Massachusetts Department of Environmental Protection

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

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1283257
City/Town:BOSTON

A.General Information

1. Project Location:

a. Street Address	565 & 569 AMERICAN LEGION HIGHWAY		
b. City/Town	BOSTON	c. Zip Code	02131
d. Latitude	42.28736N	e. Longitude	71.10855W
f. Map/Plat #	18	g.Parcel/Lot #	06563-001 / -002

2. Applicant:

☐ Individual ☑ Organization

a. First Name	MATHEW		b.Last Name	PAISNER	
c. Organization	SCRUBADUB / R AND D ROSLINDALE LLC				
d. Mailing Address	172 WORCESTER STREET				
e. City/Town	NATICK	f. State	MA	g. Zip Code	01760
h. Phone Number	508-650-1155	i. Fax		j. Email	mat@scrubadub.com

3.Property Owner:

☐ more than one owner

a. First Name	DANIEL		b. Last Name	PAISNER	
c. Organization	SCRUBADUB / R AND D ROSLINDALE LLC				
d. Mailing Address	172 WORCESTER STREET				
e. City/Town	NATICK	f.State	MA	g. Zip Code	01760
h. Phone Number	508-650-1155	i. Fax		j.Email	dANIEL@scrubadub.com

4.Representative:

a. First Name	KEVIN		b. Last Name	SOLLI	
c. Organization	SOLLI ENGINEERING, LLC				
d. Mailing Address	351 NEWBURY STREET, SUITE 303				
e. City/Town	BOSTON	f. State	MA	g. Zip Code	02115
h.Phone Number	617-203-3160	i.Fax		j.Email	kevin@sollillc.com

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

a.Total Fee Paid	1,575.00	b.State Fee Paid	775.00	c.City/Town Fee Paid	800.00

6.General Project Description:

THE PROJECT PROPOSES VARIOUS SITE IMPROVEMENTS TO IMPROVE VEHICULAR ACCESS, PUBLIC SAFETY, AND BUSINESS SERVICES WHILE MAINTAINING THE EXISTING ONE-STORY CONCRETE BLOCK BUILDING ON-SITE. THE BUILDING WILL UNDERGO EXTERIOR COSMETIC ARCHITECTURAL UPDATES IN ORDER TO MODERNIZE THE EXTERIOR OF THE BUILDING. ALONG THE EAST SIDE OF THE BUILDING TWO ADDITIONAL VEHICLE QUE LANES ARE PROPOSED TO PROVIDE THREE LANES ON PROPERTY. THE PLANS PROPOSE AUTOMATED PAYMENT SYSTEMS WITH ASSOCIATED GATES IN EACH LANE TO IMPROVE SPEED OF TRANSACTION PROCESSING. A SIDE ACCESS DOOR IS PROPOSED ALONG THE EAST SIDE OF THE BUILDING TO PROVIDE EMPLOYEES WITH ACCESS TO THE PROPOSED PAYMENT SYSTEMS. THE EXISTING NINE VACUUM STATIONS ARE PROPOSED TO BE REMOVED AND DISPOSED OF. FOURTEEN NEW VACUUM STATIONS ARE PROPOSED TO BE INSTALLED ON THE WEST SIDE OF THE BUILDING, ALONG WITH THREE

PARKING SPACES. A CONCRETE SIDEWALK IS PROPOSED TO BE CONSTRUCTED ALONG THE WEST SIDE OF THE BUILDING. THE PROJECT PROPOSES TWO 30-FOOT SITE DRIVES OFF AMERICAN LEGION HIGHWAY TO IMPROVE VEHICULAR SAFETY AND MOVEMENTS BOTH EXITING THE PROPERTY AND WITHIN THE PROPERTY. A LANDSCAPED ISLAND AND FOUR PARKING SPACES ARE PROPOSED ALONG THE PROPERTY?S FRONTAGE.

7a.Project Type:

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Limited Project Driveway Crossing
4. ☑ Commercial/Industrial
5. ☐ Dock/Pier
6. ☐ Utilities
7. ☐ Coastal Engineering Structure
8. ☐ Agriculture (eg., cranberries, forestry)
9. ☐ Transportation
10. ☐ Other

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

1. ☐ Yes ☑ No If yes, describe which limited project applies to this project:
2. Limited Project

8.Property recorded at the Registry of Deeds for:

a.County:	b.Certificate:	c.Book:	d.Page:
SUFFOLK		63412	5
SUFFOLK		59142	79

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

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

☐ This is a Buffer Zone only project - Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.

2.Inland Resource Areas: (See 310 CMR 10.54 - 10.58, if not applicable, go to Section B.3. Coastal Resource Areas)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	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	2. square feet
	3. cubic yards dredged	
d. ☐ Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet	

	2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☑ Riverfront Area	Canterbury Branch of The Stony Brook 1. Name of Waterway (if any)	
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		8118 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.
5321	12470	10780

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☑ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☑ Yes ☐ No

3.Coastal Resource Areas: (See 310 CMR 10.25 - 10.35)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under	Land under the ocean below,
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coatstal Dunes, below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab, crea.
i. ☐ Land Under Salt Ponds	1. square feet	
	2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	

	1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4.Restoration/Enhancement

☐ Restoration/Replacement

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

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

5.Projects Involves Stream Crossings

☐ Project Involves Streams Crossings

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

a. number of new stream crossings b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

a. ☐ Yes ☑ No

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

b. Date of map:FROM MAP VIEWER

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

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

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

(a) within Wetland Resource Area percentage/acreage

(b) outside Resource Area percentage/acreage

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

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

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

b.☐ Photographs representative of the site

c.☐ MESA filing fee (fee information available at: http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html)

Make check payable to "Natural Heritage & Endangered Species Fund" and **mail to NHESP** at above address

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

d. ☐ Vegetation cover type map of site

e. ☐ Project plans showing Priority & Estimated Habitat boundaries

d. OR Check One of the following

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

2. ☐ Separate MESA review ongoing.

a. NHESP Tracking Number

b. Date submitted to NHESP

3. ☐ Separate MESA review completed.

Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

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

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

a. ☑ Not applicable - project is in inland resource area only

b. ☐ Yes ☐ No

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

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

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

North Shore - Hull to New Hampshire:

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

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

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

a. ☐ Yes ☑ No

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

b. ACEC Name

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a. ☐ Yes ☑ No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L.c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L.c. 130, § 105)?

a. ☐ Yes ☑ No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a. ☑ Yes, Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol.2, Chapter 3)
2. ☑ A portion of the site constitutes redevelopment
3. ☑ Proprietary BMPs are included in the Stormwater Management System

b. ☐ No, Explain why the project is exempt:

1. ☐ Single Family Home
2. ☐ Emergency Road Repair
3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

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

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

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

a. Plan Title:	b. Plan Prepared By:	c. Plan Signed/Stamped By:	c. Revised Final Date:	e. Scale:
"PROPOSED CARWASH IMPROVEMENTS, 565 & 569 AMERICAN LEGION HIGHWAY, ROSLINDALE, MASSACHUSETTS - PERMITTING PLAN SET"	KEVIN SOLLI, PE	KEVIN SOLLI, PE	June 1, 2021	1"=20'

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☑ Attach NOI Wetland Fee Transmittal Form.

9. Attach Stormwater Report, if needed.

E. Fees

1.

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

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

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payer name on check: First Name

7. Payer name on check: Last Name

F. Signatures and Submittal Requirements

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

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

Mathew Paisner

1. Signature of Applicant

6/9/2021

2. Date

Daniel Paisner

3. Signature of Property Owner(if different)

6/9/2021

4. Date

Kevin Solli

5. Signature of Representative (if any)

6/9/2021

6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

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

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 - Notice of Wetland FeeTransmittal Form

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

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1283257
City/Town:BOSTON

A. Applicant Information

1. Applicant:

a. First Name	MATHEW	b.Last Name	PAISNER		
c. Organization	SCRUBADUB / R AND D ROSLINDALE LLC				
d. Mailing Address	172 WORCESTER STREET				
e. City/Town	NATICK	f. State	MA	g. Zip Code	01760
h. Phone Number	5086501155	i. Fax		j. Email	mat@scrubadub.com

2.Property Owner:(if different)

a. First Name	DANIEL	b. Last Name	PAISNER		
c. Organization	SCRUBADUB / R AND D ROSLINDALE LLC				
d. Mailing Address	172 WORCESTER STREET				
e. City/Town	NATICK	f.State	MA	g. Zip Code	01760
h. Phone Number	5086501155	i. Fax		j.Email	dANIEL@scrubadub.com

3. Project Location:

a. Street Address	565 & 569 AMERICAN LEGION HIGHWAY	b. City/Town	BOSTON

Are you exempted from Fee? ☐

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

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

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

B. Fees

Activity Type	Activity Number	Activity Fee	RF Multiplier	Sub Total
A.) SITE PREPARATION (FOR DEVELOPMENT) BEYOND NOTICE OF INTENT SCOPE;	1	1050.00	RFA MULTIPLIER 1.5	1575.00

City/Town share of filling fee	State share of filing fee	Total Project Fee
$800.00	$775.00	$1,575.00

City of Boston Environment

NOTICE OF INTENT APPLICATION FORM
Boston Wetlands Ordinance
City of Boston Code, Ordinances, Chapter 7-1.4

Boston File Number

MassDEP File Number

A. GENERAL INFORMATION

1. Project Location

565 & 569 American Legion Highway — a. Street Address
Boston — b. City/Town
02131 — c. Zip Code
18 — f. Assessors Map/Plat Number
06563-001 / -002 — g. Parcel /Lot Number

2. Applicant

Mathew — a. First Name
Paisner — b. Last Name
ScrubaDub Auto Wash Centers Inc / R & D Roslindale LLC — c. Company
172 Worcester Street — d. Mailing Address
Natick — e. City/Town
MA — f. State
01760 — g. Zip Code
508-650-1155 — h. Phone Number
i. Fax Number
mat@scrubadub.com — j. Email address

3. Property Owner

Daniel — a. First Name
Paisner — b. Last Name
ScrubaDub Auto Wash Centers Inc / R & D Roslindale LLC — c. Company
172 Worcester Street — d. Mailing Address
Natick — e. City/Town
MA — f. State
01760 — g. Zip Code
508-650-1155 — h. Phone Number
i. Fax Number
danny@scrubadub.com — j. Email address

❑ Check if more than one owner

(If there is more than one property owner, please attach a list of these property owners to this form.)

4. Representative (if any)

Kevin — a. First Name
Solli — b. Last Name
Solli Engineering, LLC — c. Company
351 Newbury Street, Suite 303 — d. Mailing Address
Boston — e. City/Town
MA — f. State
02115 — g. Zip Code
617-203-3160 — h. Phone Number
i. Fax Number
kevin@sollillc.com — j. Email address

5. Is any portion of the proposed project jurisdictional under the Massachusetts Wetlands Protection Act M.G.L. c. 131 §40?

☒ Yes ☐ No

If yes, please file the WPA Form 3 - Notice of Intent with this form

6. General Information

THE PROJECT PROPOSES VARIOUS SITE IMPROVEMENTS TO IMPROVE VEHICULAR ACCESS, PUBLIC SAFETY, AND BUSINESS SERVICES WHILE MAINTAINING THE EXISTING ONE-STORY CONCRETE BLOCK BUILDING ON-SITE. THE BUILDING WILL UNDERGO EXTERIOR COSMETIC ARCHITECTURAL UPDATES IN ORDER TO MODERNIZE THE EXTERIOR OF THE BUILDING. ALONG THE EAST SIDE OF THE BUILDING TWO ADDITIONAL VEHICLE QUEUE LANES ARE PROPOSED TO PROVIDE THREE LANES ON PROPERTY. THE PLANS PROPOSE AUTOMATED PAYMENT SYSTEMS WITH ASSOCIATED GATES IN EACH LANE TO IMPROVE SPEED OF TRANSACTION PROCESSING. A SIDE ACCESS DOOR IS PROPOSED ALONG THE EAST SIDE OF THE BUILDING TO PROVIDE EMPLOYEES WITH ACCESS TO THE PROPOSED PAYMENT SYSTEMS. THE EXISTING NINE VACUUM STATIONS ARE PROPOSED TO BE REMOVED AND DISPOSED OF. FOURTEEN NEW VACUUM STATIONS ARE PROPOSED TO BE INSTALLED ON THE WEST SIDE OF THE BUILDING, ALONG WITH THREE PARKING SPACES. A CONCRETE SIDEWALK IS PROPOSED TO BE CONSTRUCTED ALONG THE WEST SIDE OF THE BUILDING. THE PROJECT PROPOSES TWO 30-FOOT SITE DRIVES OFF AMERICAN LEGION HIGHWAY TO IMPROVE VEHICULAR SAFETY AND MOVEMENTS BOTH EXITING THE PROPERTY AND WITHIN THE PROPERTY. A LANDSCAPED ISLAND AND FOUR PARKING SPACES ARE PROPOSED ALONG THE PROPERTY'S FRONTAGE.

7. Project Type Checklist

a. ☐ Single Family Home
b. ☐ Residential Subdivision
c. ☐ Limited Project Driveway Crossing
d. ☒ Commercial/Industrial
e. ☐ Dock/Pier
f. ☐ Utilities
g. ☐ Coastal Engineering Structure
h. ☐ Agriculture – cranberries, forestry
i. ☐ Transportation
j. ☐ Other

8. Property recorded at the Registry of Deeds

Suffolk	5 / 79
a. County	b. Page Number
63412 / 59142	
c. Book	d. Certificate # (if registered land)

9. Total Fee Paid

$1,400.00	$775.00	NOI Processing Fee - $75.00 NOI Category 3 - $550.00
a. Total Fee Paid	b. State Fee Paid	c. City Fee Paid

B. BUFFER ZONE & RESOURCE AREA IMPACTS

Buffer Zone Only - Is the project located only in the Buffer Zone of a resource area protected by the Boston Wetlands Ordinance?

☐ Yes ☒ No

1. Coastal Resource Areas

Resource Area	Resource Area Size	Proposed Alteration*	Proposed Migitation
❑ *Coastal Flood Resilience Zone*	Square feet	Square feet	Square feet
❑ *25-foot Waterfront Area*	Square feet	Square feet	Square feet
❑ *100-foot Salt Marsh Area*	Square feet	Square feet	Square feet
❑ *Riverfront Area*	Square feet	Square feet	Square feet

2. Inland Resource Areas

Boston Zoning Board of Appeals - Review and approval required following OOC granted from Conservation

Resource Area	Resource Area Size	Proposed Alteration*	Proposed Migitation
❑ *Inland Flood Resilience Zone*	Square feet	Square feet	Square feet
❑ *Isolated Wetlands*	Square feet	Square feet	Square feet
❑ *Vernal Pool*	Square feet	Square feet	Square feet
❑ *Vernal Pool Habitat (vernal pool + 100 ft. upland area)*	Square feet	Square feet	Square feet
☒ *25-foot Waterfront Area*	3,850 Square feet	3,850 Square feet	3,850 Square feet
☒ *Riverfront Area*	8,118 Square feet	5,321 Square feet	5,321 Square feet

C. OTHER APPLICABLE STANDARDS & REQUIREMENTS

1. What other permits, variances, or approvals are required for the proposed activity described herein and what is the status of such permits, variances, or approvals?

Boston Water and Sewer Commission - Approval of drainage design on 05/19/21

Boston Parks and Recreation - Site Plan Review, upon approval from ZBA

Inspectional Service Department - Refusal letter granted for extension of nonconforming use on November 20, 2021

Boston Board of Appeals - Review and Approval for extension of nonconforming use required submitting upon issuances of OOC from Conservation Commission.

Boston Planning & Development Agency - Design Review upon issuance of OOC from Conservation

Boston Transportation Department - Approval not required, but have submitted for their review / comments

2. 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 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://www.mass.gov/dfwele/dfw/nhesp/nhregmap.htm.

❑ Yes ☒ No

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

A. Submit Supplemental Information for Endangered Species Review

☐ Percentage/acreage of property to be altered:

(1) within wetland Resource Area _____ percentage/acreage

(2) outside Resource Area _____ percentage/acreage

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

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

❑ Yes ☒ No

If yes, provide the name of the ACEC: _____

4. Is the proposed project subject to provisions of the Massachusetts Stormwater Management Standards?

☒ *Yes. Attach a copy of the Stormwater Checklist & Stormwater Report as required.*
- ❑ *Applying for a Low Impact Development (LID) site design credits*
- ☒ *A portion of the site constitutes redevelopment*
- ❑ *Proprietary BMPs are included in the Stormwater Management System*

❑ *No. Check below & include a narrative as to why the project is exempt*
- ❑ *Single-family house*
- ❑ *Emergency road repair*
- ❑ *Small Residential Subdivision (less than or equal to 4 single family houses or less than or equal to 4 units in a multifamily housing projects) with no discharge to Critical Areas*

5. Is the proposed project subject to Boston Water and Sewer Commission Review?

☒ Yes ❑ No

D. 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 Protection Ordinance.

Signature of Applicant — Date: 6/22/21

Signature of Property Owner (if different) — Date: 6/21/21

Signature of Representative (if any) — Date: 6/24/21

SOLLI ENGINEERING

June 25th, 2021

Kate Oetheimer / Conservation Assistant
Boston Conservation Commission
Boston City Hall Room 709
Boston, MA 02201
617-635-3850
CC@boston.gov

RE: Response to Comments
Notice of Intent
Proposed Carwash Improvement
565 & 569 American Legion Highway
Roslindale, Massachusetts

Dear Ms. Kate Oetheimer and Boston Conservation Commission Staff:

Please see our response to the comments issued via email on June 23rd, 2021 by Kate Oetheimer with the Boston Conservation Commission. A response to each comment is provided in **bold** where applicable.

Comments; dated June 23rd, 2021:

1. The WPA 3 Form must be either physically signed and scanned or signed using digital signatures.

   The Notice of Intent – WPA Form 3 was submitted using eDEP, MassDEP's online filing system. A revised signature page has been implemented into the WPA Form 3, see enclosed revised WPA Form 3.

2. The Boston NOI form you submitted is an old version of the form. You will need to resubmit this form using the updated version.

   Please see updated Boston NOI Form.

3. The USGS topo map for the project site.

   The Cover Sheet (Sheet 0.00) of the submitted plans has an inset map of the USGS map at a scale of 1" = 1,000'. Please see enclosed the entire USGS quadrangle map for reference.

4. The stormwater report did not include a signed illicit discharge statement.

   Acknowledged; see Appendix F within updated Project Narrative.

5. In addition to the affidavit of service and the English and Spanish abutter notices, we will need a babel notice, proof that the translation is a certified translation, and an abutters list.

   Acknowledged; see babel notice, letter stating the translation is certified from a fluent Spanish speaker and the abutters list for each parcel.

6. In addition to the discussion of how the standards will be met, please cite the text from performance standards for 310 CMR 10.58(5)(a) - (h), just as you did for the general performance standards section.

   Acknowledged; see updated Project Narrative.

7. The Commission would like to see a more comprehensive discussion of climate change and resiliency beyond just sea level rise. Please expand this section to include a consideration of factors such as increasing precipitation, urban heat island effect, etc.

   Acknowledged; see updated Project Narrative.

8. Please make sure all three resource areas (Riverfront Area, Waterfront Area, and 100ft Buffer to Inland Bank) are labeled on each page of the plan set.

   Acknowledged.

9. We noticed that no trees were indicated on the plan set. Are there any trees with a DBH of 6 or more within the property boundary? If so, please note them on the plans as well.

   Yes, all existing trees are indicated on the "Existing Conditions Plan" as well as in the background of all other plans. The trees are indicated with a shaded circle and a text that states X" T, representing blank-inch tree. All on-site trees that are to be protected and maintained or cut down are called-out on the Soil Erosion and Sediment Control Plan (Sheet 2.31).

Respectfully,

Solli Engineering, LLC

Casey J. Burch
Project Manager

Enclosures:

- Updated Permit Plan Set
- Updated Project Narrative
- Babel Notice & Proof of Certified Translation
- Abutters List – 565 & 569 American Legion Highway
- USGS Quadrangle Map

CC:

- Sam Malafronte / Solli Engineering
- Mathew Paisner / ScrubaDub

PROJECT NARRATIVE

For The Proposed:

Carwash Site Improvements

Located At:
565 & 569 American Legion Highway
Boston (Roslindale), Massachusetts 01040

Prepared On:
October 19, 2020

Revised On:
June 23rd, 2021

Prepared By:

SOLLI ENGINEERING

351 Newbury Street, Suite 303
Boston, Massachusetts 02115
T: (617) 203-3160

Prepared For:

ScrubaDub
A Great Carwash

172 Worcester Street
Natick, Massachusetts 01760

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INTRODUCTION

Solli Engineering (Solli) has prepared this Project Narrative to provide a detailed description of existing site conditions and provide an overview of the proposed site improvements and modifications, an analysis of the stormwater drainage and management, soil erosion and sediment control measures, and to discuss areas within the Riverfront Area associated with the carwash improvements located at 565 & 569 American Legion Highway in Boston (Roslindale), Massachusetts. The design has been completed in compliance the City of Boston Zoning Ordinance, Stormwater Regulations and Wetland Protection Ordinance, as well as all other applicable state and federal requirements and regulations.

EXISTING CONDITIONS

SITE LOCATION

The subject site is located at 565 & 569 American Legion Highway in the City of Boston, Massachusetts. The property is located within the Roslindale Neighborhood Zoning District and the Community Commercial (CC-1) Zoning Subdistrict. The two parcels total approximately 1.01 acres and are bound by American Legion Highway to the south, commercial property to the west, vacant developed land to the north and commercial property and the Canterbury Brookside II conservation land to the east. American Legion Highway is a four-lane highway with a landscaped median. The site is currently accessed from the southbound lanes of American Legion Highway via an unorthodox site drive that is the width of the property (See Appendix A, Figure 1, Site Location Map).

According to the map obtained from the Massachusetts Department of Environmental Protection (MassDEP) ArcGIS Water Supply Protection Areas Map, no portion of the property is located within a public water supply watershed or a wellhead protection area (See Appendix A, Figure 3, Wellhead Protection Map). According to FEMA Flood Insurance Rate Map, Map Number 25025C0086G, the project site is within an area of minimal flood hazard, also known as Zone X - Unshaded, which indicates areas outside of the 0.2% annual chance floodplain; also known as the 500-year floodplain (See Appendix A, Figure 2, FEMA Flood Map).

SITE FEATURES

The subject site is currently improved with a 7,133 square foot ScrubaDub carwash facility with associated parking, drives, drainage and utility features.

The property is currently accessed via a 140-foot site drive off American Legion Highway. To the east of the existing facility is a 46-foot wide site drive that allows patrons vehicular access to the rear of the site and to the existing nine (9) vacuum systems along the east side of the building. Additionally, an existing dumpster enclosure is located on the east side of the building towards the front of the building. The area to the west of the building is deteriorated and improved with gravel and broken bituminous concrete. There is one existing drainage structure on-site, that is located to the west of the building and is filled with sediment. The property also included a dumpster enclosure adjacent to the exit of the carwash and fencing along the north and west property lines.

Along the frontage of the property an existing culvert allows Canterbury Branch of the Stony Brook to flow from the Canterbury Brookside II Conservation Land to downstream locations. Two headwalls are located at either end of the culvert; they are both within the property's limits.

STREAM DELINEATION

On July 6, 2020 Lucas Environmental, LLC conducted a site investigation along American Legion Highway to identify the limits of the existing perennial stream (Canterbury Branch of the Stony Brook) which runs along the site, parallel to American Legion Highway. The investigation was performed in accordance with the Massachusetts Wetlands Protection Act and regulations, MassDEP publications, the U.S. Army Corp of Engineers Wetland Delineation Manual, and the City of Boston Ordinance Protecting Local Wetlands and Promoting Climate Change Adaptation.

Canterbury Branch of the Stony Brook flows northeast to southwest parallel to American Legion Highway from Canterbury Brookside II open space under the site's frontage in a 9-foot corrugated metal pipe. Lucas Environmental delineated and flagged the limits of the top of the inland bank on both sides of the culvert. According to the Massachusetts Department of Environmental Protection (MassDEP) Wetlands Protection Act (WPA) a perennial stream's review area is The Riverfront Area; the area or land between a river's mean annual high-water line measured outward from the river and a parallel line located 200 feet away, except that the parallel line is located 25 feet away in Boston.

Additionally, the City of Boston's Ordinance Protecting Local Wetlands and Promoting Climate Change Adaptations in the City of Boston requires a 25-foot Waterfront Area and a 100-foot Buffer Zone. The on-site review area (Riverfront Area, Waterfront Area & Buffer Zone) for this property is approximately 0.45± acres, which is the area subject to review from the City of Boston's Conservation Commission and the MassDEP.

The existing development provides approximately 6,517± square feet of impervious surfaces within the Riverfront Area, 9,523± square feet of impervious surfaces within the Waterfront Area (inclusive of the Riverfront Area) and 15,775± square feet of impervious surfaces within the 100-foot Buffer Zone to Inland Bank (inclusive of the Riverfront and Waterfront Areas), located on-site. For more information regarding the existing conditions within the regulated areas on-site refer to Appendix A, Figure 5, Riverfront Area Map – Existing Conditions.

For further information regarding the existing wetlands refer to Appendix B for the Wetland Sketch prepared by Lucas Environmental, LLC.

SUBSURFACE INVESTIGATION

On March 9th, 2021 Solli Engineering, LLC conducted a subsurface investigation to obtain information on the subsurface conditions of the project site to support the planning and design of the proposed stormwater management improvements. The subsurface investigation included the excavation of three (3) test pits for soil sampling, infiltration testing and soil profiling.

The typical soil stratum for Test Pit #1 consisted of structural fill throughout to a depth of 84 inches. From grade down to 16 inches the fill consisted of sand and gravel material with a massive soils structure and loose soil consistency. From 16 inches to 84 inches the fill was a sandy loam texture with a massive soil structure and friable soil consistency.

The typical soil stratum for Test Pit #2 consisted of structural fill throughout to a depth of 36 inches. From grade down to 16 inches the fill consisted of loamy sand material with a massive soils structure and very friable soil consistency. From 16 inches to 36 inches the fill was a sandy texture with a massive soil structure and friable soil consistency. The two stratums were very similar to that of Test Pit #3 (information below). The test pit was only excavated to a depth of 36 inches to avoid impact to existing infrastructure, such as curb and pavement, and existing established vegetation, such as trees and shrubs.

The typical soil stratum for Test Pit #3 consisted of structural fill throughout to a depth of 72 inches. From grade down to 18 inches the fill consisted of loamy sand material with a massive soils structure and very friable soil consistency. From 18 inches to 30 inches the fill was a sandy texture with a massive soil structure and friable soil consistency. From 30 inches to 72 inches the soil with loamy sand consisting of some brick and coble, with a massive soil structure and very friable soil consistency.

There was no ledge, ground water, roots, or redoximorphic features observed in the test pits.

PROPOSED CONDITIONS

PROPOSED PROJECT SITE

The existing properties located at 565 & 569 American Legion Highway (Parcel ID 1806563001 and 1806563002) have a combined area of 1.01-acres. The existing auto care facility is located at 565 American Legion Highway (0.635 acres). However, ScrubaDub Auto Care recently purchased the adjacent property at 569 American Legion Highway (0.375 acres), and the proposed upgrades will include both properties.

PROJECT OBJECTIVE AND DESIRED USE OF SPACE

To improve public safety, vehicular access, and community benefit, ScrubaDub proposes to remodel the paved property and exterior façade of their existing Roslindale car wash facility at 565 American Legion Hwy. This includes relocating the self-serve vacuums to the abutting property, 569 American Legion Hwy, and installing new drive lanes. The project does **not** include internal modifications to the car wash building. The scope of work outlined within the "Proposed Redevelopment (Scope of Work)" section of this document highlights improvements ScrubaDub has successfully implemented at their other remodeled carwash facilities in the Commonwealth, most recently their Woburn and Chelsea locations. The desired use of space and objectives are as follows:

1) Prevent the queue line of customer vehicles waiting to enter the carwash from extending onto American Legion Highway or obstructing the new bike lane by adding additional queue lanes on the property. ScrubaDub proposes adding two (2) additional drive lanes on the existing car wash property (total of three (3) drive lanes) for queuing over two times more cars on the property.

2) Reduce the speed of cars entering the existing carwash property by adding Automated Express Pay Stations with gates (XPT's) to the new drive lanes and new pavement marking/striping. The Automated Pay stations also provide a contactless payment solution for customers and improve operating efficiency.
3) Improve safety of customers using self-serve vacuums as the current vacuum parking spaces abut the queue lane of oncoming vehicles entering the car wash. ScrubaDub proposes removing all vacuums from the existing carwash property and installing new vacuums on the adjacent property, 569 American Legion Hwy.

Improve landscaping on both properties and aesthetic of the building for customer and community benefit.

PROPOSED REDEVELOPMENT (SCOPE OF WORK)

The project proposes various site improvements while maintaining the existing one-story concrete block building on-site. The building will undergo architectural updates in order to modernize the exterior of the building. Three payment aisles are proposed along the east side of the building. These aisles will merge into one lane as the vehicles approach the rear of the property. Prior to merging, the plans propose automated payment systems with associated gates. A side access door is proposed along the east side of the building to provide employees with access to the proposed payment systems.

The existing nine vacuum stations are proposed to be removed and disposed of. Fourteen new vacuum stations are proposed to be installed on the west side of the building, along with three parking spaces. A concrete sidewalk is proposed to be constructed along the west side of the building.

The project proposes two 30-foot site drives off American Legion Highway to improve vehicular safety and movements both exiting the property and within the property. A landscaped island and four parking spaces are proposed along the property's frontage.

The project will provide a total of seven parking spaces, including one ADA accessible parking space. The spaces have been designed to provide efficient and adequate access to all existing building entrances. A concrete dumpster pad is proposed in the rear of the property, to the west of the building. The current dumpster enclosure is proposed to be demolished. The dumpster area will be screened and protected by six-foot-high board-on-board fence enclosure to shield the receptacles from the adjacent properties. Steel barrier swinging gates with concrete bollards will be added to both the east and west side of the building to close off the site after business hours. Additionally, the project proposes a six-foot tall wood stockade fence to separate the abutting parcel along the west side of the site.

For more information regarding the proposed improvements refer to the Site Layout Plan (Sheet 2.11) located within Appendix D of this Narrative.

SITE WORK WITHIN REGULATED RESOURCE AREAS

As previously mentioned, a portion of the property (0.19 acres) is located within the Riverfront Area of the Canterbury Branch of the Stony Brook perennial stream and its associated wetlands. The improvements are proposed both on-site and within the right-of-way along American Legion Highway.

The project proposes to maintain or improve the existing limits of disturbance and a large landscaped island is proposed along the frontage of the property within the Riverfront Area. The project proposes approximately 5,983 square feet of impervious surfaces within the on-site 25-foot Riverfront Area, approximately 534 square feet less impervious area than existing conditions. The proposed decrease in impervious area represents an 8% reduction in impervious area within the on-site Riverfront Area compared to existing conditions. This reduction in impervious area allows for the property to have an ecological enhancement within the Riverfront Area. For more information regarding the site work within the regulated area refer to Appendix A, Figure 6, Regulated Area Map – Proposed Conditions.

Table 1: Existing vs. Proposed Resource Area Summary

On-Site Review Area	Existing Conditions		Proposed Conditions	
	Impervious Area	Pervious Area	Impervious Area	Pervious Area
25-foot Riverfront Area	6,517 SF (0.15 AC)	1,601 SF (0.04 AC)	5,983 SF (0.14 AC)	2,135 SF (0.05 AC)
25-foot Waterfront Area	9,523 SF (0.22 AC)	2,445 SF (0.05 AC)	9,348 SF (0.21 AC)	2,620 SF (0.06 AC)
100-foot Buffer Zone to Inland Bank	15,775 SF (0.36 AC)	3,888 SF (0.09 AC)	16,425 SF (0.38 AC)	3,238 Sf (0.07 AC)

The site improvements propose a decrease in impervious area within the 25-foot Riverfront Area and the 25-foot Waterfront Area but do result in a slight increase in impervious surfaces within the 100-foot Buffer Zone to Inland Bank. This slight increase is mitigated with proposed stormwater quality and system improvements.

The proposed redevelopment complies with 310 CMR 10.58(5) Redevelopment Within Previously Developed Riverfront Areas; Restoration and Mitigation:

A. At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. C. 131 § 40. When a lot is previously developed but no portion of the riverfront area is degraded, the requirements of 310 CMR 10.58(4) shall be met.

   The proposed work improves the previously developed area within the Riverfront Area. The existing developed area is almost entirely covered in impervious areas with failing and limited stormwater BMPs. The redevelopment includes an increase in pervious area from existing conditions of 1,832± square feet within the 25-foot Riverfront Area. Additionally, the redevelopment includes improved landscaping in areas closest to the existing wetlands and brook. Shrubbery, understory trees and New England Conservation/Wildlife Seed Mix are proposed within those areas. Refer to Appendix D, Sheet 2.61 for more information.

B. Stormwater management is provided according to standards established by the Department.

   The stormwater management design has been designed in accordance with the standards established by the Department of Environmental Protection. Refer to the Stormwater Management & Soil Erosion Control section of this Narrative.

C. Within 200-foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25-foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).

The proposed work is within the approximate limits of existing disturbance. At no point does the redevelopment encroach within 25 feet of the brook or wetlands.

D. Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).

The proposed redevelopment is located as far away as plausible from the brook and wetlands. Additionally, no existing structures will be expanded.

E. The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).

The area of the proposed work does not exceed the amount of degraded area. The improvements being proposed will only enhance the degraded area and restore it back to its natural state.

F. When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include:
1. removal of all debris, but retaining any trees or other mature vegetation;
2. grading to a topography which reduces runoff and increases infiltration;
3. coverage by topsoil at a depth consistent with natural conditions at the site; and
4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;

The redevelopment proposes to remove all debris, reduce runoff and increase infiltration, maintain coverage of topsoil consistent with natural conditions at the site and proposes erosion control seed mix and appropriate shrubs and trees.

G. When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 through 33 to preserve undisturbed

riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Energy and Environmental Affairs.

Not applicable. No mitigation either on site or in the riverfront area within the same general area of the river basin will be proposed as part of this redevelopment.

H. The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.

Not applicable.

GENERAL PERFORMANCE STANDARDS

RIVERFRONT AREA

A. Protection of Other Resource Areas – The work shall meet the performance standards for all other resource areas within the riverfront area, as identified in 310 CMR 10.30 (Coastal Bank), 10.32 (Salt Marsh), 10.55 (Bordering Vegetated Wetland), and 10.57 (Land Subject to Flooding). When work in the riverfront area is also within the buffer zone to another resource area, the performance standards for the riverfront area shall contribute to the protection of the interests of M.G.L. c. 131, § 40 in lieu of any additional requirements that might otherwise be imposed on work in the buffer zone within the riverfront area.

There are no other resource areas within the Riverfront Area of the proposed project.

B. Protection of Rare Species – No project may be permitted within the riverfront area which will have any adverse effect on specified habitat sites of rare wetland or upland, vertebrate or invertebrate species, as identified by the procedures established under 310 CMR 10.59 or 10.37, or which will have any adverse effect on vernal pool habitat certified prior to the filing of the Notice of Intent.

The proposed project will not have any adverse effect on vernal pool habitats. The project will not have any effect on specified habitat sites of rare wetland or upland, vertebrate or invertebrate species.

C. Practicable and Substantially Equivalent Economic Alternatives – There must be no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on the interests identified in M.G.L. c. 131 § 40.

Canterbury Branch of the Stony Brook is located across the frontage of the property within a 9-foot culvert beneath the site drive. There is no practicable and substantially equivalent economic alternative to the proposed project.

CLIMATE CHANGE

The property of 565 & 569 American Legion Highway in the City of Boston, Massachusetts has elevations that range from approximately 39 feet to 47 feet and changes in sea level should not influence the project, surrounding resource areas or the proposed use in the foreseeable future. The property is located within an area of minimal flood hazard, also known as Zone X - Unshaded, which indicates areas outside of the 0.2% annual chance floodplain: also known as the 500-year floodplain. The carwash facility is located approximately 6-10 feet above the banks of the Canterbury Branch of the Stony Brook and the brook has significant flood storage capacity that can contain an increase in storm intensity and frequency.

The project proposes to maintain all but one existing tree on-site. In addition, the improvements propose four (4) trees, all located within landscaped islands of the proposed parking and vacuum area. These trees will provide shade from their canopies to the proposed impervious areas, ultimately providing a reduction in the urban heat island effect of the site. Additionally, the project proposes a plethora of shrubs and ground cover that will provide an increase in moisture being released into the atmosphere

The project's stormwater management system will provide a significant decrease in peak flows and volumes leaving the site due to the implementation of a subsurface infiltration system. This infiltration system has been designed for the 100-year storm event. The frequency of 100-year and greater storm events is only increasing, and the stormwater system has been designed to mitigate the stormwater runoff discharging from the site, even in larger storm events.

Lastly, the existing and proposed use of the property is to operate a carwash facility that has been designed to with stand damp conditions within the interior of the building. The property should not suffer from any consequences of climate change in the foreseeable future.

STORMWATER MANAGEMENT

The redevelopment of the 1.01-acre site will provide approximately 36,590 ± square feet of impervious area and approximately 7,405 ± square feet of pervious area (wooded, landscaped and grass surfaces). The project increases the amount of pervious area, compared to existing conditions, by approximately 4,350± square feet. Refer to the *Stormwater Management & Soil Erosion Control* section of this Narrative for more details regarding the proposed best management practices and drainage features being implemented as part of this project.

PROPOSED STORMWATER CONVEYANCE SYSTEM

The proposed stormwater conveyance system has been designed to incorporate 4.5-foot sump catch basins with hooded outlet, drainage pipes, a proposed hydrodynamic separator, a surface detention pond and subsurface infiltration chambers. The system has been designed to accommodate the 100-year storm event without surcharging the structure's rim/grate. For more information regarding the stormwater conveyance system refer to the *Stormwater Management & Soil Erosion Control* section of this Narrative as well as Appendix C, Drainage Calculations, Storm Sewer Tabular Report and Storm Sewer Profile.

SITE UTILITIES

WATER

The existing water lateral to the carwash facility is proposed to be protected and maintained throughout the project. The water lateral runs from the adjoining property, diagonally across the rear of the site and connects to the facility on the western side of the building. The facility is equipped with a backflow preventer and the project proposes to protect and maintain the existing backflow preventer. For more information regarding the existing water services refer to Appendix D, Page 2.21, Grading, Drainage, and Utility Plan.

