any applicable local landscaping requirements.

All exfiltrating bioretention areas must be designed to drain within 72 hours. However, rain gardens are typically designed to drain water within a day and are thus unlikely to breed mosquitoes.

Bioretention cells, including rain gardens, require pretreatment, such as a vegetated filter strip. A stone or pea gravel diaphragm or, even better, a concrete level spreader upstream of a filter strip will enhance sheet flow and sediment removal. Bioretention cells can be dosed with sheet flow, a surface inlet, or pipe flow. When using a surface inlet, first direct the flow to a sediment forebay. Alternatively, piped flow may be introduced to the bioretention system via an underdrain.

For bioretention cells dosed via sheet flow or surface inlets, include a ponding area to allow water to pond and be stored temporarily while stormwater is exfiltrating through the cell. Where bioretention areas

are adjacent to parking areas, allow three inches of freeboard above the ponding depth to prevent flooding.

Most bioretention cells have an overflow drain that allows ponded water above the selected ponding depth to be dosed to an underdrain. If the bioretention system is designed to exfiltrate, the underdrain is not connected to an outlet, but instead terminates in the bioretention cell. If the bioretention area is not designed to exfiltrate, the underdrain is connected to an outlet for discharge or conveyance to additional best management practices.

Construction

During construction, avoid excessively compacting soils around the bioretention areas and accumulating silt around the drain field. To minimize sediment loading in the treatment area, direct runoff to the bioretention area only from areas that are stabilized; always divert construction runoff elsewhere.

To avoid compaction of the parent material, work from the edge of the area proposed as the location of an exfiltrating bioretention cell. Never direct runoff to the cell until the cell and the contributing drainage areas are fully stabilized.

Place planting soils in 1-foot to 2-foot lifts and compact them with minimal pressure until the desired elevation is reached. Some engineers suggest flooding the cell between each lift placement in lieu of compaction.

Maintenance

Premature failure of bioretention areas is a significant issue caused by lack of regular maintenance. Ensuring long-term maintenance involves sustained public education and deed restrictions or covenants for privately owned cells. Bioretention areas require careful attention while plants are being established

Bioretention Maintenance Schedule		
Activity	Time of Year	Frequency
Inspect & remove trash	Year round	Monthly
Mulch	Spring	Annually
Remove dead vegetation	Fall or Spring	Annually
Replace dead vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace entire media & all vegetation	Late Spring/early Summer	As needed*

** Paying careful attention to pretreatment and operation & maintenance can extend the life of the soil media*
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and seasonal landscaping maintenance thereafter.

In many cases, a landscaping contractor working elsewhere on the site can complete maintenance tasks. Inspect pretreatment devices and bioretention cells regularly for sediment build-up, structural damage, and standing water.

Inspect soil and repair eroded areas monthly. Re-mulch void areas as needed. Remove litter and debris monthly. Treat diseased vegetation as needed. Remove and replace dead vegetation twice per year (spring and fall).

Proper selection of plant species and support during establishment of vegetation should minimize—if not eliminate—the need for fertilizers and pesticides. Remove invasive species as needed to prevent these species from spreading into the bioretention area. Replace mulch every two years, in the early spring. Upon failure, excavate bioretention area, scarify bottom and sides, replace filter fabric and soil, replant, and mulch. A summary of maintenance activities can be found on the previous page.

Because the soil medium filters contaminants from runoff, the cation exchange capacity of the soil media will eventually be exhausted. When the cation exchange capacity of the soil media decreases, change the soil media to prevent contaminants from migrating to the groundwater, or from being discharged via an underdrain outlet. Using small shrubs and plants instead of larger trees will make it easier to replace the media with clean material when needed.

Plant maintenance is critical. Concentrated salts in roadway runoff may kill plants, necessitating removal of dead vegetation each spring and replanting. The operation and maintenance plan must include measures to make sure the plants are maintained. This is particularly true in residential subdivisions, where the operation and maintenance plan may assign each homeowner the legal responsibility to maintain a bioretention cell or rain garden on his or her property. Including the requirement in the property deed for new subdivisions may alert residential property owners to their legal responsibilities regarding the bioretention cells constructed on their lot.

Cold Climate Considerations

Never store snow in bioretention areas. The Operation and Maintenance plan must specify where on-site snow will be stored. All snow dumps must

comply with MassDEP's guidance. When bioretention areas are located along roads, care must be taken during plowing operations to prevent snow from being plowed into the bioretention areas. If snow is plowed into the cells, runoff may bypass the cell and drain into downgradient wetlands without first receiving the required water quality treatment, and without recharging the groundwater.

References

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Low Impact Development Center, 2003, Drainage – Bioretention Specification, <http://www.lowimpactdevelopment.org/epa03/biospec.htm>

Prince Georges County, 2002, Bioretention Manual, <http://www.goprincegeorgescounty.com/der/bioretention.asp>

Puget Sound Action Team, 2005, Low Impact Development, Pp. 174 - 184 http://www.psat.wa.gov/Publications/LID_tech_manual05/LID_manual2005.pdf

U.S. Environmental Protection Agency, 1999, Stormwater Technology Fact Sheet, Bioretention, EPA 832-F-99-012, <http://www.epa.gov/owm/mtb/biortn.pdf>

U.S. Environmental Protection Agency, 2005, National Management Measures to Control Nonpoint Source Pollution from Urban Areas, Publication Number EPA 841-B-05-004, Pp. 5-29 <http://www.epa.gov/nps/urbanmm/>

University of North Carolina, www.bae.ncsu.edu/topic/bioretention
www.bae.ncsu.edu/stormwater/PublicationFiles/DesigningRainGardens2001.pdf

Appendix H: Illicit Discharge Compliance Statement

Illicit Discharge Compliance Statement

The owners of the land/responsible party will be responsible for prohibiting illicit discharges to the stormwater management system during construction and during its life of operation. The stormwater management system is comprised of the components for conveying, treating, and infiltrating stormwater runoff on-site, including stormwater best management practices and any pipes intended to transport stormwater to the groundwater, a surface water, or municipal separate storm sewer system. An illicit discharge shall constitute any connection or discharge to the stormwater management system including, but not limited to, wastewater discharges, discharge of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease.

Responsible Party*:

Shield Hotels
c/o Kenny Patel
63 Myron Street
West Springfield, MA 01089

*The party listed shall be responsible for implementation and record keeping of the requirements listed in this operation and maintenance plan. Upon sale of property or any other transition of ownership, the responsible party shall be reinstated as the new owner or any other group created as determined by the owner.

Signature of Responsible Party Representative

Date

Signature of Responsible Party Representative**

Date

**Required upon transfer of ownership

Appendix I: Low Impact Development Alternatives Analysis Narrative

Low Impact Development Considerations

Proposed Hotel & Site Improvement Plan

1422-1444 Main Street
Agawam, Massachusetts
(Map K4 Block 1 Parcels 5, 6, 7, & 13)

Applicant/Owner:

Shield Hotels
c/o Kenny Patel
63 Myron Street
West Springfield, MA 01089

RLA Project File: 231007

May 23, 2024

Revised: September 9, 2024

R LEVESQUE ASSOCIATES, INC
A LAND PLANNING SERVICES COMPANY

40 School Street · Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com



Introduction

Per the Massachusetts Stormwater Handbook, project proponents must consider environmentally sensitive site design and low impact development techniques to effectively manage stormwater. As a part of the proposed project, the proponent has considered a number of environmentally sensitive, low impact development techniques to prevent the generation of stormwater and non-point source pollution.

The following is a detailed description of the considerations for each low impact development measure. For ease of review, RLA has provided the consideration of each measure as detailed in the Massachusetts Stormwater Report Checklist.

Low Impact Development (Lid) Measures

1. Environmentally Sensitive Project Approach

During the design feasibility effort for the subject property, RLA considered several design scenarios for the development and layout of the proposed project. The different concepts were used to develop a site design that utilizes the upland portions of the site as efficiently as possible while minimizing the impact to jurisdictional area. Ultimately, the layout chosen utilizes the upland portions of the site to construct a new hotel and associated site improvements, including a stormwater management system. In addition to the proposed site design mitigating the impacts of the proposed hotel, the site has also been designed to provide an improvement over existing conditions for the existing commercially utilized building and associated site improvements.

2. No disturbance to any Wetland Resource Areas

No wetland resource areas are being disturbed as part of the proposed site improvements. All work is located within the associated buffer zones and the stormwater management system has been designed to mitigate the impacts of the proposed site improvements.

3. Site Design Practices (e.g. clustered development, reduced frontage setbacks)

All of the proposed site improvements have been designed to the minimum functional dimensions for the safe utilization of the site. The proposed site improvements adjacent to the hotel have been designed with minimum widths and the impervious area adjacent to the existing restaurant building are being moved farther away from resource areas.

4. Reduced Impervious Area (Redevelopment Only)

The proposed project is not part of a redevelopment project. Impervious areas have been reduced to functional minimums required for applicant needs and city requirements.

5. Minimizing disturbance to existing trees and shrubs

The proposed site improvements have been reduced to the minimums required and allowed by city standards and the applicant's programming for the proposed project. Driveway widths and parking areas have been reduced to the minimum amounts required for functional accessibility and demolition of existing trees and shrubs has been minimized to the extent practicable.

6. LID Site Design Credit Requested

No LID Site Design Credit is requested for the proposed project.

7. Use of "country drainage" versus curb and gutter conveyance and pipe

Country drainage conveyance requires a larger footprint than curb and gutter conveyance and creates areas with undulating terrain. Due to pre-existing constraints and limitations of the project site, country drainage was not utilized.

8. Bioretention Cells (includes Rain Gardens)

Bio-retention basins are being utilized as part of the proposed stormwater management system. In order to provide a treatment train that meets the MassDEP standards, a combination of deep-ump hooded catch basins, water quality units, and bio-retention basins were determined to be the most efficient BMPs capable of maximizing compliance with the standards.

9. Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

Constructed stormwater wetlands require very specific design scenarios such as large tributary areas to support wetland characteristics and high groundwater elevations among others. The sub-catchment drainage area for this project site is not large enough to incorporate a constructed stormwater wetland.

10. Treebox Filter

The extensive costs associated with treebox filters, along with the climatic conditions of the area over the winter, present unique circumstances that would only provide a maintenance problem and a potential hazard for the owner. Additionally, the limited pavement width combined with minimization of sidewalks areas create an environmentally sensitive design with limited impervious areas. Due to this design, treebox filters are not an applicable stormwater BMP.

11. Water Quality Swale

Water quality swales are best management practices that require a greater footprint of development in order to facilitate the grading of the swale. In order to minimize the overall work in jurisdictional area, water quality swales were not utilized.

12. Grass Channel

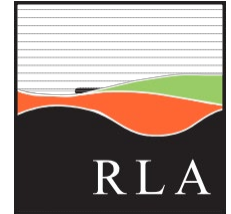
Grassed channels are best management practices that require a greater footprint of development in order to facilitate the grading of the swale. In order to minimize the overall work in jurisdictional area, water quality swales were not utilized.

13. Green Roof

Based on project size and scope, green roofs were not selected as a cost-effective BMP for this project.

14. Other

Please see the Stormwater Report for more information.



September 24, 2024

Via email: tegerton@agawam.ma.us

Mr. Henry A. Kozloski, Chairman
Town of Agawam Conservation Commission
36 Main Street
Agawam, Massachusetts 01001

**RE: Notice of Intent Application – Proposed Hotel
1422 Main Street, Main Street, 1444 Main Street, & Rear Main Street
Agawam, Massachusetts 01001
(Assessor's Map & Parcel: K4-1-7, K4-1-13, K4-1-5 & K4-1-6)
RLA Project File No. 231007**

Dear Chairman Kozolski and Commissioners:

On behalf of the applicant, Shield Hotels c/o Mr. Kenny Patel, R Levesque Associates, Inc. is providing this response letter to Engineering Department comments dated September 19, 2024 issued for the above-referenced project. The review comment is presented below in italic text, followed by an RLA Response presented below in blue, boldface text.

- 1. An ADA compliant curb ramp should be installed at both ends of the sidewalk leading to the restaurant parking lot and at the end of the sidewalk leading to the Main Street driveway. Each ADA ramp shall include a detectible warning panel. Design of the detectible warning panel shall be in accordance with current MassDOT standard specifications. A detail of the detectible warning panel should be included within the Site Plans.*

RLA Response: The plans have been updated to include the above-mentioned ramps, including detectable warning panels.

- 2. A crosswalk should be painted in the restaurant parking lot to connect the sidewalk ADA ramps and provide a safe pedestrian path.*

RLA Response: A crosswalk has been added to connect the sidewalk areas as stated.

- 3. In response to Engineering's comment regarding the existing subsurface drains from the restaurant, R Levesque states that the pipes shall be "rerouted to an upland location such that any discharge will not be tributary to basin #1." Engineering is requesting clarification on exactly where the new pipes will be located. Based on the submitted Grading Plan (Sheet C-5), it appears that any alternate daylighting location for the subsurface drains will discharge the water towards*



the restaurant or to the parking lot which drains to Bioretention Basin #1.

RLA Response: Sheet C-6 has been updated to show the revised location of the existing subsurface drains. The drains will be rerouted such that they will discharge via the new headwall.

4. *Arrows denoting the flow direction of the roof leaders for the restaurant and hotel buildings should be added to the Site Plans.*

RLA Response: Sheet C-6 has been updated with flow arrows on the roof leaders. The roof leaders around the existing restaurant building discharge on grade. A new yard drain collector pipe has been proposed at the rear of the existing restaurant to collect runoff from the upgradient hillside as well as any roof leaders discharging on grade in that area. Toward the front and southerly side of the building, roof leaders will discharge on grade and will be collected by the new on-site low point in the parking area. At the new hotel building, the roof leaders will be connected to a roof drain header and conveyed to the bio-retention basin.

5. *As per the Massachusetts Stormwater Regulations, the soil media for the proposed bioretention basins must have a minimum depth of 30" in order to properly achieve nitrogen removal.*

RLA Response: The bio-retention areas have been revised to have 30-inches of media. The plans, details, and stormwater drainage report have been updated accordingly.

6. *The proposed grading in the northwestern section of the subject parcel has changed the hydrology of the site. Stormwater runoff in that area previously flowed offsite to the west. Under proposed conditions, that runoff is collected by the drainage system and discharges towards the BVW on the eastern side of the property. With the increase in impervious area, this constitutes a significant increase in stormwater volume to the BVW and perennial stream. Engineering is concerned with potential impacts to the wetland areas, the culvert under Main Street and properties downstream of the project site.*

RLA Response: The proposed stormwater management system has been designed to mitigate for the proposed site improvements by collecting stormwater runoff to provide peak-discharge rate attenuation and water quality treatment. During analysis of the site, two design points were chosen based on the topography of the site. There is a grade break along the top-of -slope of a relatively flat plateau area which split runoff from within the site from going in a easterly/southerly direction from runoff going to the west. However, runoff from both design points are ultimately tributary to the same location, Three Mile Brook. As discussed with the Engineering Department, the Long-Term Operation and Maintenance Plan has been updated to include an inspection schedule for the existing culvert should any maintenance be required.

7. *The yard drain grates in both bioretention basins do not appear to be set at the proper elevation in order to allow the basins to treat the 1-inch "first flush" of stormwater runoff. The "first flush" refers to the first 1-inch of runoff generated by a storm event multiplied by the total impervious*



area contributing to the basin. The yard drain grates are set at 0.1 FT above the basin bottom for each bioretention basin which will not provide enough storage volume within the basin to infiltrate the "first flush".

RLA Response: The Water Quality Volume (WQV) calculations have been included in App. E of the Stormwater Drainage Report. The yard drain grates have been set such that the volume within the basin below the rim elevations is equal to or greater than the WQV.

8. *The yard drains should be included as outlets for the bioretention basins in the HydroCAD calculations. This could have effects on the available storage and peak water elevations in the basins.*

RLA Response: The HydroCAD model has been updated to include the yard drain grates within the basin. Minor modifications to the outlet control structures were made and have been updated on the plans and stormwater drainage report.

9. *As per the Massachusetts Stormwater Regulations, the mulch in the bioretention basin should be replaced annually rather than every 2 years.*

RLA Response: The Long-Term Operation and Maintenance Manual has been updated to dictate that the mulch be replaced annually.

Should you have any questions or comments regarding this submission, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
R LEVESQUE ASSOCIATES, INC.

Filipe Cravo, P.E.
Project Engineer

cc: Kenny Patel

R LEVESQUE ASSOCIATES, INC.

40 School Street, P.O. BOX 640, Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com



September 25, 2024

Via email: tegerton@agawam.ma.us

Mr. Henry A. Kozloski, Chairman
Town of Agawam Conservation Commission
36 Main Street
Agawam, Massachusetts 01001

**RE: Response to Peer Review Comments
Notice of Intent Application – Proposed Hotel
1422 Main Street, Main Street, 1444 Main Street, & Rear Main Street
Agawam, Massachusetts 01001
(Assessor's Map & Parcel: K4-1-7, K4-1-13, K4-1-5 & K4-1-6)
RLA Project File No. 231007**

Dear Chairman Kozolski and Commissioners:

On behalf of the applicant, Shield Hotels c/o Mr. Kenny Patel, R Levesque Associates, Inc. is providing this response letter to peer review comments issued for the above-referenced project by Stockman Associates, LLC on September 19, 2024. The review comment is presented below in italic text, followed by an RLA Response presented below in blue, boldface text.

Resource Areas

1. *Revised site plans address the majority of the cartographic revisions. The following prior comment regarding Buffer Zone has not been addressed.*
 - a. *The southerly Buffer Zone boundary should be revised. While the boundary accurately depicts Buffer Zone associated with the BVW, the Buffer Zone associated with Threemile Brook is not depicted, resulting in an inaccurate depiction of the limits of Buffer Zone within the southerly portion of the property.*

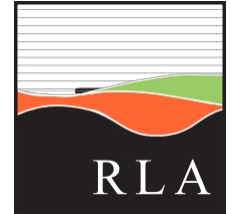
RLA Response: The site plans have been revised to reflect the correct buffer zone depiction.

Performance Standards

Riverfront Area

2. *The presented reduction in Riverfront Area alteration would benefit from further discussion/details.*

A LAND PLANNING SERVICES COMPANY



The response states that the new alteration of undeveloped riverfront area has been reduced to approximately 4,973-SF (previously the alteration was presented as approximately 9,061-SF). A comparison of the proposed limit of work erosion controls indicates only slight changes. How was the reduction in alteration assessed and calculated?

RLA Response: The reduction in proposed Riverfront Area alteration versus the original submission is attributed to a change in the limit of work between the bioretention basin #1 and the easterly edge of the proposed upper parking lot. All area calculations were done in AutoCAD by tracing a polygon of the proposed work areas.

BLSF

- 3. Please clarify that the design of Basin 1 (now Bioretention Area 1) accounts for both stormwater inputs and floodwaters. The response would benefit from further analysis. The response states that floodwaters from off-site were not included in the design. The revised NOI narrative and response letter state that the basin will create approximately 108 cubic yards of surplus compensatory flood storage between elevations 48 and 57 feet. However, discussions with Mr. Ryan Nelson indicated that compensatory storage is associated with a reduction in the downgradient berm and widening of the outlet channel. The application would benefit from a detailed plan indicating areas of proposed incremental fill within BLSF and subsequent incremental compensatory storage.*

RLA Response: The design of Basin 1 does not account for floodwaters. The basin has an overflow elevation of 53' and therefore below elevation 53' would not have a hydraulic connection in which flood waters could enter the basin. For this same reason, the volume of the proposed basin was not accounted towards compensatory flood storage created for the site. The net compensatory storage created for the site has been created through re-grading downgradient of the basin berm and widening of the non-jurisdictional outlet channel. Please refer to the accompanying SK-2 drawing which outlines the areas of proposed fill to BLSF and areas of compensatory flood storage creation.

Buffer Zone

- 4. Additional detail is required regarding potential hydrological changes to the BVW associated with the proposed work within Buffer Zone. Stormwater from both Bioretention Areas discharges to Buffer Zone. The response would benefit from an analysis of the drainage areas pre and post development. The proposed development increases drainage towards the BVW and Threemile Brook.*

RLA Response: A Stormwater Drainage Report has been prepared which provides a pre- versus post-



development hydrologic analysis of the site. The hydrologic analysis was conducted to design a stormwater management system that mitigates for the impacts of the proposed site improvements by providing a means to attenuate peak-discharge rates. As designed, the peak discharge rates for the proposed conditions match or are reduced versus preexisting conditions for the 2, 10, and 100-year storm.

Stormwater

5. *The Commission is advised to receive and review comments from the Engineering Department prior to closing the public hearing.*

RLA Response: All town Engineer Department comments have been addressed. Please refer to separate engineering response letter.

Bioretention Areas

6. *The proposed design calls for a minimum of 24-inches of engineered media within the Bioretention Areas. Per the MassDEP Stormwater Handbook (V.2.C.2), at least 30-inches is required for nitrogen removal.*

RLA Response: The bio-retention areas have been revised to have 30-inches of media. The plans, details, and stormwater drainage report have been updated accordingly.

Low Impact Development (LID) Considerations

7. *The Low Impact Development Considerations narrative would benefit from a discussion regarding the disconnection of roof drainage from the basin treatment trains. The response to this prior peer review comment would benefit from further explanation. The response does not fully address the original peer review comment. The applicant should address whether separating the roof drainage from the basin treatment train is feasible.*

RLA Response: The roof drainage from the existing and proposed buildings has not been disconnected from the basin treatment trains due to the requirement to attenuate peak stormwater discharge rates for the site.

Long-Term Operations & Management Plan (OMP)

8. *The inspection and maintenance schedule for Level Spreader should be adjusted to comply with*



the MassDEP Stormwater Handbook (V.2.C.2).

RLA Response: The inspection and maintenance schedule for the level spreader has been revised.