SEWER

The facilities existing sanitary sewer lateral and water recycling systems are proposed to be protected and maintained throughout the project. The project is not proposing any internal modifications to the building that would result in any modifications to the existing sewer system and water recycling system. The existing 51-inch sewer line that runs along the frontage of the property will not be disturbed during the project. For more information regarding the existing sewer services refer to Appendix D, Sheet 2.21, Grading, Drainage and Utility Plan.

ELECTRIC / CABLE / TELECOMMUNICATIONS

The existing electrical, cable and telecommunication connections on-site are to be maintained. These utilities currently connect to the existing building via overhead utility lines from American Legion Highway. The existing electric, cable and telecommunication connections and on-site utility poles and transformer are proposed to be protected and maintained throughout the project. For more information regarding the existing electric, cable and telecommunications on-site refer to Appendix D, Sheet 2.21, Grading, Drainage and Utility Plan.

GAS

The existing gas line on-site will be protected and maintained throughout the project. The 4" gas pipe runs diagonal along the rear portion of the property. It then runs parallel along the west side of the existing building approximately 40 feet, and then crosses diagonally from the building to the adjoining property to the west. For more information regarding the existing gas services refer to Appendix D, Sheet 2.21, Grading, Drainage and Utility Plan.

PROPOSED LANDSCAPE AND LIGHTING

A comprehensive landscape plan has been provided. Curbed landscape areas are proposed in the existing paved area between the building frontage and American Legion Highway. Native overstory trees, evergreen shrubs, perennials and groundcover are proposed in this island to provide visual separation

from the street and clearly delineate driveways. Within the site flowering understory and overstory trees, evergreen and deciduous shrubs, grasses and groundcover are designed within the available planting islands. Areas directly adjacent to curbs and not scheduled for mulch beds will be seeded to lawn and utilized for snow storage. In addition to fencing, evergreen buffer plantings have been proposed to provide screening around the proposed dumpster enclosure.

The proposed site lighting plan is comprised of wall mounted light fixtures. The proposed fixtures on the north and east facades of the building are proposed to replace the existing light fixtures. The two fixtures not proposed for replacement will be disconnected. All fixtures are LED and meet "dark sky" principles. The lighting plan was designed to ensure light levels will not significantly impact adjoining properties.

STORMWATER MANAGEMENT & SOIL EROSION CONTROL

The stormwater pollution prevention plan for the proposed mixed-use redevelopment is intended to be in compliance with the Massachusetts Stormwater Handbook (Handbook), updated February 2008, and the Boston Water and Sewer Commission Stormwater Permit Regulations. The project was designed to meet the stormwater management standards and best management practices defined in the Massachusetts Stormwater Handbook (Handbook), while taking prevailing site conditions and practical considerations into account.

STANDARD 1: DISCHARGE PROTECTION

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

The project does not propose any new outfalls that discharge any untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. The project proposes to utilize Canterbury Branch of the Stony Brook as the overflow discharge for the infiltration system. Prior to entering the infiltration system, all stormwater is proposed to be conveyed through a hydrodynamic separator. Refer to *Standard 4: Water Quality* for more information on the proposed hydrodynamic separator unit. The proposed stormwater management system is reducing the peak flow from the subject site in the 2-, 10-, 25-, 50- and 100-year storm events, refer to *Standard 2: Attenuation* for more information on the proposed measures.

STANDARD 2: ATTENUATION

Stormwater management systems shall be designed so that the post-development peak discharge rates do not exceed pre-development peak discharge rates.

EXISTING CONDITIONS

The site currently drains from north to south, with elevations ranging from approximately 47' to 43'. Solli Engineering performed three test pits on-site to determine the soil characteristics and infiltration rates of the soils. Based on test pit observations, it was determined the undisturbed areas of the project site are classified between soil types A/B. For more information regarding the infiltration rates calculated refer to *Standard 3: Recharge*. For more information regarding the test pits performed on-site refer to the Grading, Drainage & Utility Plan (Sheet 2.21).

Approximately 1.17 acres of the site and surrounding land was analyzed for stormwater management purposes. The portion of the site evaluated contains the contributing areas directly impacted by the redevelopment. Based on existing drainage patterns, the 1.18-acre area was divided into three (3) contributing drainage areas, labeled Existing Drainage Area 1 (EDA-1), Existing Drainage Area 2 (EDA-2) and Existing Drainage Area 3 (EDA-3).

EDA-1 has a contributing area of approximately 0.36 acres. The majority of the runoff from EDA-1 flows towards the existing catch basin on-site. The existing structure is in poor condition and the sump is almost entirely filled with sediment. EDA-2 consists of two (2) subcatchment areas; EDA-2A and EDA-2B. EDA-2 has a combined contributing drainage area of approximately 0.49 acres. The majority of the runoff from EDA-2 sheet flows towards Canterbury Branch of the Stony Brook. EDA-3 has a contributing area of approximately 0.32 acres. The majority of the runoff from EDA-3 flows south off of the property and onto American Legion Highway. For more information regarding the contributing drainage areas refer to Appendix D, Sheet EDA, Existing Drainage Area Map.

PROPOSED CONDITIONS

The redevelopment consists of drainage areas that are of similar patterns to existing contributing areas within the 1.17 acres analyzed. Based on the proposed drainage patterns, the 1.18-acre area was divided into three (3) contributing drainage areas labeled Proposed Drainage Area 1 (PDA-1), Proposed Drainage Area 2 (PDA-2), and Proposed Drainage Area 3 (PDA-3).

PDA-1 consists of three (3) subcatchment areas; PDA-1A, -1B and -1C. PDA-1A has a contributing drainage area of approximately 0.19 acres and is captured by the proposed surface detention pond located within the proposed landscape island to the rear of the property. PDA-1B has a contributing drainage area of approximately 0.32 and is captured by a proposed 4.5-foot deep sump catch basin. PDA-1C has a contributing drainage area of approximately 0.26 acres and is captured by a grate top stormwater quality unit. The overflow from the proposed surface detention pond and the runoff from PDA-1B and PDA-1C is proposed to be conveyed through a subsurface infiltration system. The infiltration system will provide a volume for stormwater runoff to recharge back into the ground. An overflow pipe is proposed that will convey overflow runoff towards the existing 9-foot CPM drainage culvert.

PDA-2 consists of two (2) subcatchment areas; PDA-2A and PDA-2B. PDA-2 has a combined contributing drainage area of approximately 0.22 acres. The majority of the runoff from PDA-2 flows southeasterly into Canterbury Branch of the Stony Brook. A stone trench is proposed along the existing eastern edge of pavement. An 18-inch outlet control structure with a 7-inch dome grate top is proposed within the stone trench to capture the stormwater runoff to prevent erosion along the bank of the Canterbury Branch of the Stony Brook. The proposed stone trench will provide additional storage volume for runoff to infiltrate back into the ground.

PDA-3 has a contributing drainage area of approximately 0.18 acres. The majority of the runoff from PDA-3 flows southeasterly off the site, draining into the curb line of American Legion Highway, eventually being captured by existing drainage structures within the road. The project proposes to

decrease the area draining towards American Legion Highway by 6,098 square feet. For more information regarding the contributing drainage areas refer to Appendix D, Sheet PDA, Proposed Drainage Area Map.

The project will result in an increase in pervious area, from that of existing conditions, of approximately 4,350± square feet. Refer to Table 2 for the peak flow comparison between existing and proposed conditions.

Table 2: Peak Flow Reduction Table

Peak Flow (cfs)			
Storm Event	**Total Drainage Areas**		**Percent Reduction in Peak Flow**
	EDA	**PDA**	
2-Year	2.931	0.925	68.4%
10-Year	5.251	4.882	7.0%
25-Year	6.718	6.275	6.6%
50-Year	7.804	7.281	6.7%
100-Year	8.989	8.203	8.7%

Refer to Appendix C for more information regarding the drainage areas and hydrologic analysis of the pre- and post-development site conditions.

The proposed underground infiltration system is comprised of eight (8) 3-foot high Retain-It concrete chambers with an open bottom and perforated sides. The 8-foot by 8-foot underground chambers provide a total attenuation channel length of 64 feet. The system will provide a total storage capacity of approximately 3,045± cubic feet. The system is proposed to have an invert elevation of 41.81 feet, a bottom of stone elevation of 40.00, a bottom of chamber elevation of 41.00 and an internal riser at an elevation of 43.40.

The proposed stone trench is to consist of pea gravel and will provide a total storage capacity of approximately 360± cubic feet. The trench is proposed to have a dome grate top at an elevation of 44.35 feet and a bottom of stone elevation of 41.35 feet. During a 100-year storm event, stormwater runoff will reach an elevation of 45.12 feet and no runoff will overflow towards the banks of the Canterbury Branch of the Stony Brook.

In addition to the proposed infiltration chambers, the surface detention pond and stone trench are proposed to provide additional storage volume. For more information regarding the proposed stormwater management system refer to Appendix D, Sheet 2.21, Grading Drainage, and Utility Plan.

STANDARD 3: RECHARGE

At a minimum, the annual recharge from post-development site shall be approximate the same as the annual recharge from pre-development conditions based on soil type. This is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Based upon on-site infiltration testing, performed by Solli Engineering, it was discovered the infiltration rates of the soils varied on-site between 0.248 inches per hour and 2.316 inches per hour. Three (3) infiltration tests were performed (one performed in each test pit). The infiltration rate within Test Pit 1

was 0.248 inches per hour, the infiltration rate within Test Pit 2 was 1.597 inches per hour and the infiltration rate within Test Pit 3 was 2.316 inches per hour. Test Pits 1 & 3 were excavated to an elevation three feet below the proposed bottom of systems; no groundwater was observed. Test Pit 2 was excavated to an elevation of three feet below grade to minimize the impact to existing infrastructure and established trees in the area.

Although the project proposes a net increase of impervious area of approximately 871 square feet, the site's pervious area is proposed to increase by 4,356 square feet. The proposed increase in pervious areas (58%) will allow areas for stormwater runoff to naturally infiltrate back into the ground. In addition, the project proposes a stone filter strip along east side of the property, a surface detention pond and a subsurface infiltration system that will allow stormwater to recharge back into the ground.

Total impervious area of redevelopment = 36,882± square feet
Total impervious area conveyed to infiltration practices = 29,912± square feet

Required Recharge Volume Calculation

$$R_v = F \; x \; A_{Imp}$$

$$R_v = Required\ Minimum\ Recharge\ Volume\ (cf)$$

$$F = Target\ Depth\ Factor(in.)$$

$$A_{Imp} = Area\ of\ Impervious\ Surfaces\ to\ Infiltration\ Basin\ (sf)$$

$$\mathbf{1,496\ cf} = \frac{0.6 - inch}{12"}\ x\ 29{,}912\ sf$$

Adjusted Minimum Required Recharge Volume Calculation

$$R_{va} = R_v\ x\ \frac{A_{IA}}{A_{Imp}}$$

$$R_{va} = Adjusted\ Minimum\ Recharge\ Volume\ (cf)$$

$$A_{IA} = Total\ Area\ of\ Impervious\ Surfaces\ in\ Redevelopment$$

$$\mathbf{1,845\ cf} = 1{,}496\ cf\ x\ \frac{36{,}882\ sf}{29{,}912\ sf}$$

1” Required Storage Volume Calculation

$$R_{1"} = 1"\ x\ A_{Imp}$$

$$R_{1"} = Required\ 1"\ Rainfall\ Storage\ Volume\ (cf)$$

$$A_{Imp} = Area\ of\ Impervious\ Surfaces\ to\ Infiltration\ Basin\ (sf)$$

$$\mathbf{3,074\ cf} = \frac{1"}{12"}\ x\ 36{,}882\ sf$$

To satisfy the Boston Water and Sewer Commission’s requirement of storing the 1” rainfall on-site all three systems have been designed to provide a total storage volume of 3,117± cubic feet. This proposed storage volume satisfies both the 1” rainfall event and the adjusted minimum required recharge volume. Refer to Sheet 2.21 for storage volume computations for the proposed infiltration practices.

STANDARD 4: WATER QUALITY

The proposed development has been designed with stormwater treatment that incorporates structural best-management practices designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS).

In an effort to improve the quality of stormwater discharge associated with the proposed parking areas, driveways and roofs, the project has been designed with 4.5-foot deep sump catch basins and a Contech hydrodynamic separator (CDS1515-3-C). A hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and oil and grease from stormwater runoff. The hydrodynamic separators will capture and retain 100% of floatables; effectively removing sediment. The unit has been designed to remove more than 84% of the average annual post-construction load of TSS from the stormwater runoff prior to entering the stormwater basin and the existing basin. The hydrodynamic separator has been sized based on the 1" water quality volume. For more information regarding the TSS removal calculations, refer to Appendix C, Drainage Calculations, TSS Removal Calculations.

All proposed stormwater best management practices will require maintenance throughout the lifetime of the measure. Solli has included as part of this report, in Appendix E, a Long-Term Operations and Maintenance Plan as required by the Massachusetts Stormwater Handbook and Stormwater Standards.

STANDARD 5: POLLUTION PREVENTION

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 maximum extent practical.

The proposed redevelopment includes the expansion and improvements to an existing car wash facility. According to Standard 5 of the Handbook, car washes are included in the uses with higher potential pollutant loads. The improvements include the implementation of a Contech water quality unit (CDS-1515-3) that will separate and trap oil and grease from the stormwater runoff. The unit has been designed to properly treat the first 1-inch of runoff from the contributing impervious surfaces. Greater than 84% TSS removal is designed to occur prior to discharging into the existing culvert on site. For more information regarding the water quality flow calculations and TSS removal calculations refer to Appendix C, Drainage Calculations.

STANDARD 6: ZONE II / WELLHEAD PROTECTION AREA

Stormwater discharge within the Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or to any other critical area required the use of specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook.

The proposed carwash expansion is **NOT** located within the Zone II or Interim Wellhead Protection Area of a public water supply watershed. The nearest wellhead is located over 4 miles away (See Appendix A, Figure 3, Wellhead Protection Map).

STANDARD 7: REDEVELOPMENT PROJECT

A redevelopment project is required to meet the following Stormwater Management Standards only to maximum extent practical: Standard 2, Standard 3, Standard 4, Standard 5 and Standard 6.

The parcels located at 565 & 569 American Legion Highway in Boston, Massachusetts are developed and improved with approximately 36,590± square feet of impervious surfaces. This project results in a net increase of impervious surfaces of approximately 871± square feet. This project has been designed to satisfy all standards within the Massachusetts Stormwater Handbook

STANDARD 8: SOIL EROSION & SEDIMENT CONTROL

A plan to control construction-related impacts, including erosion, sedimentation, and other pollutant source during construction and land disturbance activities shall be developed and implemented.

The proposed plans for soil erosion and sediment control prepared for this project have been developed in accordance with the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas, prepared by the Department of Environmental Protection, Bureau of Resource Protection.

The soil erosion and sediment control practices that will be implemented during the construction of this project include geotextile silt fences with hay bale backing, a compost sock filter barrier for the materials stockpile, a construction entrance, construction fence, dust control measures, and inlet protection for existing and proposed drainage features.

For more detail regarding layout and design of the proposed soil erosion and sediment control measures refer to the Soil Erosion & Sediment Control Plans (Sheets 2.31) and the Soil Erosion & Sediment Control Notes & Details (Sheet 2.41) in Appendix D and the Long-Term Operations and Maintenance Plan, in Appendix E.

STANDARD 9: LONG-TERM OPERATION & MAINTENACE PLAN

A Long-Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

An O&M Plan was prepared for this project and can be found in Appendix E of this Project Narrative.

STANDARD 10: ILLICIT DISCHARGES

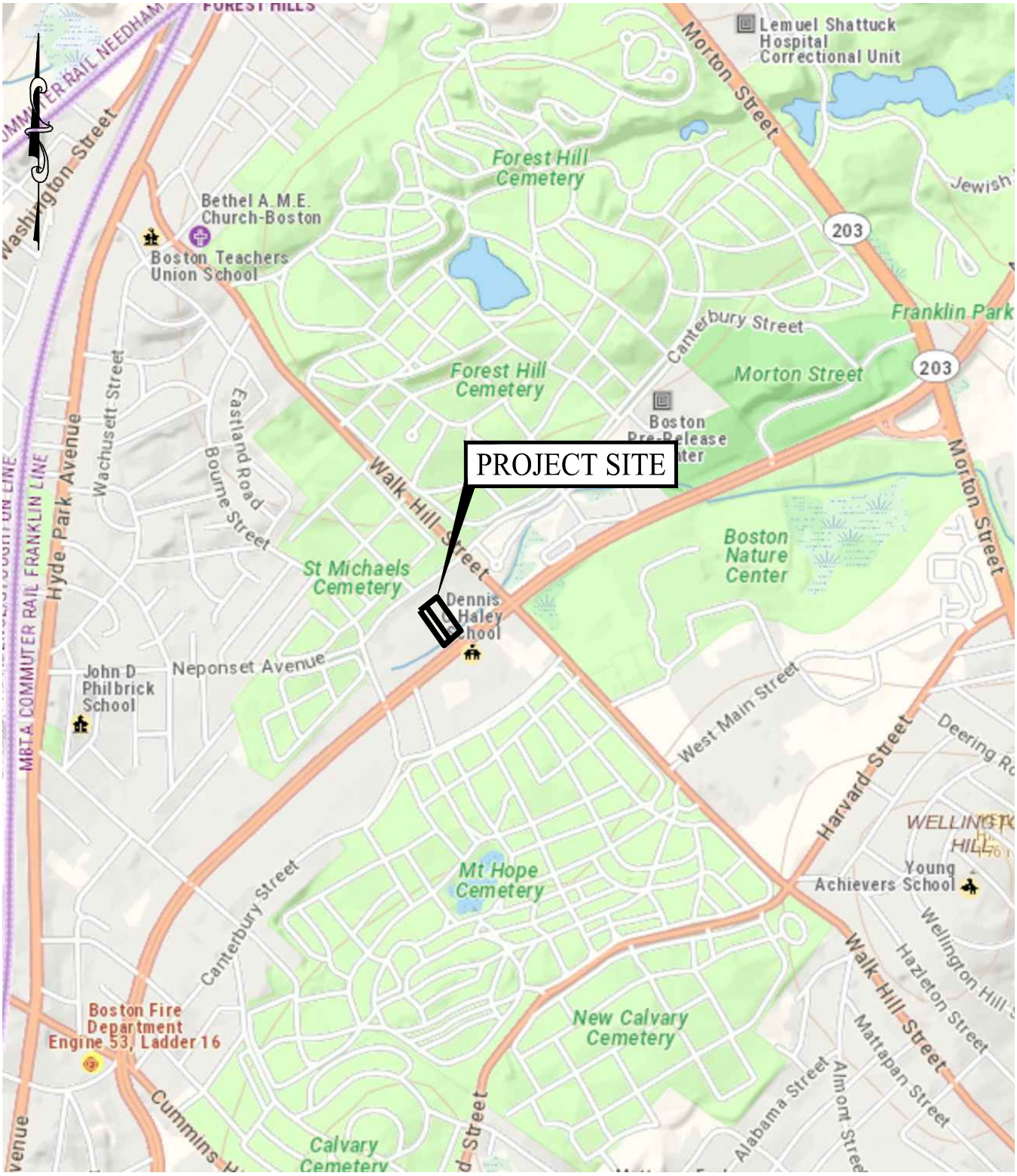
All illicit discharges to the stormwater management system are prohibited.

An Illicit Discharge Statement has been prepared for this project and can be found in Appendix F of this Narrative.

List of Appendices

APPENDIX A
FIGURES

Site Location Map (Figure 1)
FEMA Flood Map (Figure 2)
Wellhead Protection Map (Figure 3)
Soil Survey Map (Figure 4)
Regulated Area Map – Existing Conditions (Figure 5)
Regulated Area Map – Proposed Conditions (Figure 6)



NOTE: BASE MAP INFORMATION TAKEN FROM MAPS.MASSGIS.STATE.MA.US

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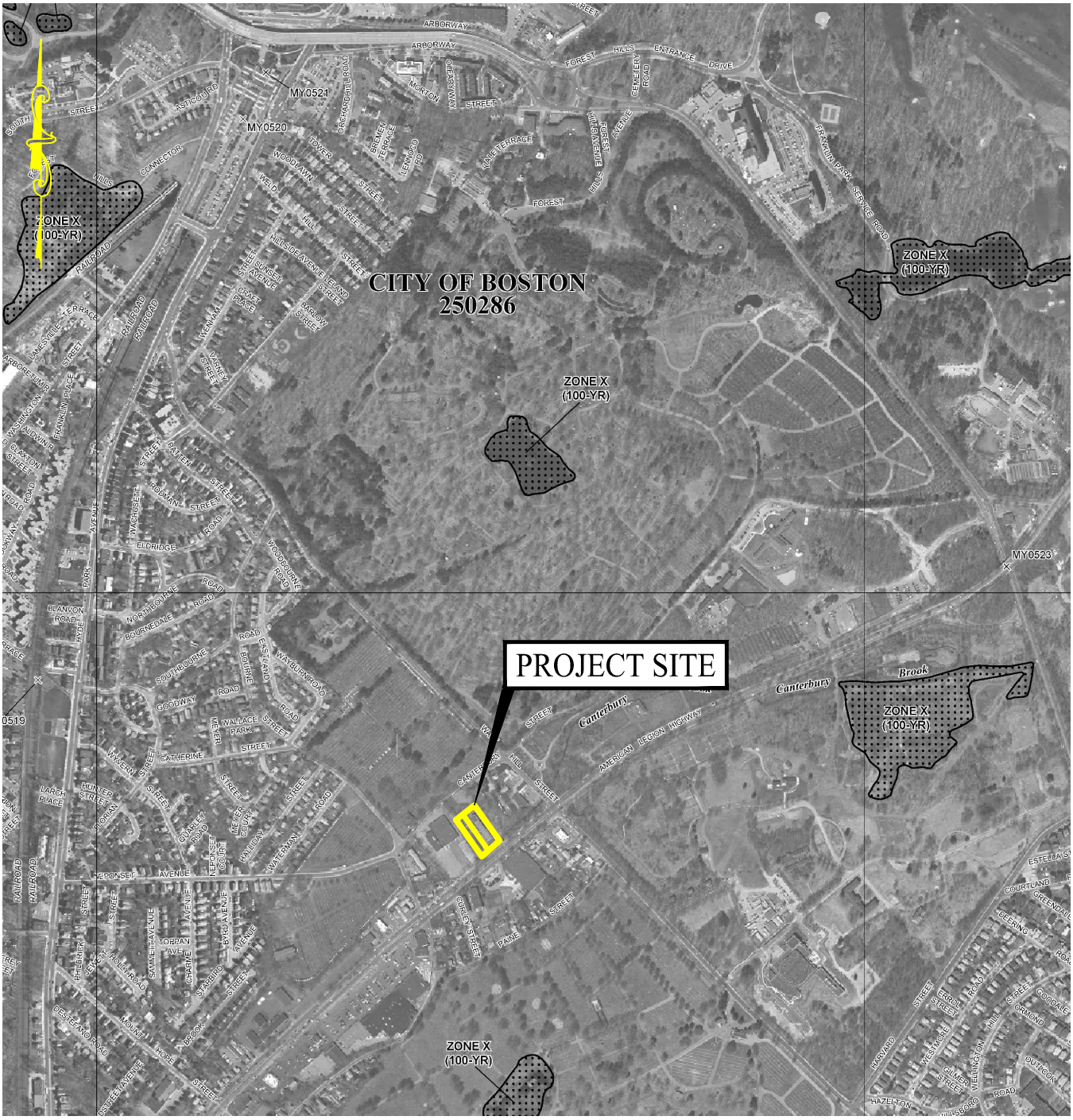
SOLLI ENGINEERING
351 Newbury Street, Boston, MA 02115
T: (617) 203-3160 F: (203) 880-9695

SITE LOCATION MAP

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Project #:	2001001
Plan Date:	09/04/20
Scale:	1" = 1,000'
Figure:	1



NOTE: BASE MAP INFORMATION TAKEN FROM FEMA FLOOD INSURANCE MAP, MAP NO. 25025C0086G, EFFECTIVE DATE SEPTEMBER 25, 2009.

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351 Newbury Street, Boston, MA 02115
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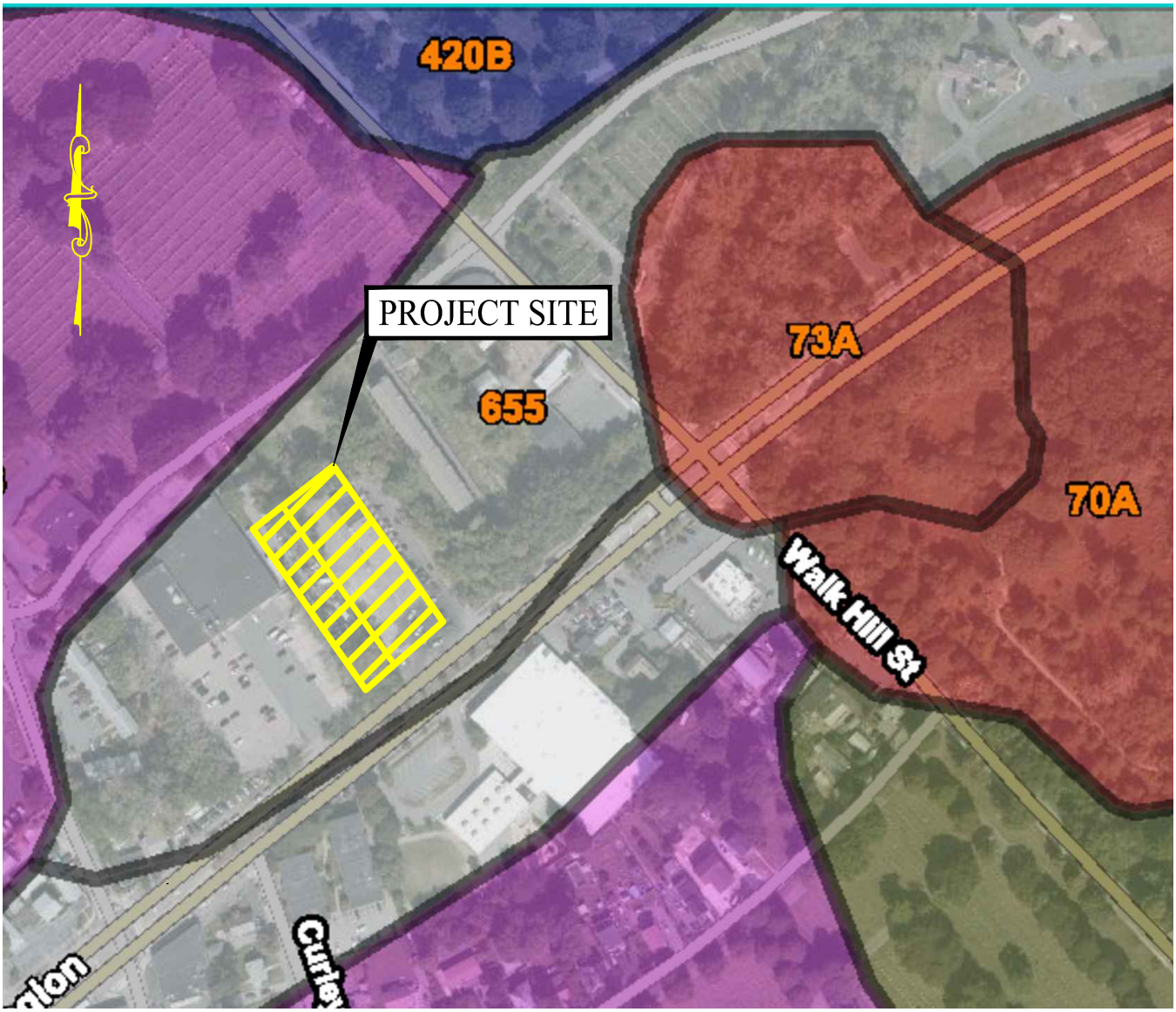
FEMA FLOOD MAP

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Project #:	2001001
Plan Date:	09/04/20
Scale:	1" = 1,000'
Figure:	2



Map unit symbol	Map unit name	Rating
655	Udorthents, wet substratum	
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	A
602	Urban land, 0 to 15 percent slopes	

NOTE: BASE MAP INFORMATION TAKEN FROM THE NATURAL RESOURCES CONSERVATION SERVICE; URL: https://websoilsurvey.sc.egov.usda.gov
DATE OF SURVEY AREA DATA: JUNE 11, 2020

250 0 125 250

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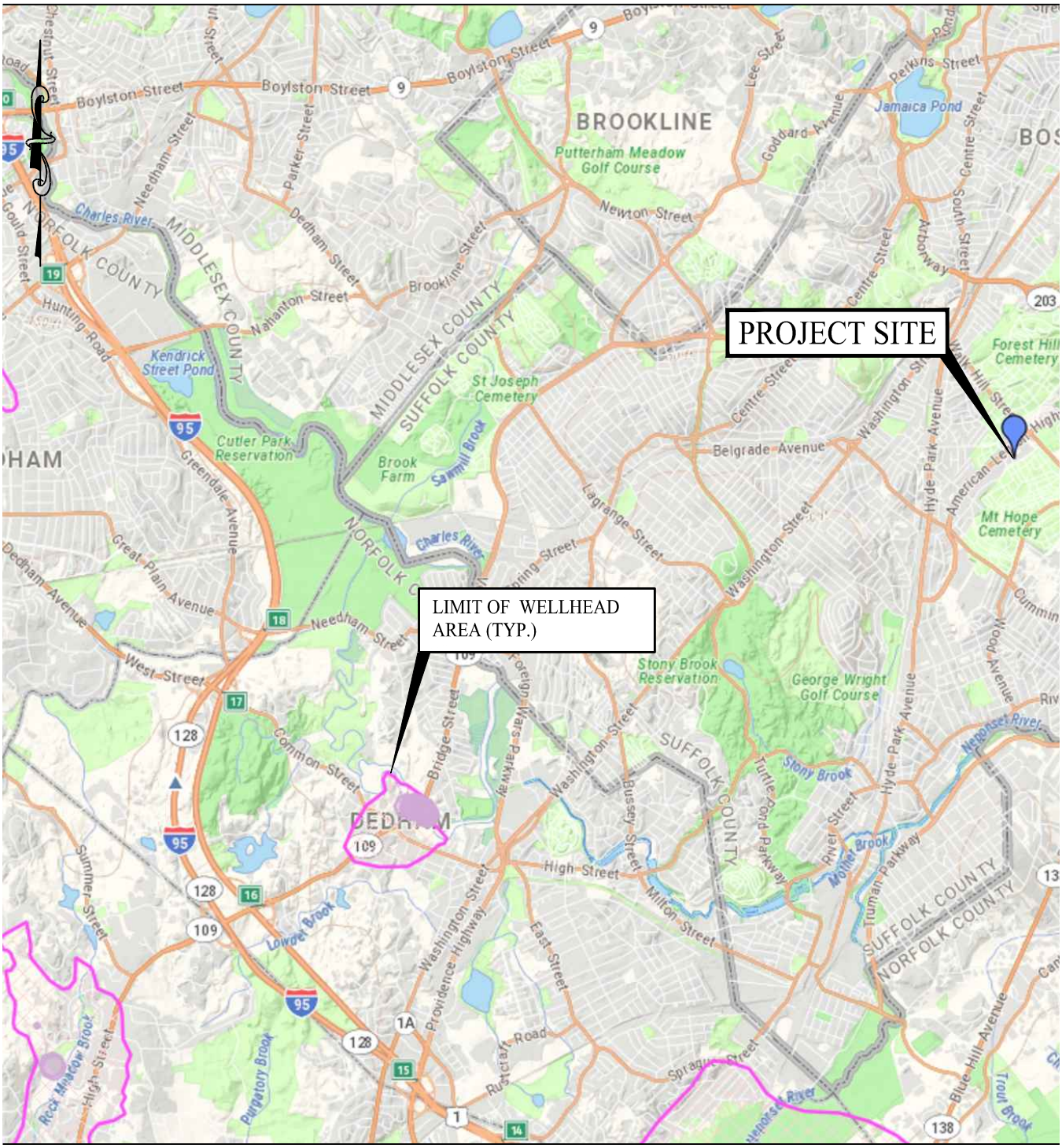
351 Newbury Street, Boston, MA 02115
T: (617) 203-3160 F: (203) 880-9695

SOIL SURVEY MAP

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Project #:	2001001
Plan Date:	09/04/20
Scale:	1" = 250'
Figure:	3



NOTE: BASE MAP INFORMATION TAKEN FROM MAPS.MASSGIS.STATE.MA.US

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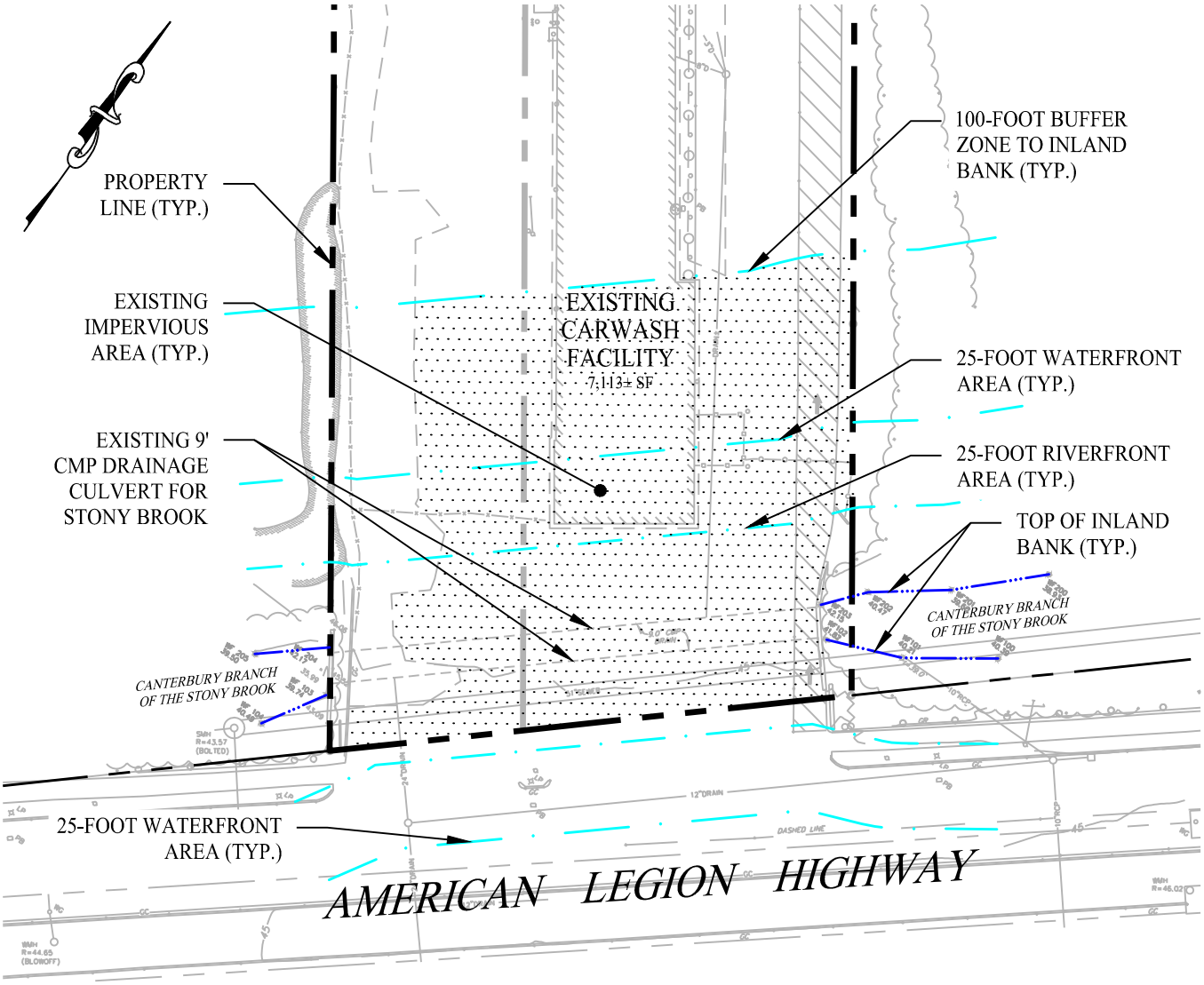
T: (617) 203-3160 F: (203) 880-9695

WELLHEAD PROTECTION MAP

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Project #:	2001001
Plan Date:	09/04/20
Scale:	1" = 5,000'
Figure:	4



EXISTING RESOURCE AREA SUMMARY			
ON-SITE REVIEW AREA	IMP. AREA	PERV. AREA	TOTAL AREA
25-FOOT RIVERFRONT AREA[1]	6,517± SF (0.15± AC)	1,601± SF (0.04± AC)	8,118± SF (0.19± AC)
25-FOOT WATERFRONT AREA[2]	9,648± SF (0.22± AC)	2,320± SF (0.05± AC)	11,968± SF (0.27± AC)
100-FOOT BUFFER ZONE TO INLAND BANK[3]	16,108± SF (0.37± AC)	3,555± SF (0.08± AC)	19,663± SF (0.45± AC)
TOTAL REGULATED AREA ON-SITE	16,108± SF (0.37± AC)	3,555± SF (0.08± AC)	19,663± SF (0.45± AC)

NOTES:
1. 25-FOOT RIVERFRONT AREA IS THE AREA OF LAND BETWEEN THE MEAN ANNUAL HIGH WATER LINE AND A PARALLEL LINE MEASURED 25-FEET HORIZONTALLY.
2. 25-FOOT WATERFRONT AREA IS A 25-FOOT BUFFER EXTENDED HORIZONTALLY FROM THE EDGE OF THE RIVERFRONT AREA. WATERFRONT AREA TOTALS ARE INCLUSIVE OF THE RIVERFRONT AREA TOTALS.
3. 100-FOOT BUFFER ZONE TO INLAND BANK IS THE AREA 100-FEET HORIZONTALLY LATERAL FROM THE BOUNDARY OF ANY RESOURCE AREA. 100-FOOT BUFFER ZONE AREA TOTALS ARE INCLUSIVE OF THE WATERFRONT AND RIVERFRONT AREA TOTALS.