9. *Per the MassDEP Stormwater Handbook (V.2.C.2), mulch within the bioretention areas should be replaced annually rather than the proposed every two years.*

RLA Response: The Long-Term Operation and Maintenance Manual has been updated to dictate that the mulch be replaced annually.

General Site Plan Comments

10. *The response letter states that existing building drains will be rerouted to an upland location. The upland location is not indicated on the revised site plans.*

RLA Response: Sheet C-6 has been updated to show the revised location of the existing subsurface building drains. The drains will be rerouted such that they will be disconnected from the basin treatment train and instead will discharge via the new headwall downgradient of the basin.

Should you have any questions or comments regarding this submission, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
R LEVESQUE ASSOCIATES, INC.

Ryan Nelson
Wetland/Soil Scientist & Project Manager

cc: Kenny Patel

September 19, 2024

Mr. Henry Kozloski, Chair
Town of Agawam Conservation Commission
750 Cooper Street
Agawam, MA 01001

Re: Notice of Intent – Hotel Project
1422 Main Street, 1444 Main Street, Main Street, & Rear Main Street
Agawam, MA 01001
(Parcel IDs: K4-1-7, K4-1-5, K4-1-13 & K4-1-6)
DEP File # 087-0700
Third Party Review-Revised Materials

Dear Mr. Kozloski and Commissioners:

Per request of the Agawam Conservation Commission, Stockman Associates LLC has performed a wetland consultant peer review of the revised Notice of Intent materials submitted by R. Levesque Associates, Inc. (RLA) on behalf of their client, Shield Hotels. The project is located at 1422 Main Street, 1444 Main Street, Main Street, & Rear Main Street in Agawam, MA (Parcel IDs: K4-1-7, K4-1-5, K4-1-13 & K4-1-6). The review excludes an engineer's assessment of the Stormwater Report by RLA. It is our understanding that the Town of Agawam Engineering Division is reviewing the Stormwater Report.

Materials Review

- Response to Peer Review Comments letter prepared by R. Levesque Associates, Inc., dated September 11, 2024.
- Response to Engineering Comments letter prepared by R. Levesque Associates, Inc., dated September 10, 2024.
- Response to MassDEP Comments letter prepared by R. Levesque Associates, Inc., dated September 11, 2024.
- Revised NOI WPA Form 3 and revised NOI narratives prepared by R. Levesque Associates, Inc., dated 9/11/24.
- Revised NOI site plans "*Site Plans Proposed Hotel 1422-1444 Main Street Agawam, MA Map K4 Block 1 Parcel 5, 6, 7, & 13*" prepared by R. Levesque Associates, Inc., dated 9/9/24. Sheets T-1, EX-1, C1 through C-7, SL-1, VEH-1, D1 through D-5.
- Revised Stormwater Drainage Report "*Proposed Hotel 1422-1444 Main Street Agawam, Massachusetts (Map K4 Block 1 Parcel 5, 6, 7, & 13)*" prepared by R. Levesque Associates, Inc., dated 9/9/24.

Review Comments

Stockman Associates LLC offers the following comments in regard to the revised materials and outstanding peer review comments.

Resource Areas

- 1) Revised site plans address the majority of the cartographic revisions. The following prior comment regarding Buffer Zone has not been addressed.
 - a. The southerly Buffer Zone boundary should be revised. While the boundary accurately depicts Buffer Zone associated with the BVW, the Buffer Zone associated with Threemile Brook is not depicted, resulting in an inaccurate depiction of the limits of Buffer Zone within the southerly portion of the property.

Performance Standards

Riverfront Area

- 2) The presented reduction in Riverfront Area alteration would benefit from further discussion/details. The response states that the new alteration of undeveloped riverfront area has been reduced to approximately 4,973-SF (previously the alteration was presented as approximately 9,061-SF). A comparison of the proposed limit of work erosion controls indicates only slight changes. How was the reduction in alteration assessed and calculated?

BLSF

- 3) Please clarify that the design of Basin 1 (now Bioretention Area 1) accounts for both stormwater inputs and floodwaters. The response would benefit from further analysis. The response states that floodwaters from off-site were not included in the design. The revised NOI narrative and response letter state that the basin will create approximately 108 cubic yards of surplus compensatory flood storage between elevations 48 and 57 feet. However, discussions with Mr. Ryan Nelson indicated that compensatory storage is associated with a reduction in the downgradient berm and widening of the outlet channel. The application would benefit from a detailed plan indicating areas of proposed incremental fill within BLSF and subsequent incremental compensatory storage.

Buffer Zone

- 4) Additional detail is required regarding potential hydrological changes to the BVW associated with the proposed work within Buffer Zone. Stormwater from both Bioretention Areas discharges to Buffer Zone. The response would benefit from an analysis of the drainage areas pre and post development. The proposed development increases drainage towards the BVW and Threemile Brook.

Stormwater

- 5) The Commission is advised to receive and review comments from the Engineering Department prior to closing the public hearing.

Bioretention Areas

- 6) The proposed design calls for a minimum of 24-inches of engineered media within the Bioretention Areas. Per the MassDEP Stormwater Handbook (V.2.C.2.), at least 30-inches is required for nitrogen removal.

Low Impact Development (LID) Considerations

- 7) The Low Impact Development Consideration narrative would benefit from a discussion regarding the disconnection of roof drainage from the basin treatment trains. The response to this prior peer review comment would benefit from further explanation. The response does not fully address the original peer review comment. The applicant should address whether separating the roof drainage from the basin treatment train is feasible.

Long-Term Operations & Management Plan (OMP)

- 8) The inspection and maintenance schedule for Level Spreader should be adjusted to comply with the MassDEP Stormwater Handbook (V.2.C.2.).
- 9) Per the MassDEP Stormwater Handbook (V.2.C.2.), mulch within the bioretention areas should be replaced annually rather than the proposed every two years.

General Site Plan Comments

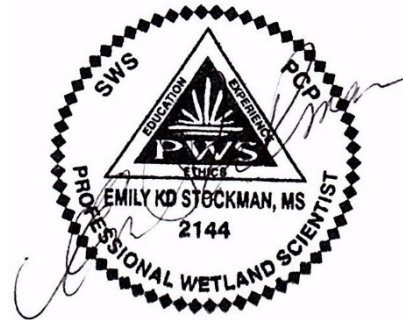
- 10) The response letter states that existing building drains will be rerouted to an upland location. The upland location is not indicated on the revised site plans.

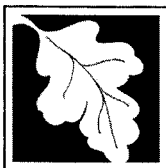
I trust that the above comments will assist the Commission in their review of the previously referenced NOI application. Please do not hesitate to contact me with any questions.

Sincerely,



Emily Stockman, M.S., P.W.S.
Senior Scientist/Principal
Stockman Associates LLC





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 Number

Document Transaction Number

Agawam

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Main Street Agawam 01001
a. Street Address b. City/Town c. Zip Code
Latitude and Longitude: 42.0871 -72.6207
d. Latitude e. Longitude
See attached Table 1
f. Assessors Map/Plat Number g. Parcel /Lot Number

2. Applicant:

Mario Mazza
a. First Name b. Last Name
Superintendent, Agawam Department of Public Works
c. Organization
1000 Suffield Street
d. Street Address
Agawam MA 01001
e. City/Town f. State g. Zip Code
(413) 821-0600 mmazza@agawam.ma.us
h. Phone Number i. Fax Number j. Email Address

3. Property owner (required if different from applicant): ☒ Check if more than one owner

See attached Table 1
a. First Name b. Last Name
c. Organization
d. Street Address
e. City/Town f. State g. Zip Code
h. Phone Number i. Fax Number j. Email address

4. Representative (if any):

Melissa Coady
a. First Name b. Last Name
Tighe & Bond, Inc.
c. Company
53 Southampton Road
d. Street Address
Westfield MA 01085
e. City/Town f. State g. Zip Code
(413) 572-3224 (413) 562-5317 MPCoady@TigheBond.com
h. Phone Number i. Fax Number j. Email address

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

N/A - Municipal Project N/A - Municipal Project N/A - Municipal Project
a. Total Fee Paid b. State Fee Paid c. City/Town Fee Paid



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:

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Agawam

City/Town

A. General Information (continued)

6. General Project Description:

The project involves replacing approximately 870 linear feet of the Westfield River Sewer to an alignment farther from the bank of the Westfield River, as well as restoration of surfaces along the new alignment (pavement, lawn, etc.). Refer to the attached narrative for additional details.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- | | |
|---|---|
| 1. ☐ Single Family Home | 2. ☐ Residential Subdivision |
| 3. ☐ Commercial/Industrial | 4. ☐ Dock/Pier |
| 5. ☒ Utilities | 6. ☐ Coastal engineering Structure |
| 7. ☐ Agriculture (e.g., cranberries, forestry) | 8. ☐ Transportation |
| 9. ☐ Other | |

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

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53(3)(d) - public utilities (sewer)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Hampden

a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

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

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

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



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 Number

Document Transaction Number

Agawam

City/Town

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 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	Westfield River (inland) 1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- ☐ 25 ft. - Designated Densely Developed Areas only
- ☐ 100 ft. - New agricultural projects only
- ☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 4,100
square feet

4. Proposed alteration of the Riverfront Area:

<u>4,100</u>	<u>500</u>	<u>3,600</u>
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

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)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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 Number

Document Transaction Number

Agawam

City/Town

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
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

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 enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

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 and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

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

August 1, 2021

b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); OR complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

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

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

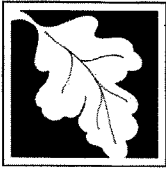
(a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) ☐ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/mas-endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

Make check payable to "Commonwealth of Massachusetts - NHESP" 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
- (f) 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, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; 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 # _____ 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.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- a. ☐ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

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

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project 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.

- c. ☐ Is this an aquaculture project? d. ☐ Yes ☐ No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



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C. Other Applicable Standards and Requirements (cont'd)

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

4. 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 MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. 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
6. 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
7. 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. Check why the project is exempt:
1. ☐ Single-family house
 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

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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.



Massachusetts Department of Environmental Protection
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D. Additional Information (cont'd)

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.

Westfield River Interceptor Sewer Relocation Project

a. Plan Title

Tighe & Bond, Inc.

b. Prepared By

December 2023

d. Final Revision Date

c. Signed and Stamped by

Varies

e. Scale

f. Additional Plan or Document Title

g. Date

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. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
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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

3. Signature of Property Owner (if different)

5. Signature of Representative (if any)

2. Date

4. Date

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 any part of Section C, Item 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.



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE
436 DWIGHT STREET, SPRINGFIELD, MA 01103 413-784-1100

MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lieutenant Governor

REBECCA L. TEPPER
Secretary

BONNIE HEIPLE
Commissioner

DATE: March 5, 2024

Municipality AGAWAM
(city/town)

RE: NOTIFICATION OF WETLANDS PROTECTION ACT FILE NUMBER

The Department of Environmental Protection has received a Notice of Intent filed in accordance with the Wetlands Protection Act (M.G.L. c. 131, §40):

Applicant: SUPERINTENDENT, AGAWAM

Owner: SEE ATTACHED TABLE 1

Address: 1000 SUFFIELD STREET
AGAWAM, MA 01001

Address:
, ,

LOCUS: MAIN STREET

This project has been assigned the following file # : WE 087-0697

A FILE NUMBER ONLY INDICATES THAT THE APPLICATION CONTAINS THE MINIMAL SUBMITTAL REQUIREMENTS AND IS ADMINISTRATIVELY COMPLETE - NOT THAT THE INFORMATION IN THE APPLICATION IS ADEQUATE FOR ISSUANCE OF AN ORDER OF CONDITIONS.

Although a file # is being issued, please note the following:

If you have any questions regarding this letter, please contact: MARK STINSON @ (413)-961-9583

Cc: Agawam Conservation Commission, TOWN HALL, 36 MAIN STREET, Agawam, MA, 01001

Owner: SEE ATTACHED TABLE 1 , , , ,

Representative: TIGHE & BOND, INC., 53 SOUTHAMPTON ROAD, WESTFIELD, MA, 01085

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282. TTY# MassRelay Service 1-800-439-2370.

 [MassDEP Website: www.mass.gov/dep](http://www.mass.gov/dep)
Printed on Recycled Paper

SUPERINTENDENT, AGAWAM DEPARTMENT
1000 SUFFIELD STREET
AGAWAM, MA 01001



Town of Agawam

Department Of Public Works

DPW
1000 Suffield Street
Agawam, MA 01001
Phone: 413-821-0600
Fax: 413-821-0631

MEMORANDUM

To: Conservation Commission
CC: File
From: Engineering Division
Date: March 4, 2024
Subject: PW 470 – Westfield River Interceptor Sewer Relocation – Main Street

Per your request, we have reviewed the Notice of Intent for the proposed Westfield River Interceptor Sewer Relocation Project; Prepared by Tighe & Bond; Dated: February, 2024. Based on our review, we have the following comments:

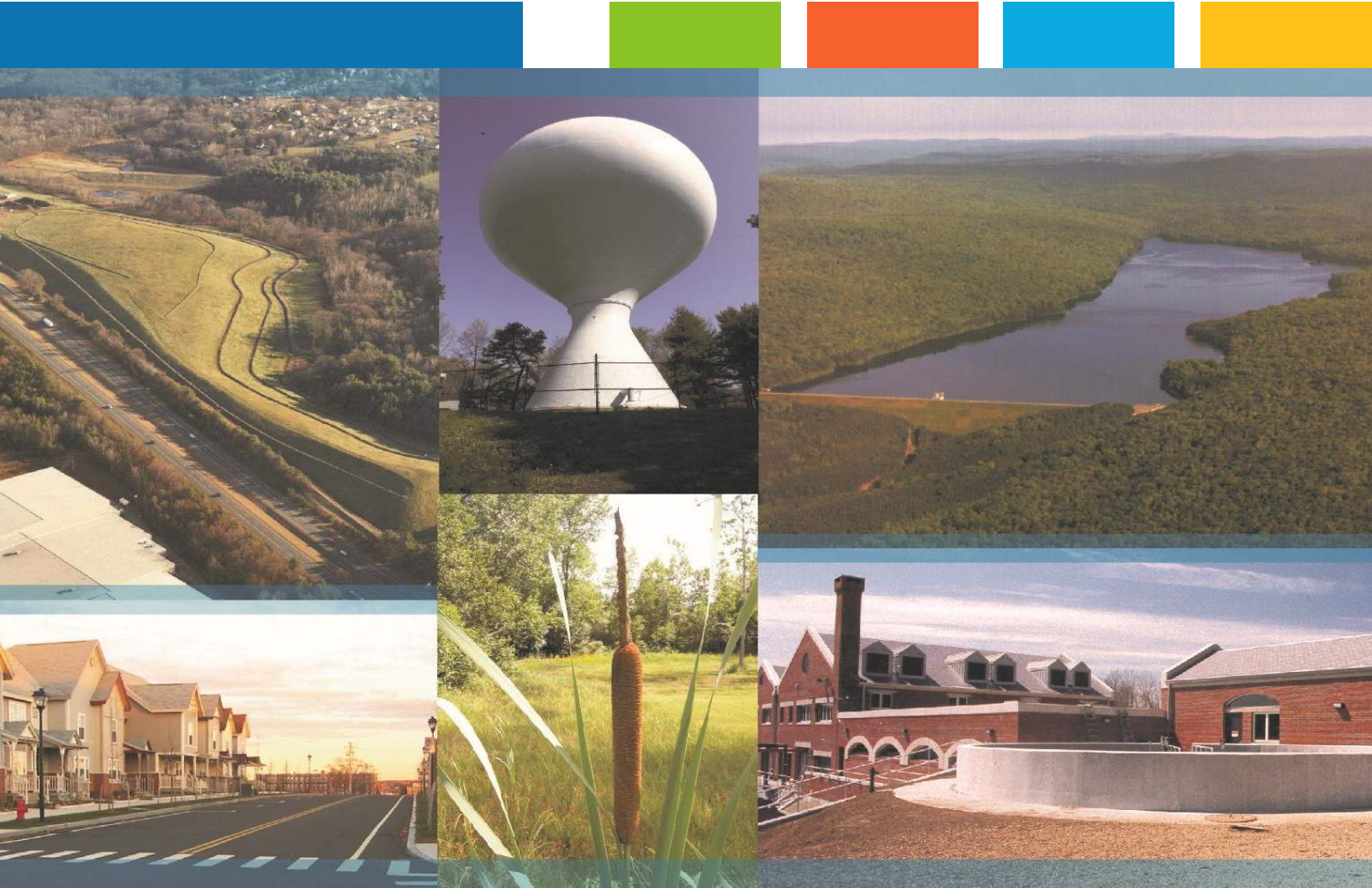
1. Engineering recommends that the abandoned SMH #9 be filled with flowable fill rather than gravel. Over time, gravel could shift within the manhole structures, potentially causing sinkholes within the parking lot of #141 Main Street.

Engineering reserves the right to make additional comments as new information is submitted. If you have any questions, please do not hesitate to contact this division.

Sincerely,

Michael F. Albro, P.E.
Assistant Town Engineer

Michelle C. Chase, P.E.
Town Engineer



Westfield River Interceptor Sewer Relocation Project
Agawam, Massachusetts

NOTICE OF INTENT

Town of Agawam
Department of Public Works

February 2024

Tighe&Bond

A-5000-005
February 21, 2024

Agawam Conservation Commission
36 Main Street
Agawam, MA 01001

Re: **Notice of Intent**
Westfield River Interceptor Sewer Relocation Project
Agawam, Massachusetts

Dear Members of the Commission:

On behalf of the Town of Agawam Department of Public Works (DPW), Tighe & Bond is submitting this Notice of Intent (NOI) for the Town's project to relocate a section of existing cross-country 24-inch diameter sewer that runs beneath a failing slope along the south side of the Westfield River. The proposed sewer alignment is approximately 870 feet long and passes through private property at 141 Main Street, 159 Main Street and 175 Main Street. The realignment will locate the sewer farther from the Westfield River than its current alignment.

Although the sewer realignment is exempt from the requirements for the Riverfront Area, an Order of Conditions is required for work within the 100-foot Buffer Zone to inland Bank.

Please advertise this matter for public hearing at the next regularly scheduled Commission meeting on March 14, 2024. We trust these materials are sufficient for the Commission to issue an Order of Conditions, confirming that the proposed activities will not compromise the statutory interests of the Massachusetts Wetlands Protection Act (MA WPA). Should you have any questions or require any additional information, please contact me at (413) 572-3224, or at MPCoady@tighebond.com.

Very truly yours,

TIGHE & BOND, INC.



Melissa P. Coady
Project Manager

Copy: MassDEP – Western Regional Office Division of Wetlands and Waterways
Mario Mazza, Superintendent, Agawam DPW
John Decker, Deputy Superintendent, Agawam DPW
Michelle Chase, PE, Agawam Town Engineer

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WPA Form 3 – Notice of Intent

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J:\A\A5000 Agawam\005 Main St Interceptor Relocation\Permitting\NOI\Draft\Narrative.docx

Appendices

- A Figures
 - Site Location Map (Figure 1)
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- B Project Drawings
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Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Main Street	Agawam	01001
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:	42.0871	-72.6207
	d. Latitude	e. Longitude
See attached Table 1		
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant:

Mario	Mazza	
a. First Name	b. Last Name	
Superintendent, Agawam Department of Public Works		
c. Organization		
1000 Suffield Street		
d. Street Address		
Agawam	MA	01001
e. City/Town	f. State	g. Zip Code
(413) 821-0600	mmazza@agawam.ma.us	
h. Phone Number	i. Fax Number	j. Email Address

3. Property owner (required if different from applicant): ☒ Check if more than one owner

See attached Table 1		
a. First Name	b. Last Name	
c. Organization		
d. Street Address		
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

Melissa	Coady	
a. First Name	b. Last Name	
Tighe & Bond, Inc.		
c. Company		
53 Southampton Road		
d. Street Address		
Westfield	MA	01085
e. City/Town	f. State	g. Zip Code
(413) 572-3224	(413) 562-5317	MPCoady@TigheBond.com
h. Phone Number	i. Fax Number	j. Email address

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

N/A - Municipal Project	N/A - Municipal Project	N/A - Municipal Project
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



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A. General Information (continued)

6. General Project Description:

The project involves replacing approximately 870 linear feet of the Westfield River Sewer to an alignment farther from the bank of the Westfield River, as well as restoration of surfaces along the new alignment (pavement, lawn, etc.). Refer to the attached narrative for additional details.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- | | |
|---|---|
| 1. ☐ Single Family Home | 2. ☐ Residential Subdivision |
| 3. ☐ Commercial/Industrial | 4. ☐ Dock/Pier |
| 5. ☒ Utilities | 6. ☐ Coastal engineering Structure |
| 7. ☐ Agriculture (e.g., cranberries, forestry) | 8. ☐ Transportation |
| 9. ☐ Other | |

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

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53(3)(d) - public utilities (sewer)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Hampden

a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

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

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

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



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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 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	Westfield River (inland) 1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- ☐ 25 ft. - Designated Densely Developed Areas only
- ☐ 100 ft. - New agricultural projects only
- ☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 4,100
square feet

4. Proposed alteration of the Riverfront Area:

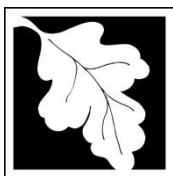
<u>4,100</u>	<u>500</u>	<u>3,600</u>
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

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)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
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	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 enter the additional amount here.	
	a. square feet of BVW	b. square feet of Salt Marsh
5. ☐ Project Involves Stream Crossings		
	a. number of new stream crossings	b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

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 and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

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

August 1, 2021

b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

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

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands 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

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/mas-endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

Make check payable to "Commonwealth of Massachusetts - NHESP" 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

- (f) 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, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; 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 #

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.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- a. ☐ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

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

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project 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.

- c. ☐ Is this an aquaculture project? d. ☐ Yes ☐ No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



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

C. Other Applicable Standards and Requirements (cont'd)

4. 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 MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
b. ACEC
5. 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
6. 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
7. 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. Check why the project is exempt:
1. ☐ Single-family house
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

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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.



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D. Additional Information (cont'd)

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.