LEGEND

PROPERTY LINE

TOP OF INLAND BANK

25' RIVERFRONT AREA

25' WATERFRONT AREA

100' BUFFER ZONE

IMPERVIOUS SURFACES

50 0 25 50

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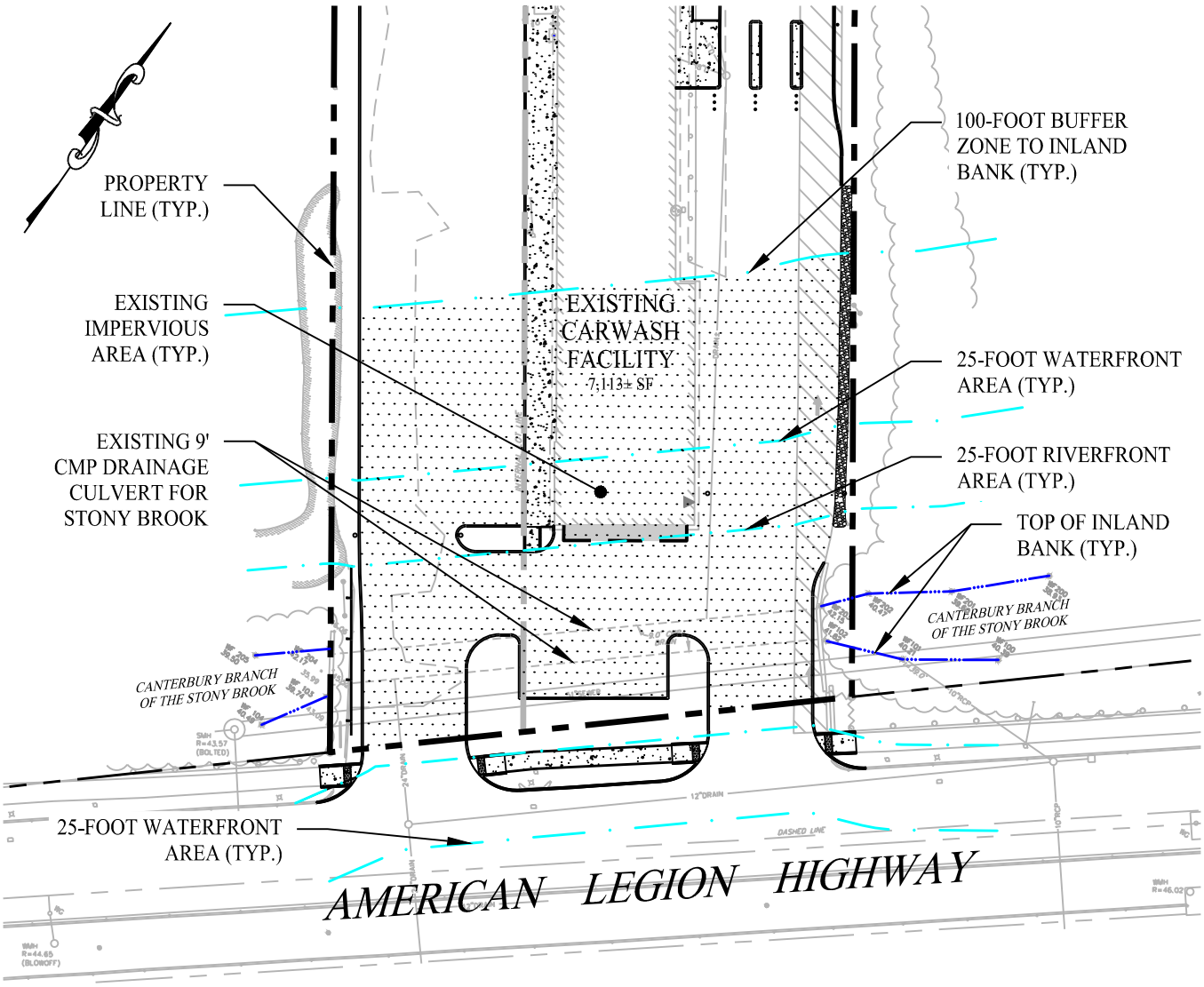
REGULATED AREA MAP
EXISTING CONDITIONS
565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Project #:	2001001
Plan Date:	06/08/21
Scale:	1" = 50'
Figure:	5



PROPOSED RESOURCE AREA SUMMARY			
ON-SITE REVIEW AREA	IMP. AREA	PERV. AREA	TOTAL AREA
25-FOOT RIVERFRONT AREA[1]	5,983± SF (0.14± AC)	2,135± SF (0.05± AC)	8,118± SF (0.19± AC)
25-FOOT WATERFRONT AREA[2]	9,348± SF (0.21± AC)	2,620± SF (0.06± AC)	11,968± SF (0.27± AC)
100-FOOT BUFFER ZONE TO INLAND BANK[3]	16,425± SF (0.38± AC)	3,238± SF (0.07± AC)	19,663± SF (0.45± AC)
TOTAL REGULATED AREA ON-SITE	16,425± SF (0.38± AC)	3,238± SF (0.07± AC)	19,663± SF (0.45± AC)

NOTES:
1. 25-FOOT RIVERFRONT AREA IS THE AREA OF LAND BETWEEN THE MEAN ANNUAL HIGH WATER LINE AND A PARALLEL LINE MEASURED 25-FEET HORIZONTALLY.
2. 25-FOOT WATERFRONT AREA IS A 25-FOOT BUFFER EXTENDED HORIZONTALLY FROM THE EDGE OF THE RIVERFRONT AREA. WATERFRONT AREA TOTALS ARE INCLUSIVE OF THE RIVERFRONT AREA TOTALS.
3. 100-FOOT BUFFER ZONE TO INLAND BANK IS THE AREA 100-FEET HORIZONTALLY LATERAL FROM THE BOUNDARY OF ANY RESOURCE AREA. 100-FOOT BUFFER ZONE AREA TOTALS ARE INCLUSIVE OF THE WATERFRONT AND RIVERFRONT AREA TOTALS.

LEGEND

- PROPERTY LINE
- TOP OF INLAND BANK
- 25' RIVERFRONT AREA
- 25' WATERFRONT AREA
- 100' BUFFER ZONE
- IMPERVIOUS SURFACES

50 0 25 50

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351 Newbury Street, Boston, MA 02115
T: (617) 203-3160 F: (203) 880-9695

REGULATED AREA MAP
PROPOSED CONDITIONS

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Project #:	2001001
Plan Date:	06/08/21
Scale:	1" = 50'
Figure:	6

APPENDIX B
WETLANDS SKETCH

Wetland Sketch prepared by Lucas Environmental, LLC

Note: Wetland areas shown below are based on a site visit conducted by Lucas Environmental, LLC on July 6, 2020. Areas shown are approximate and not field surveyed. For informational purposes only.

WS1

BF1-200 to 203

BF1-100 to 102

BF1-204 to 205

BF1-103 to 104

American Legion Highway

APPENDIX C
DRAINAGE CALCULATIONS

NOAA Atlas Precipitation Data
Infiltration Testing Data Sheets
Watershed Model Schematic
Hydrograph Reporting
Pond Reporting & Outlet Graphs
Curve Number, Runoff Coefficient & Time of Concentration Calculations
Storm Sewer System – Schematic, DOT Reporting, Profile
TSS Removal Calculations
Hydrodynamic Separator Details

NOAA Atlas 14, Volume 10, Version 3
Location name: Roslindale, Massachusetts, USA*
Latitude: 42.2873°, Longitude: -71.1085°
Elevation: 40.37 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_&_aerials

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	**0.303** (0.249-0.368)	**0.375** (0.308-0.457)	**0.494** (0.404-0.605)	**0.593** (0.481-0.731)	**0.729** (0.568-0.956)	**0.830** (0.631-1.12)	**0.938** (0.690-1.34)	**1.07** (0.728-1.56)	**1.26** (0.822-1.93)	**1.43** (0.905-2.23)
10-min	**0.429** (0.352-0.521)	**0.532** (0.437-0.648)	**0.700** (0.572-0.857)	**0.840** (0.682-1.04)	**1.03** (0.805-1.36)	**1.18** (0.895-1.59)	**1.33** (0.978-1.89)	**1.51** (1.03-2.21)	**1.79** (1.17-2.73)	**2.03** (1.28-3.16)
15-min	**0.504** (0.415-0.613)	**0.626** (0.514-0.762)	**0.824** (0.673-1.01)	**0.988** (0.802-1.22)	**1.21** (0.947-1.59)	**1.38** (1.05-1.87)	**1.56** (1.15-2.23)	**1.78** (1.22-2.59)	**2.11** (1.37-3.21)	**2.38** (1.51-3.72)
30-min	**0.690** (0.567-0.839)	**0.858** (0.704-1.05)	**1.13** (0.926-1.39)	**1.36** (1.10-1.68)	**1.67** (1.30-2.19)	**1.90** (1.45-2.58)	**2.15** (1.59-3.07)	**2.45** (1.68-3.58)	**2.91** (1.89-4.43)	**3.30** (2.09-5.15)
60-min	**0.876** (0.720-1.07)	**1.09** (0.895-1.33)	**1.44** (1.18-1.76)	**1.73** (1.41-2.13)	**2.13** (1.66-2.80)	**2.42** (1.85-3.28)	**2.74** (2.02-3.91)	**3.13** (2.13-4.56)	**3.71** (2.42-5.66)	**4.21** (2.67-6.58)
2-hr	**1.12** (0.927-1.35)	**1.41** (1.16-1.70)	**1.88** (1.55-2.29)	**2.27** (1.86-2.78)	**2.81** (2.21-3.67)	**3.21** (2.46-4.32)	**3.64** (2.70-5.17)	**4.18** (2.86-6.04)	**5.01** (3.27-7.56)	**5.72** (3.63-8.85)
3-hr	**1.30** (1.08-1.57)	**1.64** (1.36-1.97)	**2.19** (1.81-2.65)	**2.65** (2.17-3.23)	**3.27** (2.58-4.26)	**3.74** (2.88-5.01)	**4.24** (3.16-6.00)	**4.87** (3.34-7.00)	**5.85** (3.83-8.78)	**6.70** (4.26-10.3)
6-hr	**1.71** (1.43-2.04)	**2.13** (1.77-2.55)	**2.81** (2.34-3.38)	**3.38** (2.79-4.10)	**4.17** (3.30-5.38)	**4.75** (3.67-6.31)	**5.38** (4.02-7.53)	**6.16** (4.24-8.77)	**7.36** (4.83-10.9)	**8.40** (5.36-12.8)
12-hr	**2.22** (1.87-2.64)	**2.73** (2.30-3.25)	**3.56** (2.98-4.26)	**4.25** (3.53-5.12)	**5.20** (4.14-6.65)	**5.91** (4.59-7.77)	**6.67** (5.00-9.22)	**7.59** (5.26-10.7)	**8.99** (5.93-13.2)	**10.2** (6.53-15.4)
24-hr	**2.71** (2.30-3.20)	**3.35** (2.83-3.96)	**4.39** (3.70-5.21)	**5.26** (4.39-6.28)	**6.45** (5.17-8.19)	**7.33** (5.73-9.58)	**8.29** (6.26-11.4)	**9.47** (6.58-13.2)	**11.3** (7.47-16.4)	**12.9** (8.26-19.2)
2-day	**3.10** (2.64-3.63)	**3.91** (3.33-4.59)	**5.24** (4.44-6.17)	**6.34** (5.33-7.52)	**7.86** (6.35-9.94)	**8.96** (7.07-11.7)	**10.2** (7.79-14.0)	**11.8** (8.21-16.3)	**14.3** (9.48-20.6)	**16.5** (10.7-24.4)
3-day	**3.41** (2.92-3.98)	**4.29** (3.66-5.01)	**5.72** (4.87-6.71)	**6.91** (5.83-8.17)	**8.55** (6.94-10.8)	**9.75** (7.72-12.7)	**11.1** (8.50-15.2)	**12.8** (8.95-17.7)	**15.6** (10.4-22.4)	**18.1** (11.7-26.5)
4-day	**3.70** (3.18-4.31)	**4.61** (3.95-5.37)	**6.09** (5.19-7.12)	**7.32** (6.19-8.62)	**9.01** (7.33-11.3)	**10.2** (8.13-13.3)	**11.6** (8.93-15.9)	**13.4** (9.38-18.4)	**16.3** (10.9-23.3)	**18.9** (12.2-27.6)
7-day	**4.50** (3.88-5.21)	**5.44** (4.68-6.30)	**6.97** (5.97-8.10)	**8.24** (7.01-9.65)	**9.98** (8.16-12.4)	**11.3** (8.97-14.4)	**12.7** (9.77-17.1)	**14.5** (10.2-19.8)	**17.5** (11.7-24.8)	**20.2** (13.1-29.2)
10-day	**5.24** (4.53-6.04)	**6.19** (5.35-7.15)	**7.76** (6.67-8.99)	**9.06** (7.73-10.6)	**10.8** (8.88-13.4)	**12.2** (9.70-15.5)	**13.6** (10.5-18.2)	**15.4** (10.9-20.9)	**18.4** (12.3-25.9)	**21.0** (13.6-30.2)
20-day	**7.35** (6.41-8.41)	**8.39** (7.30-9.62)	**10.1** (8.74-11.6)	**11.5** (9.88-13.3)	**13.4** (11.0-16.3)	**14.9** (11.9-18.6)	**16.4** (12.5-21.4)	**18.2** (12.9-24.3)	**20.8** (14.0-28.9)	**22.9** (14.9-32.6)
30-day	**9.08** (7.95-10.4)	**10.2** (8.90-11.6)	**12.0** (10.4-13.7)	**13.5** (11.6-15.6)	**15.6** (12.8-18.7)	**17.1** (13.7-21.1)	**18.7** (14.2-24.0)	**20.4** (14.6-27.1)	**22.7** (15.3-31.3)	**24.5** (16.0-34.7)
45-day	**11.2** (9.87-12.8)	**12.4** (10.9-14.1)	**14.3** (12.5-16.4)	**15.9** (13.8-18.3)	**18.1** (14.9-21.6)	**19.8** (15.8-24.2)	**21.5** (16.3-27.1)	**23.1** (16.5-30.4)	**25.1** (17.0-34.4)	**26.6** (17.4-37.4)
60-day	**13.1** (11.5-14.8)	**14.3** (12.6-16.2)	**16.3** (14.2-18.5)	**17.9** (15.6-20.5)	**20.2** (16.7-24.0)	**22.0** (17.6-26.7)	**23.7** (18.0-29.7)	**25.3** (18.1-33.1)	**27.2** (18.5-37.0)	**28.5** (18.6-39.8)

[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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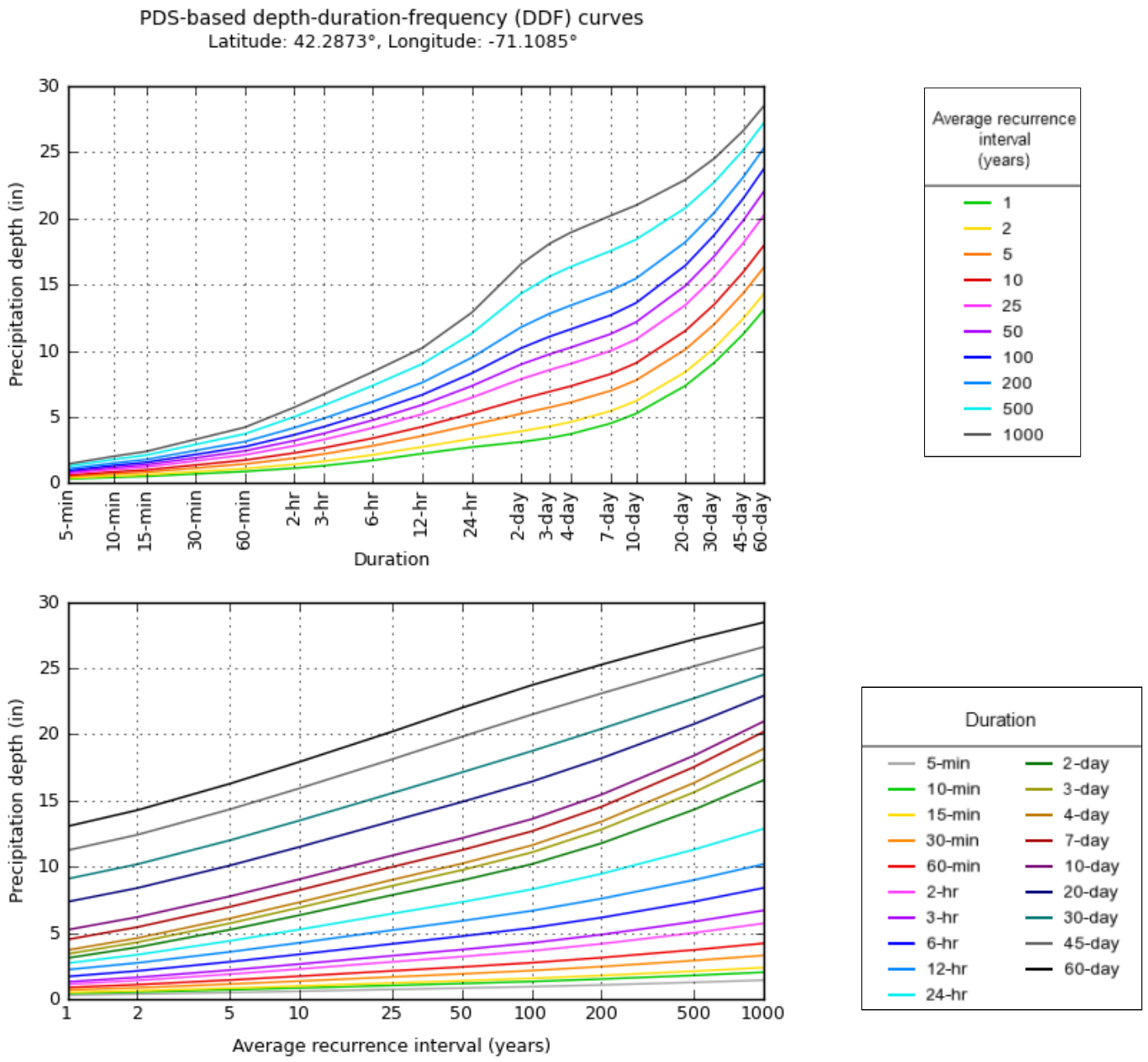
PF graphical



NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Wed Jul 29 18:51:14 2020

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Maps & aerials

Small scale terrain

NOAA Atlas 14, Volume 10, Version 3
Location name: Roslindale, Massachusetts, USA*
Latitude: 42.2873°, Longitude: -71.1085°
Elevation: 40.37 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_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**3.64** (2.99-4.42)	**4.50** (3.70-5.48)	**5.93** (4.85-7.26)	**7.12** (5.77-8.77)	**8.75** (6.82-11.5)	**9.96** (7.57-13.5)	**11.3** (8.28-16.0)	**12.8** (8.74-18.7)	**15.2** (9.86-23.1)	**17.1** (10.9-26.8)
10-min	**2.57** (2.11-3.13)	**3.19** (2.62-3.89)	**4.20** (3.43-5.14)	**5.04** (4.09-6.22)	**6.19** (4.83-8.13)	**7.05** (5.37-9.53)	**7.97** (5.87-11.4)	**9.08** (6.20-13.2)	**10.7** (7.00-16.4)	**12.2** (7.69-19.0)
15-min	**2.02** (1.66-2.45)	**2.50** (2.06-3.05)	**3.30** (2.69-4.03)	**3.95** (3.21-4.87)	**4.86** (3.79-6.38)	**5.53** (4.21-7.48)	**6.25** (4.60-8.90)	**7.12** (4.86-10.4)	**8.42** (5.48-12.8)	**9.53** (6.03-14.9)
30-min	**1.38** (1.13-1.68)	**1.72** (1.41-2.09)	**2.26** (1.85-2.77)	**2.72** (2.21-3.35)	**3.34** (2.61-4.39)	**3.81** (2.90-5.15)	**4.31** (3.17-6.14)	**4.91** (3.35-7.15)	**5.82** (3.79-8.87)	**6.59** (4.17-10.3)
60-min	**0.876** (0.720-1.07)	**1.09** (0.895-1.33)	**1.44** (1.18-1.76)	**1.73** (1.41-2.13)	**2.13** (1.66-2.80)	**2.42** (1.85-3.28)	**2.74** (2.02-3.91)	**3.13** (2.13-4.56)	**3.71** (2.42-5.66)	**4.21** (2.67-6.58)
2-hr	**0.560** (0.464-0.676)	**0.704** (0.582-0.852)	**0.940** (0.774-1.14)	**1.14** (0.928-1.39)	**1.41** (1.10-1.84)	**1.60** (1.23-2.16)	**1.82** (1.35-2.59)	**2.09** (1.43-3.02)	**2.50** (1.63-3.78)	**2.86** (1.82-4.42)
3-hr	**0.434** (0.360-0.522)	**0.545** (0.453-0.657)	**0.729** (0.602-0.882)	**0.881** (0.722-1.07)	**1.09** (0.859-1.42)	**1.24** (0.958-1.67)	**1.41** (1.05-2.00)	**1.62** (1.11-2.33)	**1.95** (1.27-2.92)	**2.23** (1.42-3.43)
6-hr	**0.285** (0.238-0.341)	**0.355** (0.296-0.425)	**0.470** (0.390-0.565)	**0.565** (0.466-0.685)	**0.696** (0.552-0.898)	**0.793** (0.613-1.05)	**0.898** (0.672-1.26)	**1.03** (0.709-1.46)	**1.23** (0.807-1.83)	**1.40** (0.895-2.13)
12-hr	**0.185** (0.155-0.219)	**0.227** (0.190-0.270)	**0.296** (0.247-0.353)	**0.353** (0.293-0.425)	**0.432** (0.344-0.552)	**0.490** (0.381-0.645)	**0.553** (0.415-0.765)	**0.630** (0.436-0.888)	**0.747** (0.492-1.10)	**0.846** (0.542-1.27)
24-hr	**0.113** (0.096-0.133)	**0.140** (0.118-0.165)	**0.183** (0.154-0.217)	**0.219** (0.183-0.262)	**0.269** (0.216-0.341)	**0.305** (0.239-0.399)	**0.345** (0.261-0.475)	**0.395** (0.274-0.551)	**0.471** (0.311-0.685)	**0.536** (0.344-0.799)
2-day	**0.065** (0.055-0.076)	**0.081** (0.069-0.096)	**0.109** (0.092-0.129)	**0.132** (0.111-0.157)	**0.164** (0.132-0.207)	**0.187** (0.147-0.243)	**0.212** (0.162-0.292)	**0.245** (0.171-0.340)	**0.298** (0.198-0.430)	**0.345** (0.222-0.508)
3-day	**0.047** (0.041-0.055)	**0.060** (0.051-0.070)	**0.079** (0.068-0.093)	**0.096** (0.081-0.113)	**0.119** (0.096-0.150)	**0.135** (0.107-0.176)	**0.154** (0.118-0.211)	**0.178** (0.124-0.245)	**0.217** (0.144-0.311)	**0.252** (0.162-0.369)
4-day	**0.039** (0.033-0.045)	**0.048** (0.041-0.056)	**0.063** (0.054-0.074)	**0.076** (0.064-0.090)	**0.094** (0.076-0.118)	**0.107** (0.085-0.138)	**0.121** (0.093-0.165)	**0.140** (0.098-0.192)	**0.170** (0.113-0.243)	**0.197** (0.127-0.288)
7-day	**0.027** (0.023-0.031)	**0.032** (0.028-0.037)	**0.041** (0.036-0.048)	**0.049** (0.042-0.057)	**0.059** (0.049-0.074)	**0.067** (0.053-0.086)	**0.075** (0.058-0.102)	**0.086** (0.061-0.118)	**0.104** (0.070-0.148)	**0.120** (0.078-0.174)
10-day	**0.022** (0.019-0.025)	**0.026** (0.022-0.030)	**0.032** (0.028-0.037)	**0.038** (0.032-0.044)	**0.045** (0.037-0.056)	**0.051** (0.040-0.064)	**0.057** (0.044-0.076)	**0.064** (0.045-0.087)	**0.077** (0.051-0.108)	**0.087** (0.057-0.126)
20-day	**0.015** (0.013-0.018)	**0.017** (0.015-0.020)	**0.021** (0.018-0.024)	**0.024** (0.021-0.028)	**0.028** (0.023-0.034)	**0.031** (0.025-0.039)	**0.034** (0.026-0.045)	**0.038** (0.027-0.051)	**0.043** (0.029-0.060)	**0.048** (0.031-0.068)
30-day	**0.013** (0.011-0.014)	**0.014** (0.012-0.016)	**0.017** (0.014-0.019)	**0.019** (0.016-0.022)	**0.022** (0.018-0.026)	**0.024** (0.019-0.029)	**0.026** (0.020-0.033)	**0.028** (0.020-0.038)	**0.032** (0.021-0.044)	**0.034** (0.022-0.048)
45-day	**0.010** (0.009-0.012)	**0.011** (0.010-0.013)	**0.013** (0.012-0.015)	**0.015** (0.013-0.017)	**0.017** (0.014-0.020)	**0.018** (0.015-0.022)	**0.020** (0.015-0.025)	**0.021** (0.015-0.028)	**0.023** (0.016-0.032)	**0.025** (0.016-0.035)
60-day	**0.009** (0.008-0.010)	**0.010** (0.009-0.011)	**0.011** (0.010-0.013)	**0.012** (0.011-0.014)	**0.014** (0.012-0.017)	**0.015** (0.012-0.019)	**0.016** (0.012-0.021)	**0.018** (0.013-0.023)	**0.019** (0.013-0.026)	**0.020** (0.013-0.028)

[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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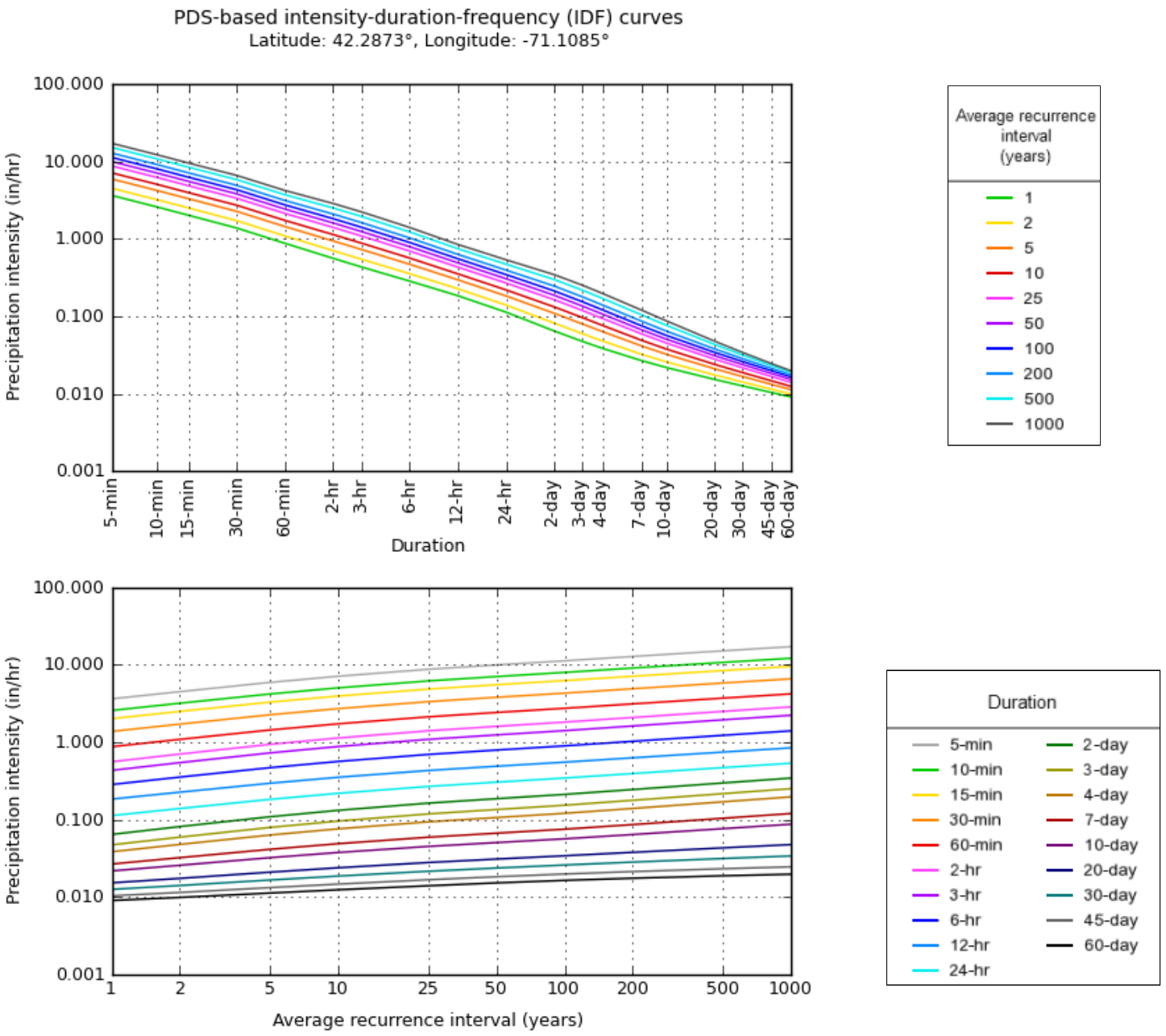
PF graphical



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Maps & aerials

Small scale terrain

SOLLI ENGINEERING
351 Newbury Street, Suite 303, Boston, MA
T: (617) 203-3160 F: (203) 445-9560

Title:	ScrubaDub Redevelopment Infiltration Tests - 565 American Leagion Highway, Roslindale, MA
Location:	**Infiltration Test 1** (See TP-101 for Test Pit Log & Soil Analysis)
Project #:	**2001001**
Field Date:	**March 9, 2021**

INFILTRATION RATE USING DOUBLE-RING INFILTROMETER

Name(s) of the Individual(s) performing analysis: Sam Malafronte & Casey Burch

	AM	PM
Weather	**Mostly Sunny**	
Temperature	**H: 50 degrees**	**L:**
Depth of Test	**54" Below Grade (grade @ 46.25' +/-)**	

Constants:
Area of Inner Ring: 113 in^2
Area of Annular Space: 339 in^2

FIELD READINGS

Trial #	Start / End	Time	Inner Ring Volume Flow (ΔV_{IR}) (oz)	Annular Space Volume Flow (ΔV_A) (oz)	Inner Infiltration Rate (in/hr)	Annular Infiltration Rate (in/hr)	Remarks
1	Start Test	9:20:00 AM	50.5	89	3.226	1.895	N/A
	End Test	9:35:00 AM					
2	Start Test	9:35:00 AM	7.8	23.3	0.498	0.496	N/A
	End Test	9:50:00 AM					
3	Start Test	9:52:00 AM	7.8	23.3	0.498	0.496	N/A
	End Test	10:07:00 AM					
4	Start Test	10:08:00 AM	7.8	23.3	0.498	0.496	N/A
	End Test	10:23:00 AM					
5	Start Test	10:25:00 AM	7.8	23.3	0.498	0.496	N/A
	End Test	10:40:00 AM					

*Time measured in intervals of 15 mins

CALCULATIONS

Inner Ring Infiltration Rate

$$V_{IR} = \Delta V_{IR}/(A_{IR} * \Delta t)$$
$$V_{IR} = Inner\ ring\ incremental\ infiltration\ velocity\ (in/h)$$
$$\Delta V_{IR} = Inner\ ring\ volume\ flow\ (in^3)$$
$$A_{IR} = Internal\ area\ of\ inner\ ring\ (in^2)$$
$$\Delta t = Time\ interval\ (h)$$

Annular Space Infiltration Rate

$$V_A = \Delta V_A/(A_A * \Delta t)$$
$$V_A = Annular\ ring\ incremental\ infiltration\ velocity\ (in/h)$$
$$\Delta V_A = Annular\ space\ volume\ flow\ (in^3)$$
$$A_A = Area\ of\ annular\ space\ between\ the\ rings\ (in^2)$$
$$\Delta t = Time\ interval\ (h)$$

INFILTRATION RATE VS. TIME GRAPH

INFILTRATION RATE

DUE TO POTENTIAL FIELD INACCURACIES, THE LOWER (BETWEEN INNER & ANNULAR) INFILTRATION RATE IS TO BE USED DURING CALCULATIONS. IN ADDITION, AS A CONSERVATIVE APPROACH, A FACTOR OF SAFETY (2.0) IS TO BE APPLIED TO THE INFILTRATION RATE TO FURTHER ACCOUNT FOR SATURATION.

INFILTRATION TEST #1 = 0.248 INCHES / HOUR

Engineer(s) Signature(s): _____

SOLLI ENGINEERING
351 Newbury Street, Suite 303, Boston, MA
T: (617) 203-3160 F: (203) 445-9560

Title:	ScrubaDub Redevelopment Infiltration Tests - 565 American Leagion Highway, Roslindale, MA
Location:	**Infiltration Test 2** (See TP-102 for Test Pit Log & Soil Analysis)
Project #:	**2001001**
Field Date:	**March 9, 2021**

INFILTRATION RATE USING DOUBLE-RING INFILTROMETER

Name(s) of the Individual(s) performing analysis: Sam Malafronte & Casey Burch

	AM	PM
Weather	**Mostly Sunny**	
Temperature	**H: 50 degrees**	**L:**
Depth of Test	**36" Below Grade (grade @ 47' +/-)**	

Constants:
Area of Inner Ring: 113 in^2
Area of Annular Space: 339 in^2

FIELD READINGS

Trial #	Start / End	Time	Inner Ring Volume Flow (ΔV_{IR}) (oz)	Annular Space Volume Flow (ΔV_A) (oz)	Inner Infiltration Rate (in/hr)	Annular Infiltration Rate (in/hr)	Remarks
1	Start Test	12:55:00 PM	180	681	11.499	14.501	N/A
	End Test	1:10:00 PM					
2	Start Test	1:10:00 PM	110	283	7.027	6.026	N/A
	End Test	1:25:00 PM					
3	Start Test	1:25:00 PM	70	234	4.472	4.983	N/A
	End Test	1:40:00 PM					
4	Start Test	1:40:00 PM	56	164.5	3.577	3.503	N/A
	End Test	1:55:00 PM					
5	Start Test	1:55:00 PM	50	160	3.194	3.407	N/A
	End Test	2:10:00 PM					

*Time measured in intervals of 15 mins

CALCULATIONS

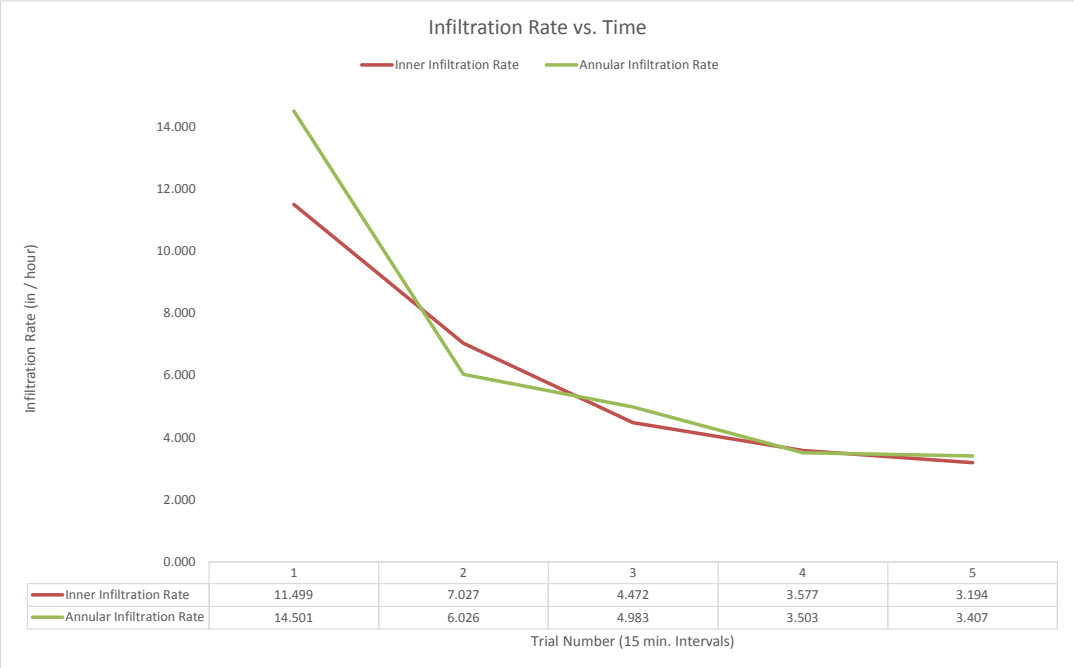
Inner Ring Infiltration Rate

$$V_{IR} = \Delta V_{IR}/(A_{IR} * \Delta t)$$
$V_{IR} = Inner\ ring\ incremental\ infiltration\ velocity\ (in/h)$
$\Delta V_{IR} = Inner\ ring\ volume\ flow\ (in^3)$
$A_{IR} = Internal\ area\ of\ inner\ ring\ (in^2)$
$\Delta t = Time\ interval\ (h)$

Annular Space Infiltration Rate

$$V_A = \Delta V_A/(A_A * \Delta t)$$
$V_A = Annular\ ring\ incremental\ infiltration\ velocity\ (in/h)$
$\Delta V_A = Annular\ space\ volume\ flow\ (in^3)$
$A_A = Area\ of\ annular\ space\ between\ the\ rings\ (in^2)$
$\Delta t = Time\ interval\ (h)$

INFILTRATION RATE VS. TIME GRAPH



INFILTRATION RATE

DUE TO POTENTIAL FIELD INACCURACIES, THE LOWER (BETWEEN INNER & ANNULAR) INFILTRATION RATE IS TO BE USED DURING CALCULATIONS. IN ADDITION, AS A CONSERVATIVE APPROACH, A FACTOR OF SAFETY (2.0) IS TO BE APPLIED TO THE INFILTRATION RATE TO FURTHER ACCOUNT FOR SATURATION.