Westfield River Interceptor Sewer Relocation Project

a. Plan Title

Tighe & Bond, Inc.

b. Prepared By

December 2023

d. Final Revision Date

c. Signed and Stamped by

Varies

e. Scale

f. Additional Plan or Document Title

g. Date

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. Payor name on check: First Name

7. Payor name on check: Last Name



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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 of certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant

3. Signature of Property Owner (if different)

5. Signature of Representative (if any)

2. Date

4. Date

2/21/2024

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 any part of Section C, Item 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.

TABLE 1List of Property Owners¹

Parcel ID	Property Address	Owner	Owner Address	Owner City	Owner State	Owner Zip
K14 2 3 ²	141 Main Street	Ricom, LLC	141 Main Street	Agawam	MA	01001
K14 2 4 ²	159 Main Street	Cooper's Commons LLC	159 Main Street	Agawam	MA	01001
K14 2 5	175 Main Street	Carando Gourmet Frozen Foods Corp	175 Main Street	Agawam	MA	01001

¹Information based on *MassGIS, February 15, 2024*²Activities within these parcels are exempt from MAWPA



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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

Main Street

a. Street Address

N/A

c. Check number

Agawam

b. City/Town

N/A (fee exempt)

d. Fee amount

2. Applicant Mailing Address:

Mario

a. First Name

Mazza

b. Last Name

Superintendent, Agawam Department of Public Works

c. Organization

1000 Suffield Street

d. Mailing Address

Agawam

e. City/Town

MA

f. State

01001

g. Zip Code

(413) 821-0600

h. Phone Number

i. Fax Number

mmazza@agawam.ma.us

j. Email Address

3. Property Owner (if different):

See attached Table 1

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



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B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Fee Exempt (Municipal Project)			

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee: _____ Fee Exempt
a. Total Fee from Step 5

State share of filing Fee: _____ b. 1/2 Total Fee **less** \$12.50

City/Town share of filing Fee: _____ c. 1/2 Total Fee **plus** \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

SECTION 1

Section 1

Introduction

1.1 Project Background and Purpose

This Notice of Intent (NOI) is being submitted on behalf of the Town of Agawam Department of Public Works (DPW) for activities associated with relocating part of the sewer section that abuts the Westfield River and restabilizing the bank where it is currently located.

The DPW has identified vulnerabilities due to slope failure concerns along the southern bank of the Westfield River. The concerns are particularly relevant to the 24-inch diameter sewer that extends cross-country from 141 Main Street to Agawam's municipal sewer pump station behind the HP Hood facility at 233 Main Street. Slope stabilization designed by the Army Corps of Engineers (ACOE), which includes steel sheeting installed near the toe of the bank, had been installed to stabilize the bank. However, despite the slope stabilization efforts, the Town has observed signs of potential bank failure close to its 24-inch sewer at the location shown on Figure 1 in Appendix A. As a result, the Town has determined that realigning the sewer away from the river is the most cost effective and suitable means of addressing the system.

SECTION 2

Section 2

Existing Environment

This section provides a site description and wetland characterization for the project area. Land use in the general vicinity of the proposed sewer main is primarily developed and consists of mostly commercial use.

2.1 Project Locus

The Project Locus, as that term is defined at 310 CMR 10.02, is comprised of the three (3) parcels of land summarized in Table 2-1. The majority of the Project Locus is land situated between the Westfield River and Main Street. The land is developed and in commercial and/or industrial use. Land surrounding the Project Locus is also developed and in commercial, industrial, and residential use.

2.1.1 Project Site

The Project Site (i.e. Limits of Work) comprises approximately 27,300 square feet (sf) within existing sewer easements and private property on the south side of Westfield River. The proposed work will mainly take place within paved and other routinely maintained areas between the Carando Gourmet Foods, Cooper's Commons, Cooper's Gifts, and the Main Street Deli Restaurant buildings.

TABLE 2-1
Site Parcel Information¹

Parcel ID	Location	Owner
K14 2 3	141/143/145 Main Street	Ricom, LLC
K14 2 4	159 Main Street	Cooper's Commons LLC
K14 2 5	175 Main Street	Carando Gourmet Frozen Foods Corp

¹Information based on *MassGIS, February 15, 2024*

The project location is shown on the USGS Site Location Map (Figure 1) provided in Appendix A. The site and surrounding area are also shown on the Massachusetts Department of Environmental Protection (MassDEP) Priority Resources Map (Figure 2), and Orthophotograph Site Plan (Figure 3) in Appendix A. Photographs of the Project Site and surrounding area are provided in Appendix C.

2.2 Methodology of Resource Area Investigations

On December 5, 2018, Tighe & Bond conducted wetland resource area field investigations in the vicinity of the project limits in general accordance with the MassDEP guidelines, 310 CMR 10.00, and the United States Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (January 2012). Follow-up site reconnaissance was conducted on August 10, 2021.

2.3 Summary of Jurisdictional Wetland Resource Areas

The following wetland resource areas have been identified within or near the limits of the Project Site, and are subject to protection and jurisdiction under the Massachusetts Wetlands Protection Act (MA WPA; M.G.L. c. 131, § 40), which is administered by the Town of Agawam Conservation Commission:

- Inland Bank (Westfield River)
- Bordering Land Subject to Flooding (BLSF)
- Riverfront Area (Westfield River)

2.3.1 Inland Bank

The inland Bank of the Westfield River was delineated north of the Project Site. The Westfield River flows to the east, approximately 180 feet north of the Project Site. The Bank of the Westfield River is vegetated with trees and shrubs. Vegetation observed along the Bank of the river included ash-leaved maple (*Acer negundo*; FAC), green ash (*Fraxinus pennsylvanica*; FACW), sugar maple (*Acer saccharum*; FACU), black locust (*Robinia pseudoacacia*; FACU), Japanese knotweed (*Fallopia japonica*; FACU), multiflora rose (*Rosa multiflora*; FACU), and Oriental bittersweet (*Celastrus orbiculatus*; UPL).

2.3.2 Bordering Land Subject to Flooding

A review of the FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM; Panel No. 25013C0403E, effective date July 16, 2013), indicates the Project Site is not situated within the limits of 100-year flooding associated with the Westfield River, which has a FEMA-determined Base Flood Elevation (BFE) of 61 feet (NAVD88). The limits of BLSF are shown on Figure 4 in Appendix A. A copy of the FEMA flood profile and FIRM are also provided in Appendix A.

2.3.3 Riverfront Area

As previously noted, the Westfield River is located to the northeast of the proposed Project Site. Riverfront Area within the Project Locus is comprised of upland forest, gravel access roads, degraded pavement, maintained lawn, and other vegetated areas. Within the Project Locus, there is approximately 4,100 square feet of Riverfront Area.

2.4 Rare Species

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (August 1, 2021) and MassGIS online (August 2021) were consulted during the preparation of this application. According to these sources, the proposed Project Site and surrounding area are not within the limits of Priority Habitats or Rare Species or Estimated Habitats of Rare Wildlife. A map showing Priority Resources (Figure 2) is provided in Appendix A.

SECTION 3

Section 3

Project Description

3.1 Proposed Activities

The Westfield River Interceptor Sewer Relocation Project involves relocating a section of existing cross-country 24-inch diameter sewer that runs beneath a failing slope along the southern bank of the Westfield River, behind Cooper's Gifts, at 159 Main Street in Agawam. The proposed 24-inch sewer alignment is approximately 870 feet long and will be tied into an existing sewer within Main Street at a new sewer manhole (S.M.H. #1) and directed through the paved entrance of the Main Street Deli, at 141 Main Street, to a new sewer manhole (S.M.H. #5). The sewer main alignment will also be directed southeast within Main Street to a new sewer manhole (S.M.H. #2), then northeast within a maintained lawn area adjacent to the edge of the pavement to a new sewer manhole (S.M.H. #3) between Cooper's Commons, at 159 Main Street, and Carando Gourmet Foods, at 175 Main Street. The proposed sewer main will continue northeast to a new sewer manhole (S.M.H. #4) behind Cooper's Gifts, at 161 Main Street. Cooper's Gifts currently utilizes a septic sewage treatment system but will be connected into the new sewer main after construction. The former sewer main will be decommissioned and abandoned in place. The locations of the existing and proposed sewer line and manholes are provided in the Project Drawings in Appendix B.

3.1.1 Anticipated Construction Sequence

The Town anticipates starting construction as soon as possible with plans to complete all work by November 2024, dependent upon weather, resource availability, and following the receipt of all regulatory approvals. The following is a description of the anticipated construction sequence for work of this nature. The actual sequence and schedule will be determined by the selected contractor.

- Submit inquiry to Dig Safe® to mark out underground utilities
- Install sediment and erosion controls
- Prepare staging and stockpile areas within easement
- Conduct vegetation clearing activities
- Conduct removal of structures and pavement
- Implement sewer bypass system
- Install proposed sewer main and backfill trenches with native soil
- Remove sewer bypass system
- Patch pavement surface with bituminous concrete trench repair
- Abandon existing sewer main
- Mill and overlay pavement surface
- Loam and seed exposed soils
- Remove erosion and sediment controls following stabilization

3.1.2 Access, Staging, and Stockpiling

The Project Site will be accessed from Main Street and the driveways encircling the Cooper's Common plaza. The road and driveways are visible on Figure 3 in Appendix A.

During work hours, staging areas for equipment and material stockpiles will be located within the limits of the construction easement, which covers the driveway in front of Cooper's Gifts and the maintained lawn to the east. At the end of each work day, mechanical equipment and stockpiles will be removed from the jurisdictional areas. Staging and stockpile locations will be generally located along viable access routes for removal of project-related materials from the site.

3.1.3 Sewer Abandonment

Once the sewer is completely transferred to the new line, the original sewer line will be abandoned. The inlet and outlet pipes of sewer manhole #9 will be plugged with brick and mortar, and the manhole will be filled with gravel. The frame and cover will then be removed. The inlet and outlet pipes of sewer manholes #10 and #11 will also be plugged with brick and mortar. These manholes will not be filled with gravel and their frames and covers will remain in place due to a lack of accessibility of equipment. The upstream pipes at sewer manholes #1, #4, and #7 will also be plugged with brick and mortar.

3.1.4 Site Restoration

Upon completion of the project, the disturbed areas will be restored. The proposed restoration activities include loaming and seeding, and mulching with straw, the maintained lawn area.

3.1.5 Long-Term Operation and Management

Following the completion of construction activities, the sewer main will be maintained by the Town, as needed.

3.2 Construction Period Protective Measures

Construction period erosion and sediment control measures will be installed between the work area and wetland resource areas as necessary to minimize potential impacts to these resource areas. Any sediment and erosion controls installed will be removed and properly disposed of off-site once construction and stabilization activities are complete. In the event groundwater is encountered during excavation activities, appropriate dewatering measures will be implemented, as necessary, prior to infiltration into upland areas.

Effluent present in the sewer main will be bypassed above ground in a sealed pipe while the relevant sections of sewer are replaced and installed.

3.3 Alternatives Considered

The Town had originally addressed this problem with a lesser invasive method by stabilizing the slope where the sewer main currently is. Slope stabilization designed by the Army Corps of Engineers (ACOE), which included steel sheeting installed near the toe of the bank, had been installed to stabilize the bank. However, despite the slope stabilization efforts, the Town has observed signs of potential bank failure close to the 24-inch sewer at the location shown on Figure 1 in Appendix A.

SECTION 4

Section 4

Regulatory Compliance

This section summarizes the project's relationship to and compliance with the MA WPA and other pertinent regulatory programs.

4.1 Massachusetts Wetland Protection Act

The proposed activities will occur within areas subject to protection and jurisdiction under the MA WPA. These areas consist of the 100-foot Buffer Zone and the 200-foot Riverfront Area of the Westfield River. The proposed activities will generally occur within approximately 4,100 square feet of the Riverfront Area altogether, with 500 square feet of that in the 100-foot Buffer Zone. The total work area, including the footprint of work outside MA WPA jurisdiction, will be approximately 27,300 square feet. The proposed activities are generally between elevations of 77 feet and 83 feet, which is at least 16 feet above the BLSF elevation of 61 feet.

TABLE 4-1

Summary of MA WPA Jurisdictional Alterations

Activity	200-foot Riverfront Area	
	0-100 feet	100-200 feet
New Sewer Within Maintained Lawn	0 sf	600 sf
Sewer Within Area of Unmanaged Vegetation	500 sf	3,000 sf
Total:	500 sf	3,600 sf

4.1.1 Exemptions

The following exemptions apply to the Westfield River Interceptor Sewer Relocation Project.

4.1.1.1 Exempted Activities

Per 310 CMR 10.58(6)(h), the construction, expansion, repair, restoration, alteration, replacement, operation and maintenance of public or private local or regional wastewater treatment plants and their related structures, conveyance systems, and facilities, including utility lines shall be considered exempt from the requirements for Riverfront Area.

4.1.2 Limited Project Status

The proposed sewer extension project qualifies for consideration as a Limited Project per 310 CMR 10.53(3)(d):

*The construction, reconstruction, operation and maintenance of underground and overhead public utilities, such as electrical distribution or transmission lines, or communication, **sewer** [emphasis added], water and natural gas lines, may be permitted...*

It is not necessary to invoke Limited Project status because the proposed activities are exempt from the requirements for the Riverfront Area.

4.1.3 Stormwater Management

No new impervious surfaces or point source discharges will result from the proposed activities. Per the recommended final decision issued on July 29, 2016 in the Matter of Berkshire Community College Docket # WET-2015-023 from the MassDEP Office of Appeals and Dispute Resolution, it was ruled that 310 CMR 10.05(6)(k) through (q) does not apply to a project that does not propose a "point source" or "stormwater discharge" within resource areas or their Buffer Zones.

4.2 Public Notice

Abutters were notified in accordance with the MA WPA 310 CMR 10.05(4)(a). Copies of the abutter notification form and list of abutters are provided in Appendix E.

4.3 Other Regulatory Programs

4.3.1 NPDES Construction General Permit

The project will not result in the disturbance of one (1) or more acres of land. As such, coverage under the National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP) and a Storm Water Pollution Prevention Plan (SWPPP) are not required.

J:\A\A5000 Agawam\005 Main St Interceptor Relocation\Permitting\NOI\Draft\Narrative.docx

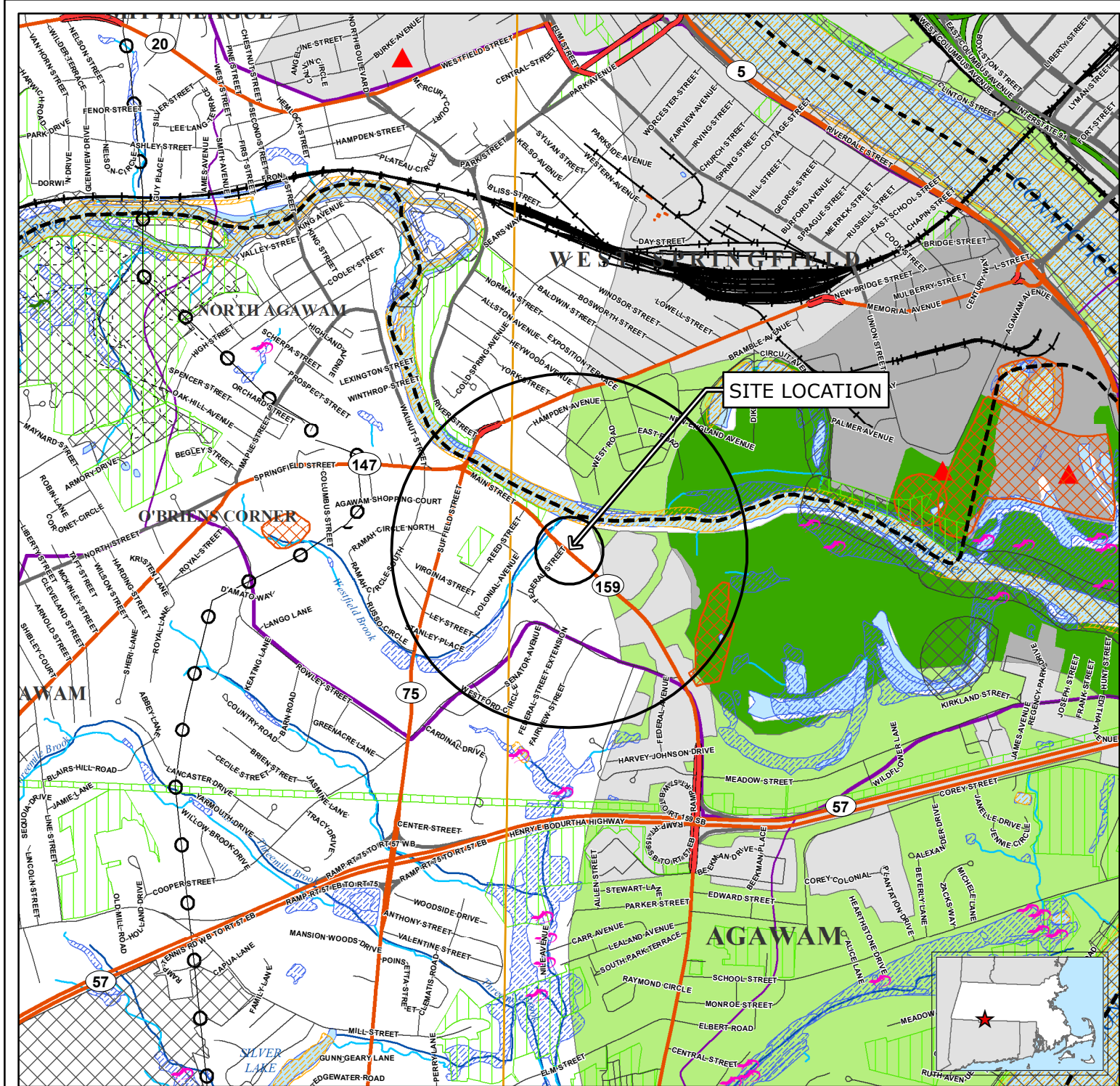
APPENDIX A



FIGURE 1
SITE LOCATION

Westfield River Sewer Relocation
Main Street
Agawam, Massachusetts

February 2024



Legend

- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Non-Landfill Solid Waste Sites
- Proposed Well
- Emergency Surface Water
- Community Public Water Supply - Surface Water
- Community Public Water Supply - Groundwater
- Non-Community Non-Transient Public Water Supply
- Non-Community Transient Public Water Supply
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Route
- Major Road - Arterials and Collectors
- Minor Street or Road
- Aqueducts
- Hydrologic Connections
- Stream/Intermittent Stream
- Powerline
- Pipeline
- Track or Trail
- Trains
- Public Surface Water Supply Protection Area (Zone A)
- DEP Approved Wellhead Protection Area (Zone I)
- DEP Approved Wellhead Protection Area (Zone II)
- DEP Interim Wellhead Protection Area (IWPA)
- Protected and Recreational Open Space
- Solid Waste Landfill
- Area of Critical Environmental Concern (ACEC)
- NHESP Priority Habitats for Rare Species
- NHESP Estimated Habitats for Rare Wildlife
- EPA Designated Sole Source Aquifer
- Major Drainage Basin
- Sub Drainage Basin
- MassDEP Open Water
- MassDEP Inland Wetlands
- MassDEP Coastal Wetlands
- MassDEP Not Interpreted Wetlands
- Public Surface Water Supply (PSWS)
- Water Bodies
- Non-Potential Drinking Water Source Area - High Yield
- Non-Potential Drinking Water Source Area - Medium Yield
- Potentially Productive Medium Yield Aquifer
- Potentially Productive High Yield Aquifer
- County Boundary
- Municipal Boundary
- USGS Quadrangle Sheet Boundary

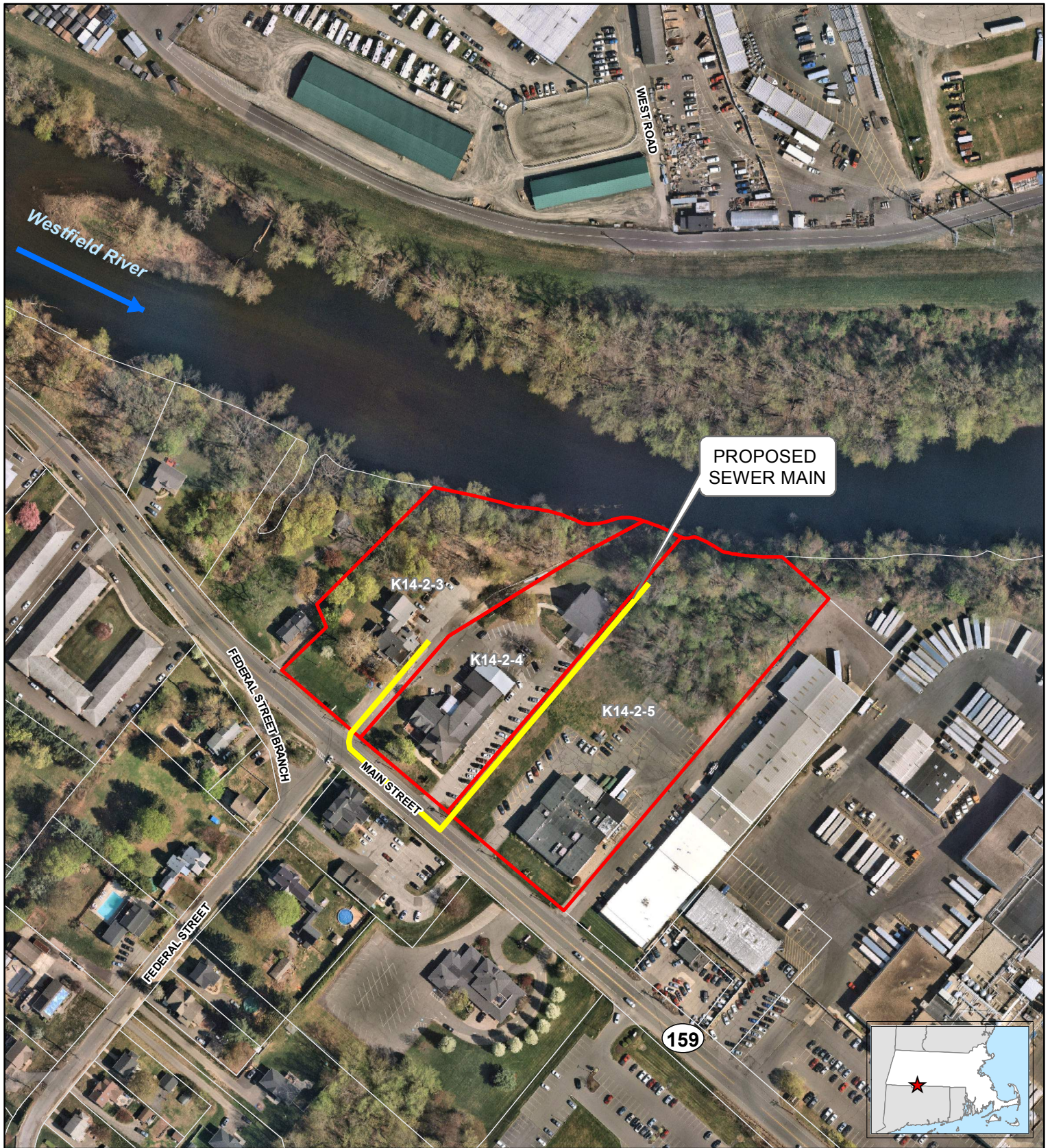
FIGURE 2 PRIORITY RESOURCES

Westfield River Sewer Relocation
Main Street
Agawam, Massachusetts

Data source: Bureau of Geographic Information (MassGIS),
Commonwealth of Massachusetts, Executive Office of Technology.
Circles indicate 500-foot and half-mile radii.
Data valid as of February 2024.