INFILTRATION TEST #2 = 1.597 INCHES / HOUR

Engineer(s) Signature(s): _____

SOLLI ENGINEERING
351 Newbury Street, Suite 303, Boston, MA
T: (617) 203-3160 F: (203) 445-9560

Title:	ScrubaDub Redevelopment Infiltration Tests - 565 American Leagion Highway, Roslindale, MA	**Project #:**	2001001
Location:	Infiltration Test 3 (See TP-103 for Test Pit Log & Soil Analysis)	**Field Date:**	March 9, 2021

INFILTRATION RATE USING DOUBLE-RING INFILTROMETER

Name(s) of the Individual(s) performing analysis: Sam Malafronte & Casey Burch

		AM	PM
Constants:	**Weather**	**Mostly Sunny**	
Area of Inner Ring: 113 in^2	**Temperature**	**H: 50 degrees**	**L:**
Area of Annular Space: 339 in^2	**Depth of Test**	**36" Below Grade (grade @ 45.5' +/-)**	

FIELD READINGS

Trial #	Start / End	Time	Inner Ring Volume Flow (ΔV_{IR}) (oz)	Annular Space Volume Flow (ΔV_A) (oz)	Inner Infiltration Rate (in/hr)	Annular Infiltration Rate (in/hr)	Remarks
1	Start Test	11:02:00 AM	157	587	10.030	12.500	N/A
	End Test	11:17:00 AM					
2	Start Test	11:20:00 AM	149	399	9.519	8.496	N/A
	End Test	11:35:00 AM					
3	Start Test	11:37:00 AM	109	352	6.963	7.496	N/A
	End Test	11:52:00 AM					
4	Start Test	11:52:00 AM	79	258	5.047	5.494	N/A
	End Test	12:07:00 PM					
5	Start Test	12:07:00 PM	72.5	236	4.632	5.025	N/A
	End Test	12:22:00 PM					

*Time measured in intervals of 15 mins

CALCULATIONS

Inner Ring Infiltration Rate

$$V_{IR} = \Delta V_{IR}/(A_{IR} * \Delta t)$$

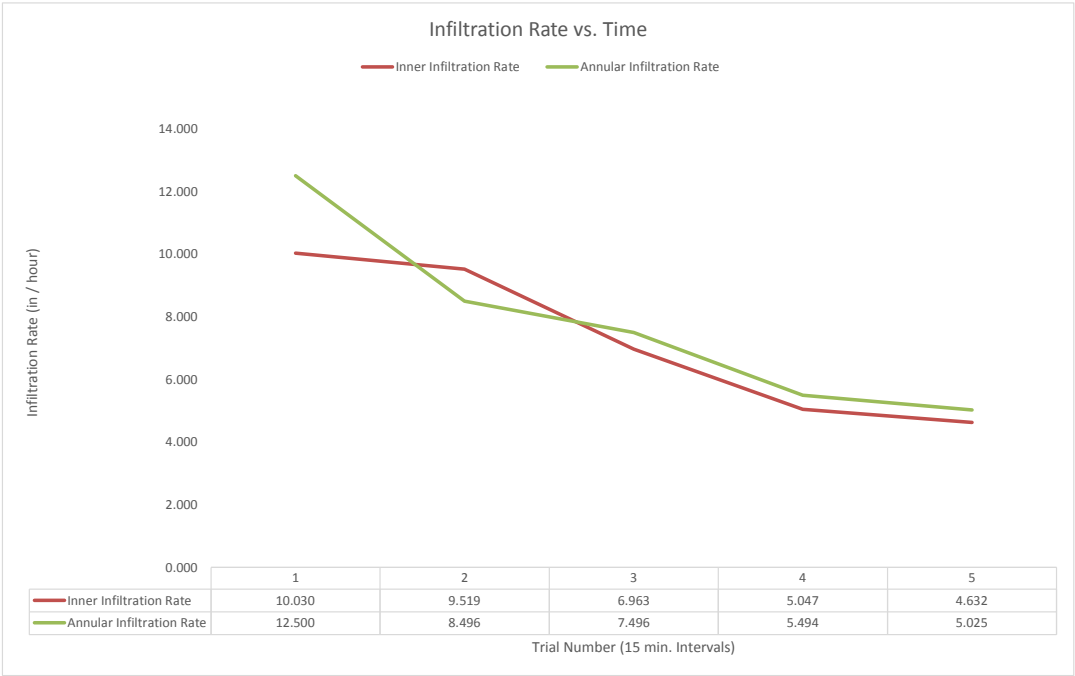
$V_{IR} = Inner\ ring\ incremental\ infiltration\ velocity\ (in/h)$
$\Delta V_{IR} = Inner\ ring\ volume\ flow\ (in^3)$
$A_{IR} = Internal\ area\ of\ inner\ ring\ (in^2)$
$\Delta t = Time\ interval\ (h)$

Annular Space Infiltration Rate

$$V_A = \Delta V_A/(A_A * \Delta t)$$

$V_A = Annular\ ring\ incremental\ infiltration\ velocity\ (in/h)$
$\Delta V_A = Annular\ space\ volume\ flow\ (in^3)$
$A_A = Area\ of\ annular\ space\ between\ the\ rings\ (in^2)$
$\Delta t = Time\ interval\ (h)$

INFILTRATION RATE VS. TIME GRAPH



INFILTRATION RATE

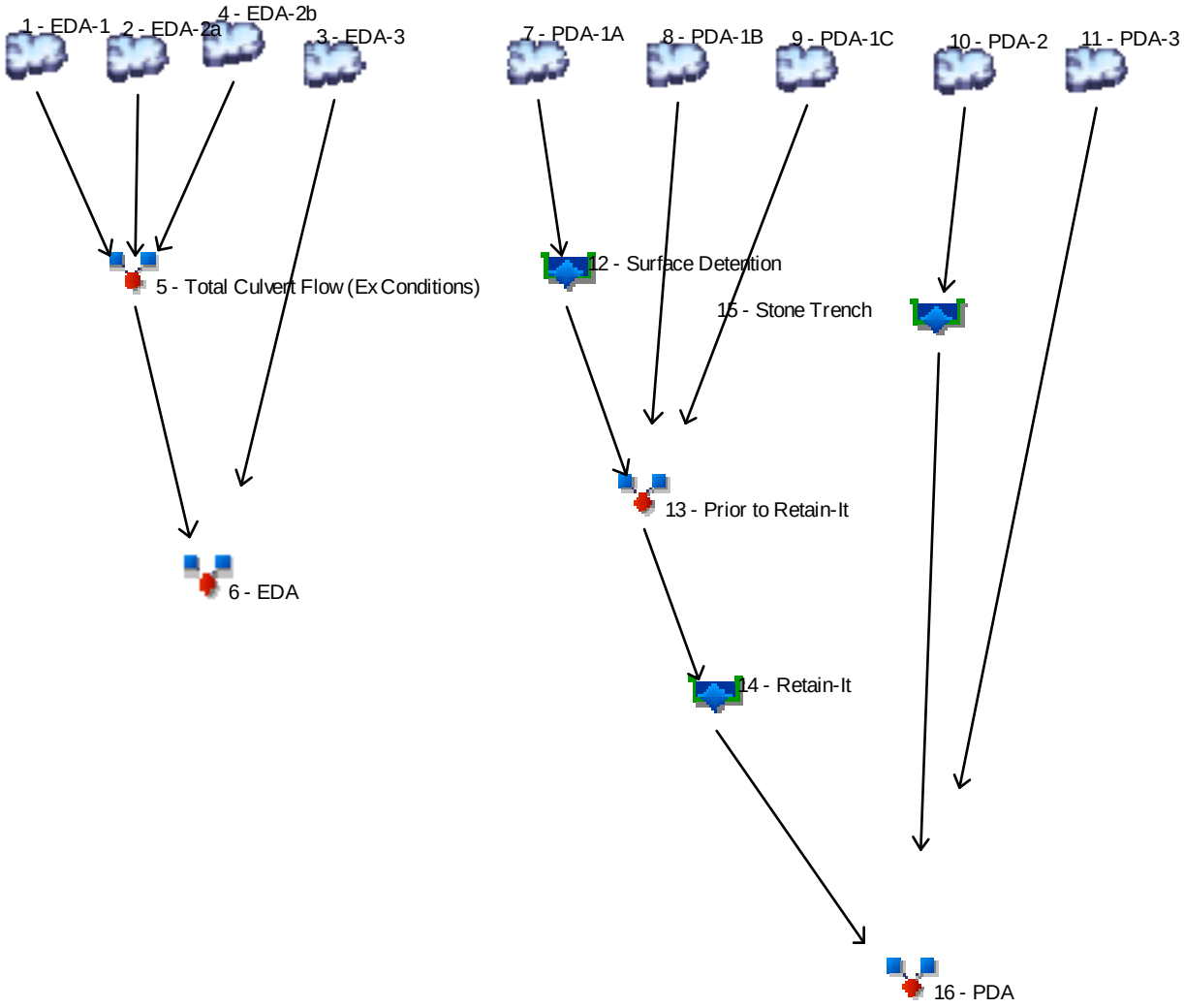
DUE TO POTENTIAL FIELD INACCURACIES, THE LOWER (BETWEEN INNER & ANNULAR) INFILTRATION RATE IS TO BE USED DURING CALCULATIONS. IN ADDITION, AS A CONSERVATIVE APPROACH, A FACTOR OF SAFETY (2.0) IS TO BE APPLIED TO THE INFILTRATION RATE TO FURTHER ACCOUNT FOR SATURATION.

INFILTRATION TEST #3 = 2.316 INCHES / HOUR

Engineer(s) Signature(s): _____

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020



Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	-----	------	0.993	------	------	1.731	2.187	2.523	2.887	EDA-1
2	SCS Runoff	-----	------	0.789	------	------	1.627	2.168	2.572	3.016	EDA-2a
3	SCS Runoff	-----	------	1.062	------	------	1.693	2.084	2.373	2.687	EDA-3
4	SCS Runoff	-----	------	0.094	------	------	0.207	0.282	0.337	0.399	EDA-2b
5	Combine	1, 2, 4	------	1.876	------	------	3.558	4.634	5.431	6.302	Total Culvert Flow (Ex Conditions)
6	Combine	3, 5	------	2.931	------	------	5.251	6.718	7.804	8.989	EDA
7	SCS Runoff	-----	------	0.283	------	------	0.635	0.869	1.045	1.239	PDA-1A
8	SCS Runoff	-----	------	0.853	------	------	1.509	1.916	2.215	2.540	PDA-1B
9	SCS Runoff	-----	------	0.741	------	------	1.273	1.601	1.842	2.104	PDA-1C
10	SCS Runoff	-----	------	0.314	------	------	0.689	0.936	1.122	1.327	PDA-2
11	SCS Runoff	-----	------	0.560	------	------	0.923	1.147	1.311	1.490	PDA-3
12	Reservoir	7	------	0.044	------	------	0.629	0.868	1.044	1.239	Surface Detention
13	Combine	8, 9, 12	------	1.604	------	------	3.401	4.368	5.080	5.857	Prior to Retain-It
14	Reservoir	13	------	0.594	------	------	3.339	4.286	4.979	5.554	Retain-It
15	Reservoir	10	------	0.211	------	------	0.662	0.897	1.070	1.255	Stone Trench
16	Combine	11, 14, 15	------	0.925	------	------	4.882	6.275	7.281	8.203	PDA

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

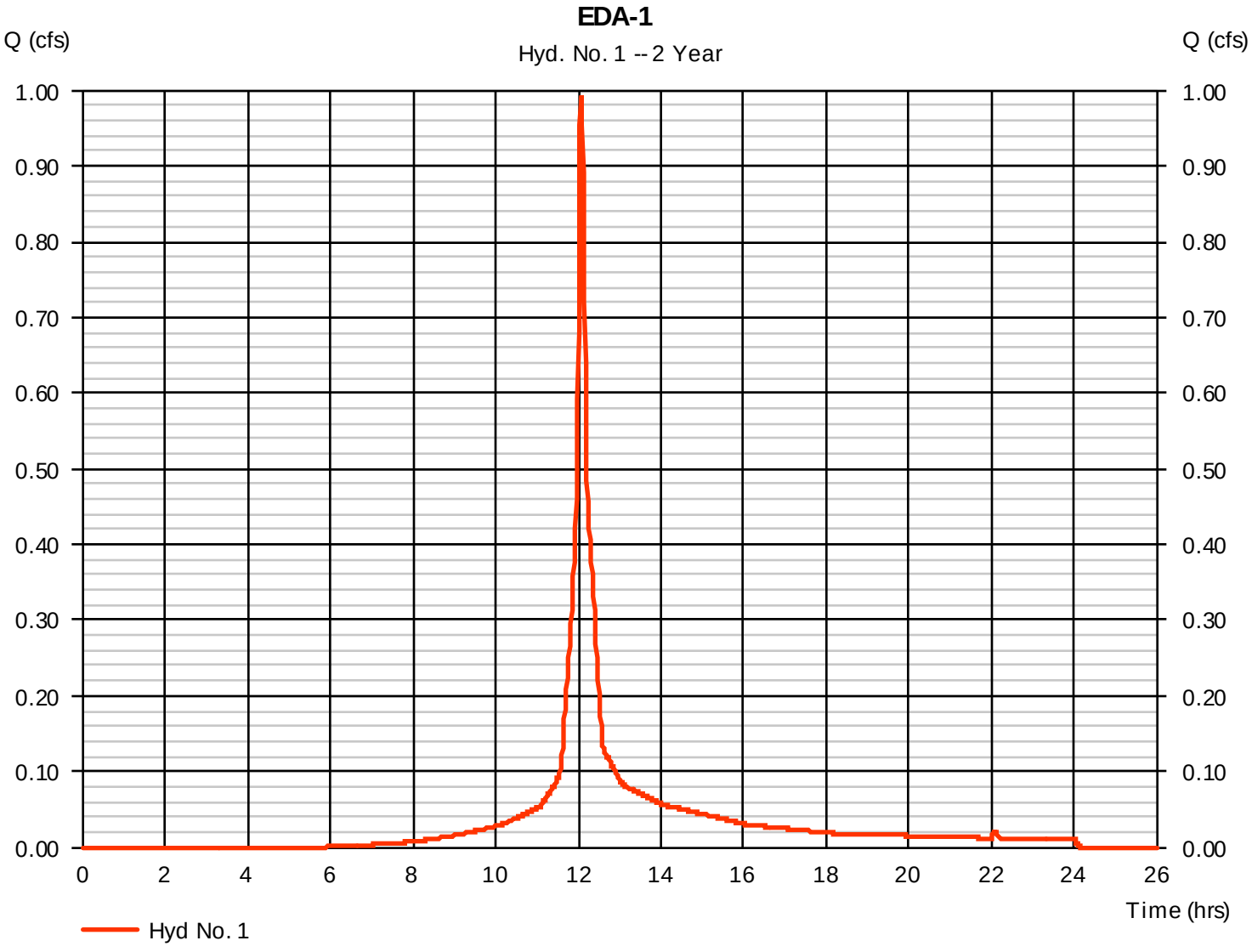
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.993	1	724	3,110	-----	-----	-----	EDA-1
2	SCS Runoff	0.789	1	725	2,444	-----	-----	-----	EDA-2a
3	SCS Runoff	1.062	1	724	3,600	-----	-----	-----	EDA-3
4	SCS Runoff	0.094	1	725	297	-----	-----	-----	EDA-2b
5	Combine	1.876	1	725	5,851	1, 2, 4	-----	-----	Total Culvert Flow (Ex Conditions)
6	Combine	2.931	1	725	9,451	3, 5	-----	-----	EDA
7	SCS Runoff	0.283	1	725	894	-----	-----	-----	PDA-1A
8	SCS Runoff	0.853	1	725	2,658	-----	-----	-----	PDA-1B
9	SCS Runoff	0.741	1	724	2,335	-----	-----	-----	PDA-1C
10	SCS Runoff	0.314	1	726	1,028	-----	-----	-----	PDA-2
11	SCS Runoff	0.560	1	724	1,812	-----	-----	-----	PDA-3
12	Reservoir	0.044	1	758	883	7	44.86	397	Surface Detention
13	Combine	1.604	1	724	5,876	8, 9, 12	-----	-----	Prior to Retain-It
14	Reservoir	0.594	1	740	3,399	13	43.48	2,550	Retain-It
15	Reservoir	0.211	1	731	298	10	44.35	270	Stone Trench
16	Combine	0.925	1	739	5,510	11, 14, 15	-----	-----	PDA

Hydrograph Report

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.993 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 3,110 cuft
Drainage area	= 0.360 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

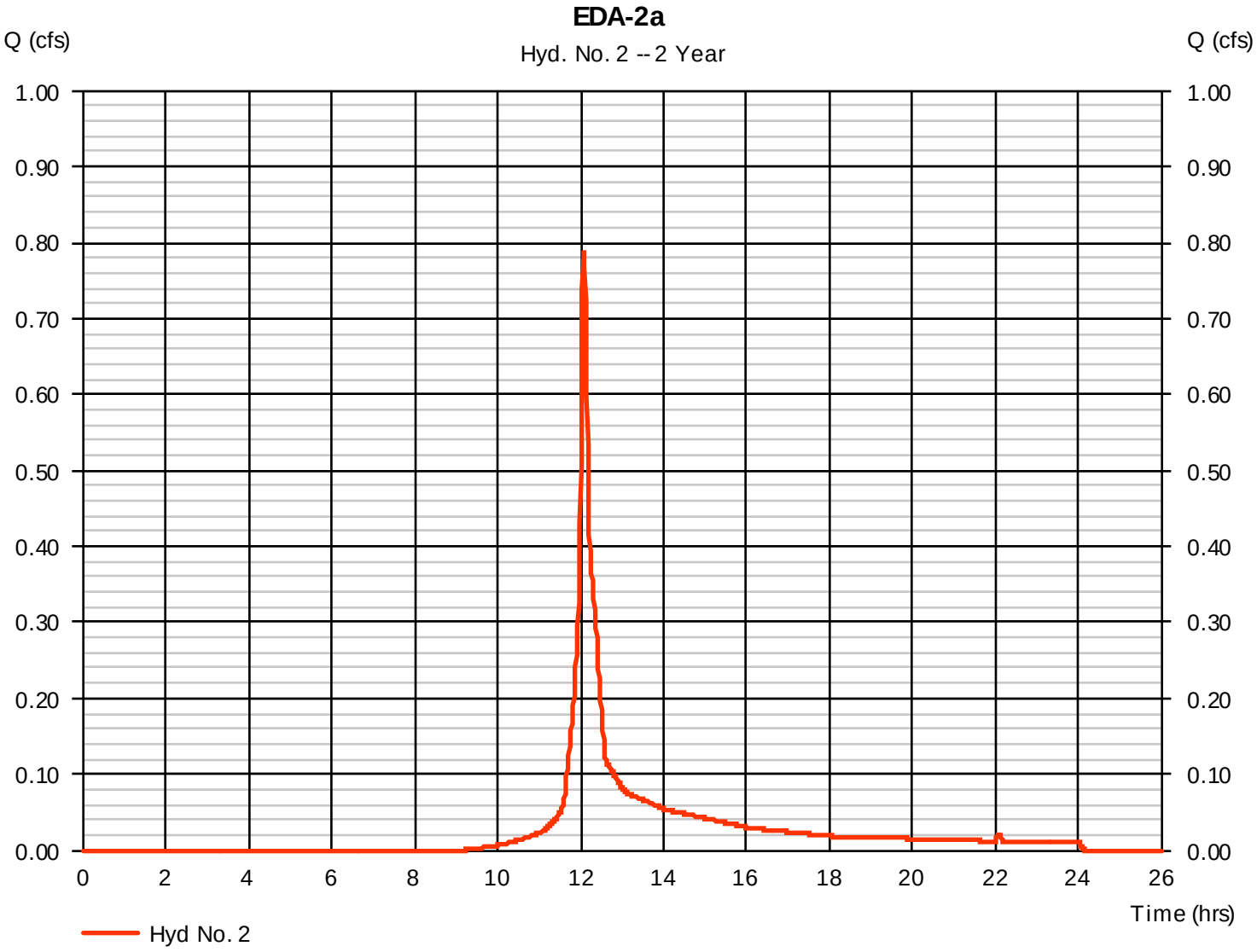


Hydrograph Report

Hyd. No. 2

EDA-2a

Hydrograph type	= SCS Runoff	Peak discharge	= 0.789 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 2,444 cuft
Drainage area	= 0.430 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

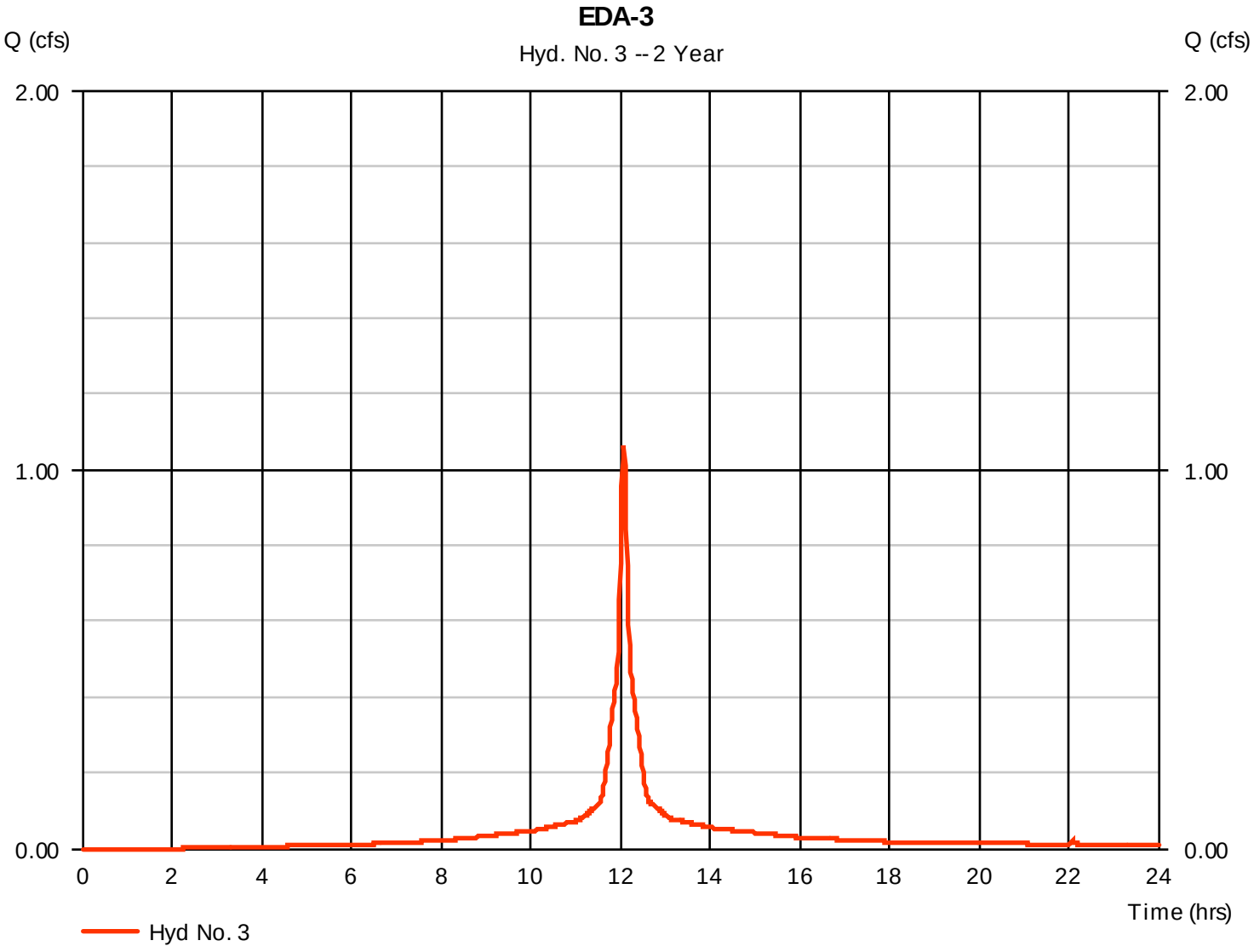


Hydrograph Report

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.062 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 3,600 cuft
Drainage area	= 0.320 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

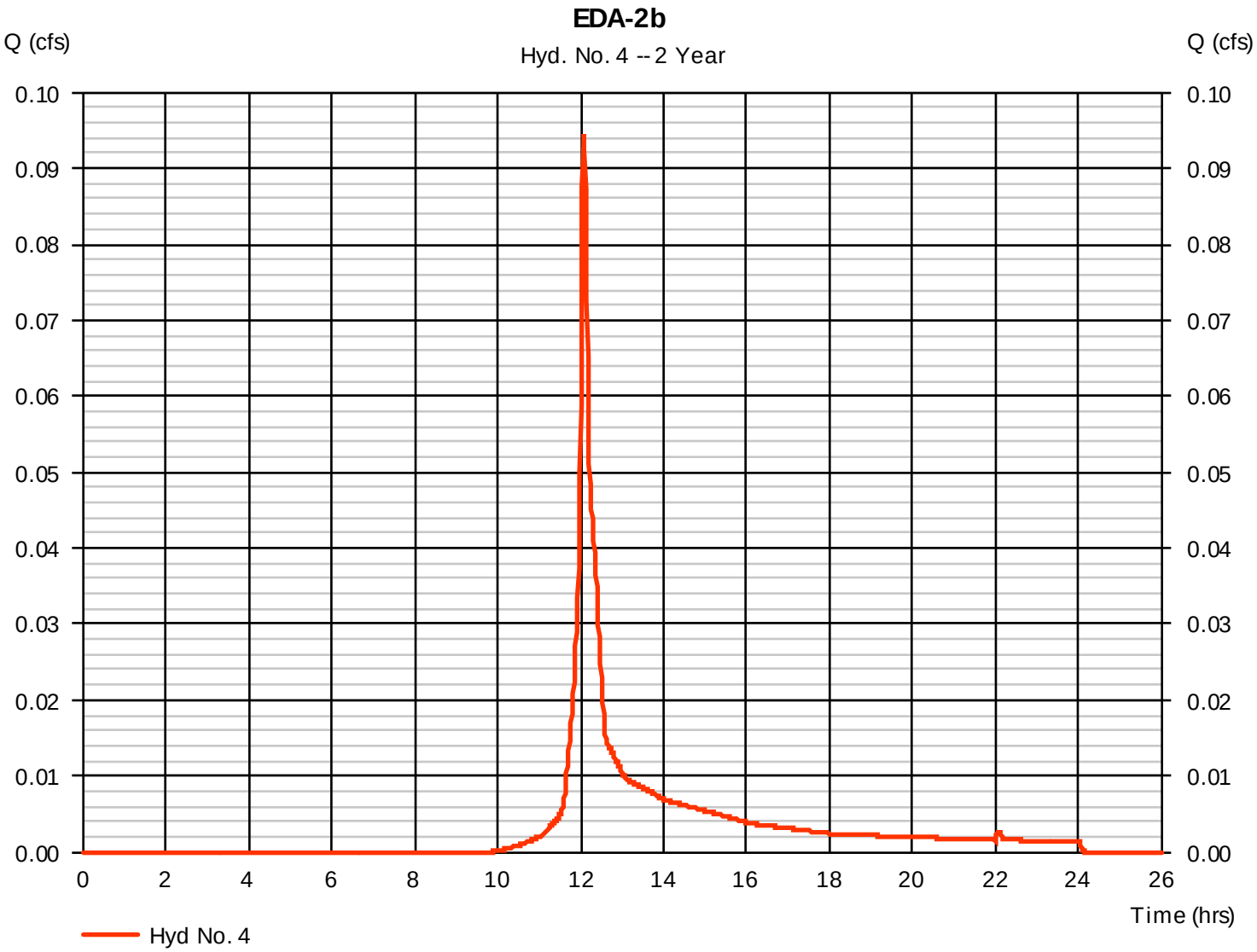


Hydrograph Report

Hyd. No. 4

EDA-2b

Hydrograph type	= SCS Runoff	Peak discharge	= 0.094 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 297 cuft
Drainage area	= 0.060 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

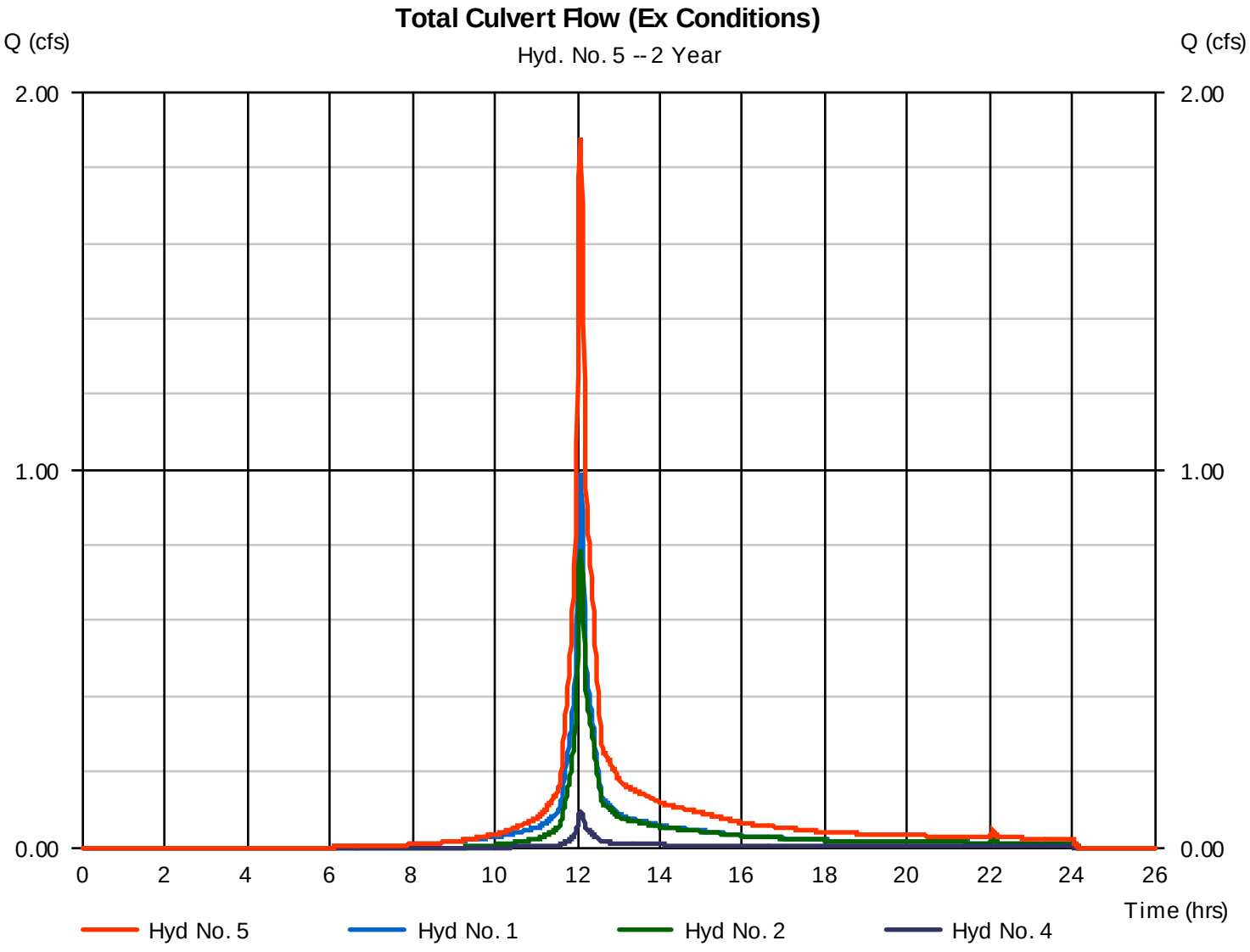


Hydrograph Report

Hyd. No. 5

Total Culvert Flow (Ex Conditions)

Hydrograph type	= Combine	Peak discharge	= 1.876 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 5,851 cuft
Inflow hyds.	= 1, 2, 4	Contrib. drain. area	= 0.850 ac

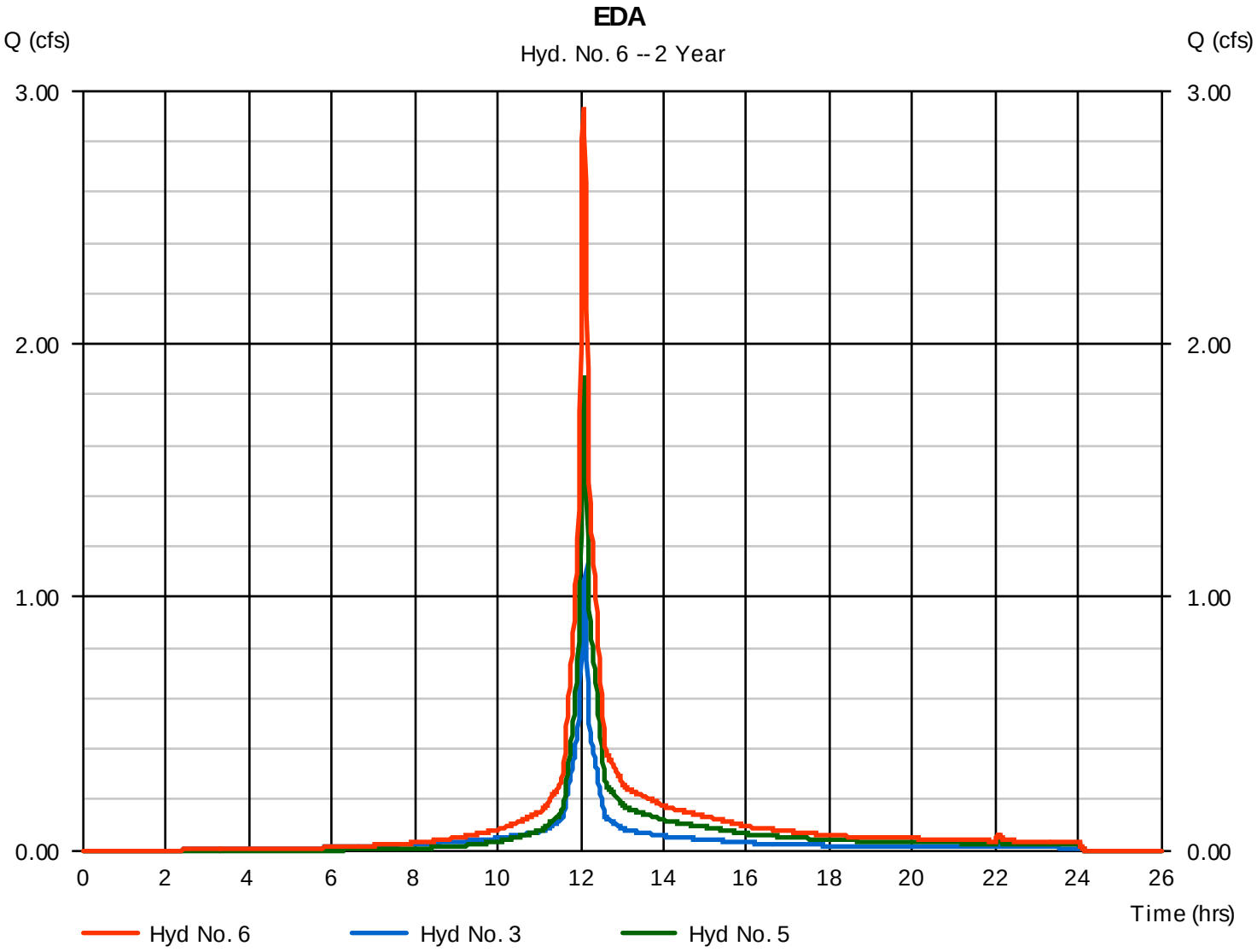


Hydrograph Report

Hyd. No. 6

EDA

Hydrograph type	= Combine	Peak discharge	= 2.931 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 9,451 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.320 ac

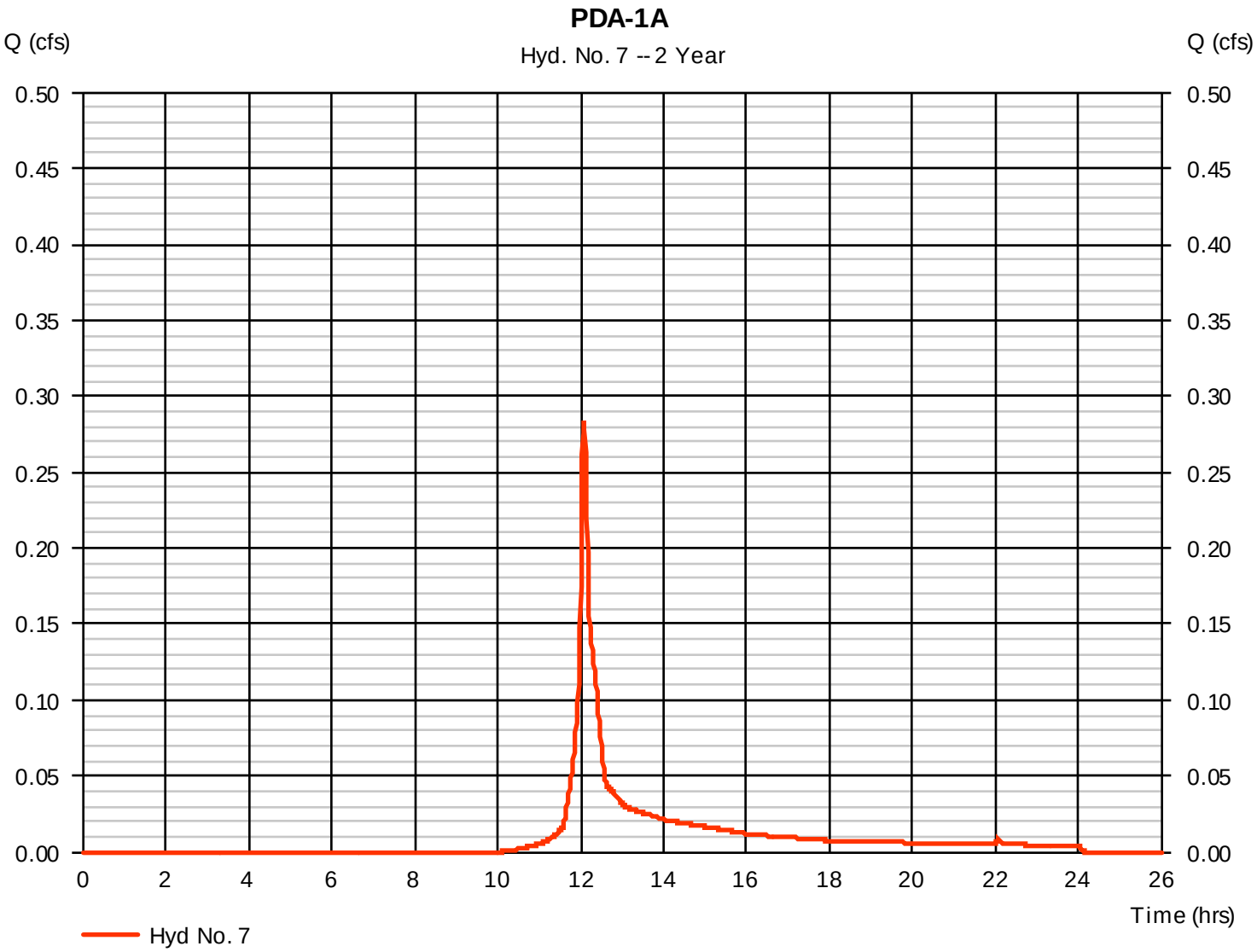


Hydrograph Report

Hyd. No. 7

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.283 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 894 cuft
Drainage area	= 0.190 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