February 2024

Tighe & Bond



Legend

- Proposed Sewer Main
- Project Parcels
- Parcel Boundary
- River Flow Direction

Tighe&Bond

Based on Nearmap Color Orthophotography (2023).

1:2,400
0 100 200
Feet

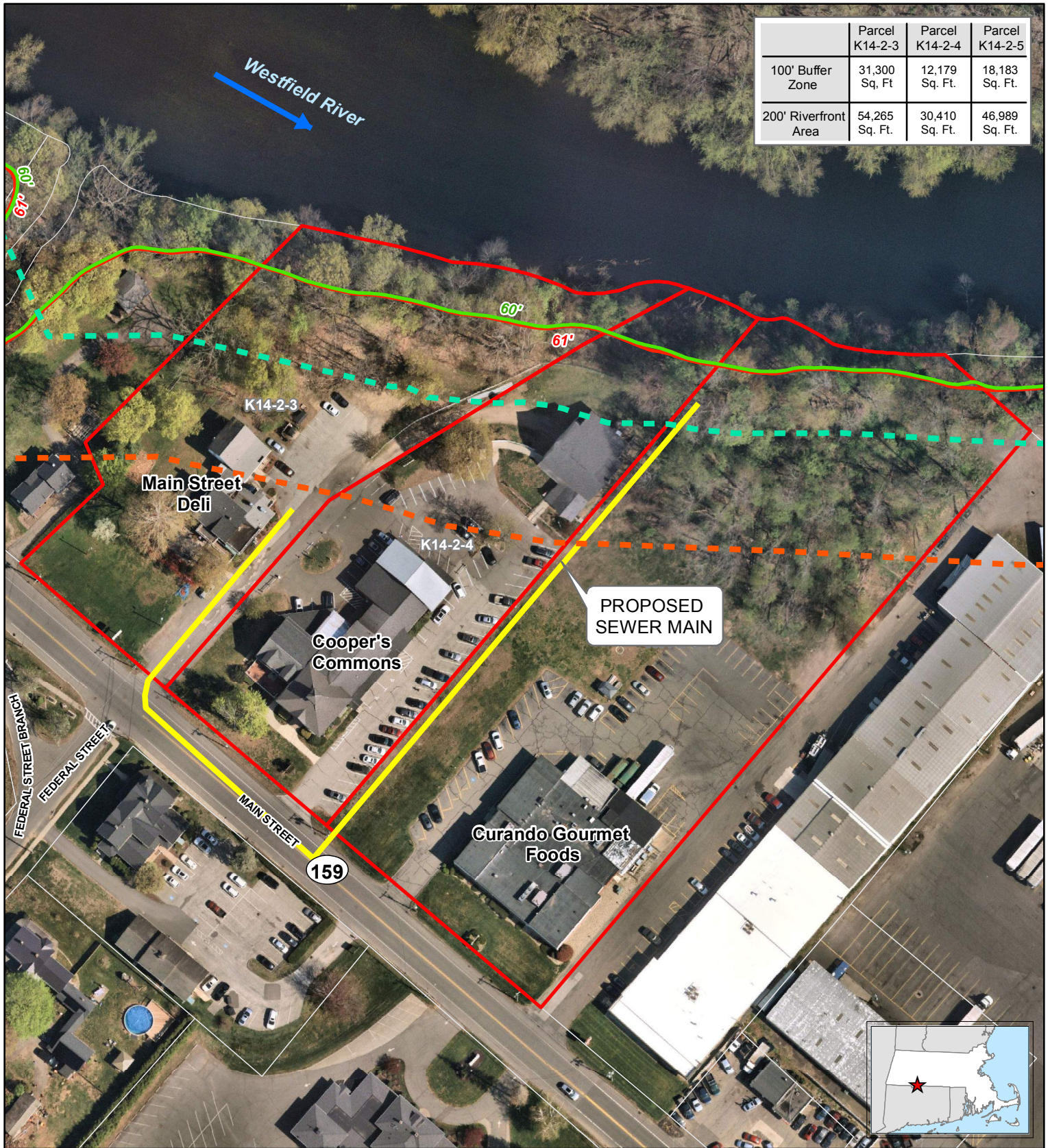


FIGURE 3

ORTHOGRAPH

Westfield River Sewer Relocation
Main Street
Agawam, Massachusetts

February 2024



Elevation Contour

60'

61' - Limits of Bordering

Land Subject to Flooding (BLSF)

Proposed Sewer Main



Project Parcels



Parcel Boundary



100' Buffer Zone



200' Riverfront Area



River Flow Direction

NOTE: 60' and 61' contours represent FEMA's calculated Base Flood Elevation (BFE) for a 100-year storm.



1:1,300
0 50 100
Feet

Tighe&Bond

Based on Nearmap Color Orthophotography (2023).

FIGURE 4

RESOURCE AREAS

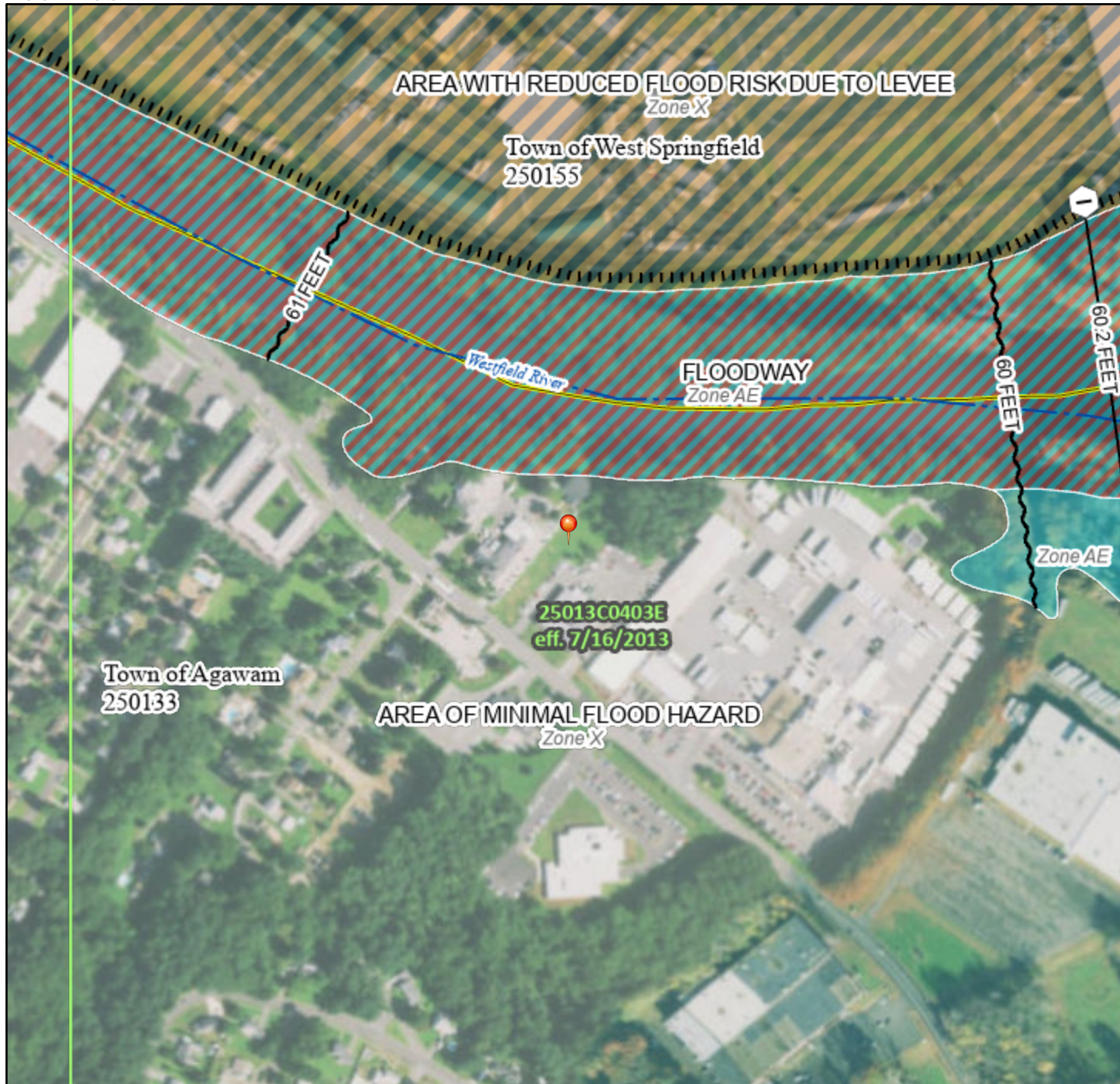
Westfield River Sewer Relocation
Main Street
Agawam, Massachusetts

February 2024

National Flood Hazard Layer FIRMette



72°37'32"W 42°5'25"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
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
OTHER FEATURES		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
OTHER FEATURES		Hydrographic Feature
		Digital Data Available
MAP PANELS		No Digital Data Available
		Unmapped



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 8/6/2021 at 9:54 AM 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.

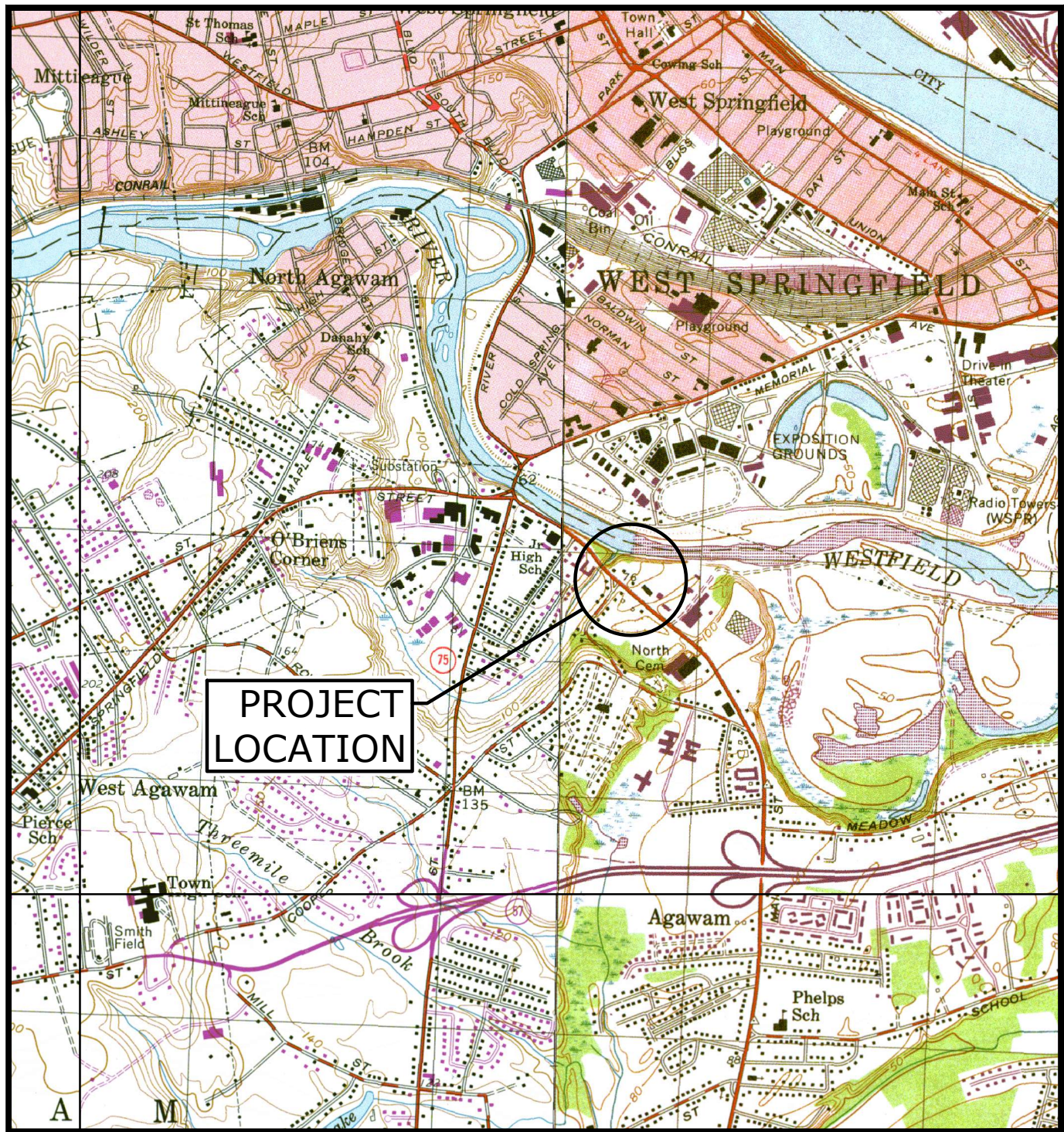
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

APPENDIX B

TOWN OF AGAWAM, MASSACHUSETTS WESTFIELD RIVER INTERCEPTOR SEWER RELOCATION PROJECT

JANUARY 2024

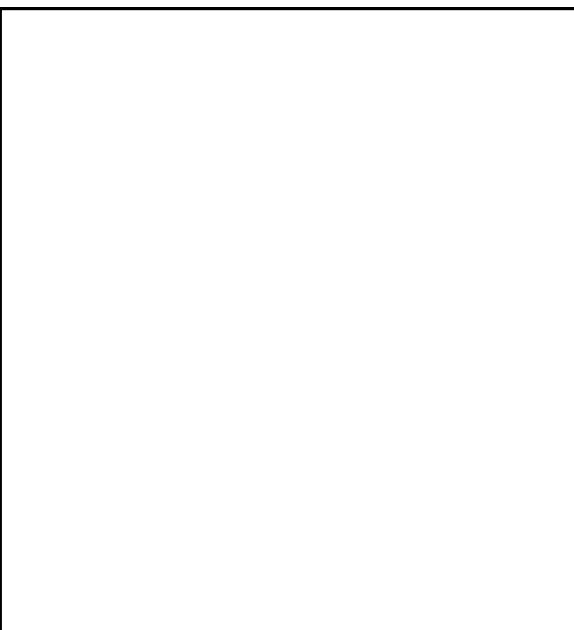
LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
CIVIL		
2	C-101	SEWER PLAN LAYOUT
3	C-102	SEWER PROFILES
4	C-201	SEWER DETAILS
5	C-202	MISCELLANEOUS DETAILS
6	C-203	TRAFFIC CONTROL DETAILS



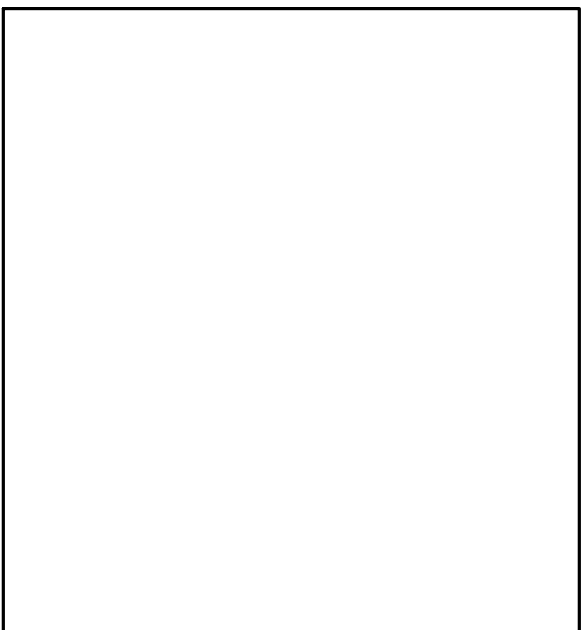
LOCATION MAP
SCALE: 1" = 2000'

PREPARED BY:

Tighe&Bond



DAVID J. PARTRIDGE, PE



MATTHEW A. KIRK, PE

MAYOR
WILLIAM P. SAPELLI

SUPERINTENDENT OF PUBLIC WORKS
MARIO MAZZA

DEPUTY SUPERINTENDENT OF PUBLIC WORKS
JIM DENI

TOWN ENGINEER
MICHELLE C. CHASE, PE

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COMPLETE SET 6 SHEETS

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Department of
Public Works

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

MARK	DATE	DESCRIPTION
PROJECT NO:		A5000-005
DATE:		DECEMBER 2023
FILE:		A5000-005 general notes.dwg
DRAWN BY:		LMK
DESIGNED/CHECKED BY:		MAK
APPROVED BY:		DJP