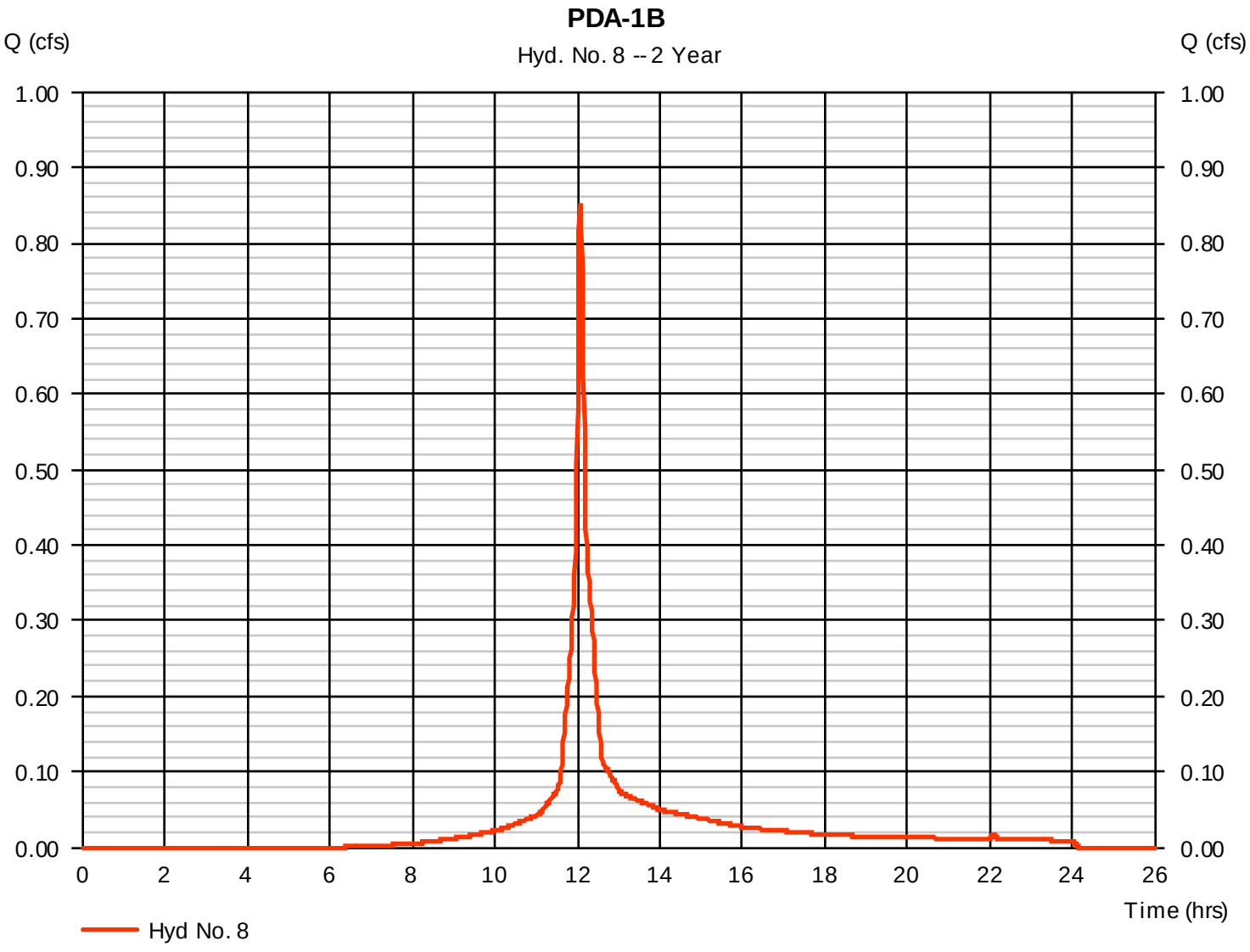


Hydrograph Report

Hyd. No. 8

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 0.853 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 2,658 cuft
Drainage area	= 0.320 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

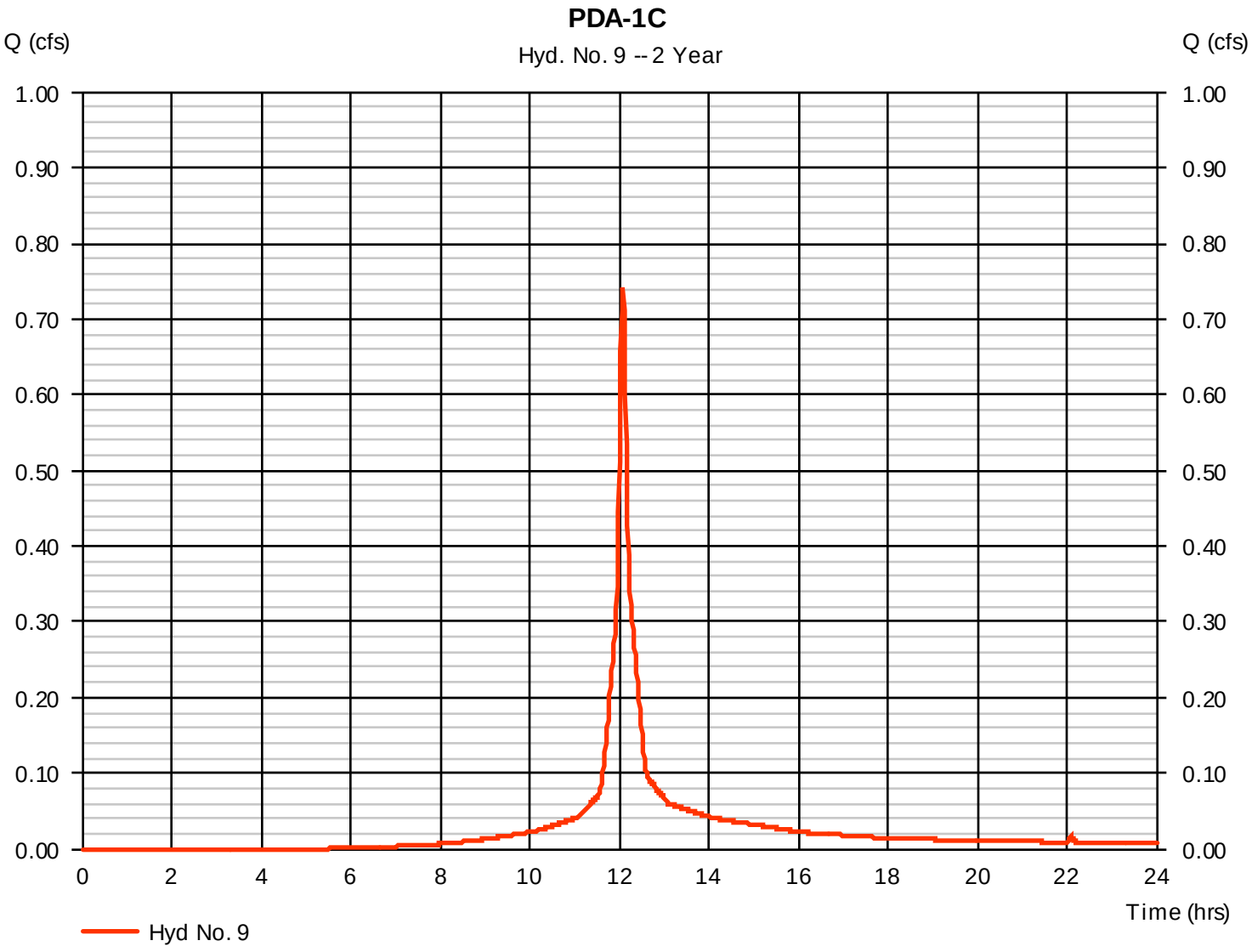


Hydrograph Report

Hyd. No. 9

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 0.741 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 2,335 cuft
Drainage area	= 0.260 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

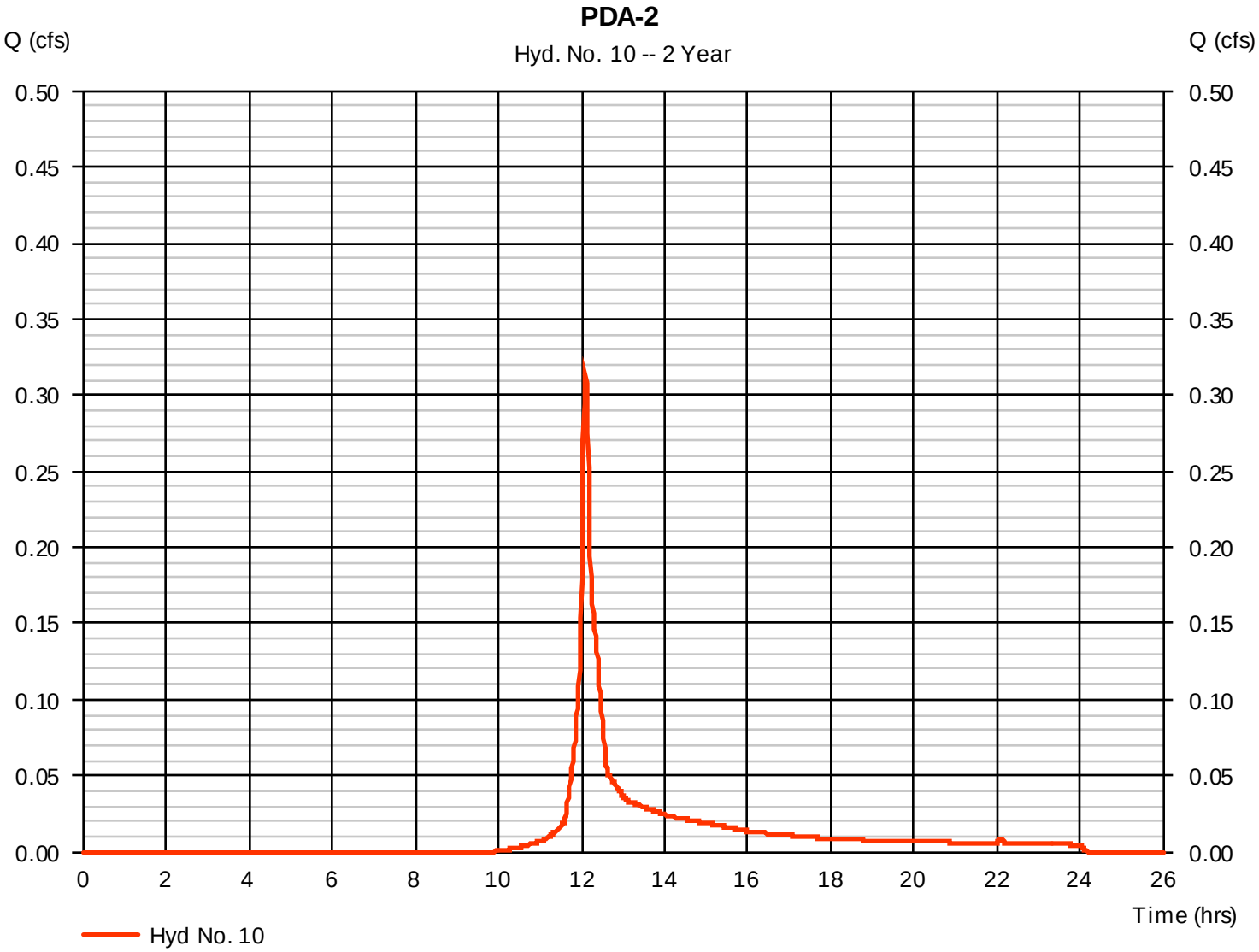


Hydrograph Report

Hyd. No. 10

PDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.314 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 1,028 cuft
Drainage area	= 0.220 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

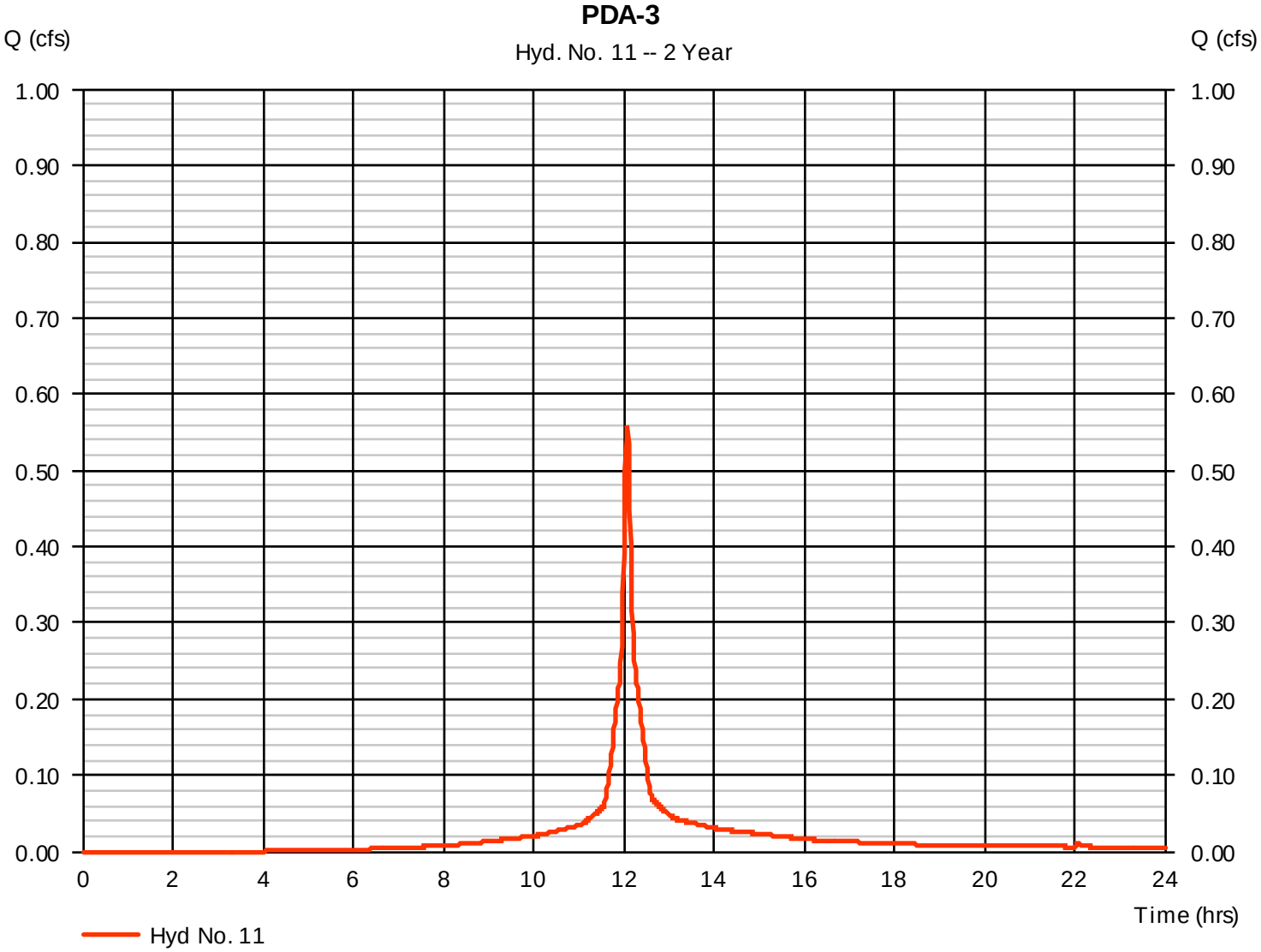


Hydrograph Report

Hyd. No. 11

PDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.560 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 1,812 cuft
Drainage area	= 0.180 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.35 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



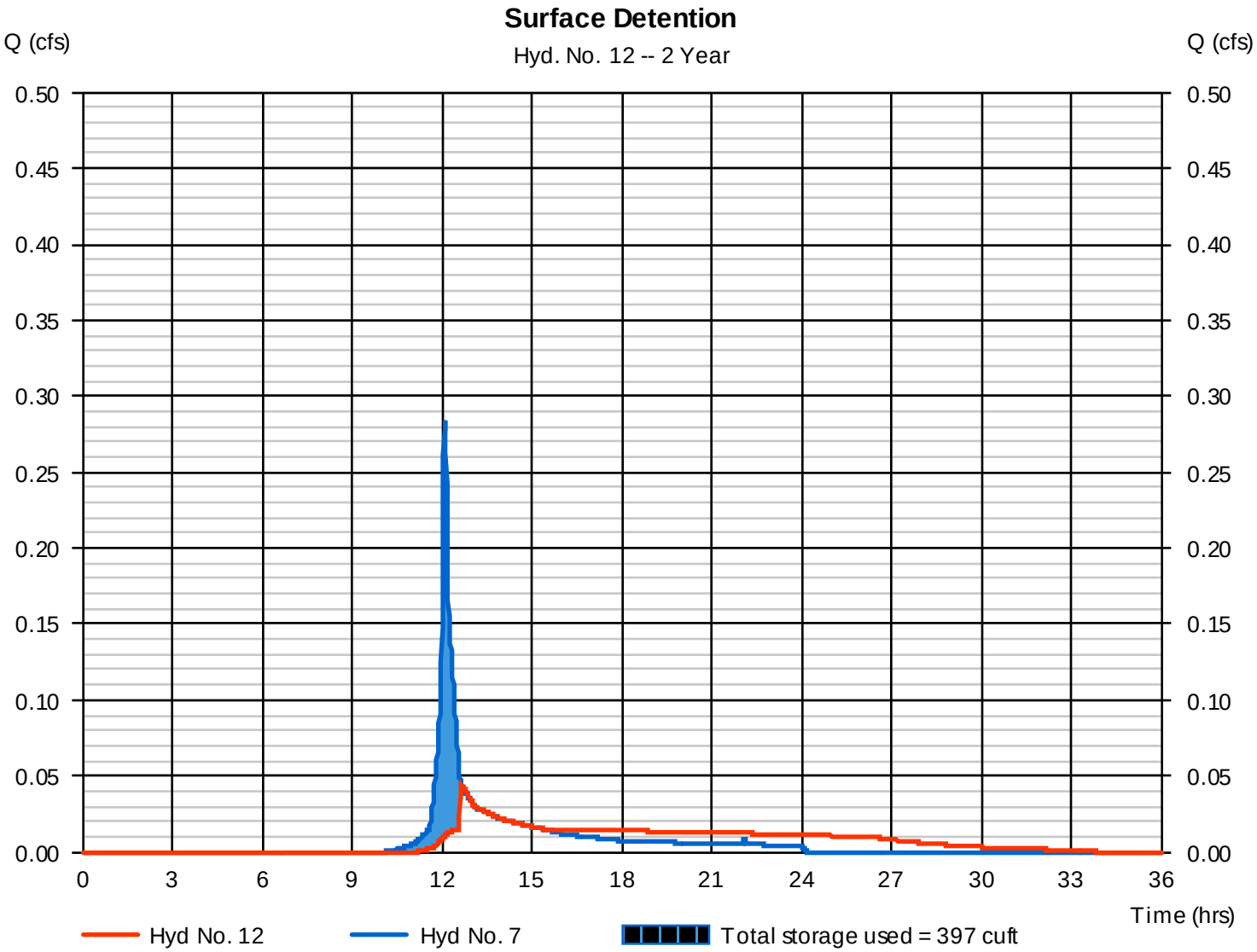
Hydrograph Report

Hyd. No. 12

Surface Detention

Hydrograph type	= Reservoir	Peak discharge	= 0.044 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.63 hrs
Time interval	= 1 min	Hyd. volume	= 883 cuft
Inflow hyd. No.	= 7 - PDA-1A	Max. Elevation	= 44.86 ft
Reservoir name	= Surface Detention	Max. Storage	= 397 cuft

Storage Indication method used. Outflow includes exfiltration.



Pond Report

Pond No. 1 - Surface Detention

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 43.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	43.50	196	0	0
0.50	44.00	262	114	114
1.00	44.50	336	149	263
1.50	45.00	420	189	452
1.87	45.37	534	176	628

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 42.95	0.00	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	0.00	0.00	0.00
Crest El. (ft)	= 44.85	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 1.600 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

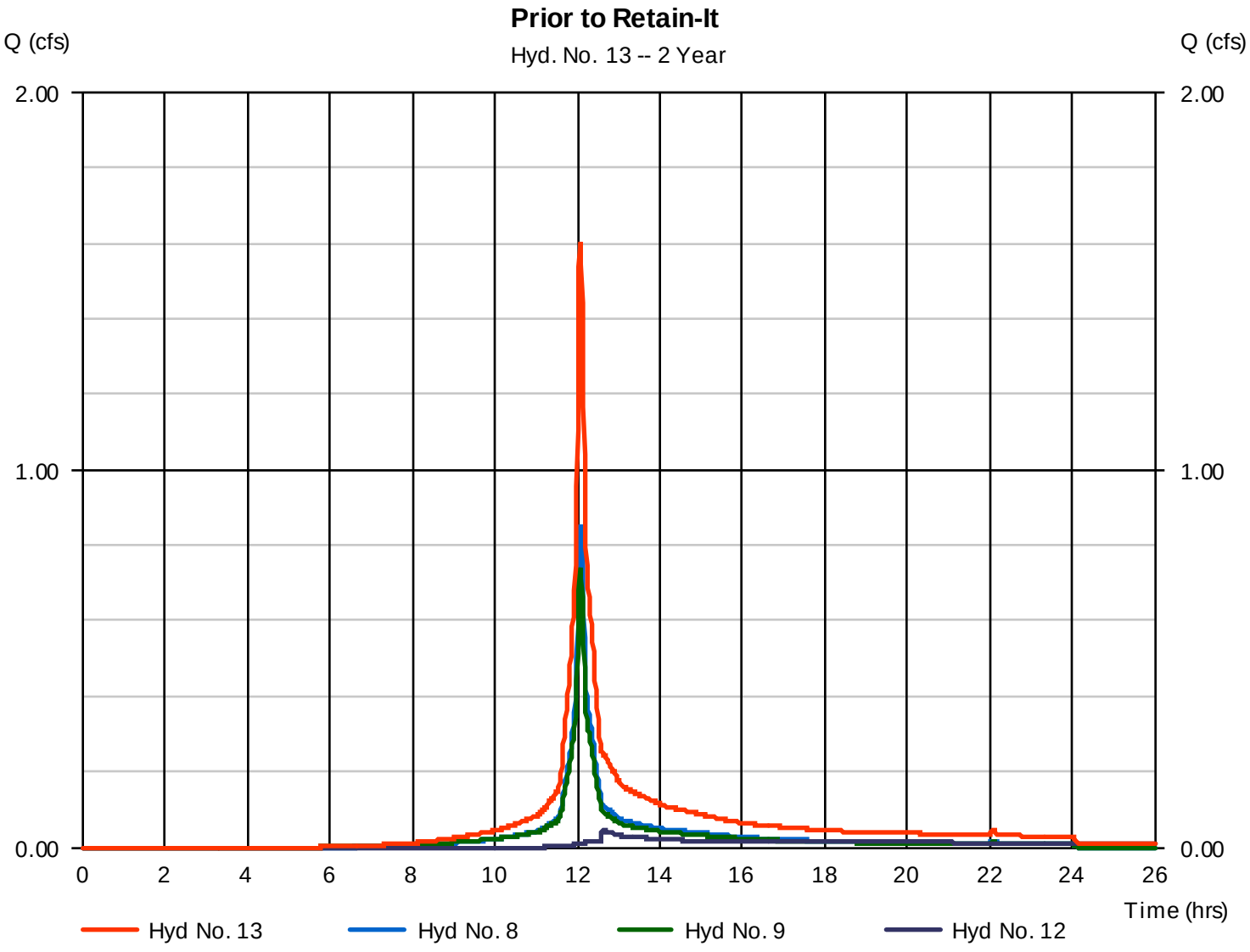
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	43.50	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.50	114	44.00	0.11 oc	---	---	---	0.00	---	---	---	0.010	---	0.010
1.00	263	44.50	0.11 oc	---	---	---	0.00	---	---	---	0.012	---	0.012
1.50	452	45.00	1.42 oc	---	---	---	1.42	---	---	---	0.016	---	1.434
1.87	628	45.37	5.13 oc	---	---	---	5.12 s	---	---	---	0.020	---	5.144

Hydrograph Report

Hyd. No. 13

Prior to Retain-It

Hydrograph type	= Combine	Peak discharge	= 1.604 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,876 cuft
Inflow hyds.	= 8, 9, 12	Contrib. drain. area	= 0.580 ac



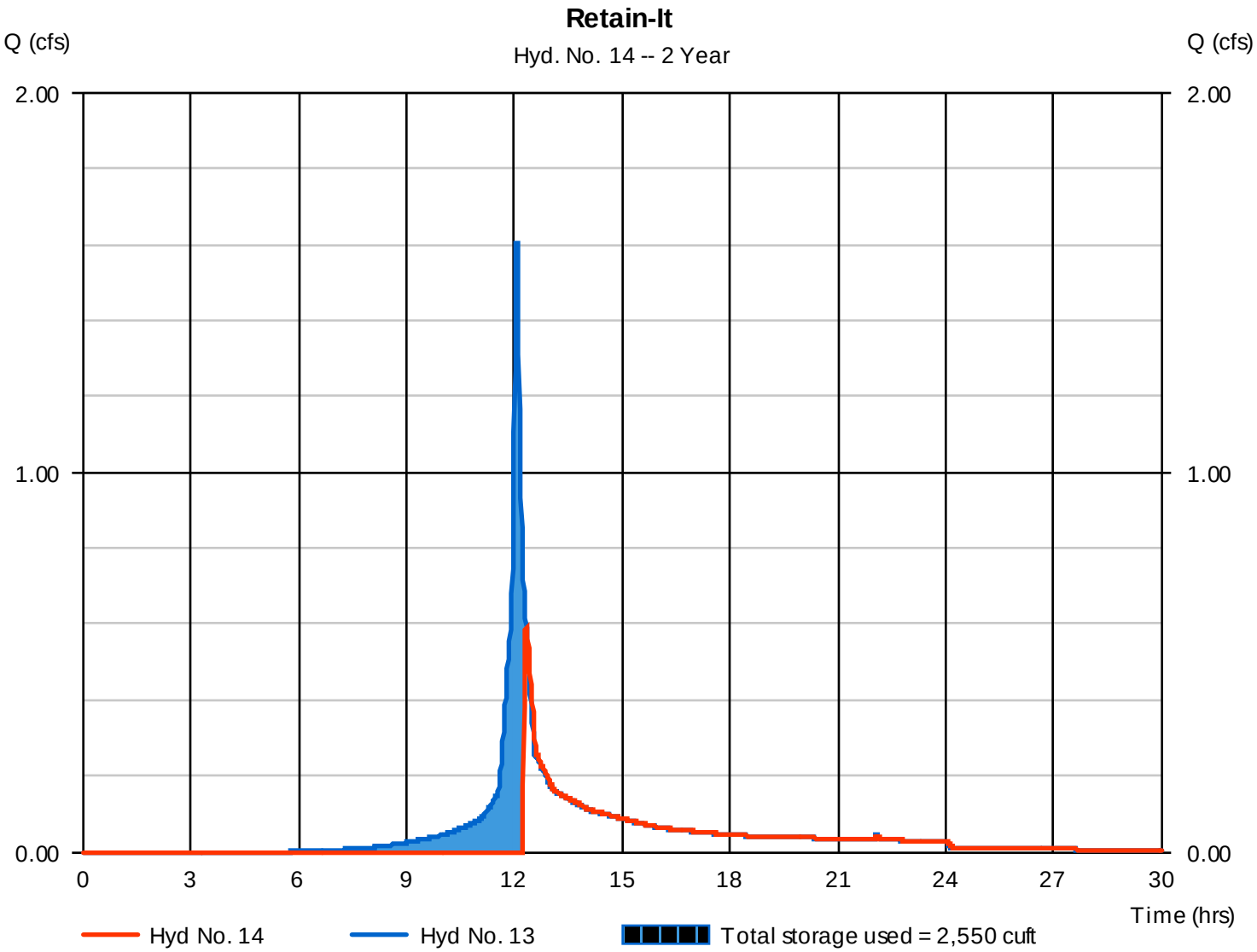
Hydrograph Report

Hyd. No. 14

Retain-It

Hydrograph type	= Reservoir	Peak discharge	= 0.594 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.33 hrs
Time interval	= 1 min	Hyd. volume	= 3,399 cuft
Inflow hyd. No.	= 13 - Prior to Retain-It	Max. Elevation	= 43.48 ft
Reservoir name	= Subsurface Detention - Retain-It	Max. Storage	= 2,550 cuft

Storage Indication method used. Outflow includes exfiltration.



Pond No. 2 - Subsurface Detention - Retain-It

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	40.00	n/a	0	0
1.00	41.00	n/a	205	205
1.01	41.01	n/a	0	205
2.00	42.00	n/a	947	1,152
3.00	43.00	n/a	946	2,098
4.00	44.00	n/a	947	3,045

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 41.00	0.00	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	0.00	0.00	0.00
Crest El. (ft)	= 43.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.250 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	40.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.01	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.00	1,152	42.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.00	2,098	43.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
4.00	3,045	44.00	5.89 ic	---	---	---	5.89 s	---	---	---	0.000	---	5.887

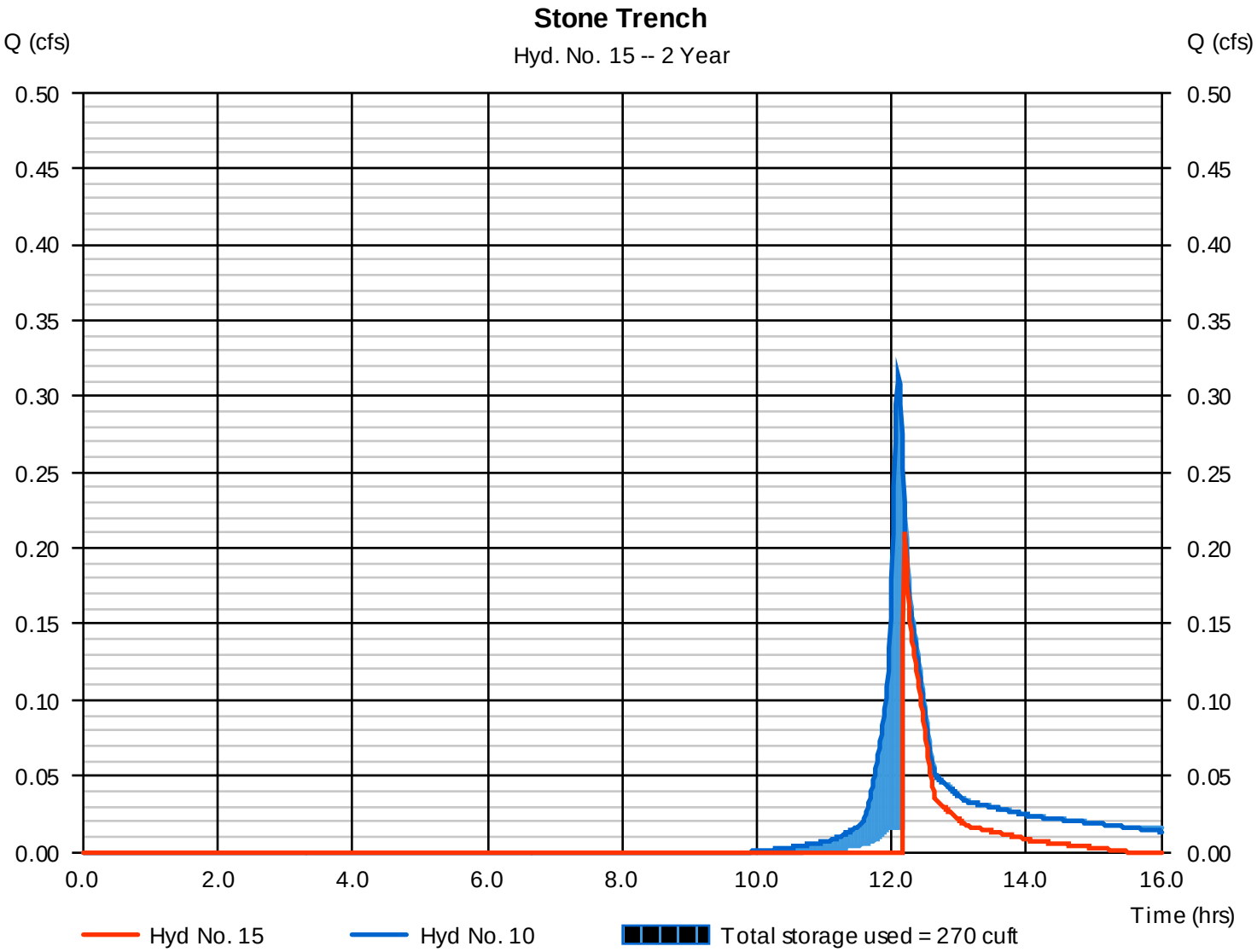
Hydrograph Report

Hyd. No. 15

Stone Trench

Hydrograph type	= Reservoir	Peak discharge	= 0.211 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.18 hrs
Time interval	= 1 min	Hyd. volume	= 298 cuft
Inflow hyd. No.	= 10 - PDA-2	Max. Elevation	= 44.35 ft
Reservoir name	= Stone Trench	Max. Storage	= 270 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond No. 3 - Stone Trench

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 41.35 ft . Voids = 30.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	41.35	300	0	0
1.00	42.35	300	90	90
2.00	43.35	300	90	180
3.00	44.35	300	90	270
4.00	45.35	300	90	360

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 41.35	0.00	0.00	0.00
Length (ft)	= 30.00	0.00	0.00	0.00
Slope (%)	= 2.00	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 2.00	0.00	0.00	0.00
Crest El. (ft)	= 44.25	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 2.320 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

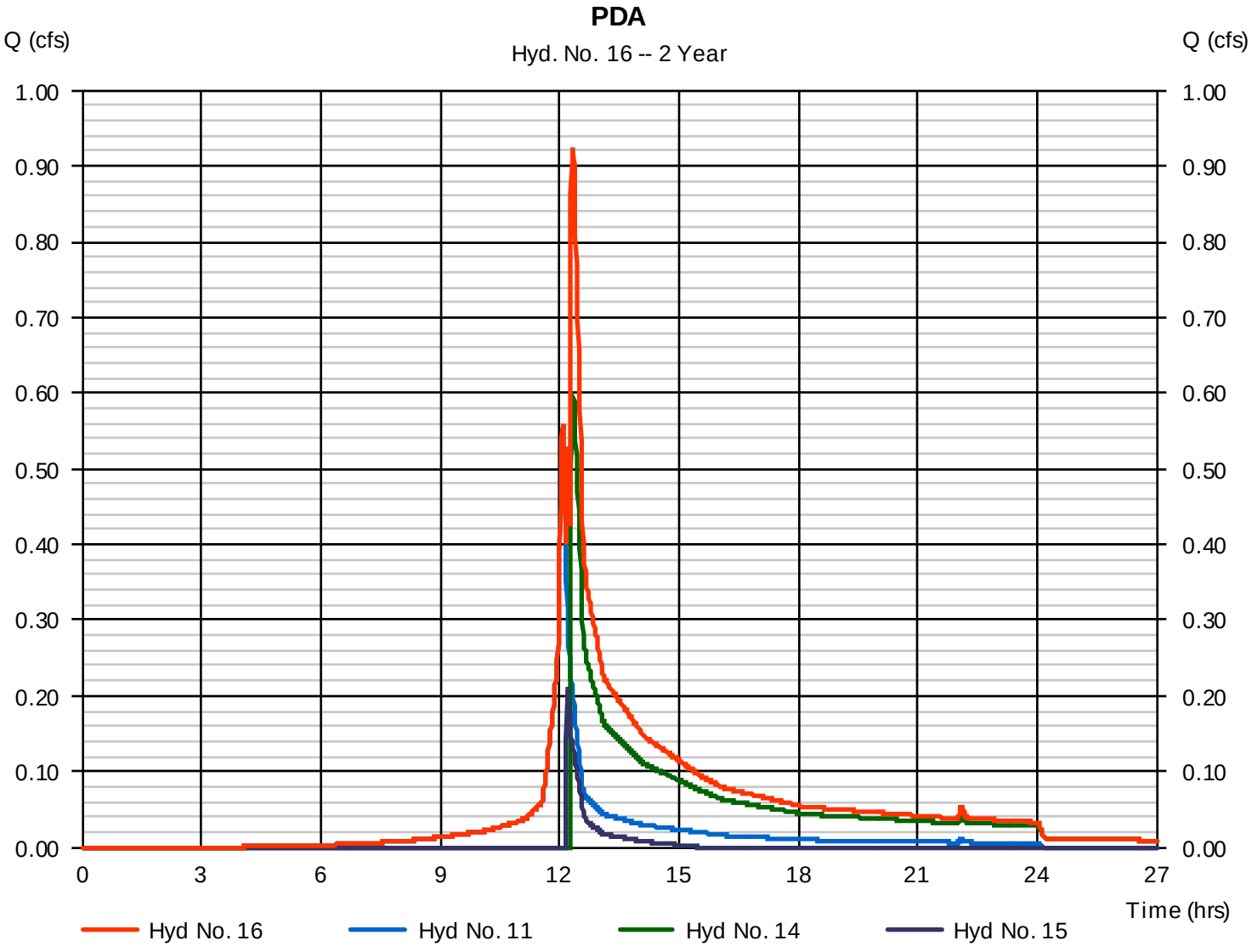
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	41.35	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	90	42.35	0.00	---	---	---	0.00	---	---	---	0.016	---	0.016
2.00	180	43.35	0.00	---	---	---	0.00	---	---	---	0.016	---	0.016
3.00	270	44.35	0.21 ic	---	---	---	0.21	---	---	---	0.016	---	0.227
4.00	360	45.35	1.41 ic	---	---	---	1.41 ic	---	---	---	0.016	---	1.426

Hydrograph Report

Hyd. No. 16

PDA

Hydrograph type	= Combine	Peak discharge	= 0.925 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.32 hrs
Time interval	= 1 min	Hyd. volume	= 5,510 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 0.180 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