SCALE: NO SCALE

SHEET 1 OF 6

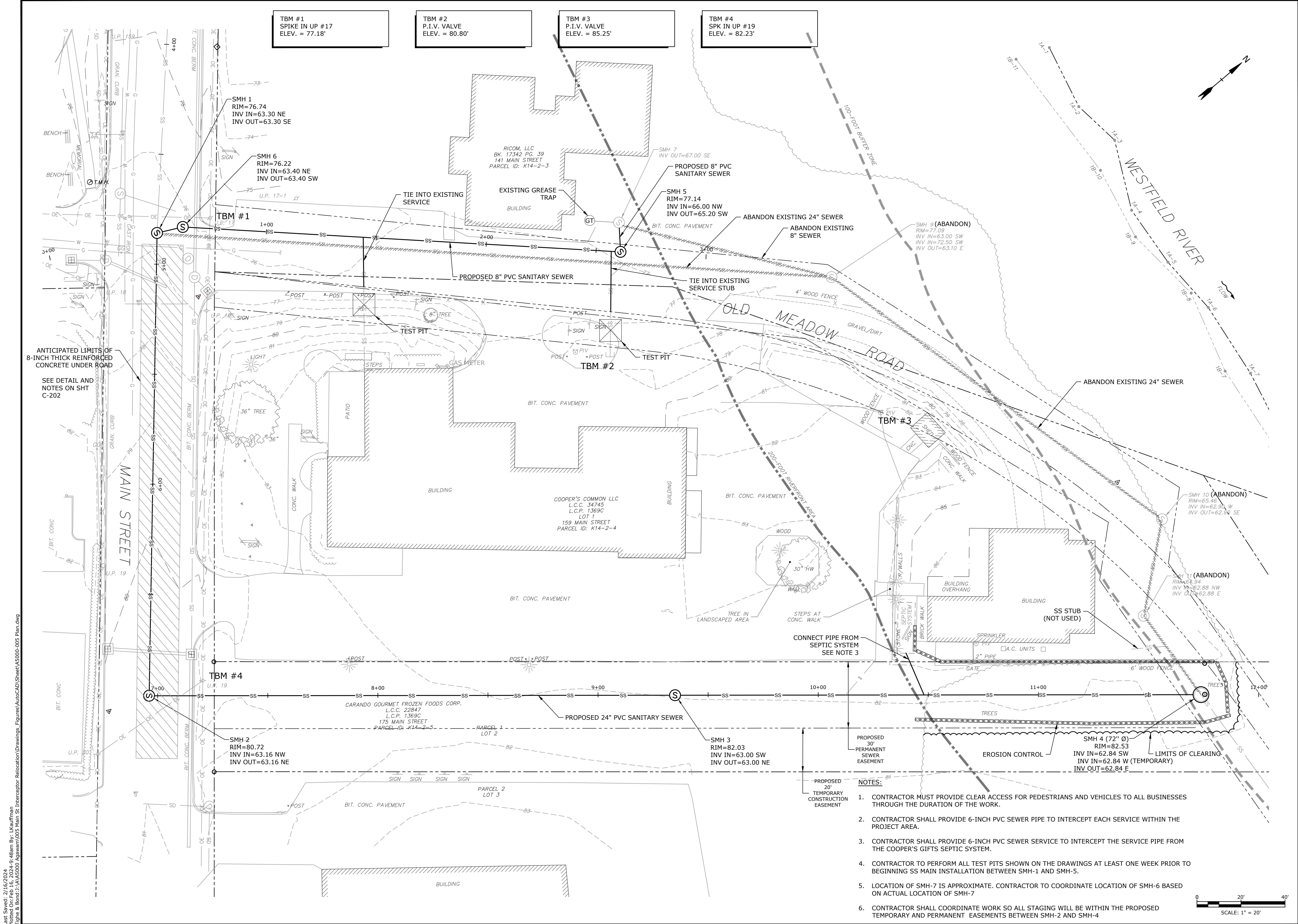
3. NOTIFY DIGSAFE AT 1-888-344-7233 AND OTHER UTILITY OWNERS IN THE AREA NOT ON THE DIGSAFE LIST AT LEAST 72 HOURS PRIOR TO ANY DIGGING, TRENCHING, ROCK REMOVAL, DEMOLITION, BORING, BACKFILLING, GRADING, LANDSCAPING, OR ANY OTHER EARTH MOVING OPERATIONS.
2. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IN ADDITION, SOME UTILITIES MAY NOT BE SHOWN. DETERMINE THE EXACT LOCATION OF UTILITIES BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND/OR INTERRUPTIONS IN UTILITY SERVICE. PERFORM TEST PIT EXCAVATIONS AND OTHER INVESTIGATIONS TO LOCATE UTILITIES, AND PROVIDE THIS INFORMATION TO THE ENGINEER, PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS. LOCATE ALL EXISTING UTILITIES TO BE CROSSED BY HAND EXCAVATION.
3. NOT ALL OF THE UTILITY SERVICES TO BUILDINGS ARE SHOWN. THE CONTRACTOR SHALL ANTICIPATE THAT EACH PROPERTY HAS SERVICE CONNECTIONS FOR THE VARIOUS UTILITIES.
4. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.
5. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.
6. EXCAVATE ADDITIONAL TEST PITS TO LOCATE EXISTING UTILITIES AS DIRECTED OR APPROVED BY THE ENGINEER.
7. NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
8. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
9. OBTAIN, PAY FOR AND COMPLY WITH PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK. ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE JURISDICTIONAL AUTHORITIES.
10. SHORE UTILITY TRENCHES WHERE FIELD CONDITIONS DICTATE AND/OR WHERE REQUIRED BY LOCAL, STATE AND FEDERAL HEALTH AND SAFETY CODES.
11. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY FROM THOSE SHOWN ON THE DRAWINGS, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION OF THE CONFLICTING INFORMATION.
12. PROTECT AND MAINTAIN ALL UTILITIES IN THE AREAS UNDER CONSTRUCTION DURING THE WORK. LEAVE ALL PIPES AND STRUCTURES WITHIN THE LIMITS OF THE CONTRACT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SAND AND SILT FROM DISTURBED AREAS FROM ENTERING THE DRAINAGE SYSTEM.
13. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
14. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER AND AT NO COST TO THE PROPERTY OWNER.
15. TAKE NECESSARY MEASURES AND PROVIDE CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL WORK AND STAGING AREAS AT THE COMPLETION OF EACH DAYS WORK.
16. NO OPEN TRENCHES WILL BE ALLOWED OVER NIGHT. THE USE OF ROAD PLATES TO PROTECT THE EXCAVATION WILL BE CONSIDERED UPON REQUEST, BUT BACKFILLING IS PREFERRED.
17. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR AND PEDESTRIAN ACCESS THROUGH THE WORK AREA, OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA. PERFORM TRAFFIC CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN.
18. MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
19. WHEN WORKING IN THE ROAD, PROVIDE THE OWNER AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES A DETAILED PLAN OF APPROACH INDICATING METHODS OF PROPOSED TRAFFIC ROUTING ON A DAILY BASIS. PROVIDE COORDINATION TO ENSURE COMMUNICATION AND COORDINATION BETWEEN THE OWNER, CONTRACTOR AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES THROUGHOUT THE CONSTRUCTION PERIOD.
20. REMOVE AND DISPOSE OF ALL CONSTRUCTION-RELATED WASTE MATERIALS AND DEBRIS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
21. THE TERM "ABANDON" USED ON THE DRAWINGS MEANS TO LEAVE IN PLACE AND TAKE APPROPRIATE MEASURES TO DECOMMISSION AS SPECIFIED OR NOTED ON THE DRAWINGS.
22. ALL PROPOSED WORK MAY BE ADJUSTED IN THE FIELD BY THE OWNER'S PROJECT REPRESENTATIVE TO MEET EXISTING CONDITIONS.
23. PROVIDE BARRIER AROUND CONSTRUCTION ZONE AT ALL TIMES WHEN ADJACENT BUSINESSES ARE OPEN TO PROTECT THE PUBLIC.
24. DO NOT OBSTRUCT PUBLIC ACCESS TO THE ADJACENT BUSINESS. THIS MAY REQUIRE THAT THE WORK BE PERFORMED IN PHASES.

1. ALL PAVEMENT DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. PROVIDE SITE GRADING AT ACCESSIBLE SIDEWALK RAMPS, SIDEWALKS, AND BUILDING ENTRANCES THAT IS CONSISTENT WITH THE RELEVANT ACCESS REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA), THE AMERICANS WITH DISABILITIES ACT (ADA), AND MA ARCHITECTURAL ACCESS BOARD REQUIREMENTS (AAB). SMALL CHANGES IN GRADE OVER RELATIVELY SHORT DISTANCES (E.G. AT PARKING SPACES, ACCESSIBLE ROUTES, AND RAMPS) MIGHT NOT BE CLEARLY DEPICTED WITHIN THE CONTOUR INTERVAL SHOWN. COMPLY WITH THE CRITERIA IN THESE STANDARDS. SELECT MAXIMUM SLOPE CRITERIA ARE REPRODUCED BELOW:
 - ACCESSIBLE PARKING STALL AND PASSENGER LOADING ZONE (ANY DIRECTION) SLOPE < 2.0%
 - LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES < 5.0%
 - CROSS SLOPE ALONG ACCESSIBLE ROUTES < 2.0%
3. PROTECT PROJECT FEATURES (E.G., WALLS, FENCES, MAIL BOXES, SIGNS, SIDEWALKS, CURBING, STAIRS, WALKWAYS, TREES, ETC.) FROM DAMAGE DURING CONSTRUCTION, INCLUDING PROVIDING TEMPORARY SUPPORTS, WHEN APPROPRIATE.
4. IF REMOVAL OF PROJECT FEATURES IS REQUIRED IN ORDER TO PERFORM THE PROPOSED WORK, REMOVE THOSE SITE FEATURES ONLY UPON APPROVAL OF ENGINEER. REPLACE ALL REMOVED PROJECT FEATURES; NEW ITEMS SHALL BE EQUAL OR BETTER IN QUALITY AND CONDITION TO THE ITEMS REMOVED.
5. EXISTING SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY A LAND SURVEYOR LICENSED IN THE STATE IN WHICH THE WORK IS PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
6. COORDINATE THE ADJUSTMENT OF EXISTING UTILITY STRUCTURES WITH EACH RESPONSIBLE UTILITY OWNER PRIOR TO RECONSTRUCTION AND/OR PAVING OPERATIONS. RAISE ALL STRUCTURES TO FINISHED GRADES PRIOR TO THE END OF THE CONSTRUCTION SEASON AND PRIOR TO FINISHED PAVING.
7. REPAIR DISTURBED PAVED SURFACES AT THE END OF EACH WORK WEEK, UNLESS OTHERWISE APPROVED/REQUIRED BY THE OWNER.
8. TRANSFER ALL TEMPORARY BENCHMARKS, AS NECESSARY.
9. RESTORE ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE PAYLINE LIMITS TO ORIGINAL CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
10. REGRADE ALL UNPAVED AREAS DISTURBED BY THE WORK AS REQUIRED. REPAIR/REPLACE PAVED SURFACES DISTURBED BY THE WORK IN-KIND, UNLESS OTHERWISE NOTED. RESTORE SURFACES TO EXISTING OR PROPOSED CONDITIONS AS INDICATED ON THE DRAWINGS.
11. PROVIDE A SMOOTH, FLUSH TRANSITION BETWEEN ALL NEW AND EXISTING PAVEMENTS AND WALKING SURFACES.

	POST INDICATOR VALVE		BITUMINOUS
	EXISTING SEWER MANHOLE		BOOK
	PROPOSED SEWER MANHOLE		CONCRETE
	LIGHT POLE		ELEVATION
	GROUND LIGHT		HORIZONTAL
	DECIDUOUS TREE		HYDRANT
	REINFORCING BAR FOUND		INVERT ELEVATION
	IRON PIN FOUND		LINEAR FEET
	SURVEY PIN		LAND COURT DOCUMENT
	EXISTING DRAIN MANHOLE		LIGHT POLE
	EXISTING CATCH BASIN		PAGE
	EXISTING UTILITY POLE		POST INDICATOR VALVE
	TELEPHONE MANHOLE		RETAINING WALLS
	EXISTING STORM DRAIN		SEWER
	EXISTING SANITARY SEWER		SEWER MANHOLE
	PROPOSED SANITARY SEWER		TEMPORARY BENCH MARK
	EXISTING WATER LINE		VERTICAL
	INDEX CONTOURS		NORTH AMERICAN DATUM
	INTERMEDIATE CONTOURS		NORTH AMERICAN VERTICAL DATUM
	PROPERTY LINE		
	EASEMENT LINE		
	EXISTING GUARDRAIL		
	TREE LINE		
	EXISTING WOOD FENCE		
	EDGE OF WATER		
	100-FOOT BUFFER ZONE		
	200-FOOT RIVERFRONT AREA		
	PROPOSED EROSION CONTROL BARRIER		
	PROPOSED TREELINE		
	EXISTING GAS LINE		
	EXISTING OVERHEAD ELECTRIC		
	EDGE OF ROAD		

1. THE EXISTING CONDITIONS INFORMATION SHOWN ON THE DRAWINGS IS BASED ON THE FOLLOWING:
 - SURVEY DRAWINGS PROVIDED BY SHERMAN & FRYDRYK, LLC, DATED JUNE 2018 & SEPTEMBER 2023
 - FIELD INVESTIGATIONS PERFORMED BY TIGHE & BOND
 - ON DECEMBER 5, 2018, TIGHE & BOND CONDUCTED WETLAND RESOURCE AREA FIELD INVESTIGATIONS IN THE VICINITY OF THE PROJECT LIMITS IN GENERAL ACCORDANCE WITH THE MASSDEP GUIDELINES, 310 CMR 10.00, AND THE UNITED STATES ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION (JANUARY 2012). FOLLOW-UP SITE RECONNAISSANCE WAS CONDUCTED ON AUGUST 10, 2021.
2. UTILITY LOCATIONS SHOWN WERE PLOTTED FROM INFORMATION SUPPLIED BY RESPECTIVE UTILITY COMPANIES AND DATA OBTAINED FROM FIELD SURVEYS AND AS BUILT DRAWINGS. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WHICH MAY AFFECT CONSTRUCTION OPERATIONS.
3. THE DRAWINGS ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL- NAD83 ; VERTICAL- NAVD88
4. THE EXISTING CONDITIONS SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS.

1. PROVIDE ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED, REQUIRED BY PERMIT, AND/OR REQUIRED BY THE ENGINEER PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED. INSPECT AFTER EACH RAINSTORM AND DURING MAJOR STORM EVENTS TO CONFIRM THAT ALL SEDIMENTATION AND EROSION CONTROL MEASURES REQUIRED ARE IN PLACE AND EFFECTIVE.
2. PRIOR TO STARTING WORK, CLEARLY STAKE WORK LIMITS. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMITS. COORDINATE WITH THE ENGINEER FOR LOCATIONS OF TEMPORARY STOCKPILING OF TOPSOIL DURING CONSTRUCTION.
3. INSTALL SILT SACKS OR OTHER APPROVED SEDIMENTATION BARRIERS IN/AT ALL CATCH BASINS IN THE PROJECT AREA.
4. SETTLE OR FILTER ALL SILT-LADEN WATER FROM DEWATERING ACTIVITIES IN A SEDIMENTATION OR FILTER BAG TO REMOVE SEDIMENTS PRIOR TO RELEASE USING A SEDIMENTATION OR FILTER BAG LOCATED DOWN-GRADIENT OF THE DEWATERED AREA.
5. REMOVE AND PROPERLY DISPOSE OF SILT TRAPPED AT BARRIERS IN UPLAND AREAS OUTSIDE BUFFER ZONES. REMOVE MATERIALS DEPOSITED IN ANY TEMPORARY SETTLING BASINS AT THE COMPLETION OF THE PROJECT. RESTORE ALL DISTURBED AREAS TO THEIR PRECONSTRUCTION CONDITION.
6. SWEEP, COLLECT, REMOVE AND DISPOSE OF ANY SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS AT THE END OF EACH DAY.



Tighe&Bond

90% DESIGN

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Westfield River Interceptor Sewer Relocation Project

Department of Public Works

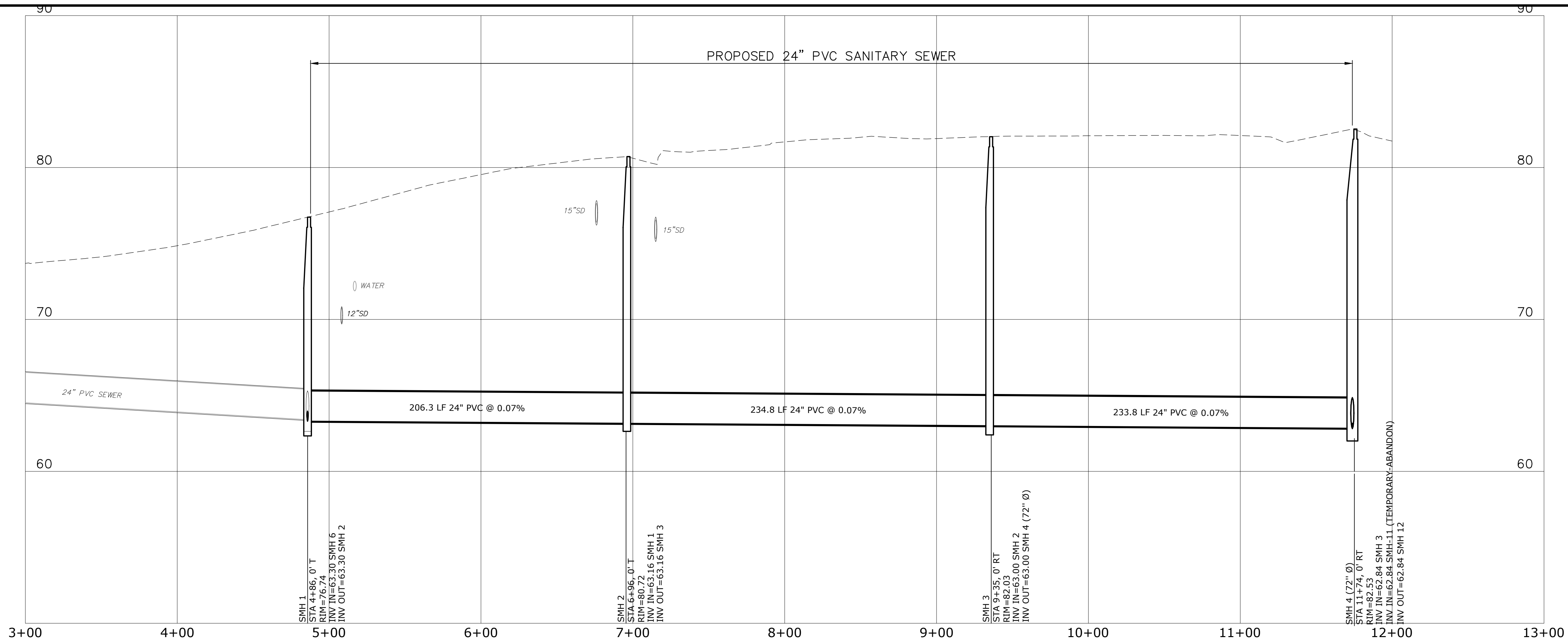
Agawam, Massachusetts

MARK	DATE	DESCRIPTION
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PROJECT NO: A5000-005		
DATE: DECEMBER 2023		
FILE: A5000-005 Plan.dwg		
DRAWN BY: LMK		
DESIGNED/CHECKED BY: MAK		
APPROVED BY: DJP		

SEWER PLAN LAYOUT

SCALE: 1" = 20'

C-101
SHEET 2 OF 6



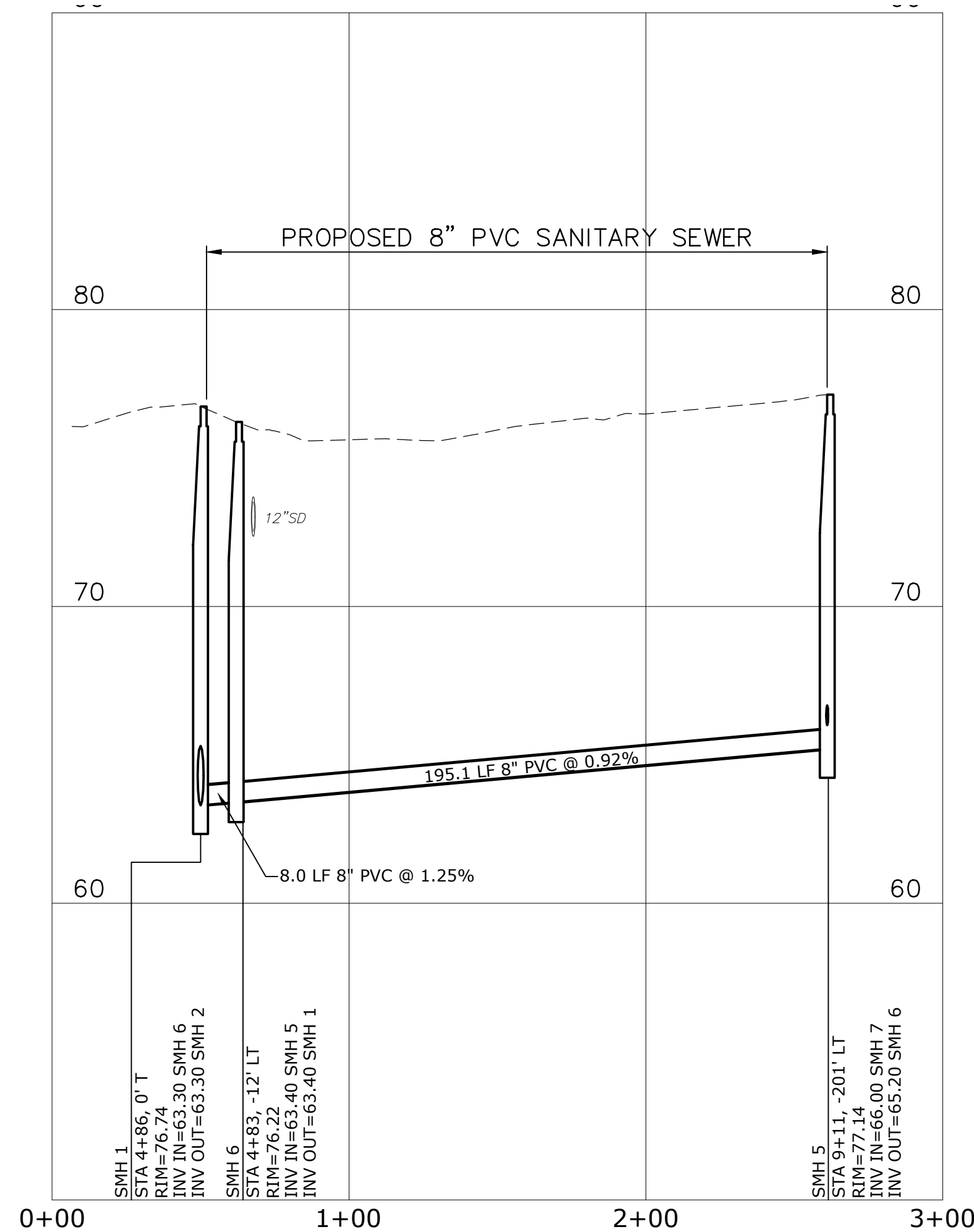
Tighe&Bond

PLAN SET
ISSUE TITLE

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SEWER / DRAINAGE SYSTEM IMPROVEMENTS NOTES

1. LOCATIONS OF PROPOSED SANITARY SEWER MAINS, SANITARY SEWER SERVICES, STORM DRAINS, AND STRUCTURES ARE APPROXIMATE AND MAY BE ADJUSTED DURING CONSTRUCTION AFTER INVESTIGATIVE WORK. FINAL SANITARY SEWER MAIN/STORM DRAIN LOCATIONS, AND ASSOCIATED STRUCTURES, WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. ADJUSTMENTS TO THE PROPOSED SANITARY SEWER/STORM DRAIN LAYOUTS AND ELEVATIONS SHALL NOT BE CONSIDERED CAUSE FOR ADDITIONAL PAYMENTS. THE CONTRACTOR SHALL NOT MAKE PROPOSED SANITARY SEWER/ STORM DRAIN LAYOUT AND ELEVATION ADJUSTMENTS WITHOUT APPROVAL FROM THE ENGINEER.
3. MANHOLES SHALL BE 48-INCH DIAMETER, UNLESS NOTED OTHERWISE.
4. PROPOSED SANITARY SEWER SERVICE LATERALS SHALL BE 6-INCH DIAMETER PVC, UNLESS NOTED OTHERWISE, AND INSTALLED FROM THE PROPOSED SANITARY SEWER MAIN TO THE PROPERTY LINE FOR EACH PROPERTY IDENTIFIED AS REQUIRING A SANITARY SEWER SERVICE ON THE DRAWINGS.
5. MINIMUM PITCH FOR BUILDING SERVICE PIPES SHALL BE 1/4 INCH PER FOOT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. DISTANCES AND SLOPES OF PROPOSED SANITARY SEWERS/STORM DRAINS ARE BASED ON DISTANCES FROM CENTERLINE TO CENTERLINE OF STRUCTURES.
7. DELIVER EXISTING FRAMES, COVERS AND GRATES OF STRUCTURES TO BE REMOVED TO THE DEPARTMENT OF PUBLIC WORKS YARD OR OTHER LOCATION DESIGNATED BY THE OWNER.
8. ACTUAL LOCATION OF PROPOSED SANITARY SEWER/STORM DRAIN TERMINAL MANHOLES MAY BE ADJUSTED IN THE FIELD BASED ON THE LOCATION OF SANITARY SEWER SERVICE CONNECTIONS.
9. MAINTAIN UNINTERRUPTED SANITARY SEWER SERVICE DURING CONSTRUCTION. PROVIDE BYPASS PUMPING OF SEWAGE FLOWS AND/OR TEMPORARY CONNECTIONS, AS NECESSARY.
10. MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF AT LEAST 10 FEET FROM ANY EXISTING OR PROPOSED WATER MAIN. IF SITE CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, A LESSER DISTANCE WILL BE ALLOWED IF THE SANITARY SEWER/STORM DRAIN IS CONSTRUCTED IN A SEPARATE TRENCH WITH THE TOP OF THE SANITARY SEWER/ STORM DRAIN AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN.
11. WHENEVER A PROPOSED SANITARY SEWER/STORM DRAIN MUST CROSS A WATER MAIN, CONSTRUCT THE SANITARY SEWER SO THE TOP OF THE SANITARY SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. THE SANITARY SEWER JOINTS SHALL BE EQUIDISTANT AND LOCATED AS FAR AWAY AS POSSIBLE FROM THE WATER MAIN JOINTS. WHEN THE PROPOSED SANITARY SEWER CANNOT MEET THE ABOVE REQUIREMENTS, ENCASE THE PROPOSED SANITARY SEWER IN CONCRETE.
12. SMH-11 SHALL BE TEMPORARILY CONNECTED TO SMH-4 UNTIL ALL SEWER FLOW HAS BEEN DIRECTED INTO THE PROPOSED SEWER MAIN. ONCE ALL PIPE IS INSTALLED, TESTED, AND PUT INTO SERVICE, ABANDON THE INVERT INTO SMH-4 FROM SMH-11.



Westfield River Interceptor Sewer Relocation Project

Department of
Public Works

Agawam,
Massachusetts

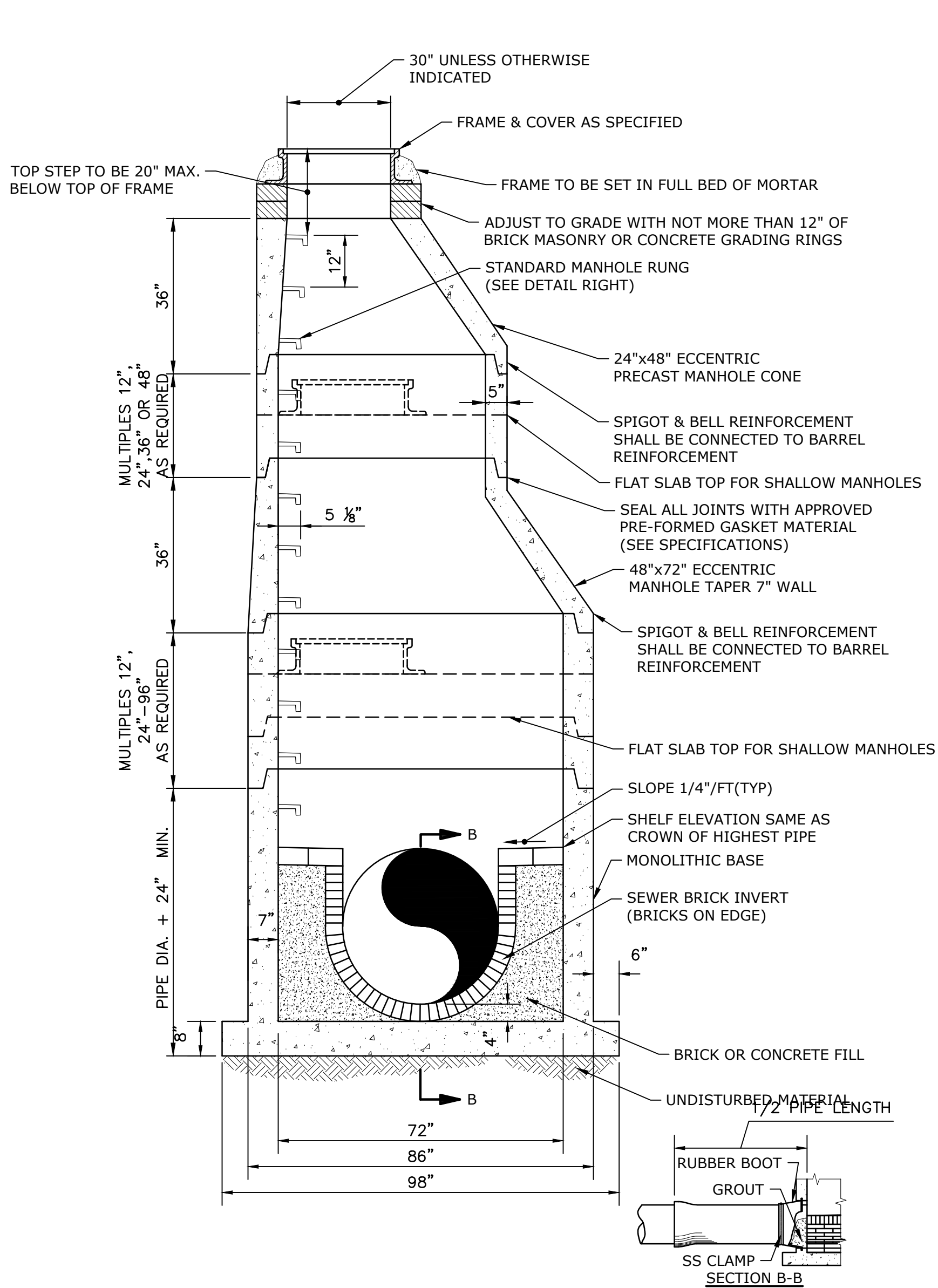
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SEWER PROFILES

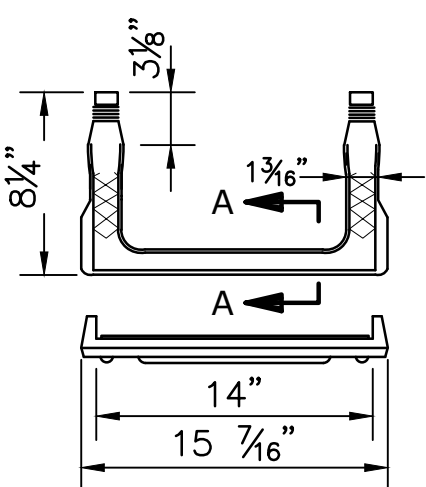
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C-102

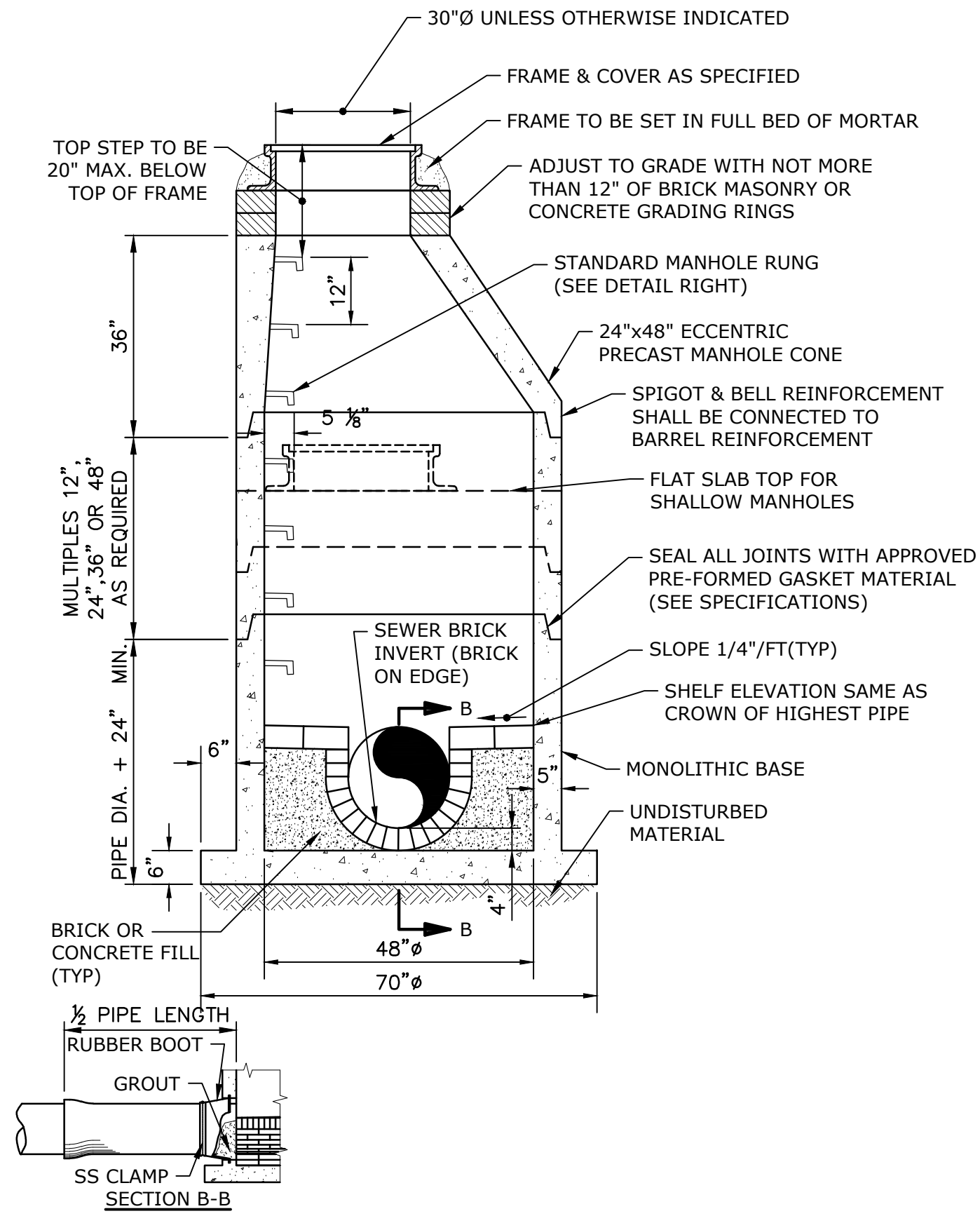
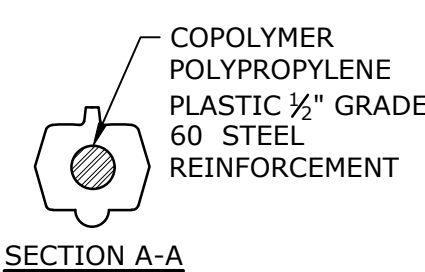
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Plotted On: Dec 20, 2023 11:33am
Tighe & Bond\23\A\5000 Agawam\05 Main St Interceptor Relocation\Drawings Figures\AutoCAD\Sheet\A5000-005 Details.dwg



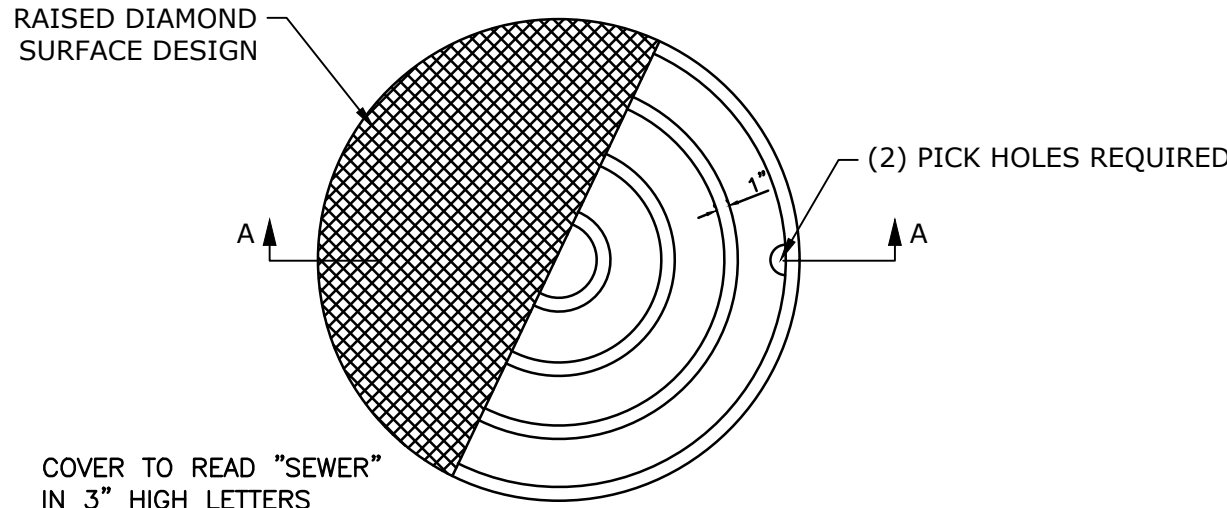
72" PRECAST SANITARY SEWER MANHOLE
NO SCALE



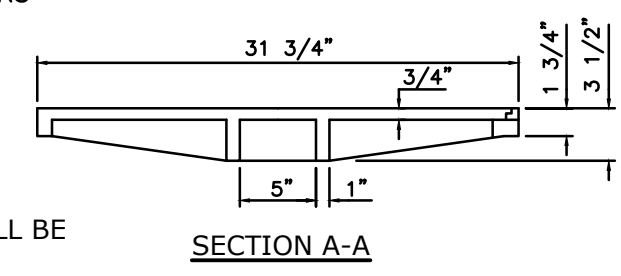
STANDARD MANHOLE RUNG
NO SCALE



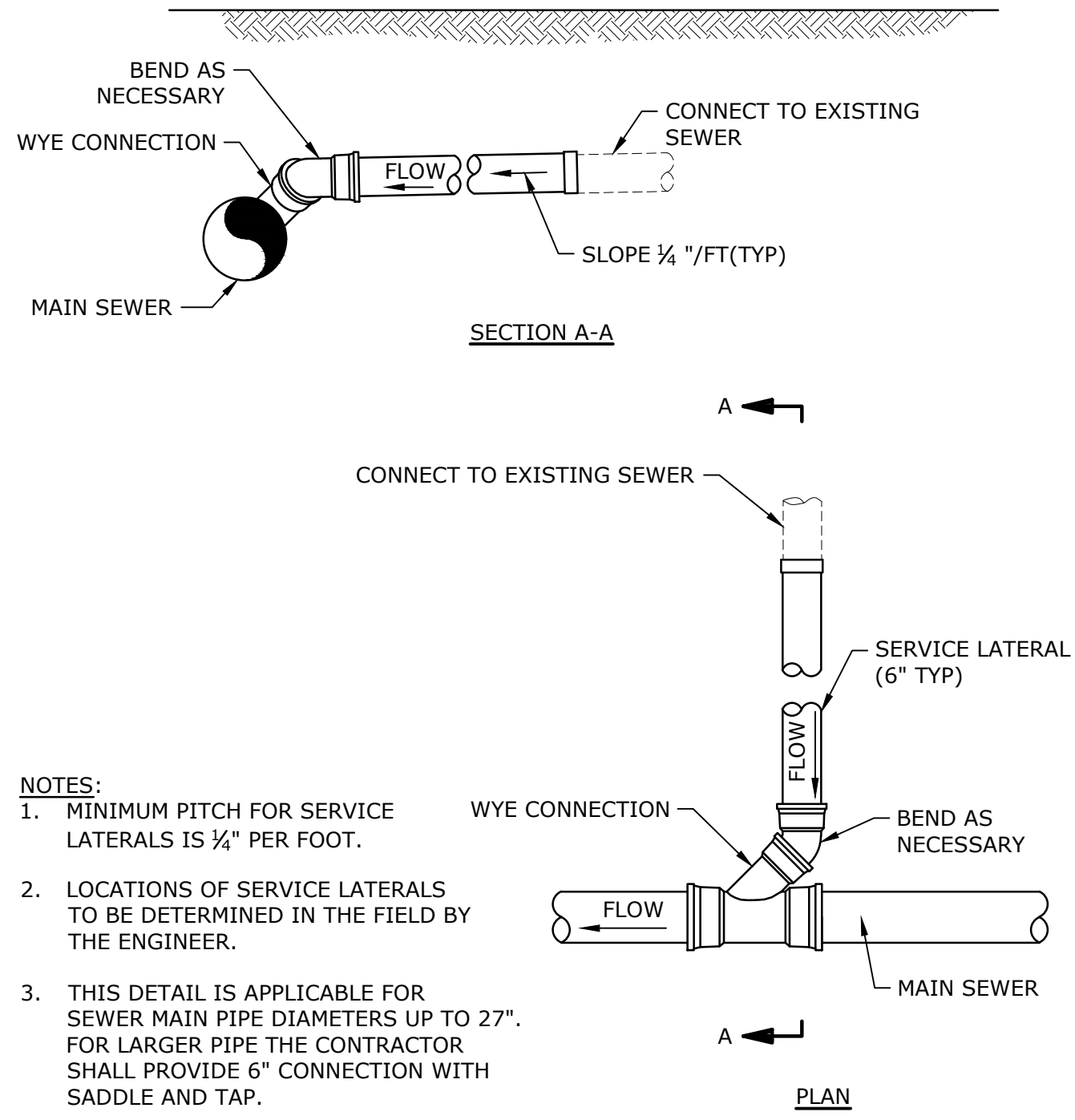
48" PRECAST SANITARY SEWER MANHOLE
NO SCALE



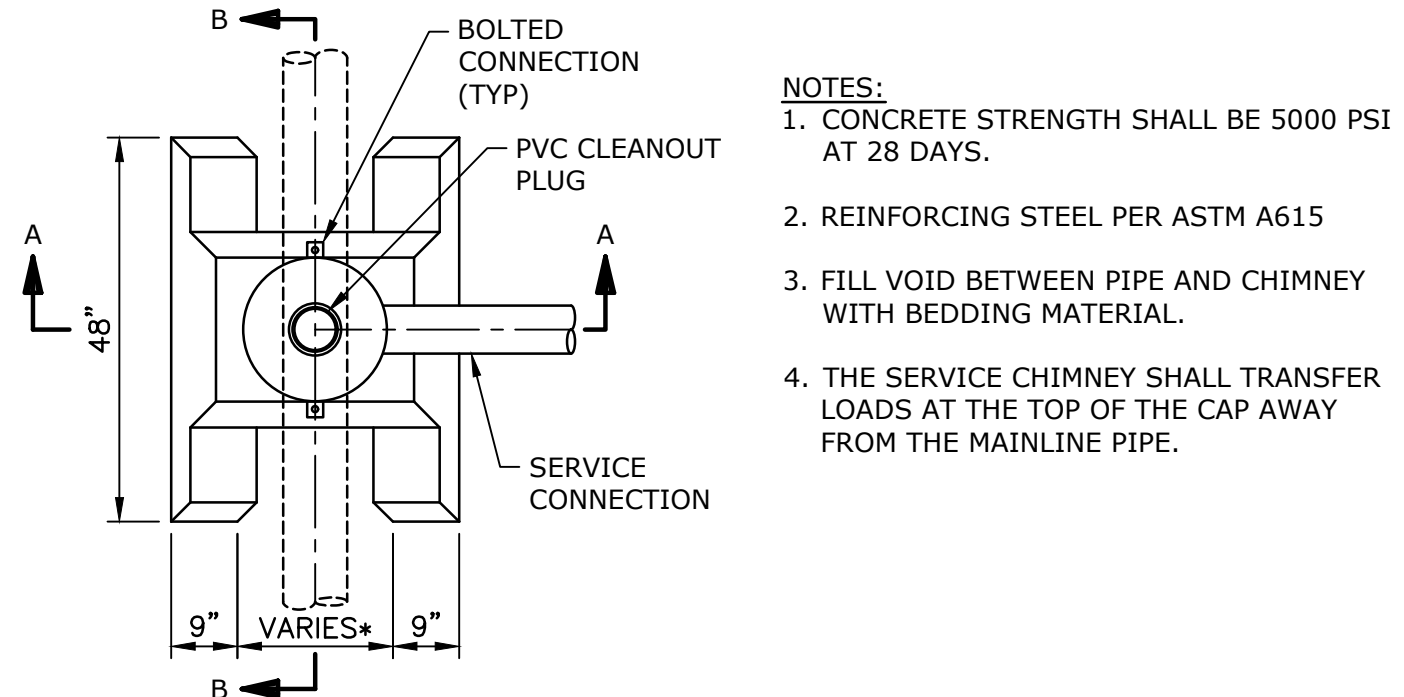
- NOTES:
1. FRAME AND COVER SHALL BE PROVIDED BY THE SAME MANUFACTURER.
 2. LETTERING SHALL BE CAST INTO COVERS AS SPECIFIED.