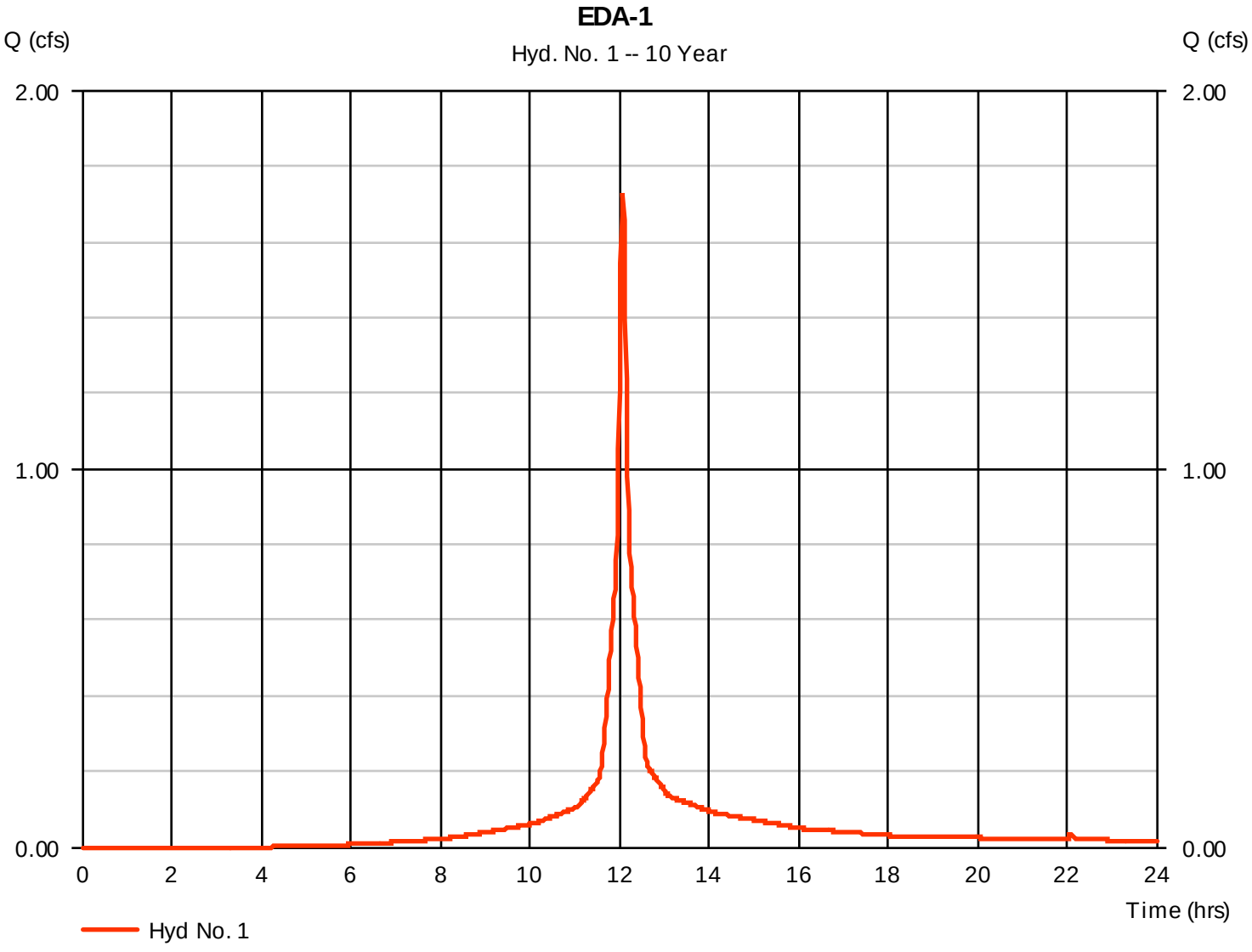
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.731	1	724	5,562	-----	-----	-----	EDA-1
2	SCS Runoff	1.627	1	725	5,024	-----	-----	-----	EDA-2a
3	SCS Runoff	1.693	1	724	5,877	-----	-----	-----	EDA-3
4	SCS Runoff	0.207	1	725	638	-----	-----	-----	EDA-2b
5	Combine	3.558	1	725	11,224	1, 2, 4	-----	-----	Total Culvert Flow (Ex Conditions)
6	Combine	5.251	1	724	17,101	3, 5	-----	-----	EDA
7	SCS Runoff	0.635	1	725	1,957	-----	-----	-----	PDA-1A
8	SCS Runoff	1.509	1	724	4,817	-----	-----	-----	PDA-1B
9	SCS Runoff	1.273	1	724	4,122	-----	-----	-----	PDA-1C
10	SCS Runoff	0.689	1	726	2,213	-----	-----	-----	PDA-2
11	SCS Runoff	0.923	1	724	3,076	-----	-----	-----	PDA-3
12	Reservoir	0.629	1	725	1,945	7	44.93	427	Surface Detention
13	Combine	3.401	1	725	10,884	8, 9, 12	-----	-----	Prior to Retain-It
14	Reservoir	3.339	1	726	8,407	13	43.66	2,726	Retain-It
15	Reservoir	0.662	1	727	1,261	10	44.50	283	Stone Trench
16	Combine	4.882	1	725	12,744	11, 14, 15	-----	-----	PDA

Hydrograph Report

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.731 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,562 cuft
Drainage area	= 0.360 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

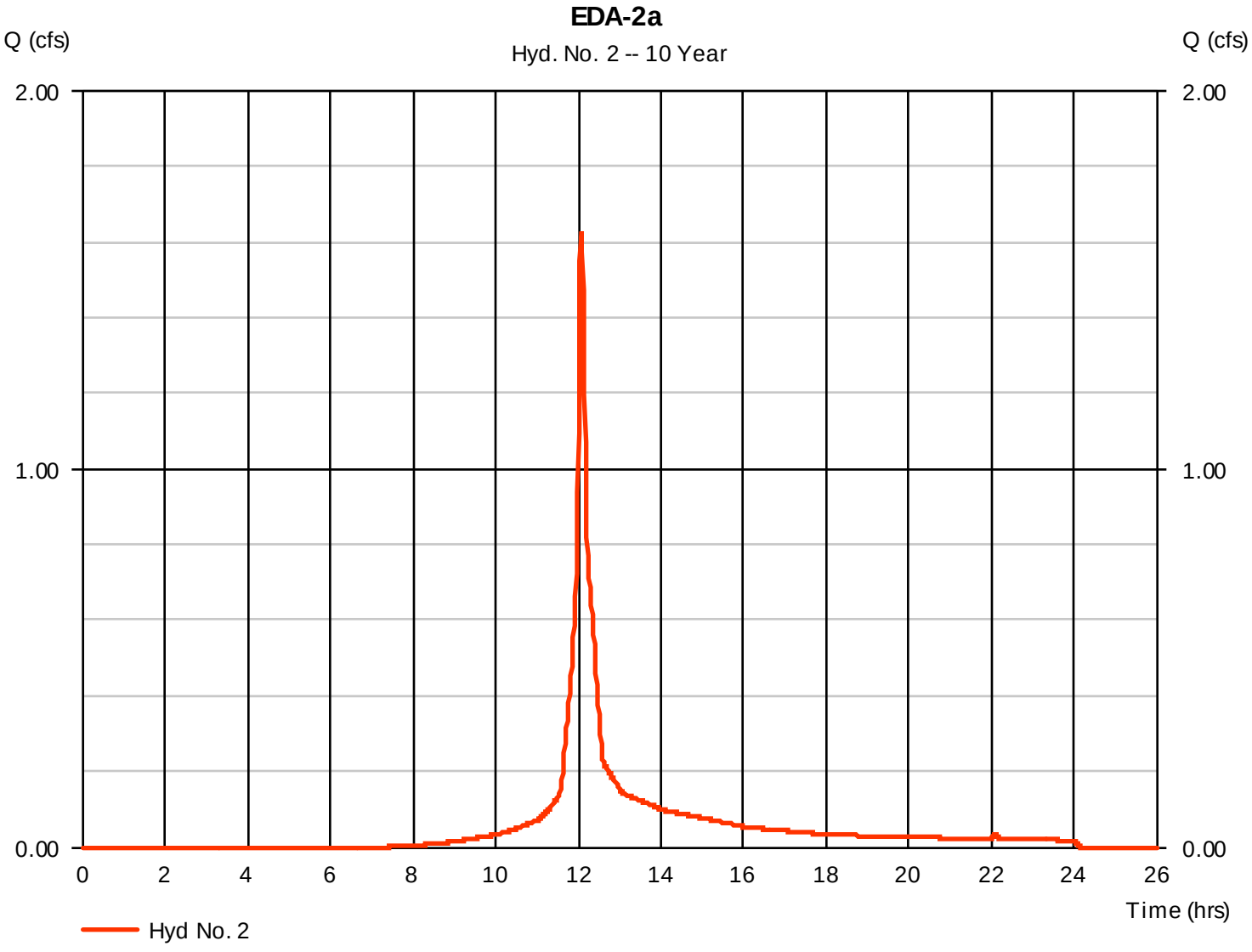


Hydrograph Report

Hyd. No. 2

EDA-2a

Hydrograph type	= SCS Runoff	Peak discharge	= 1.627 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 5,024 cuft
Drainage area	= 0.430 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

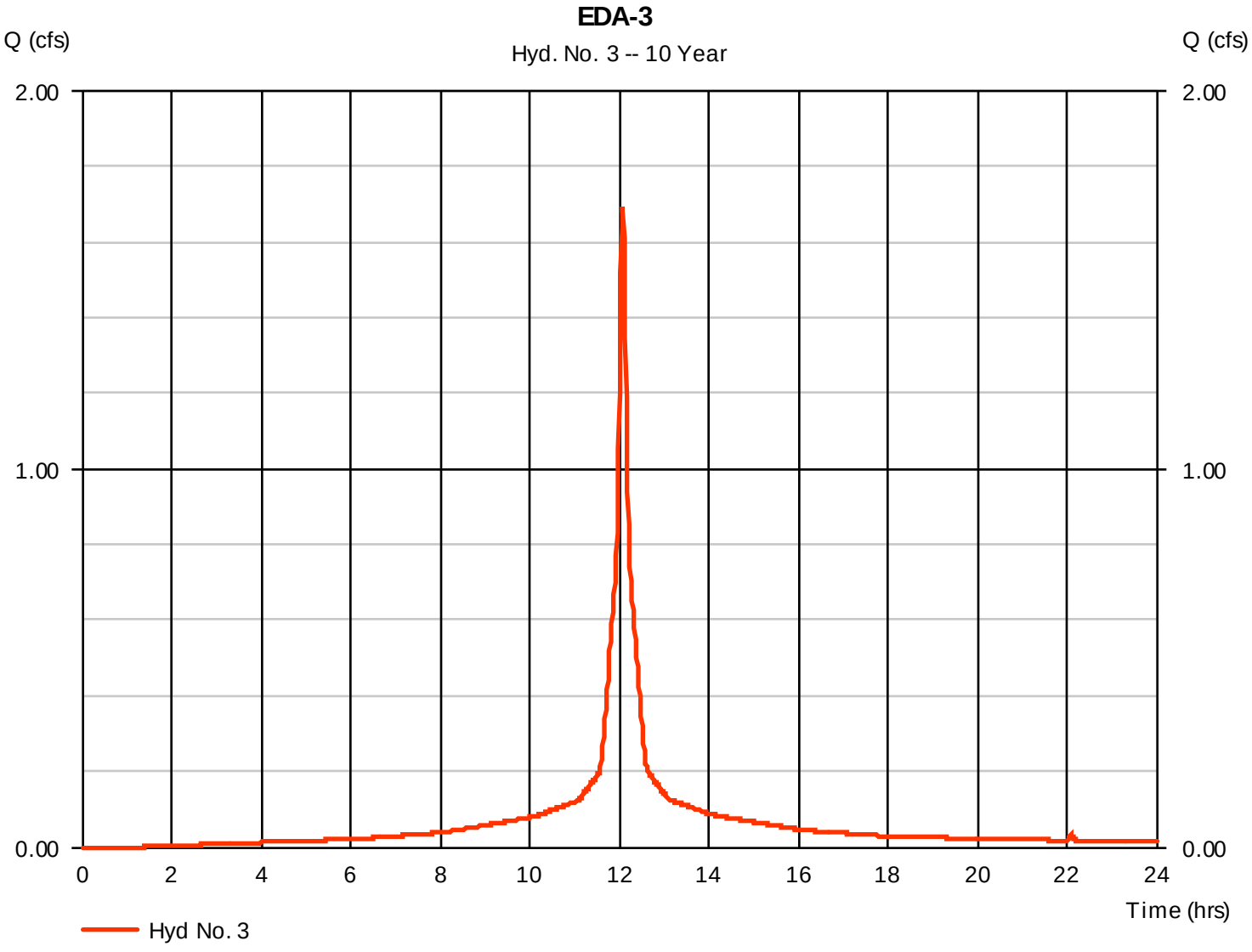


Hydrograph Report

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.693 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,877 cuft
Drainage area	= 0.320 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

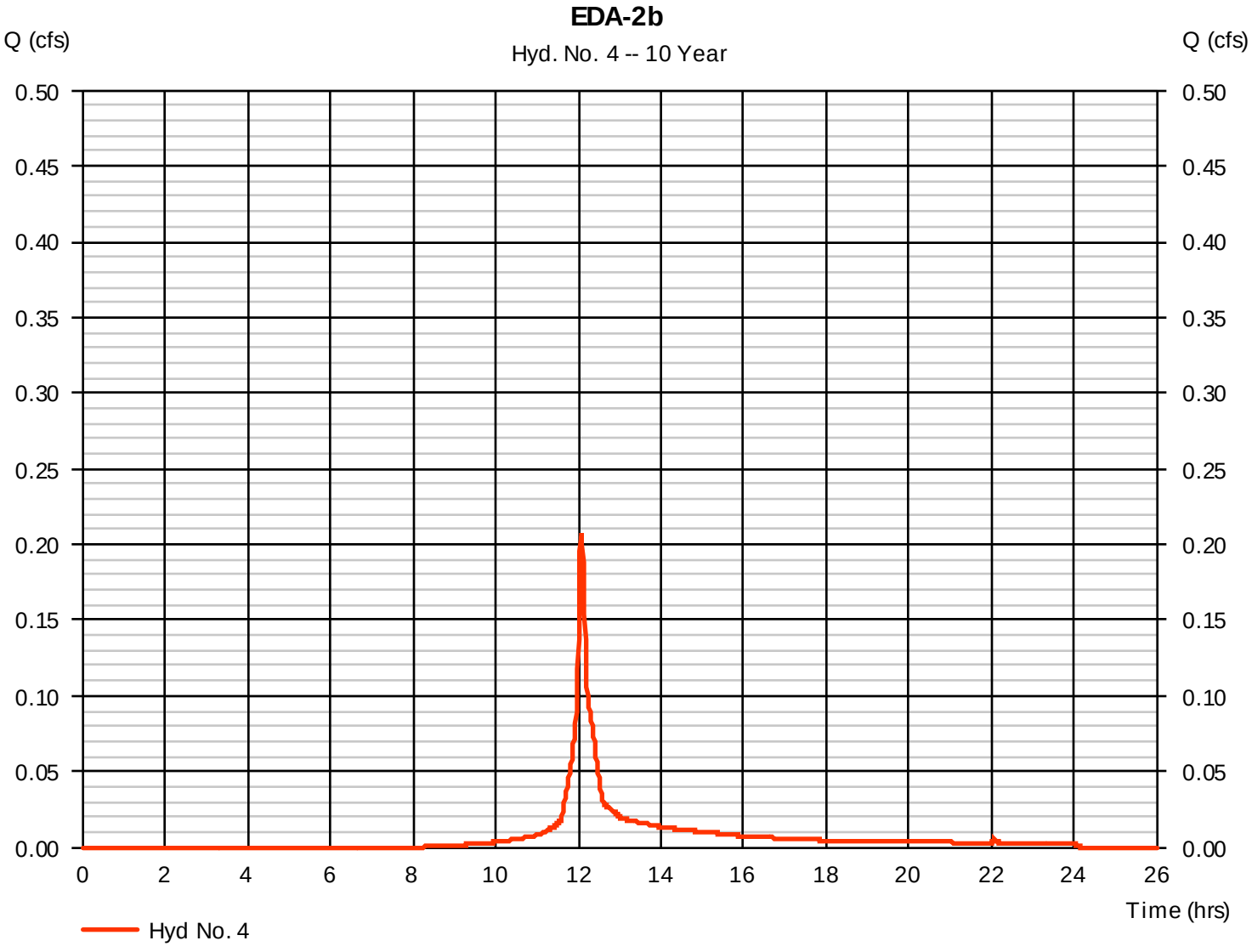


Hydrograph Report

Hyd. No. 4

EDA-2b

Hydrograph type	= SCS Runoff	Peak discharge	= 0.207 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 638 cuft
Drainage area	= 0.060 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

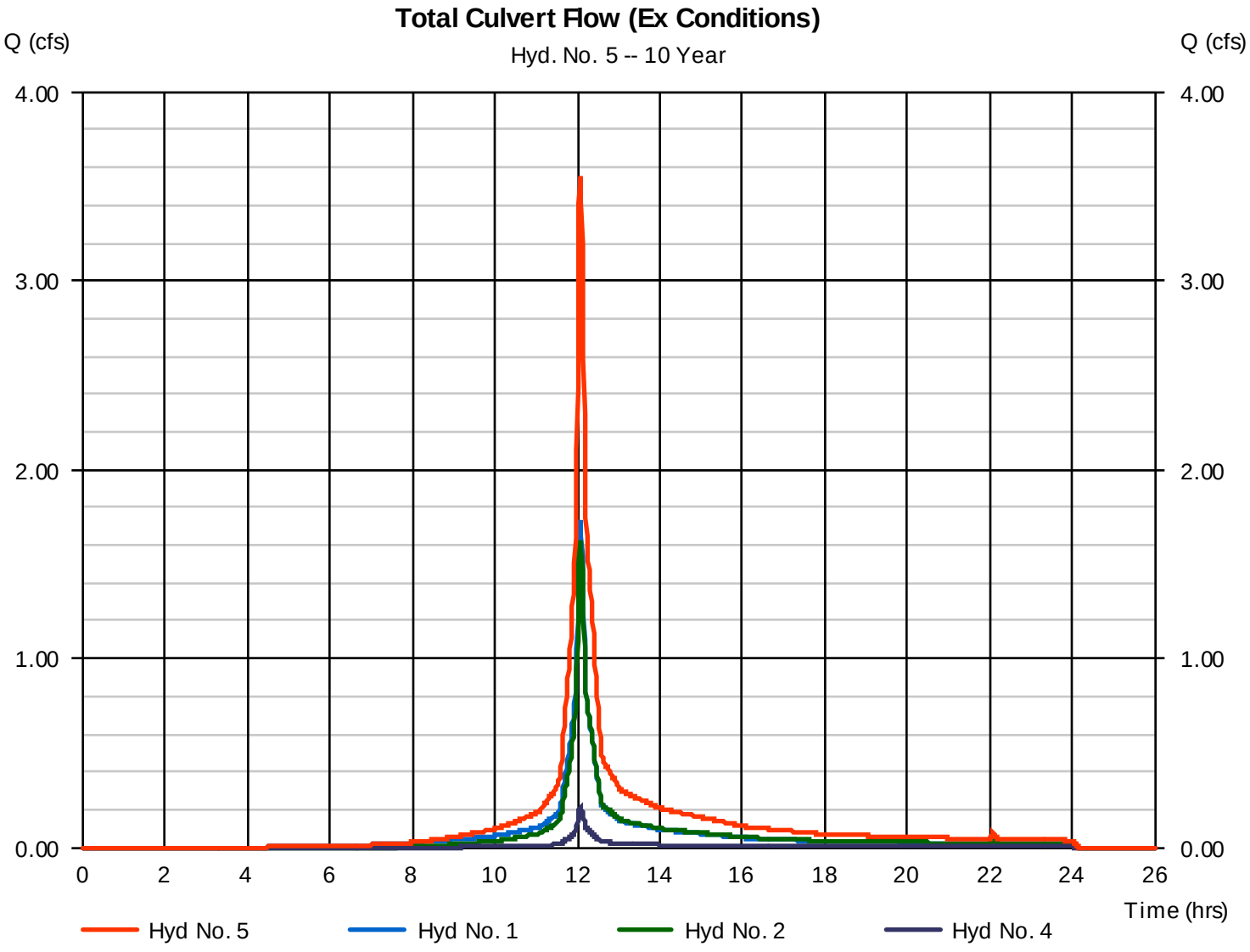


Hydrograph Report

Hyd. No. 5

Total Culvert Flow (Ex Conditions)

Hydrograph type	= Combine	Peak discharge	= 3.558 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 11,224 cuft
Inflow hyds.	= 1, 2, 4	Contrib. drain. area	= 0.850 ac

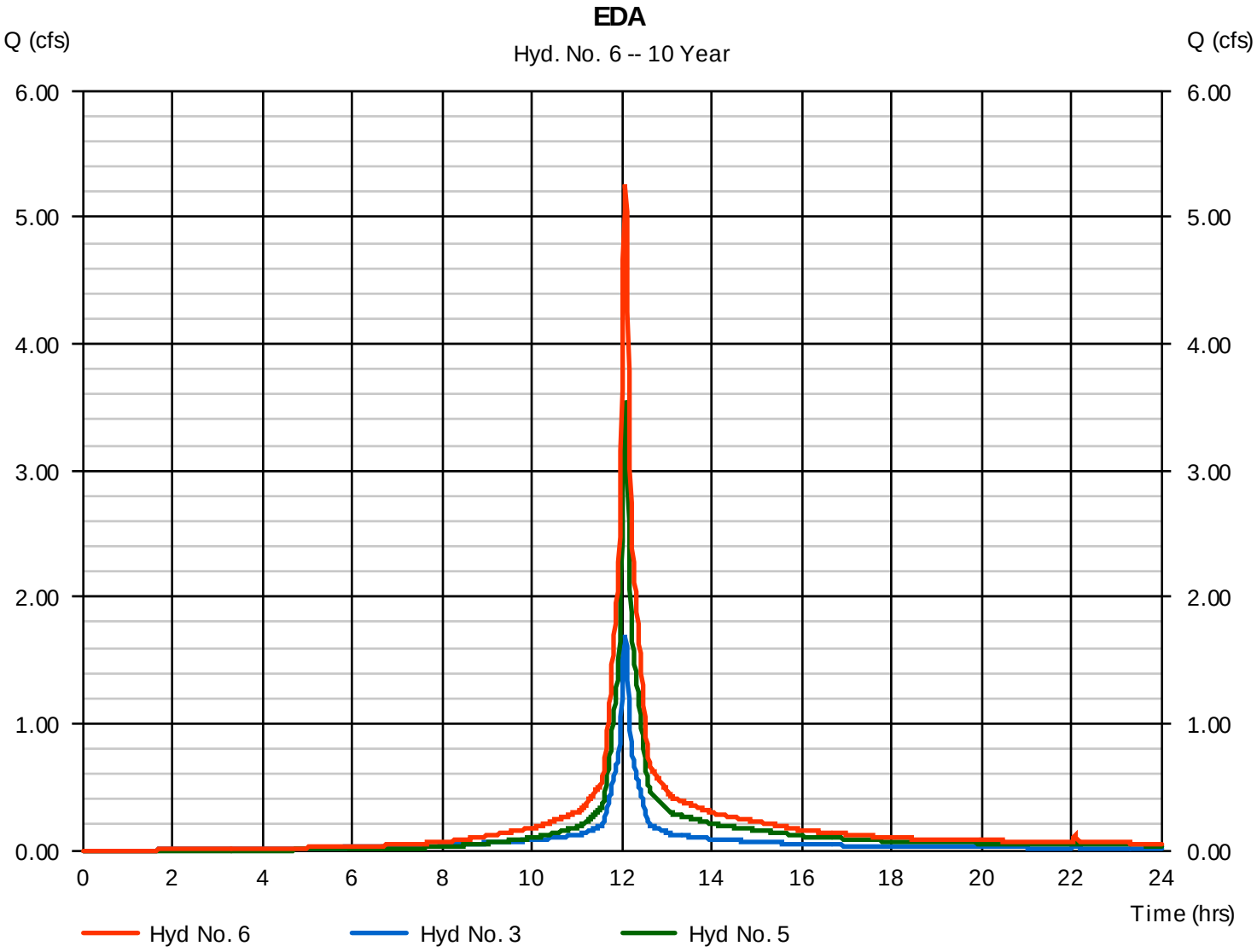


Hydrograph Report

Hyd. No. 6

EDA

Hydrograph type	= Combine	Peak discharge	= 5.251 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 17,101 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.320 ac

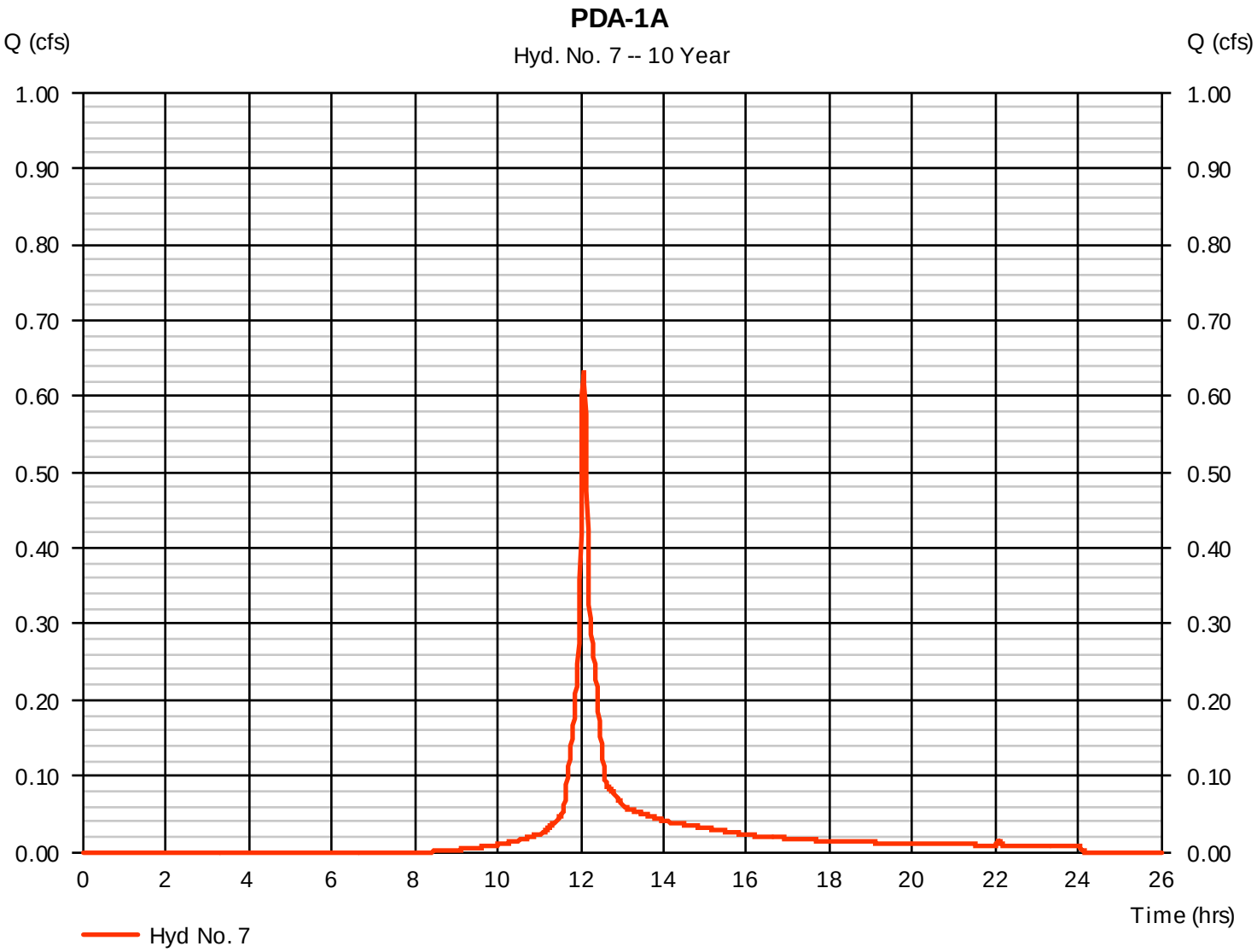


Hydrograph Report

Hyd. No. 7

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.635 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 1,957 cuft
Drainage area	= 0.190 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

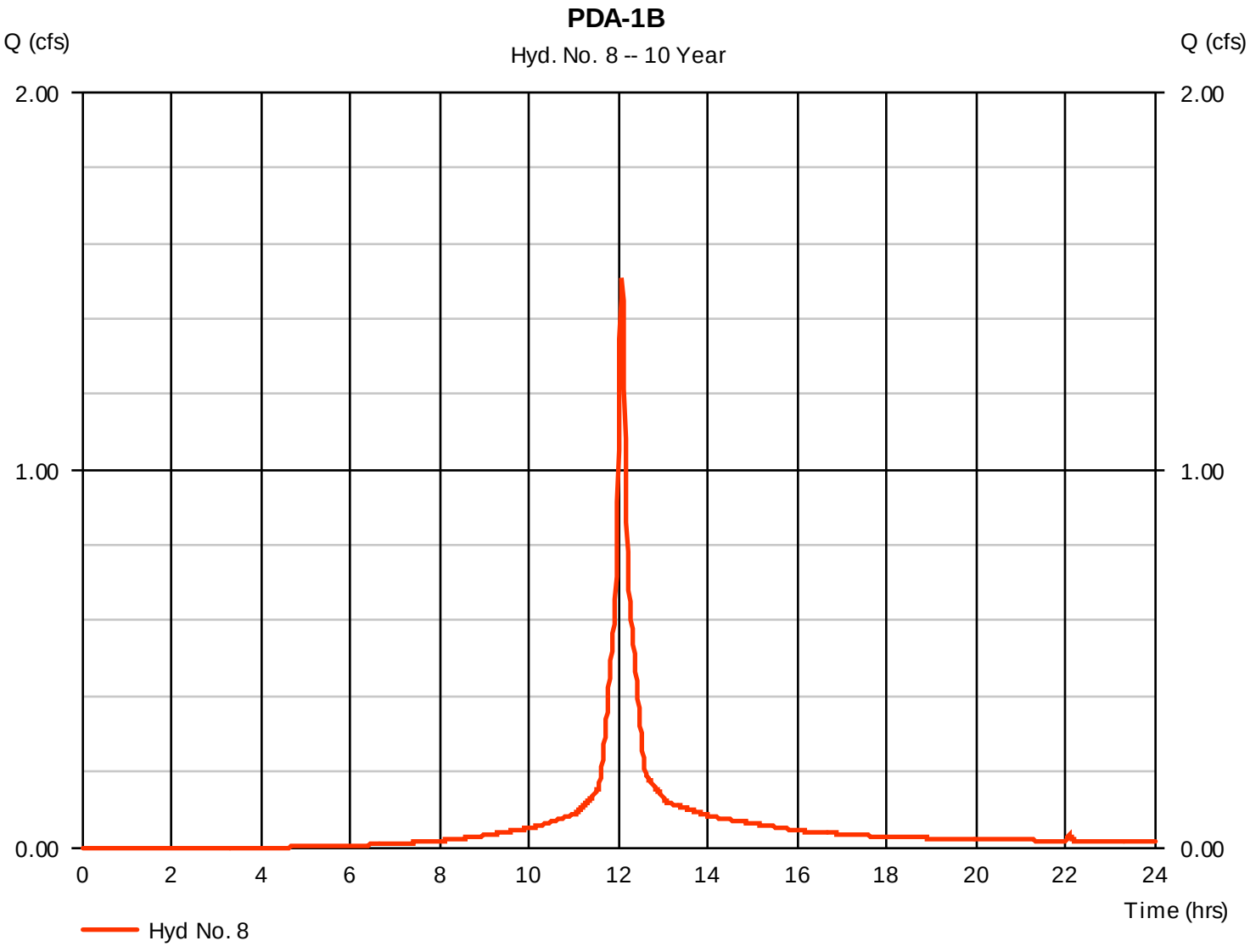


Hydrograph Report

Hyd. No. 8

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 1.509 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 4,817 cuft
Drainage area	= 0.320 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

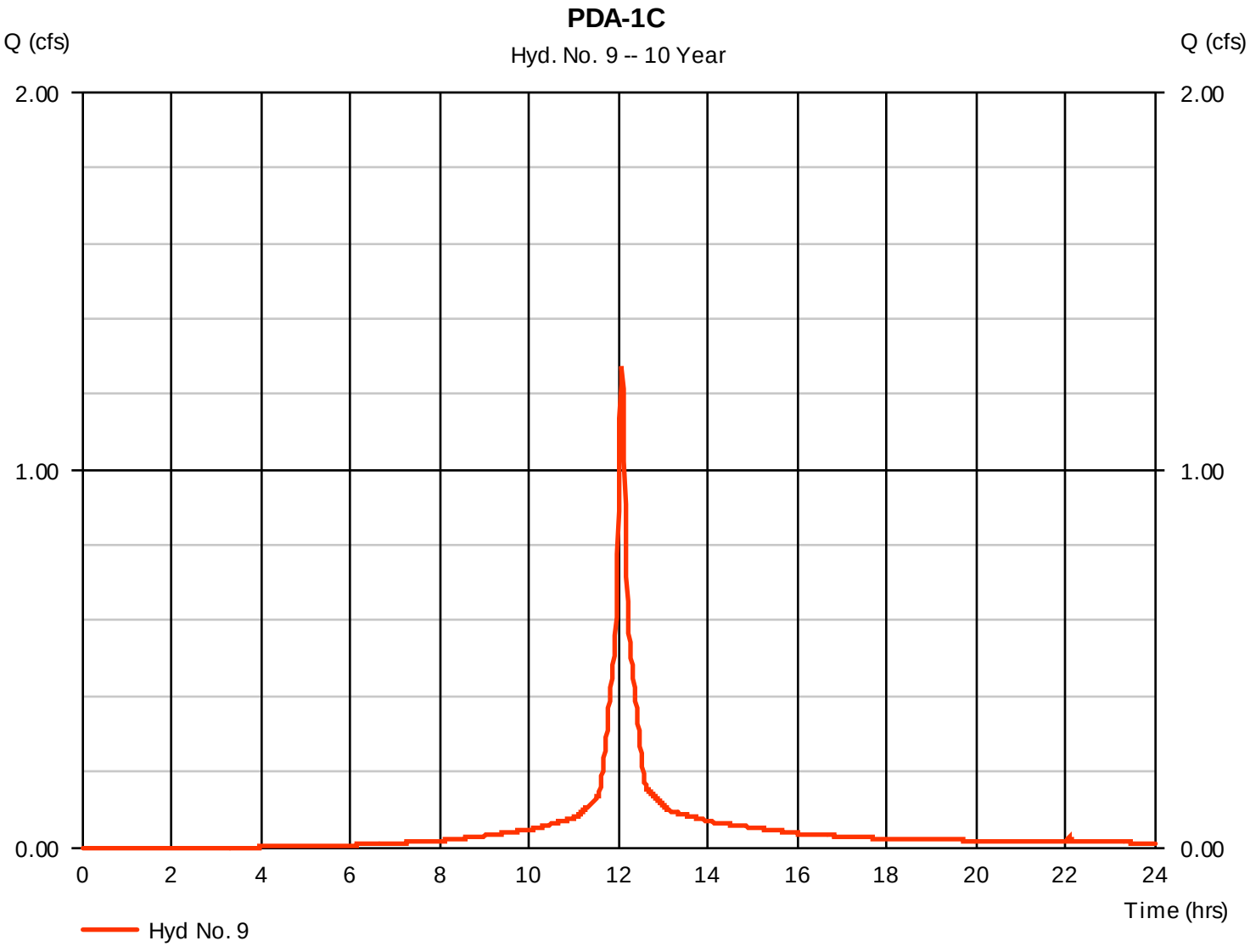


Hydrograph Report

Hyd. No. 9

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 1.273 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 4,122 cuft
Drainage area	= 0.260 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

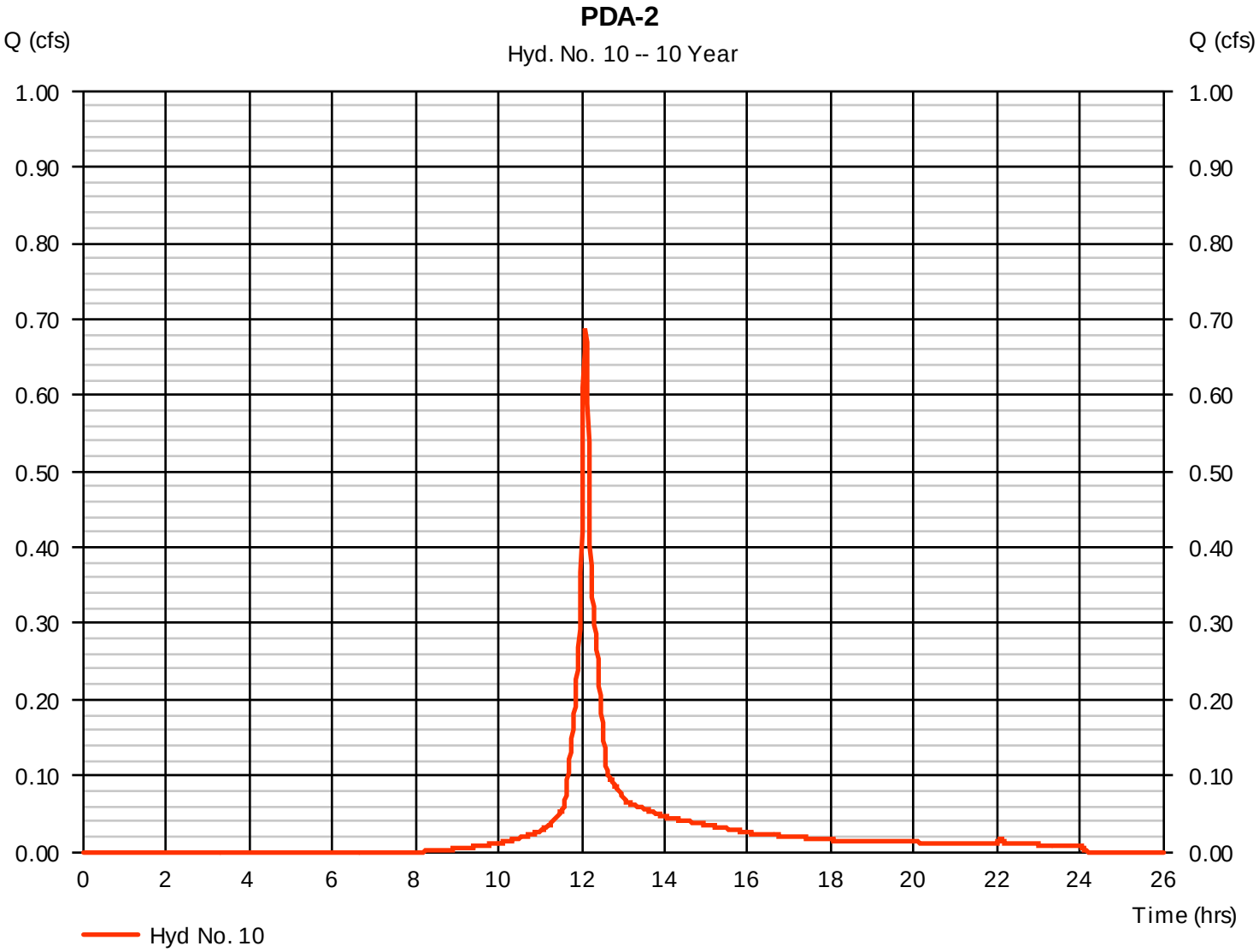


Hydrograph Report

Hyd. No. 10

PDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.689 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 2,213 cuft
Drainage area	= 0.220 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

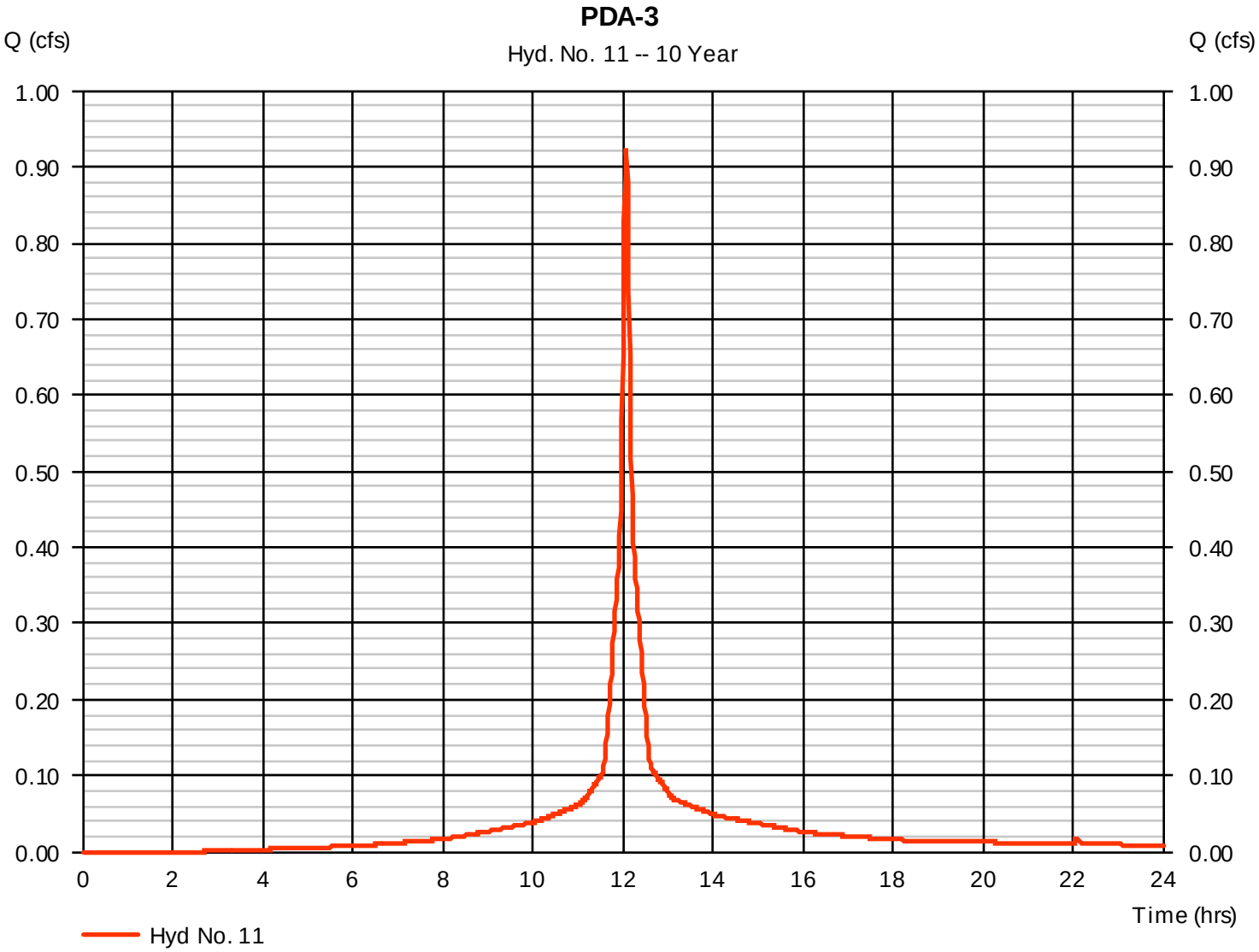


Hydrograph Report

Hyd. No. 11

PDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.923 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 3,076 cuft
Drainage area	= 0.180 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 5.26 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

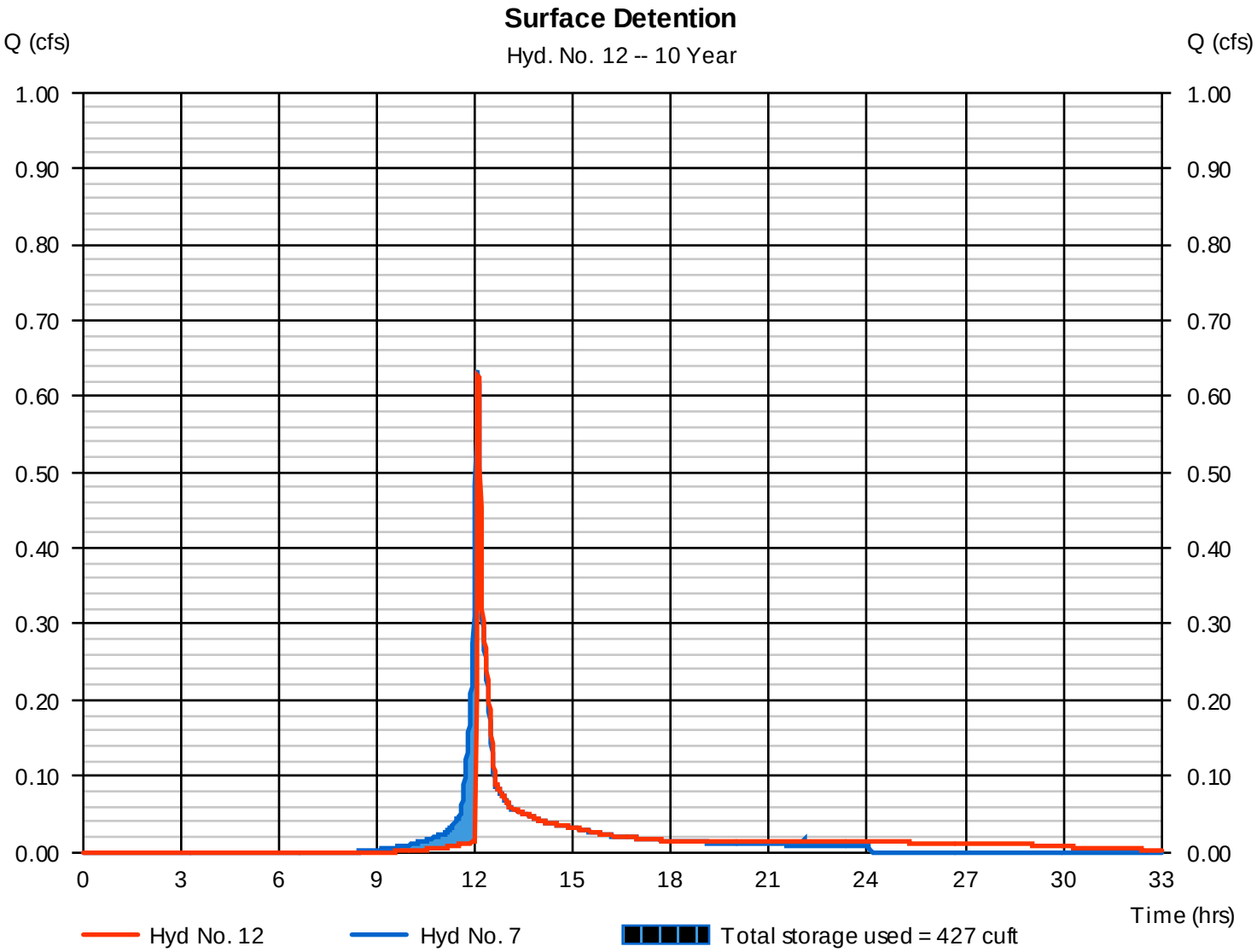
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 12

Surface Detention

Hydrograph type	= Reservoir	Peak discharge	= 0.629 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 1,945 cuft
Inflow hyd. No.	= 7 - PDA-1A	Max. Elevation	= 44.93 ft
Reservoir name	= Surface Detention	Max. Storage	= 427 cuft

Storage Indication method used. Outflow includes exfiltration.

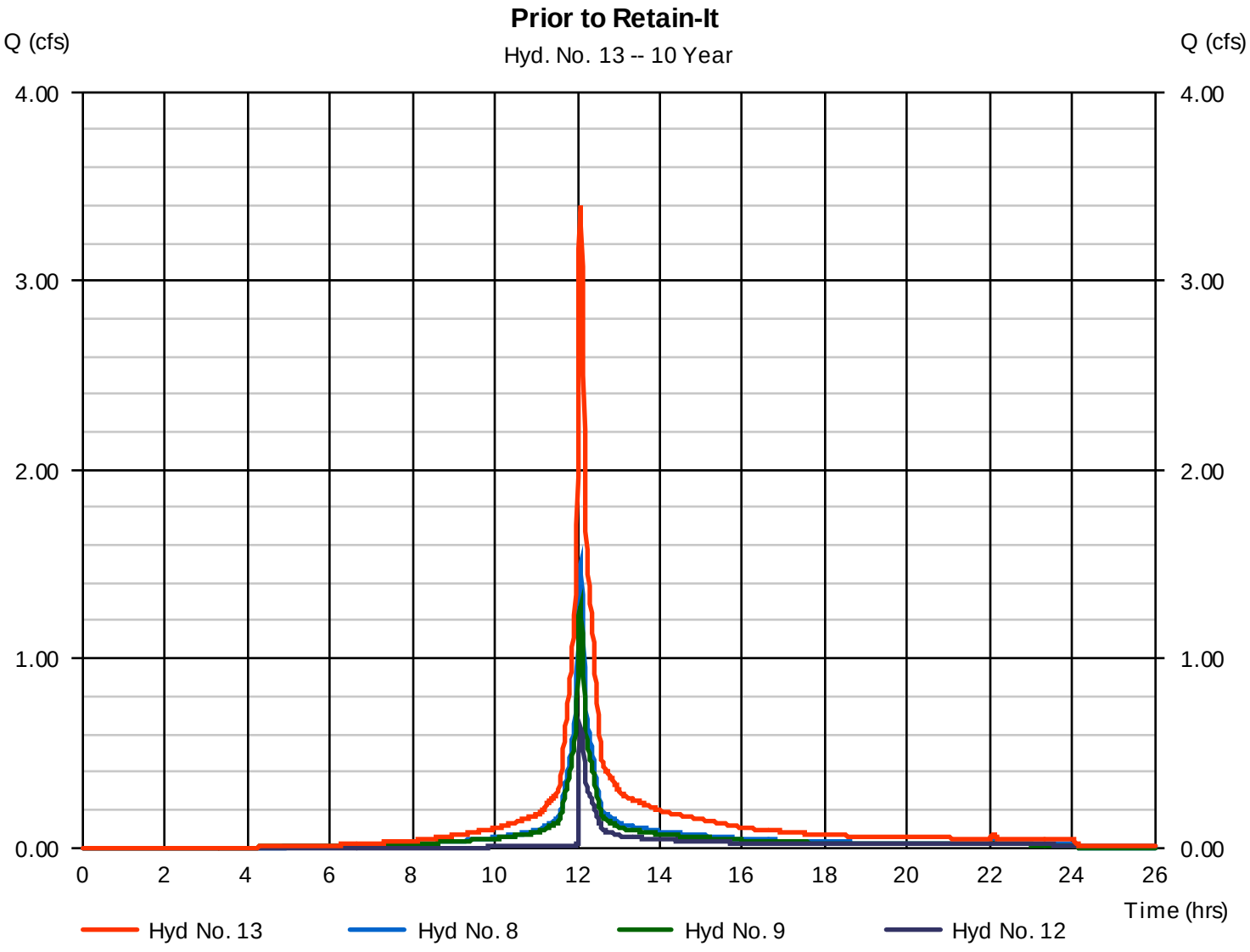


Hydrograph Report

Hyd. No. 13

Prior to Retain-It

Hydrograph type	= Combine	Peak discharge	= 3.401 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 10,884 cuft
Inflow hyds.	= 8, 9, 12	Contrib. drain. area	= 0.580 ac



Hydrograph Report

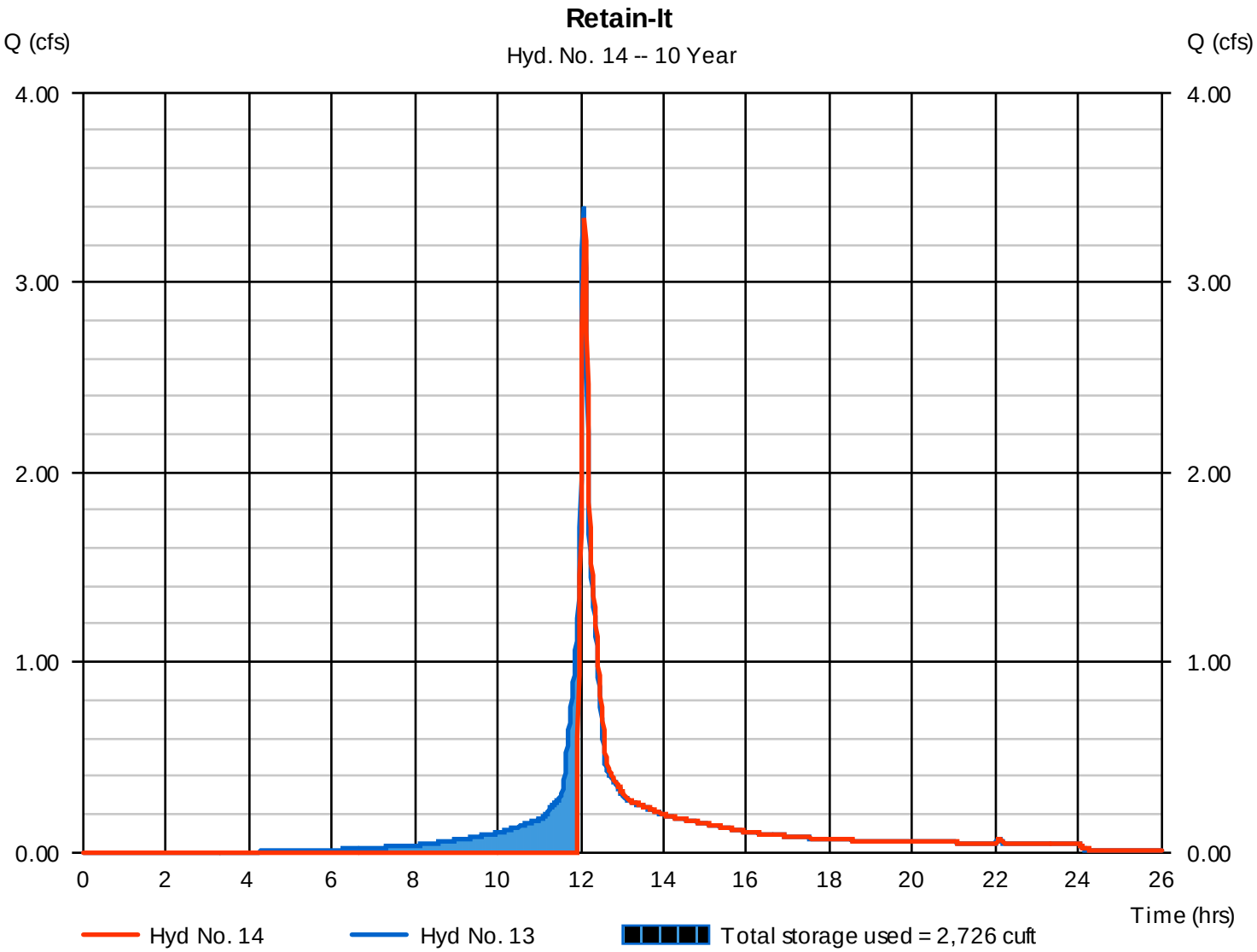
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 14

Retain-It

Hydrograph type	= Reservoir	Peak discharge	= 3.339 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 8,407 cuft
Inflow hyd. No.	= 13 - Prior to Retain-It	Max. Elevation	= 43.66 ft
Reservoir name	= Subsurface Detention - Retain-It	Max. Storage	= 2,726 cuft

Storage Indication method used. Outflow includes exfiltration.



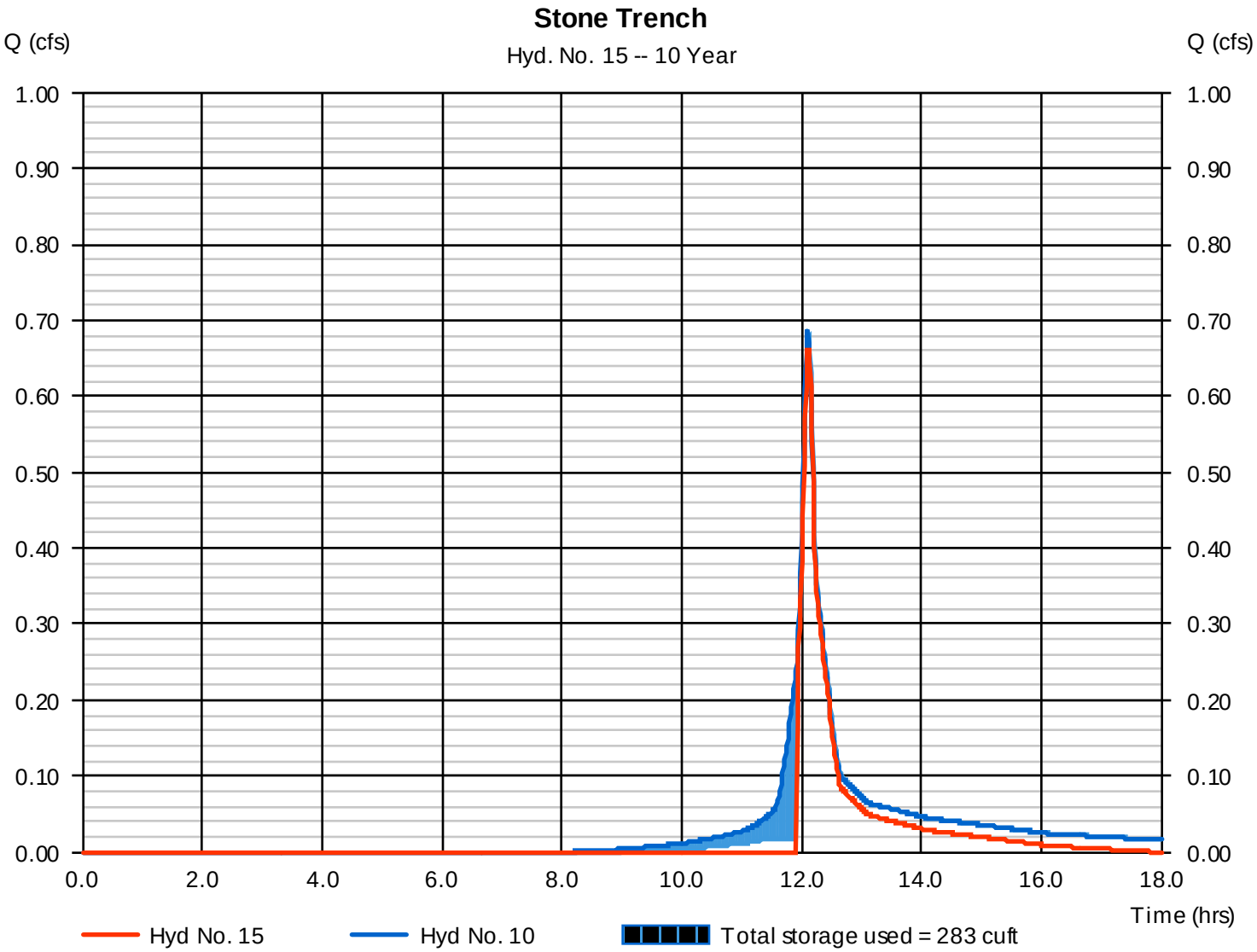
Hydrograph Report

Hyd. No. 15

Stone Trench

Hydrograph type	= Reservoir	Peak discharge	= 0.662 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 1,261 cuft
Inflow hyd. No.	= 10 - PDA-2	Max. Elevation	= 44.50 ft
Reservoir name	= Stone Trench	Max. Storage	= 283 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

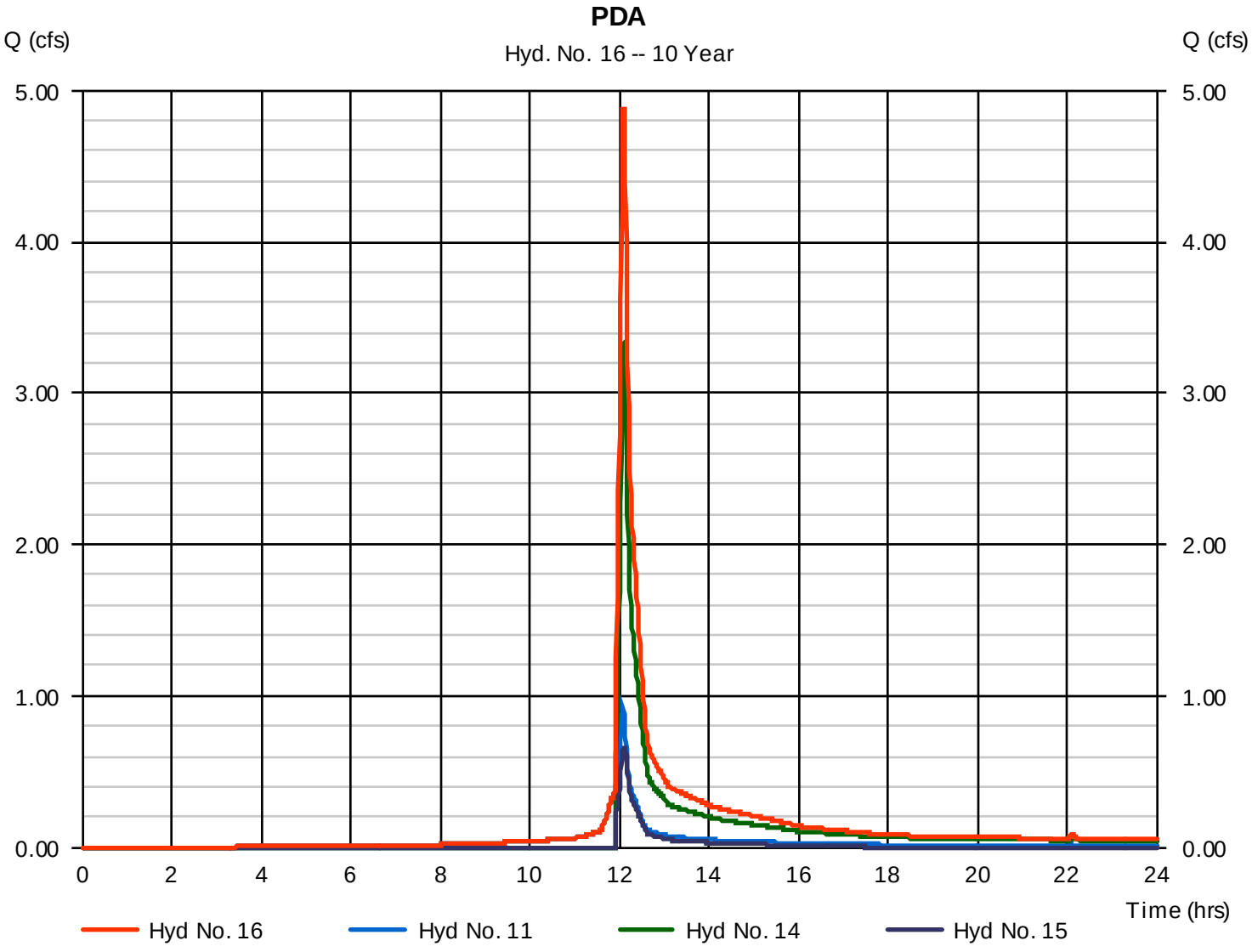


Hydrograph Report

Hyd. No. 16

PDA

Hydrograph type	= Combine	Peak discharge	= 4.882 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 12,744 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 0.180 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

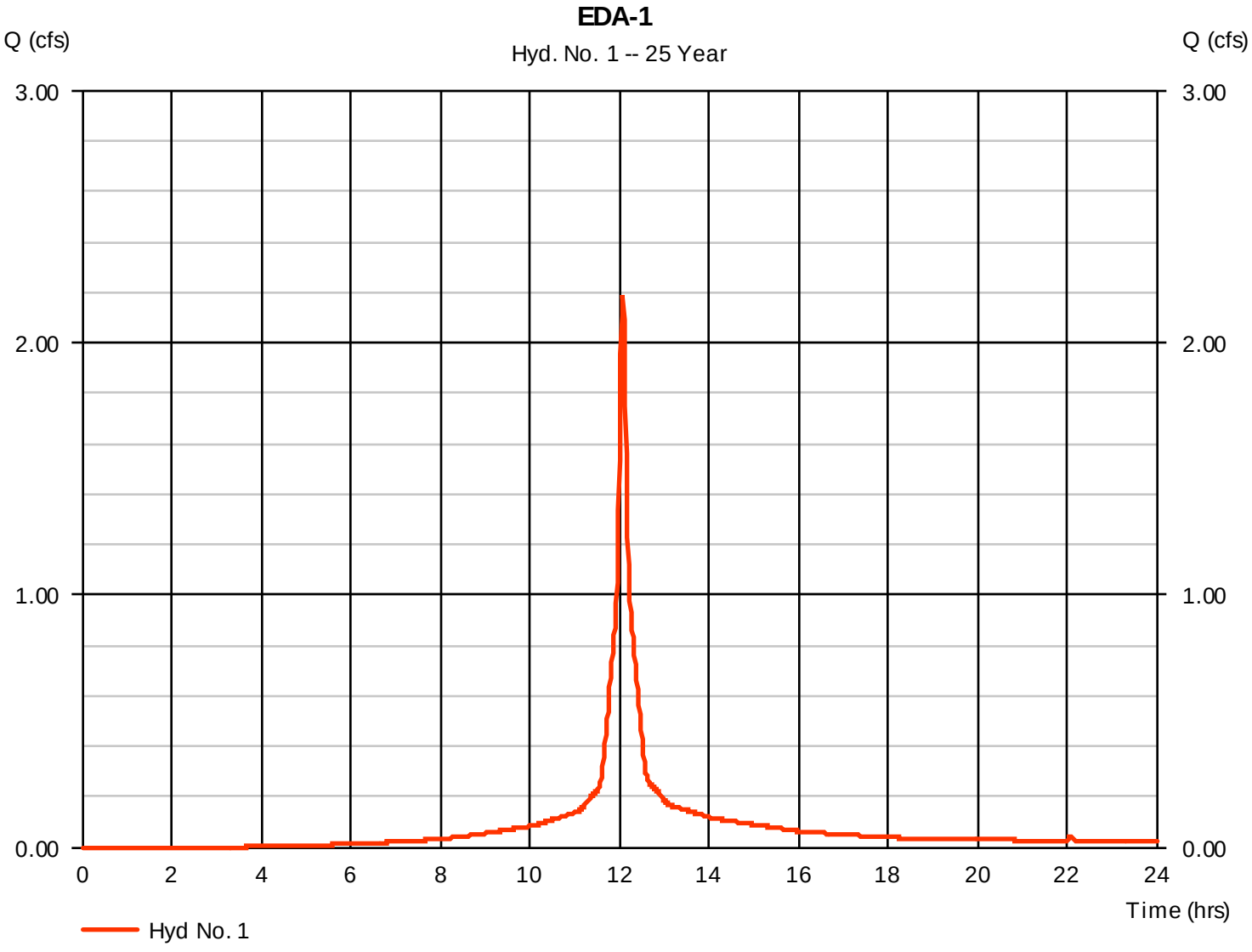
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.187	1	724	7,122	-----	-----	-----	EDA-1
2	SCS Runoff	2.168	1	725	6,744	-----	-----	-----	EDA-2a
3	SCS Runoff	2.084	1	724	7,299	-----	-----	-----	EDA-3
4	SCS Runoff	0.282	1	725	870	-----	-----	-----	EDA-2b
5	Combine	4.634	1	724	14,736	1, 2, 4	-----	-----	Total Culvert Flow (Ex Conditions)
6	Combine	6.718	1	724	22,035	3, 5	-----	-----	EDA
7	SCS Runoff	0.869	1	725	2,682	-----	-----	-----	PDA-1A
8	SCS Runoff	1.916	1	724	6,196	-----	-----	-----	PDA-1B
9	SCS Runoff	1.601	1	724	5,254	-----	-----	-----	PDA-1C
10	SCS Runoff	0.936	1	726	3,017	-----	-----	-----	PDA-2
11	SCS Runoff	1.147	1	724	3,869	-----	-----	-----	PDA-3
12	Reservoir	0.868	1	725	2,671	7	44.96	435	Surface Detention
13	Combine	4.368	1	725	14,121	8, 9, 12	-----	-----	Prior to Retain-It
14	Reservoir	4.286	1	726	11,644	13	43.72	2,779	Retain-It
15	Reservoir	0.897	1	727	1,964	10	44.70	301	Stone Trench
16	Combine	6.275	1	725	17,477	11, 14, 15	-----	-----	PDA

Hydrograph Report

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.187 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,122 cuft
Drainage area	= 0.360 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

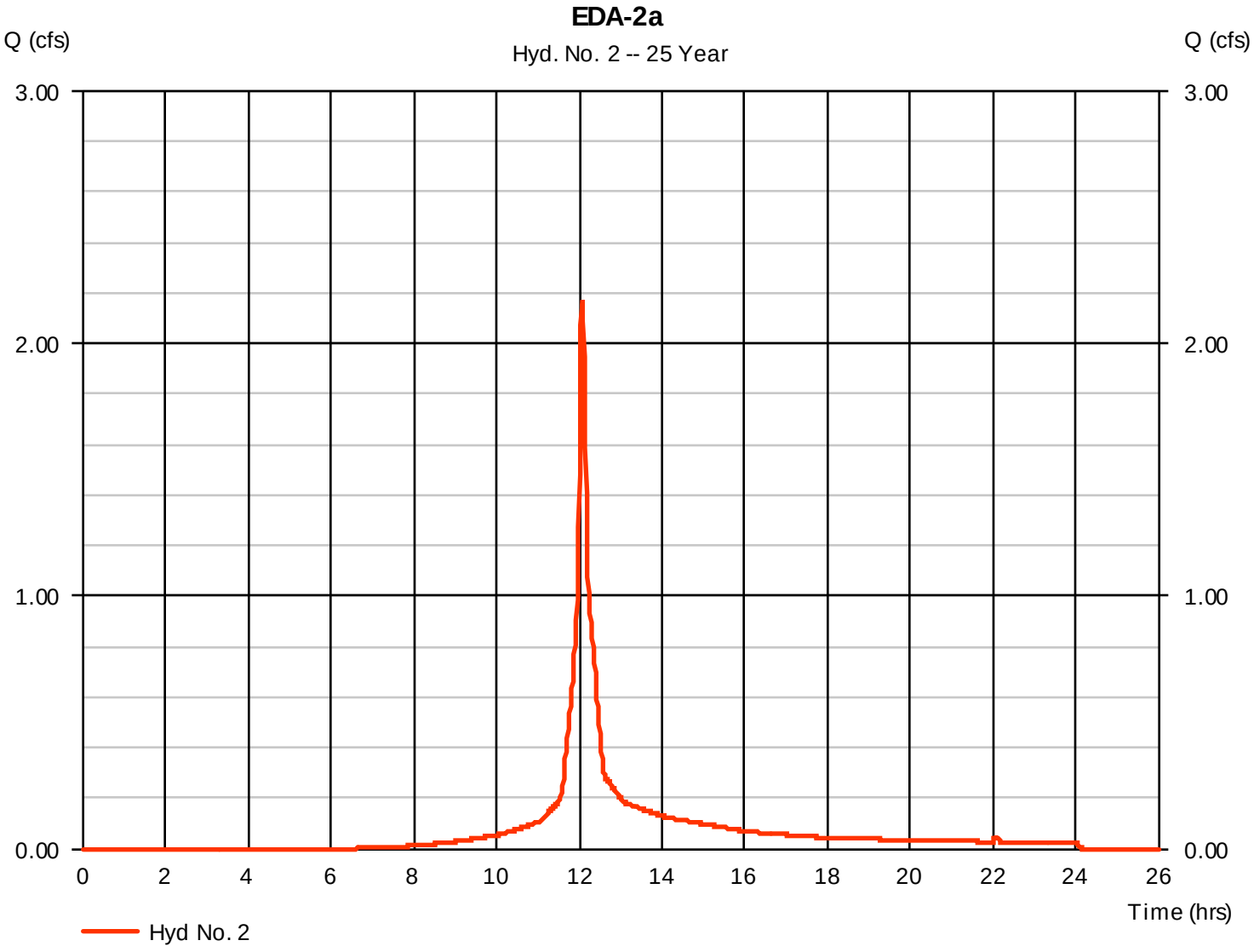


Hydrograph Report

Hyd. No. 2

EDA-2a

Hydrograph type	= SCS Runoff	Peak discharge	= 2.168 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 6,744 cuft
Drainage area	= 0.430 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

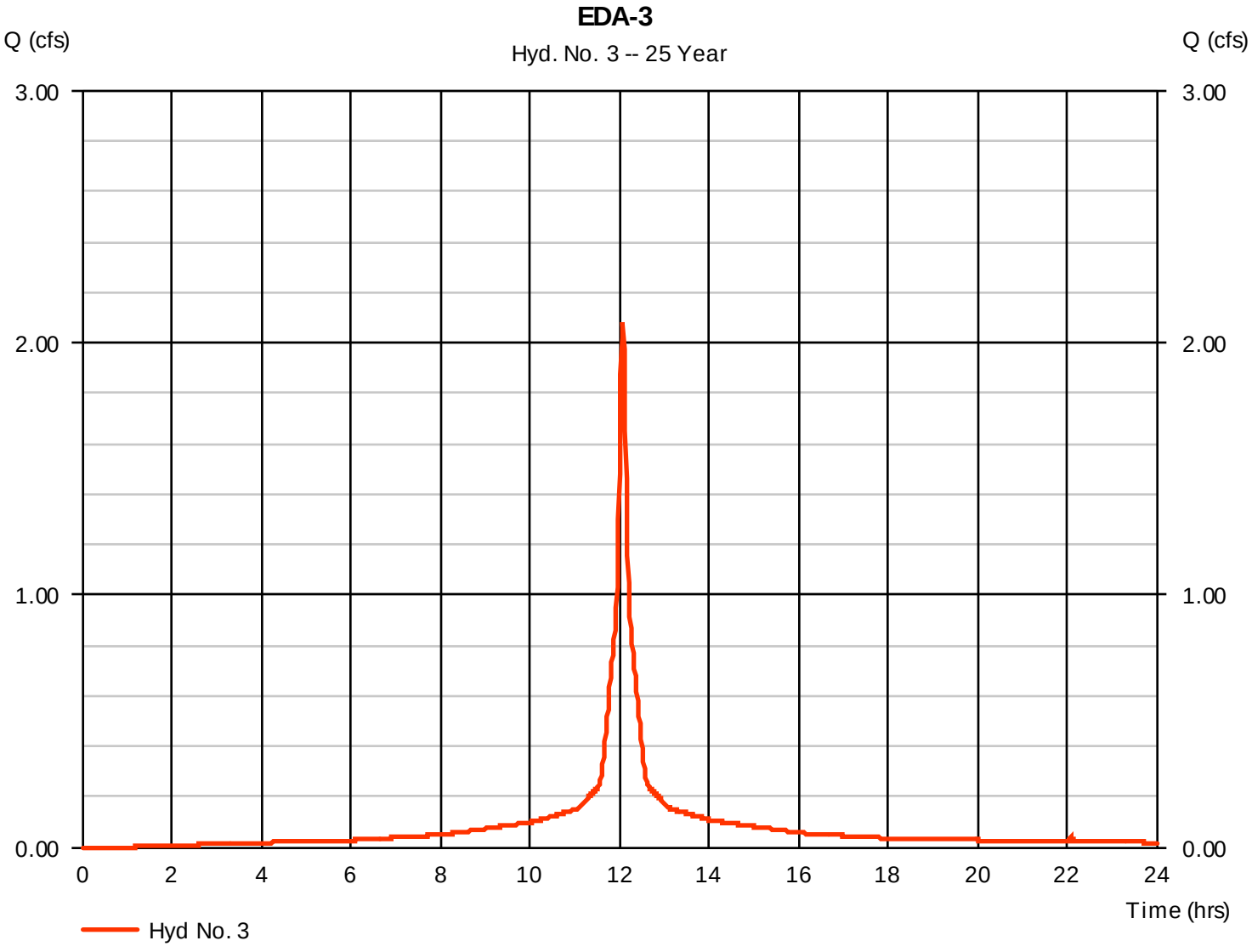


Hydrograph Report

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 2.084 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,299 cuft
Drainage area	= 0.320 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