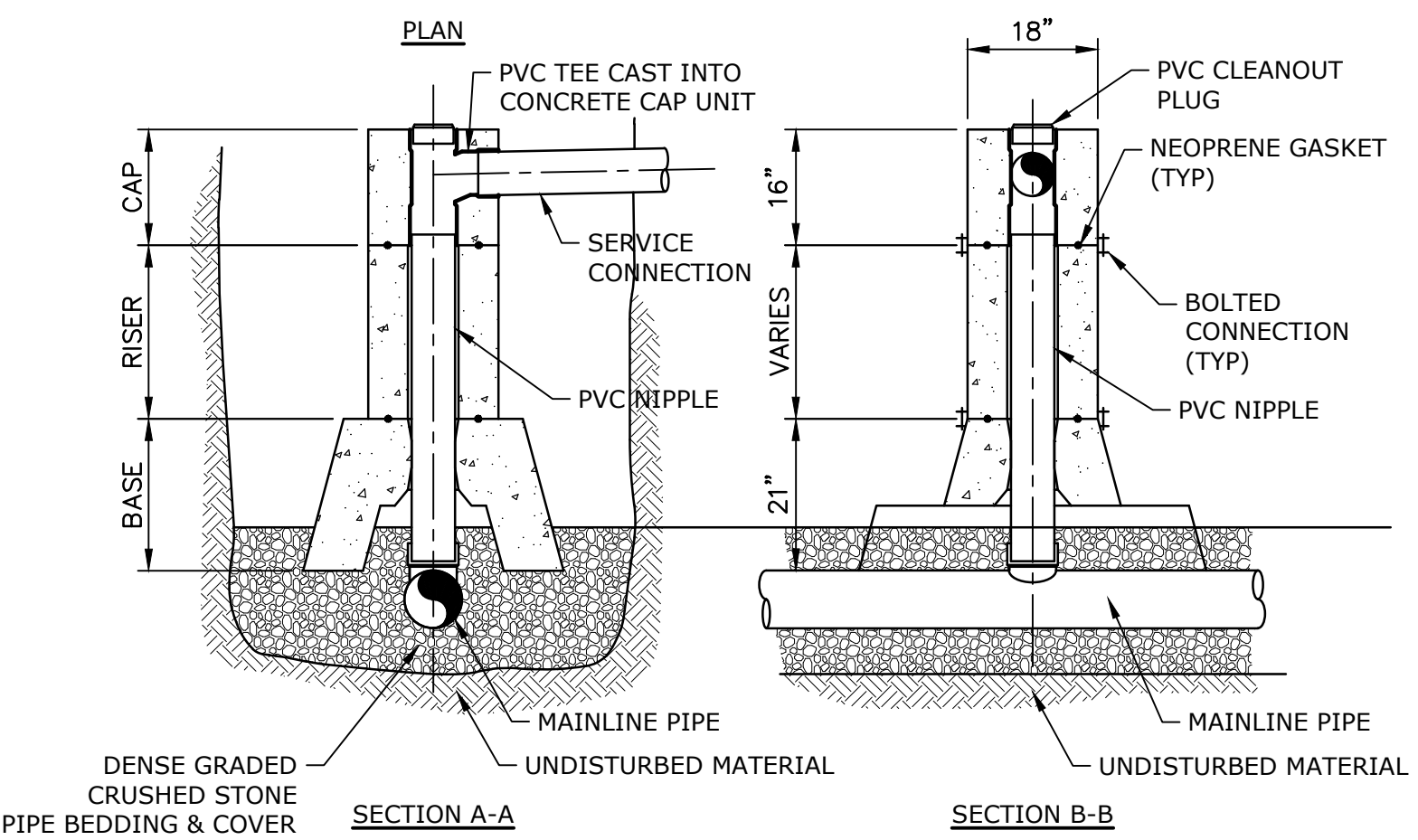
30" SEWER MANHOLE FRAME AND COVER
NO SCALE



SANITARY SERVICE LATERAL
NO SCALE



*-WIDTHS:
18" FOR MAINLINE PIPE THRU 15" DIA
30" FOR MAINLINE PIPE >30" DIA



SERVICE CHIMNEY
NO SCALE

**PLAN SET
ISSUE TITLE**

THIS DOCUMENT IS RELEASED
TEMPORARILY FOR PROGRESS REVIEW ONLY.
IT IS NOT INTENDED FOR BIDDING OR
CONSTRUCTION PURPOSES.

**Westfield
River
Interceptor
Sewer
Relocation
Project**

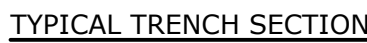
Department of
Public Works

Agawam,
Massachusetts

MARK	DATE	DESCRIPTION
PROJECT NO:	A5000-005	
DATE:	DECEMBER 2023	
FILE:	A5000-005 Details.dwg	
DRAWN BY:	LMK	
DESIGNED/CHECKED BY:	MAK	
APPROVED BY:	DJP	

SEWER DETAILS

SCALE: AS SHOWN



NOTES:

1. THE PAYLINE DIMENSIONS SHOWN REPRESENT THE MAXIMUM PAYLINE LIMITS TO BE PAID. WHEN THE ACTUAL SURFACE REPAIR OR TRENCH WIDTH IS LESS, THE ACTUAL WIDTH SHALL BE PAID FOR AT THE APPLICABLE UNIT PRICE.
2. TRENCH SURFACE REPAIR WIDTH SHALL BE 6'-6" MAX. FOR PIPES 0'-24" DIAMETER AND D+4'-0" MAX FOR PIPES GREATER THAN 24" DIAMETER.
3. INCLUDES TEMPORARY PAVEMENT PATCHES FOR SIDEWALKS AND DRIVEWAYS.
4. INCLUDES PERMANENT REPAIRS FOR DRIVEWAYS, SIDEWALKS, LAWN AREAS (LOAM & SEED), BERMS AND CURBS.

The image contains two technical drawings, labeled **DETAIL A** and **DETAIL B**, showing cross-sections of erosion control structures.

DETAIL A shows a structure with the following components and dimensions:

- 2"x2" WOOD STAKES SPACED @ 4'-5" ± O.C.**: Two vertical stakes on the left side.
- SILT FENCE**: A fabric barrier between the stakes.
- WOODEN STAKE**: A single stake on the right side.
- 3'-4"**: The height of the wooden stake above the ground.
- STRAW WATTLE**: A circular, hatched structure placed against the wooden stake.
- RUNOFF**: An arrow indicating water flow from the straw wattle.
- 18"**: The height of the straw wattle above the ground.
- 12"**: The height of the straw wattle below the ground.
- SEE DETAIL B**: A callout pointing to the base of the straw wattle.
- 4'-6"**: The total height of the structure above the ground.

DETAIL B shows a structure with the following components and dimensions:

- 2"x2" WOOD STAKES SPACED @ 4'-5" ± O.C.**: Two vertical stakes on the left side.
- SILT FENCE**: A fabric barrier between the stakes.
- SUITABLE BACKFILL**: A hatched area behind the silt fence.
- FINISHED GRADE**: A horizontal line indicating the ground level.
- 6" MIN. FABRIC**: Two labels indicating the minimum fabric thickness for the silt fence and the backfill area.

2" HMA BASE COURSE

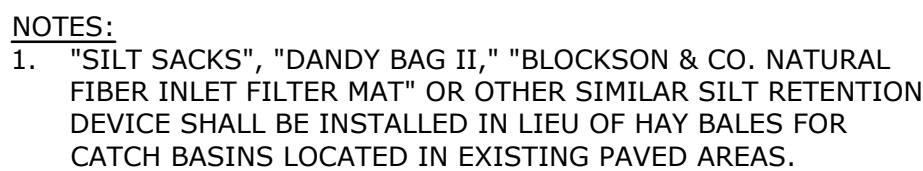
SELECT NATIVE BACKFILL

14" PROCESSED GRAVEL BORROW

TEMPORARY PAVEMENT REPAIR

NO SCALE

TEMPORARY PAVEMENT REPAIR
NO SCALE



1 1/2" HMA TOP COURSE

2 1/2" HMA BINDER COURSE

SELECT NATIVE BACKFILL

12" PROCESSED GRAVEL BORROW

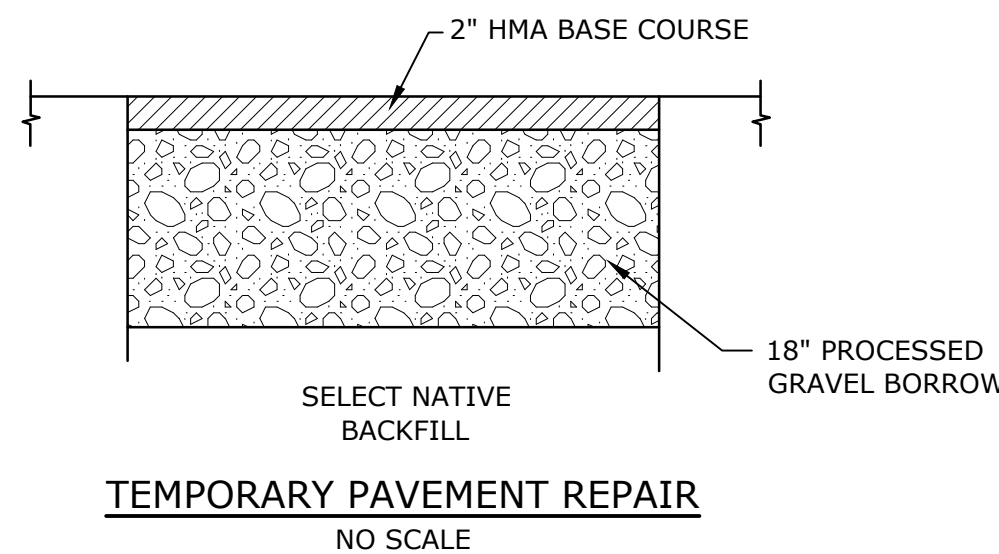
PERMANENT PAVEMENT REPAIR

NO SCALE

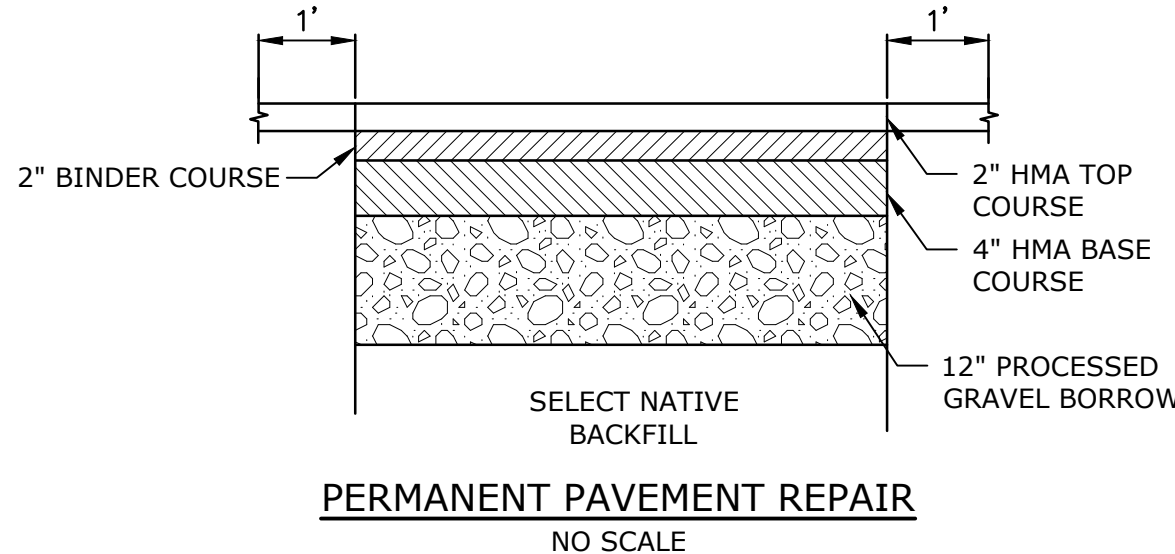
Diagram illustrating the proposed road cross-section. The structure is 6' MINIMUM HEIGHT, composed of 1½" CRUSHED STONE and GROUP 2 NON-WOVEN GEOTEXTILE. The structure is adjacent to a PUBLIC ROAD. Dimensions shown include 50' MIN ROADS, 25' MIN DRIVES, and 35' MIN REQUIRED.

NOTES:
1. REMOVE AND RESTORE FOLLOWING CONSTRUCTION.

TEMPORARY CONSTRUCTION ENTRY PAD
NO SCALE



TEMPORARY PAVEMENT REPAIR
NO SCALE



PERMANENT PAVEMENT REPAIR
NO SCALE

MAIN STREET ROADWAY CROSS SECTION
NO SCALE

Department of Public Works

Agawam, Massachusetts

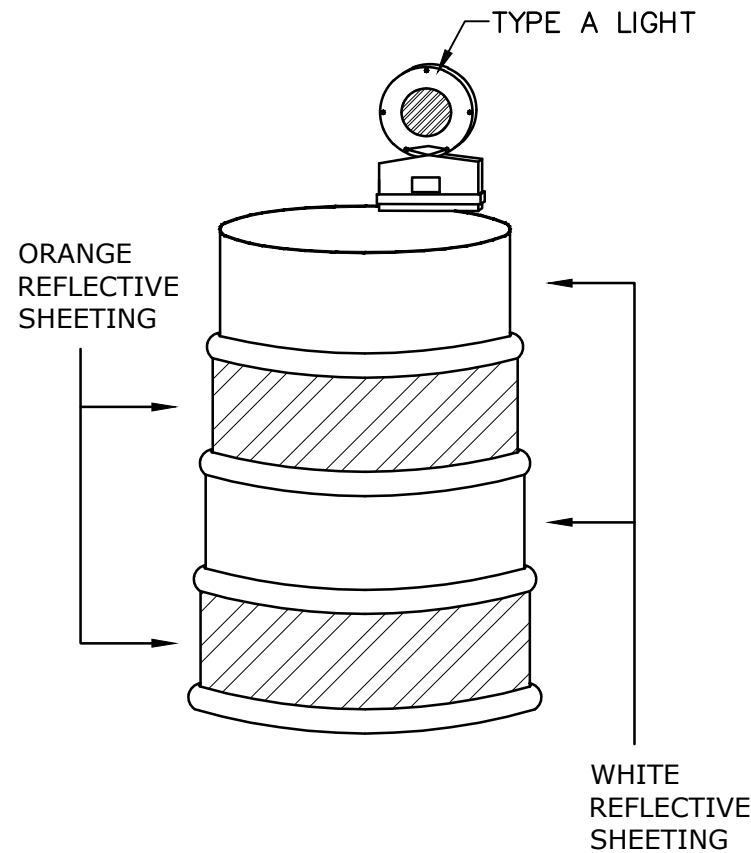
[illegible]

MISCELLANEOUS DETAILS

SCALE: AS SHOWN

C-202

Last Saved: 12/19/2023 10:03am By: LKlaiffman
Plotted On: Dec 19, 2023 10:03am
Figure & Bond 31-A5000-Agawam 005 Main St Interceptor Relocation Drawings Figures AutoCAD Sheet A5000-005 Traffic Control Details.dwg



NOTES:

1. DRUM DESIGN AND APPLICATION SHALL BE AS PER THE CURRENT EDITION OF THE MUTCD.
2. DRUMS SHALL BE APPROXIMATELY 36" IN HEIGHT, HAVING A MINIMUM WALL THICKNESS OF 3/32" AND A MINIMUM DIAMETER OF 18" REGARDLESS OF ORIENTATION.
3. DRUM MATERIAL MUST BE APPROVED UV RESISTANT, LOW DENSITY, IMPACT RESISTANT, LINEAR POLYETHYLENE (OR APPROVED EQUIVALENT).
4. SHEETING SHALL BE APPROVED ORANGE AND WHITE TYPE IV REFLECTORIZED SHEETING CONFORMING TO M.9.30.0.
5. ALL DRUMS SHALL BE WELL MAINTAINED INCLUDING REMOVAL OF DUST OR ROAD FILM, SO AS NOT TO REDUCE REFLECTIVE EFFICIENCY. WHEN A DRUM LOSES TARGET VALUE IT SHALL BE REPLACED.
6. STORE UNUSED DRUMS IN ONE LOCATION, AWAY FROM ALL TRAFFIC, OR REMOVE FROM SITE ENTIRELY.

PLASTIC DRUMS

LEGEND

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN
- CHANNELIZING DEVICE BARREL

WORK ZONES
SPEEDING FINES DOUBLED
MA-R2-10a

END ROAD WORK
DOUBLE FINES END
MA-R2-10e

R2-10
60"x48"

WORK ZONE LIMIT SIGNS

SEE NOTE 12

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

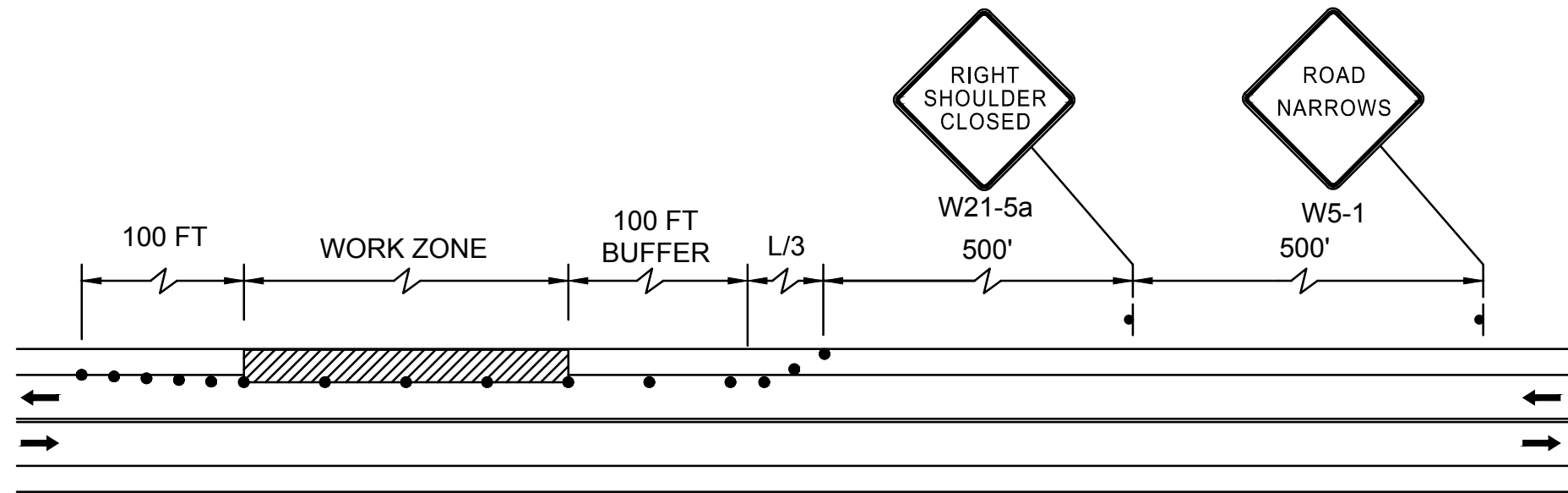
WHERE:

L = TAPER LENGTH IN FEET

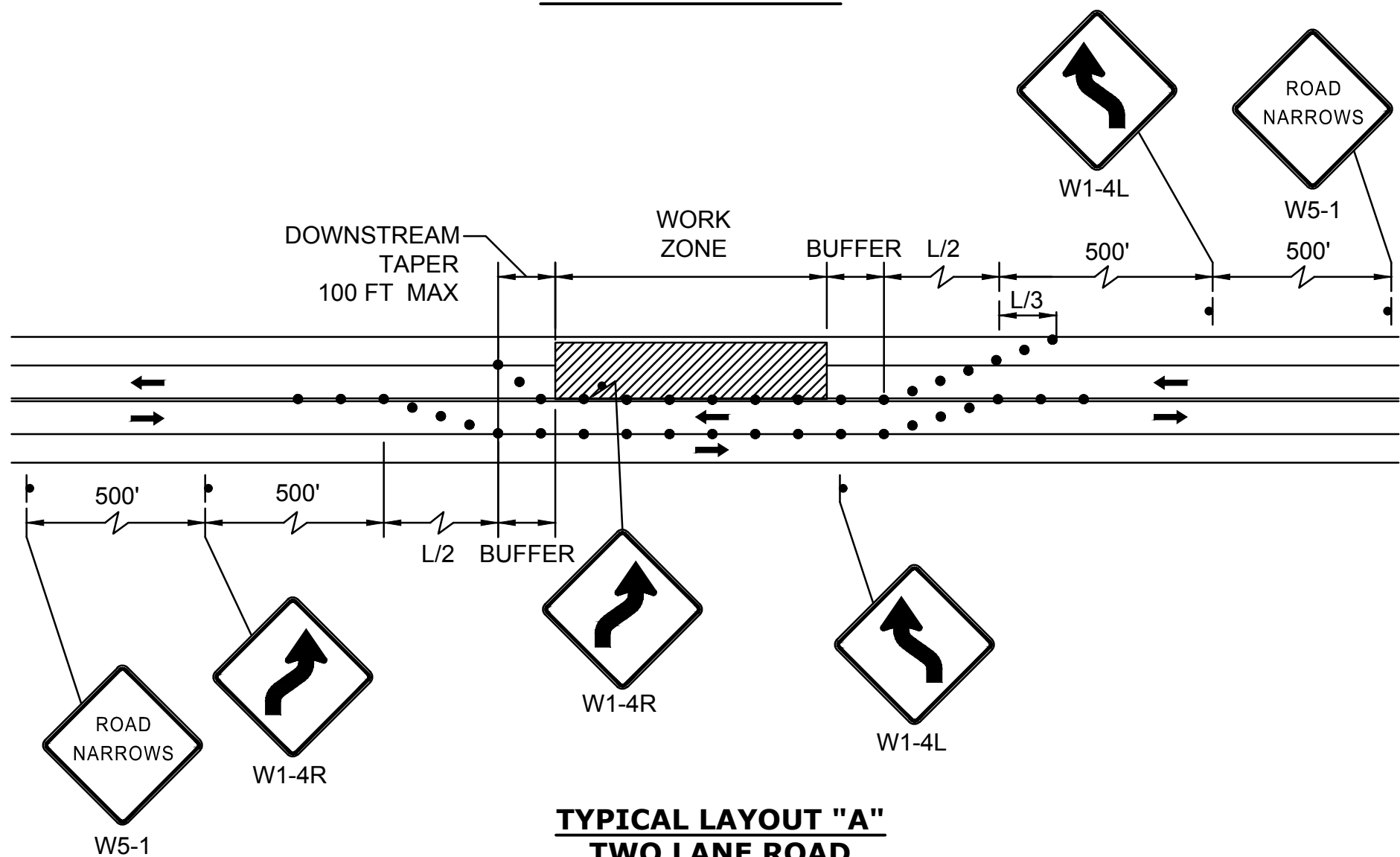
W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR
OFF-PEAK 85TH-PERCENTILE
SPEED PRIOR TO WORK STARTING,
OR THE ANTICIPATED OPERATING
SPEED IN MPH

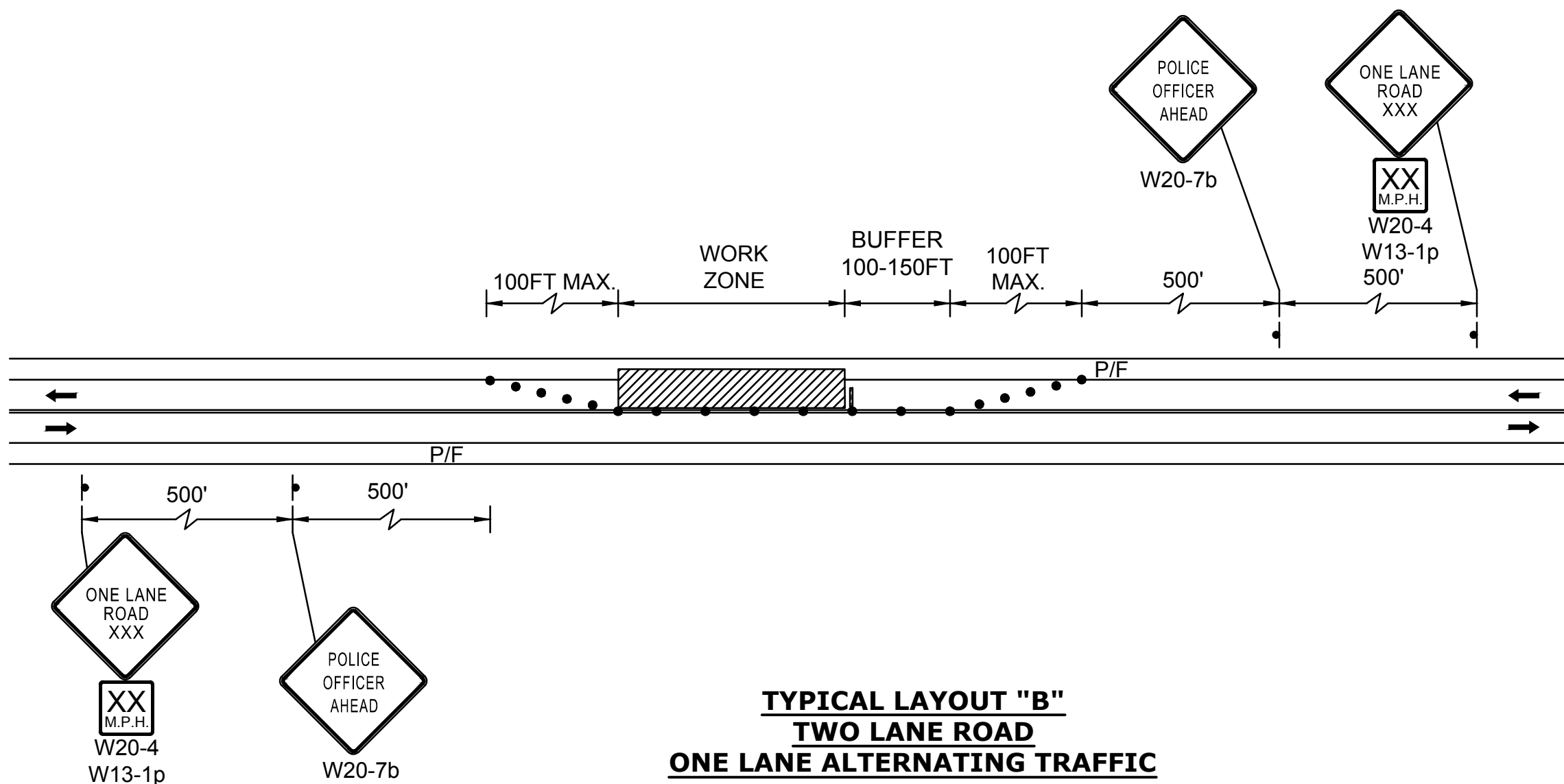
FORMULAS FOR DETERMINING TAPER LENGTHS



TWO LANE ROAD SHOULDER CLOSED



TYPICAL LAYOUT "A" TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED



TYPICAL LAYOUT "B" TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC

GENERAL NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
7. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
8. MINIMUM LANE WIDTH IS TO BE 10 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
9. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
10. SIGN MA-R2-10a AND MA-R2-10e SHALL BE LOCATED AT THE PROJECT LIMITS FOR THE DURATION OF THE WORK.
11. ALL WARNING SIGNS SHALL BE BLACK LEGEND ON A REFLECTIVE ORANGE BACKGROUND.
12. TYPICAL LAYOUTS:
"A" SHALL BE USED WHEN THE TRAVEL WIDTH FROM THE CHANNELING DEVICES TO THE EDGE OF PAVEMENT IS GREATER THAN 22 FEET.
TYPICAL LAYOUT "B" SHALL BE USED WHEN THE TRAVEL WIDTH FROM THE CHANNELING DEVICES TO THE EDGE OF PAVEMENT IS LESS THAN 22 FEET.
13. FOR TYPICAL LAYOUT B THE CONTRACTOR SHALL MAINTAIN ONE OPEN TRAVEL LANE OF NOT LESS THAN 12 FEET AT ALL TIMES.
14. THE WORK ZONE AS SHOWN ON THESE PLANS IS REPRESENTATIVE ONLY AND MAY VARY IN BOTH LENGTH AND LOCATION AS CONSTRUCTION PROGRESSES. REGARDLESS OF THESE VARIATIONS, THE OFFSET DISTANCES TO THE TRAFFIC CONTROL DEVICES SHOWN SHALL BE MAINTAINED.
15. NO CONSTRUCTION EQUIPMENT OR MATERIALS (EXCEPT THOSE IN USE) SHALL BE STORED CLOSER THAN 8 FEET TO THE EDGE OF TRAVELED LANES.
16. THE NUMBER AND LOCATION OF ALL SIGNS AND DEVICES SHALL BE AS DEEMED NECESSARY BY THE ENGINEER AND POLICE DEPARTMENT FOR THE SAFE AND EFFICIENT PERFORMANCE OF THE WORK AND THE SAFETY OF THE TRAVELING PUBLIC. ALL WARNING DEVICES SHALL BE SUBJECT TO REMOVAL, REPLACEMENT AND/OR REPOSITIONING BY THE CONTRACTOR AS OFTEN AS DEEMED NECESSARY BY THE ENGINEER.
17. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT. IF IT BECOMES NECESSARY FOR SAID TRENCH TO BE LEFT OVERNIGHT, THEN IT SHALL BE COVERED WITH STEEL PLATES AT THE APPROVAL OF THE OWNER.
18. ALL SIGNS AND SUPPORTS SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT STANDARDS.
19. REFLECTORIZED DRUMS SHALL REMAIN IN PLACE DURING CONSTRUCTION ACTIVITIES AND/OR WHEN A ROADSIDE HAZARD EXISTS. ANY REFLECTORIZED DRUMS REQUIRED TO REMAIN IN PLACE DURING DARKNESS SHALL BE EQUIPPED WITH STEADY BURN (TYPE C) PER MUTCD.
20. ALL DISTANCES SHOWN ARE MINIMUM AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS, WITH APPROVAL OF THE ENGINEER.
21. DAYTIME WORK ZONE SIGNAGE SHALL BE COVERED OR REMOVED AT THE END OF EACH WORK DAY.
22. DURING ALL CONSTRUCTION ACTIVITIES ON THE ROADWAYS INCLUDING EARTHWORK AND GRADING, A MINIMUM OF ONE LANE ALTERNATING TRAFFIC FLOW SHALL BE MAINTAINED.
23. FULL ROADWAY WIDTH MUST BE RETURNED AT THE END OF EACH WORK DAY.
24. ONE LANE TRAFFIC FLOW SHALL BE REQUIRED DURING ALL OPERATIONS WHICH REDUCE DRIVE LANE(S) LESS THAN 12'.
25. HALF WIDTH CONSTRUCTION METHODS SHALL BE UTILIZED FOR ROAD RECLAMATION, BASE PREPARATION, AND PAVING OPERATIONS.
26. AS CONSTRUCTION OPERATIONS CHANGE, SO SHALL WARNING SIGNS. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND ARRANGING SIGNS AS CONSTRUCTION VARIES AND PROCEEDS.

Tighe&Bond

PLAN SET ISSUE TITLE

THIS DOCUMENT IS RELEASED
TEMPORARILY FOR PROGRESS REVIEW ONLY.
IT IS NOT INTENDED FOR BIDDING OR
CONSTRUCTION PURPOSES.

Westfield River Interceptor Sewer Relocation Project

Department of
Public Works

Agawam,
Massachusetts

MARK	DATE	DESCRIPTION
PROJECT NO:	A5000-005	
DATE:	DECEMBER 2023	
FILE:	A5000-005 Traffic Control Details.dwg	
DRAWN BY:	LMK	
DESIGNED/CHECKED BY:	MAK	
APPROVED BY:	DJP	

TRAFFIC CONTROL DETAILS

SCALE: NO SCALE

C-203

SHEET 6 OF 6

APPENDIX C

Appendix C - Photographic Log

Client: Town of Agawam

Job Number: A-5000-005

Westfield River Interceptor Sewer Relocation Project

Site: Main Street, Agawam, Massachusetts

Photograph No.: 1	Date: 2/2/2024	Direction Taken: Northeast
Description: View of vegetation southeast of Cooper’s Gifts that will be cleared for construction of the relocated sewer main and new sewer manhole #4.		
		

Photograph No.: 2	Date: 2/2/2024	Direction Taken: North
Description: View of south corner of Cooper’s Gifts where existing septic system will tie into the relocated sewer main.		
		

Appendix C - Photographic Log

Client: Town of Agawam

Job Number: A-5000-005

Westfield River Interceptor Sewer Relocation Project

Site: Main Street, Agawam, Massachusetts

Photograph No.: 3	Date: 2/2/2024	Direction Taken: Northeast
Description: View of maintained lawn area adjacent to the edge of the pavement southeast of Cooper's Commons. Location of relocated sewer main from new manhole #2 to #3 and #4.		

Photograph No.: 4	Date: 2/2/2024	Direction Taken: Northwest
Description: View of Main Street where relocated sewer main will be constructed from new sewer manhole #2 to new sewer manhole #1.		

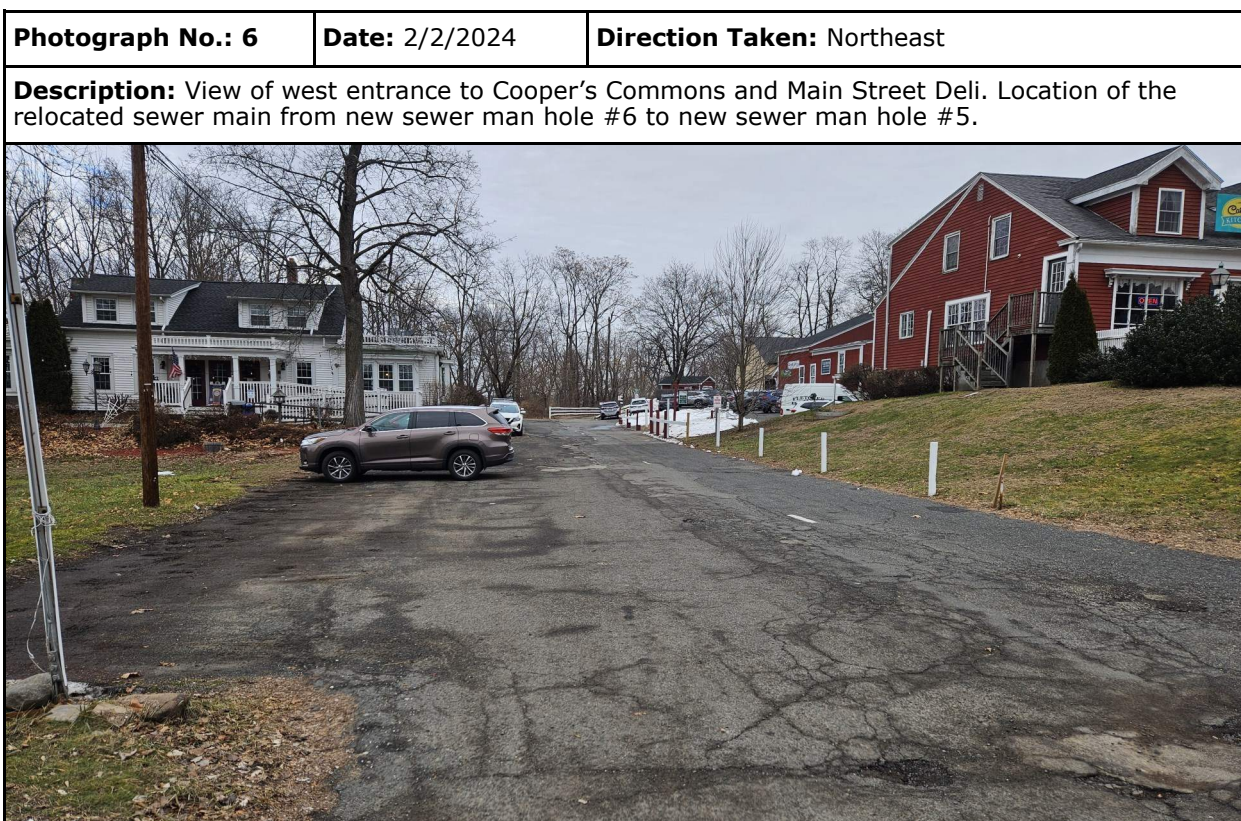
Appendix C - Photographic Log

Client: Town of Agawam

Job Number: A-5000-005

Westfield River Interceptor Sewer Relocation Project

Site: Main Street, Agawam, Massachusetts



Appendix C - Photographic Log

Client: Town of Agawam

Westfield River Interceptor Sewer Relocation Project

Site: Main Street, Agawam, Massachusetts

Job Number: A-5000-005

Photograph No.: 7	Date: 2/2/2024	Direction Taken: Southwest
Description: View of west entrance to Cooper's Commons and Main Street Deli. Location of the relocated sewer main and new sewer manhole #5 (note sewer manhole #7 in right of photo).		
		

Photograph No.: 8	Date: 2/2/2024	Direction Taken: East
Description: View of sewer manhole #9 which will be decommissioned after construction of the new sewer line.		
		

APPENDIX D

TABLE D-1

Parcels within 100 Feet of Project Locus (Parcels: K14 2 3, K14 2 4, and K14 2 5)

ID	Address	Owner	Owner Address	Owner City	Owner State	Owner Zip
K14 1 3	12 Federal Street	Cicia Joshua A	12 Federal Street	Agawam	MA	01001
K14 1 4	140 Main Street	Frogameni Marlow Tust	140 Main Street	Agawam	MA	01001
K14 2 2	137 Main Street	Wheeler Kimberly	137 Main Street	Agawam	MA	01001
K14 2 3	141 Main Street	Ricom, LLC	141 Main Street	Agawam	MA	01001
K14 2 4	159 Main Street	Cooper's Commons LLC	159 Main Street	Agawam	MA	01001
K14 2 5	175 Main Street	Carando Gourmet Frozen Foods Corp	175 Main Street	Agawam	MA	01001
K14 2 6	197 Main Street	McLean Realty Co	197 Main Street	Agawam	MA	01001
K14 2 8	233 Main Street	HP Hood Inc	6 Kimball Lane	Lynnfield	MA	01940
K14 3 3	184 Main Street	Agawam Funeral Home Inc	184 Main Street	Agawam	MA	01001
K14 3 4	158 Main Street	170 Main Street LLC	3640 Main Street, Suite 304	Springfield	MA	01107

NOTIFICATION TO ABUTTERS – PUBLIC HEARING

As required by the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of the Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

- A. The name of the applicant is: The Town of Agawam, Department of Public Works.
- B. The applicant has filed a Notice of Intent (NOI) with the Conservation Commission for the municipality of Agawam seeking permission to alter an Area Subject to Protection or within 100 feet of an area Subject to Protection, under the Massachusetts Wetlands Protection Act (MA WPA; M.G.L. Chapter 131 § 40).
- C. The proposed work will involve relocating a section of existing cross-country sewer main that runs behind a failing slope along the southern bank of the Westfield River. The proposed sewer alignment is approximately 870 feet long and passes through private property between 141, 159, and 175 Main Street.
- D. Copies of the NOI may be examined prior to the hearing at the Agawam Town Hall, 36 Main Street, Agawam, MA 01001, between the hours of 8:30 a.m. to 4:30 p.m. on the following days of the week: Monday through Friday. Please call (413) 786-0400 to verify arrangements.
For more information on the filing or proposed work, call: (413) 572-3224 (Attn: Melissa Coady) between the hours of 8:00 a.m. and 5:00 p.m. on the following days of the week: Monday through Friday. Check One: This is the applicant ☐, representative ☒, or other (specify): ☐.
- E. Copies of the NOI may be obtained from either (check one) the applicant ☐, or the applicant's representative ☒, by calling this telephone number: (413) 572-3224 (Attn: Melissa Coady) between the hours of 8:00 a.m. and 5:00 p.m. on the following days of the week: Monday through Friday.
- F. The public hearing will take place at 6:00 p.m. on Thursday, March 14, 2024, at the Agawam Senior Center, 954 Main Street, Agawam, MA 01001. Information regarding the date, time and place of the public hearing may be obtained from the Agawam Conservation Commission by calling (413) 786-0400, ext. 8737, during the hours listed in D above.

NOTE: Notice of the public hearing, including its date, time and place will be published at least five (5) days in advance.

NOTE: You also may contact the Western Regional Office of the Massachusetts Department of Environmental Protection (MassDEP) for more information about this application or the Wetlands Protection Act. To contact the Western Regional Office of the MassDEP, call (413) 784-1100.



AGAWAM CONSERVATION COMMISSION
October 10, 2024

MEMBERS PRESENT:

Henry Kozloski, Chairman
Sheryl Becker
S Page Fallon
Magda Galiatsos
Frank Meagher
Keven Brown

MEMBERS ABSENT:

Jill Ward

ALSO PRESENT:

Taryn Egerton

Mr. Kozloski called the meeting to order at 6:04pm.

1. PUBLIC HEARING CONT.-ABBREVIATED NOTICE OF RESOURCE AREA
DELINEATION-1485 Suffield Street-Atrium Property Services.

The Conservation Commission received a request to continue this agenda item to the October 24, 2024 meeting.

Motion was made by Mr. Fallon and seconded by Mr. Meagher to continue the PUBLIC HEARING CONT.-ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION-1485 Suffield Street-Atrium Property Services to the October 24, 2024 meeting, as requested.

VOTE 6-0-0

2. PUBLIC HEARING CONT.-NOTICE OF INTENT-1422 Main Street, Main Street
& Rear Main Street-Shield Hotels

The Conservation Commission received a request to continue this agenda item to the October 24, 2024 meeting.

Motion was made by Ms. Becker and seconded by Ms. Galiatsos to continue the PUBLIC HEARING CONT.-NOTICE OF INTENT-1422 Main Street, Main Street & Rear Main Street-Shield Hotels to the October 24, 2024 meeting, as requested.

VOTE 6-0-0

3. PUBLIC HEARING CONT.-NOTICE OF INTENT-Westfield River Interceptor
Sewer Relocation Project-Agawam DPW.

The Conservation Commission received a request to continue this agenda item to the October 24, 2024 meeting.

Motion was made by Ms. Becker and seconded by Mr. Fallon to continue the PUBLIC HEARING CONT.-NOTICE OF INTENT-Westfield River Interceptor Sewer Relocation Project-Agawam DPW to the October 24, 2024 meeting, as requested.

VOTE 6-0-0

4. PUBLIC HEARING CONT.-NOTICE OF INTENT-1014 North St. Ext-VIP Homes
& Associates, LLC.

The Conservation Commission received a request to continue this agenda item to the October 24, 2024 meeting.

Motion was made by Mr. Meagher and seconded by Mr. Fallon to continue the PUBLIC HEARING CONT.-NOTICE OF INTENT-1014 North St. Ext-VIP Homes & Associates, LLC to the October 24, 2024 meeting, as requested.

VOTE 6-0-0

5. Request to Extend Order of Conditions-466 South Westfield Street-Shibley

The Conservation Commission received a request to Extend Order of Conditions for 466 South Westfield Street-Shibley, for one year.

Motion was made by Ms. Galiatsos and seconded by Mr. Meagher to Extend Order of Conditions-466 South Westfield Street-Shibley to October 16, 2025.

VOTE 6-0-0

6. Request to Extend Order of Conditions-233, 265, & Lot 6 Main Street-H.P. Hood

The Conservation Commission received a request to table the Request to Extend Order of Conditions-233, 266, & Lot 6 Main Street-H.P. Hood to October 24, 2024.

Motion was made by Mr. Fallon and seconded by Mr. Brown to table the Request to Extend Order of Conditions-233, 265, & Lot 6 Main Street-H.P. Hood to October 24, 2024, as requested.

VOTE 6-0-0

7. ENFORCEMENT ORDER UPDATES

Mr. Kozloski informed the Commission that the plantings are in at Nicole Terrace Subdivision.

Mr. Fallon stated at 721 Springfield Street some of the area has grown in and there is clear delineation now. Ms. Egerton stated the trees were planted in April. Ms. Egerton stated the 40 ft. buffer was to be marked, the campers removed from that area, and removal of a pile of landscaping debris and bricks, as well loaming and seeding. Mr. Fallon stated there is a pile of debris that seems to have gotten bigger.

8. APPROVAL OF MINUTES-September 26, 2024

Motion was made by Mr. Fallon and seconded by Ms. Becker to approve the September 26, 2024 minutes as written.

VOTE 4-0-2(Meagher/Galiatsos)

9. Correspondence and Complaints

The Conservation Commission received a complaint of dumping on Main Street across from the River Vista Apartments. The apartment management called and stated the debris was removed and the contractor was informed not to dump there. They will be sending this in writing to the Commission.

Motion was by Mr. Meagher and seconded by Mr. Brown to adjourn the meeting.

VOTE 6-0-0

Meeting adjourned at 6:06pm.