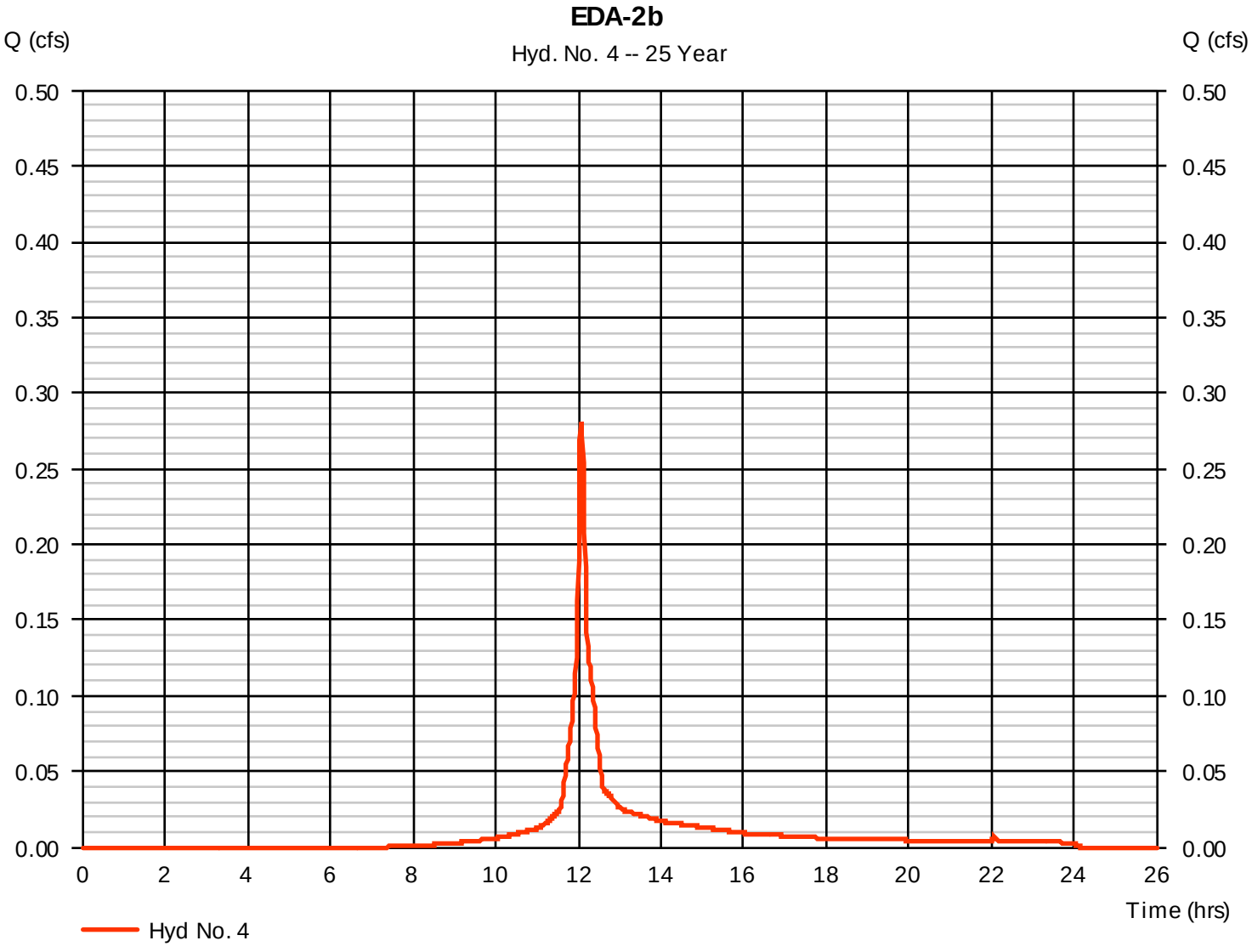


Hydrograph Report

Hyd. No. 4

EDA-2b

Hydrograph type	= SCS Runoff	Peak discharge	= 0.282 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 870 cuft
Drainage area	= 0.060 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

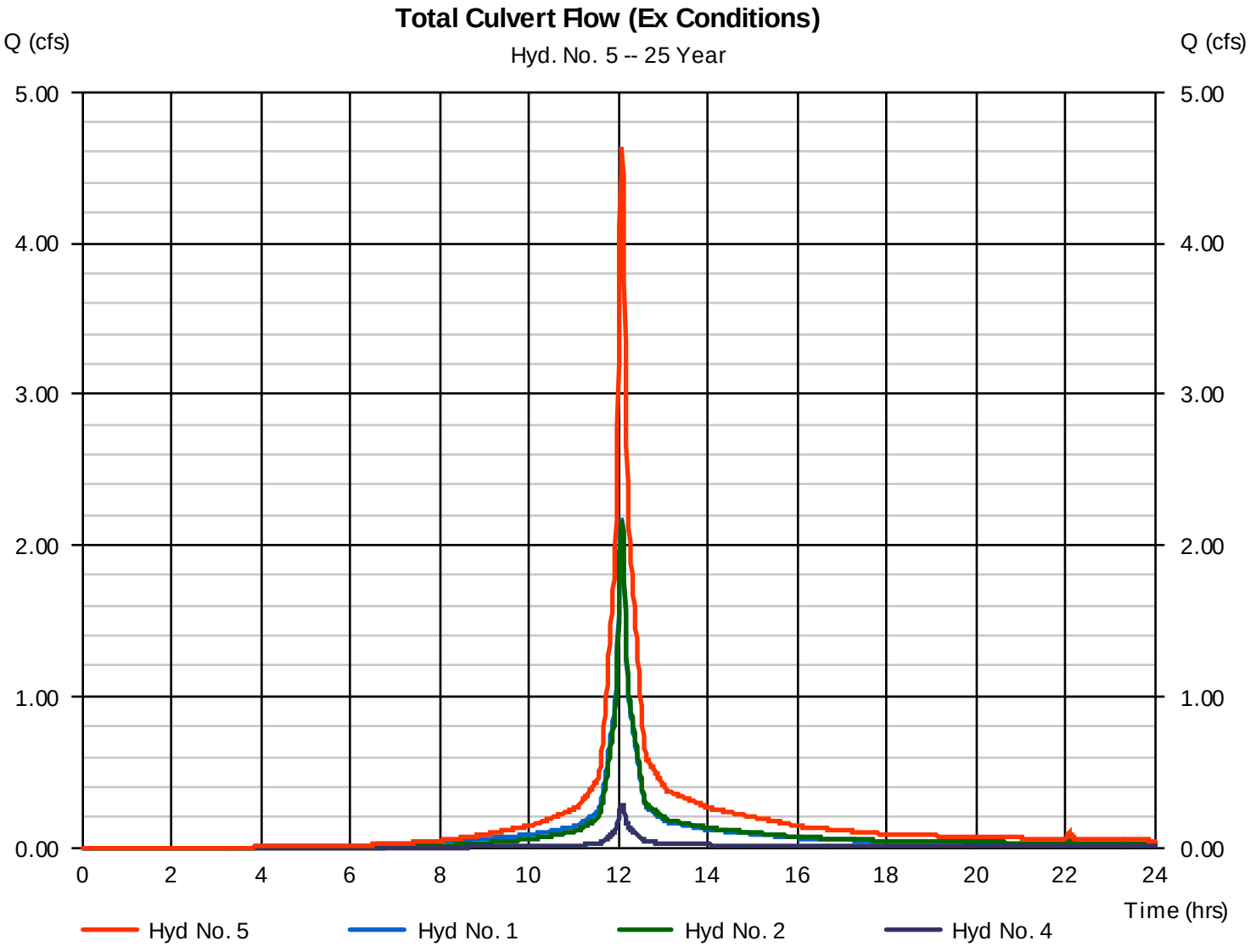


Hydrograph Report

Hyd. No. 5

Total Culvert Flow (Ex Conditions)

Hydrograph type	= Combine	Peak discharge	= 4.634 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 14,736 cuft
Inflow hyds.	= 1, 2, 4	Contrib. drain. area	= 0.850 ac

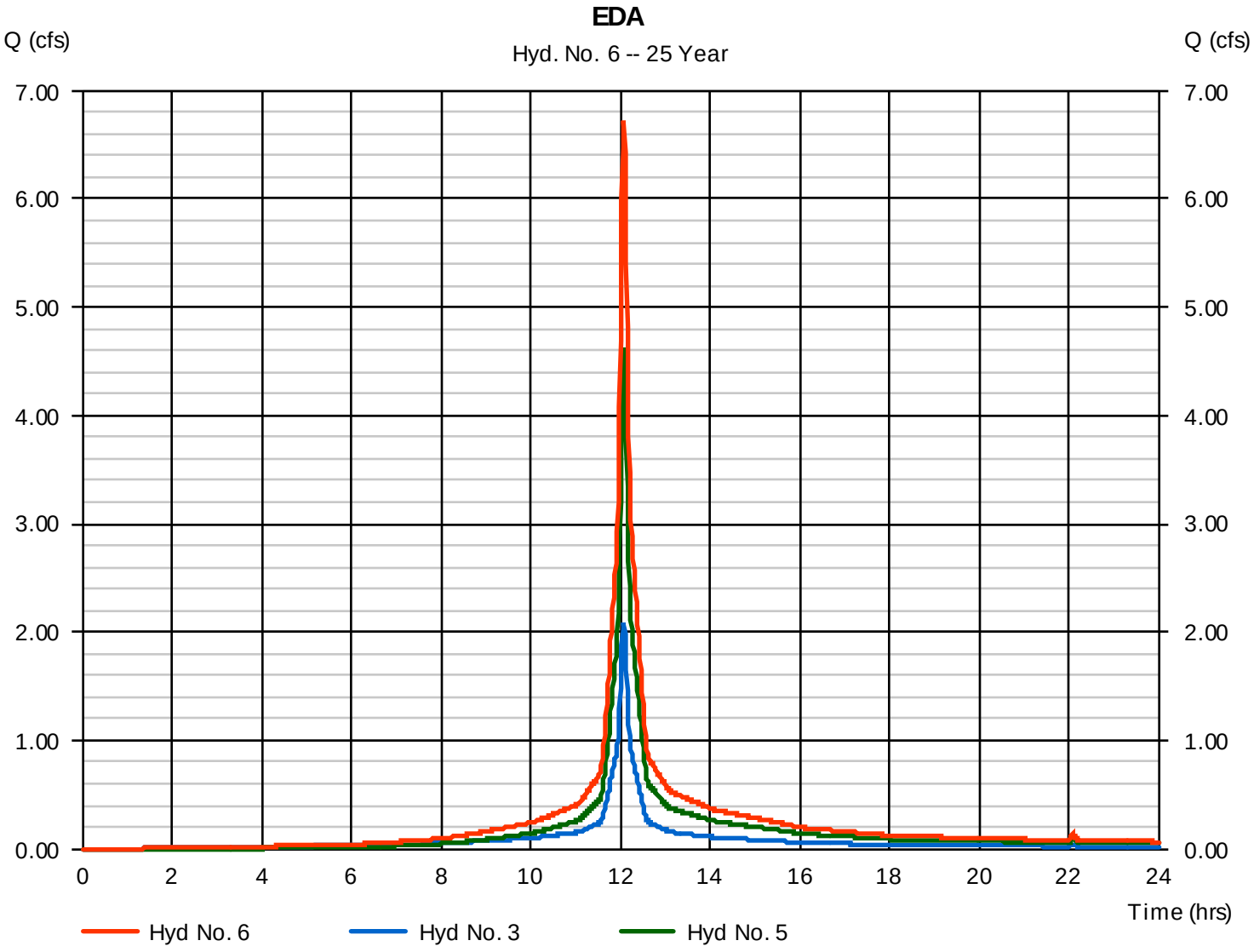


Hydrograph Report

Hyd. No. 6

EDA

Hydrograph type	= Combine	Peak discharge	= 6.718 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 22,035 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.320 ac

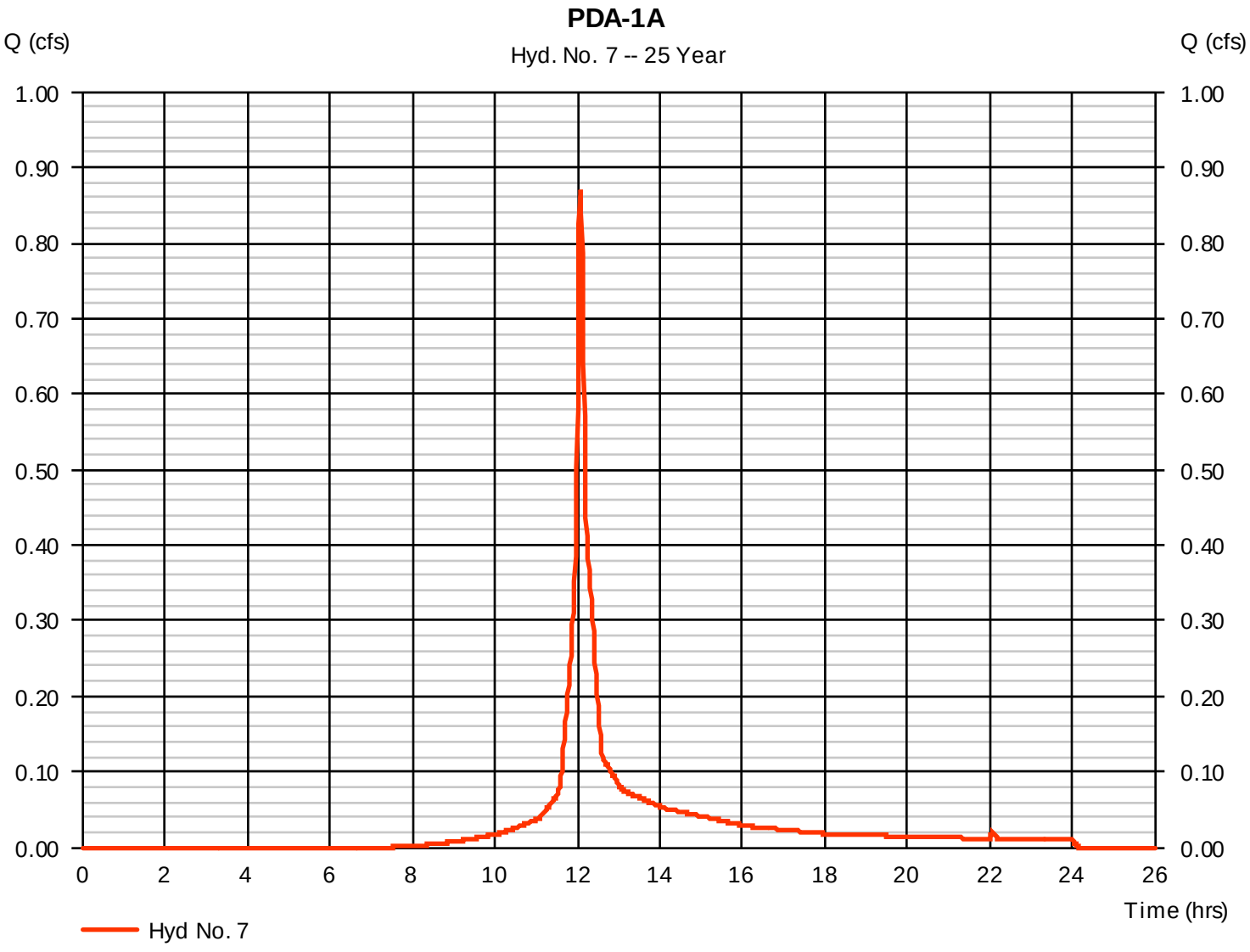


Hydrograph Report

Hyd. No. 7

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.869 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 2,682 cuft
Drainage area	= 0.190 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

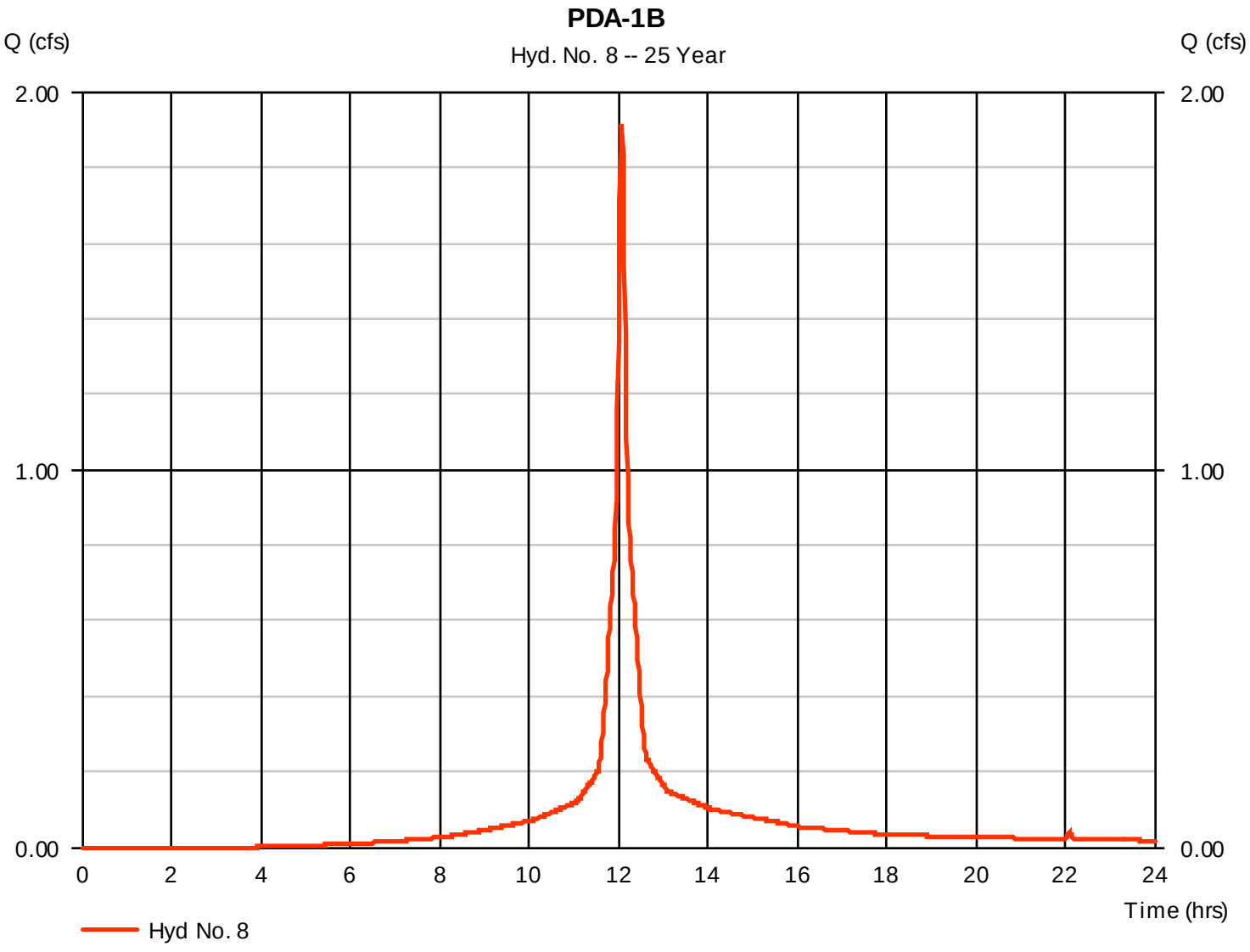


Hydrograph Report

Hyd. No. 8

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 1.916 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 6,196 cuft
Drainage area	= 0.320 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

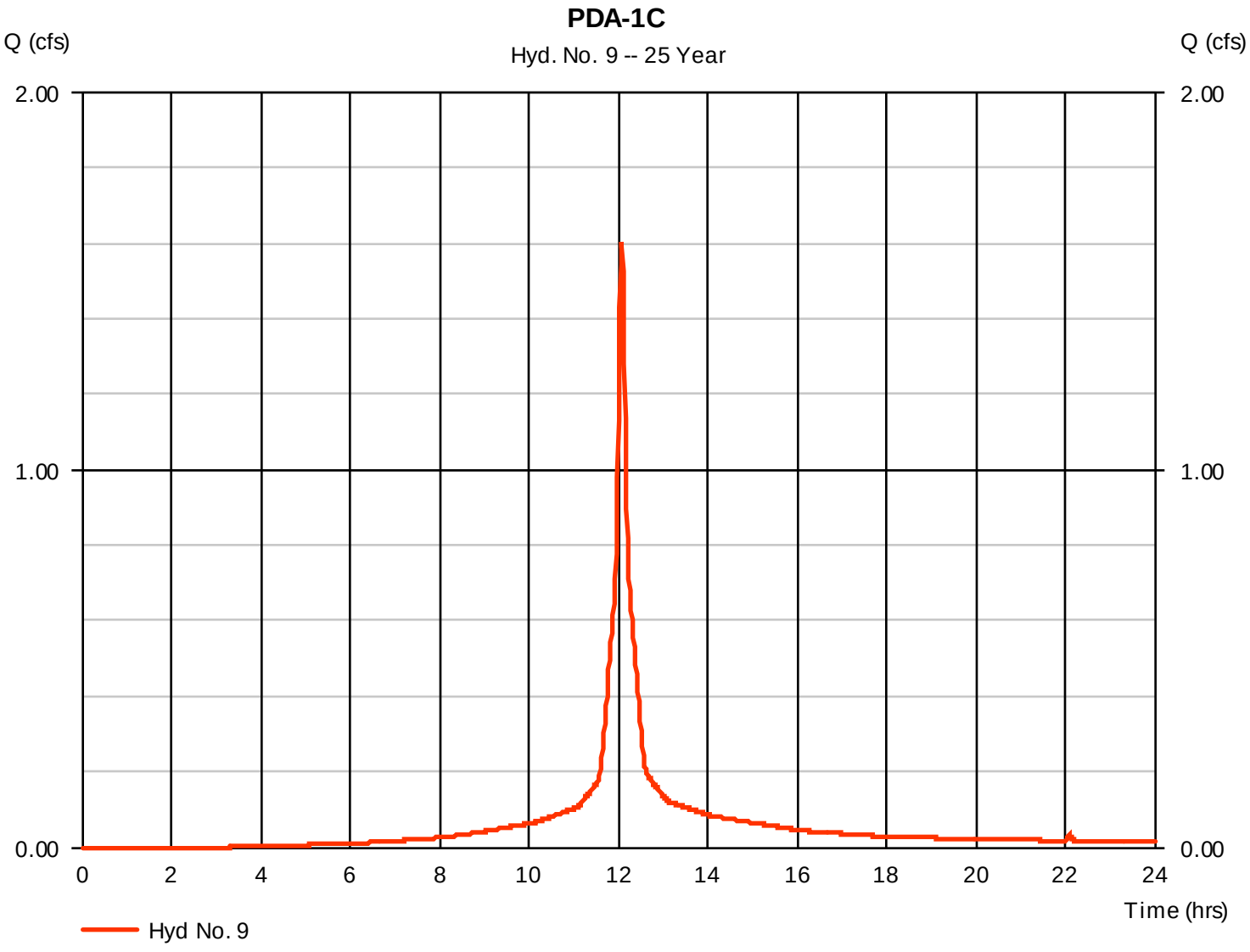


Hydrograph Report

Hyd. No. 9

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 1.601 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,254 cuft
Drainage area	= 0.260 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

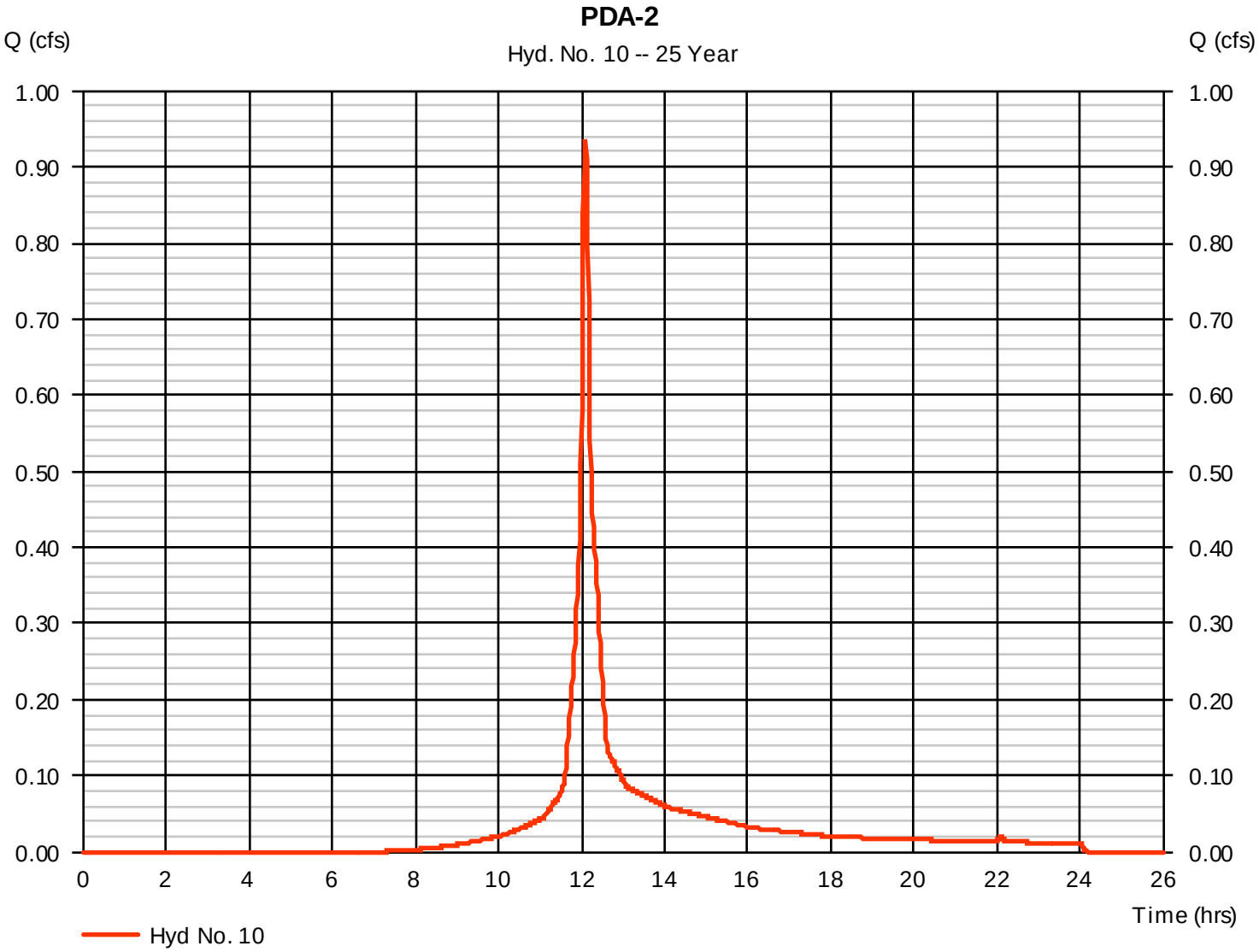


Hydrograph Report

Hyd. No. 10

PDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.936 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 3,017 cuft
Drainage area	= 0.220 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

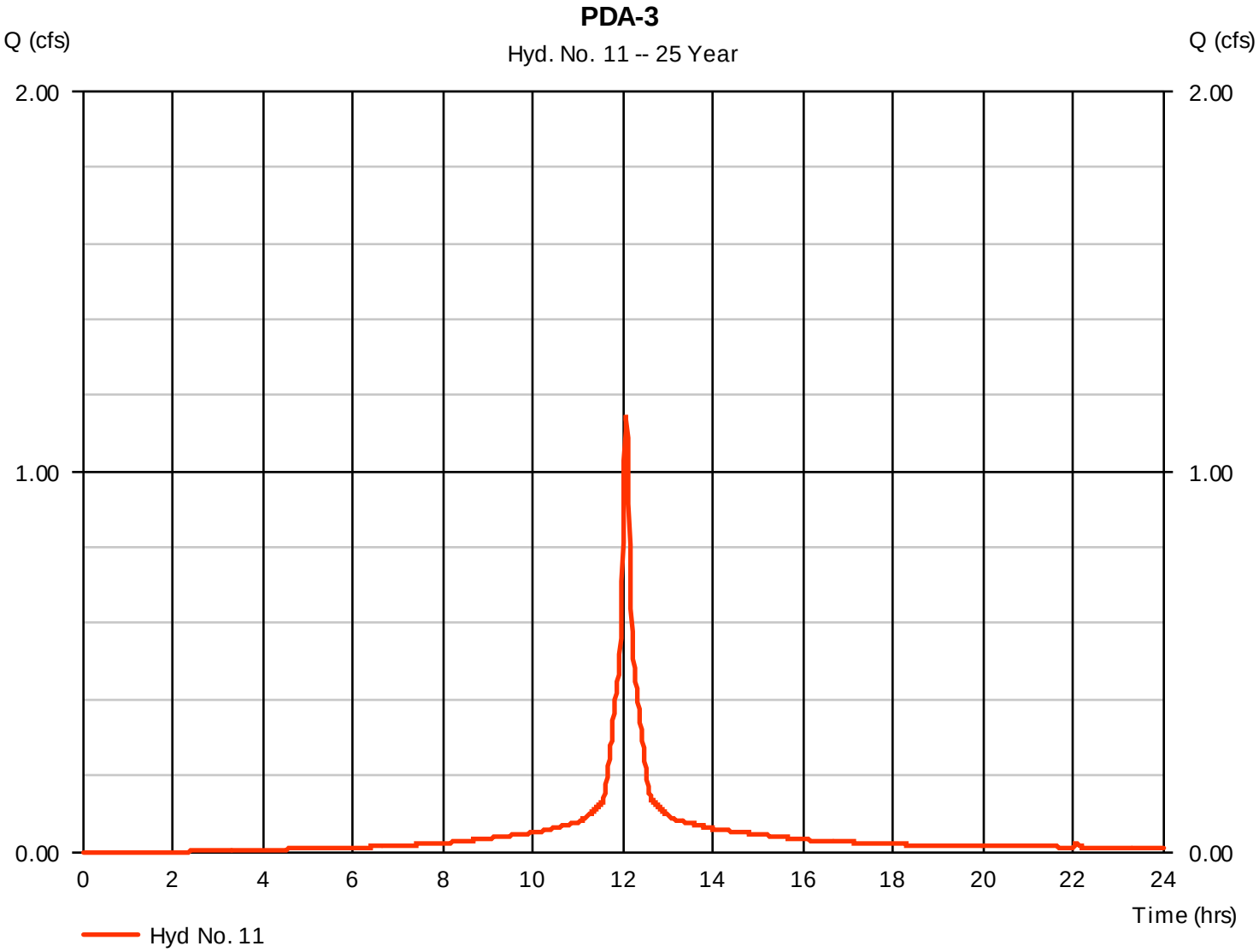


Hydrograph Report

Hyd. No. 11

PDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.147 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 3,869 cuft
Drainage area	= 0.180 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

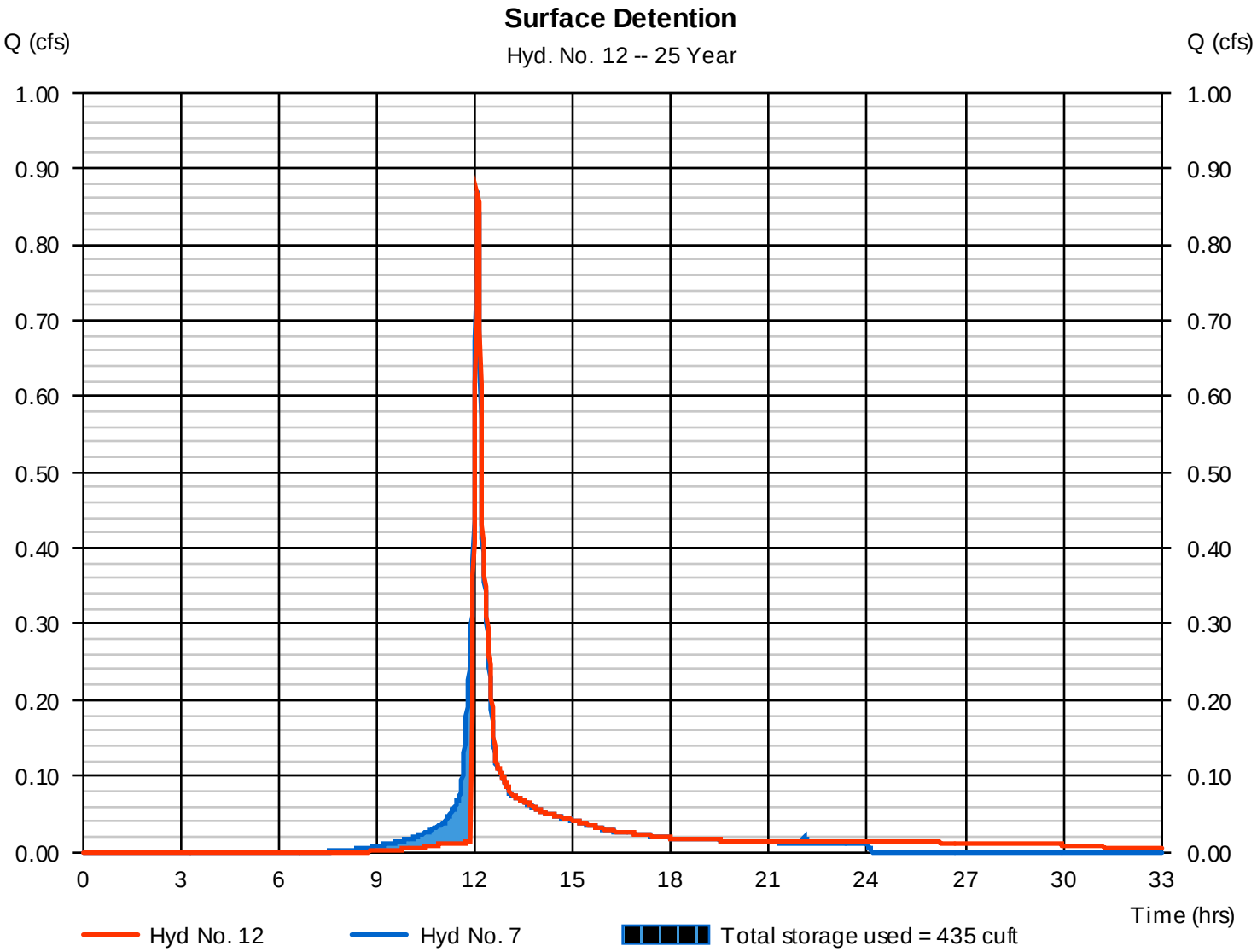
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 12

Surface Detention

Hydrograph type	= Reservoir	Peak discharge	= 0.868 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 2,671 cuft
Inflow hyd. No.	= 7 - PDA-1A	Max. Elevation	= 44.96 ft
Reservoir name	= Surface Detention	Max. Storage	= 435 cuft

Storage Indication method used. Outflow includes exfiltration.

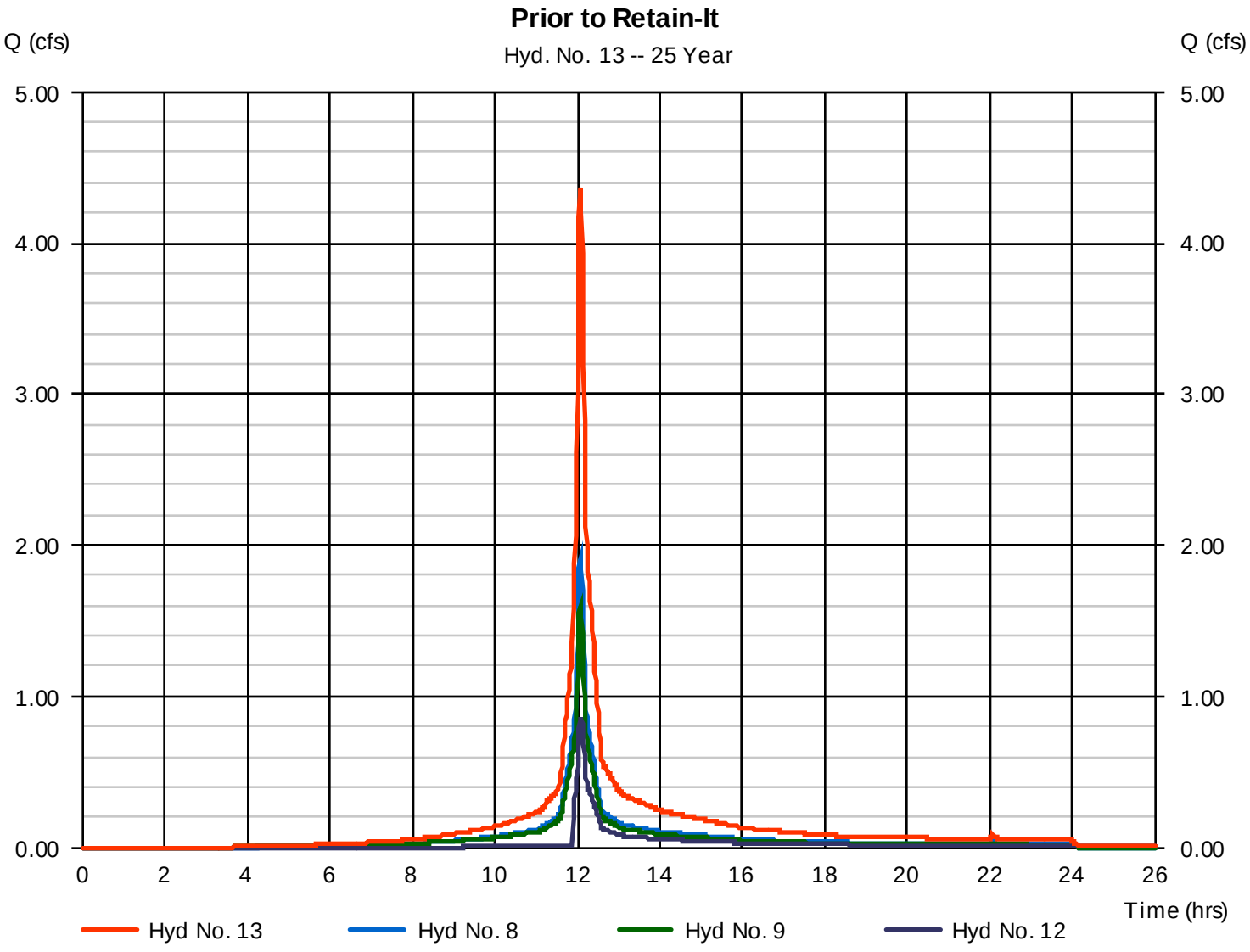


Hydrograph Report

Hyd. No. 13

Prior to Retain-It

Hydrograph type	= Combine	Peak discharge	= 4.368 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 14,121 cuft
Inflow hyds.	= 8, 9, 12	Contrib. drain. area	= 0.580 ac



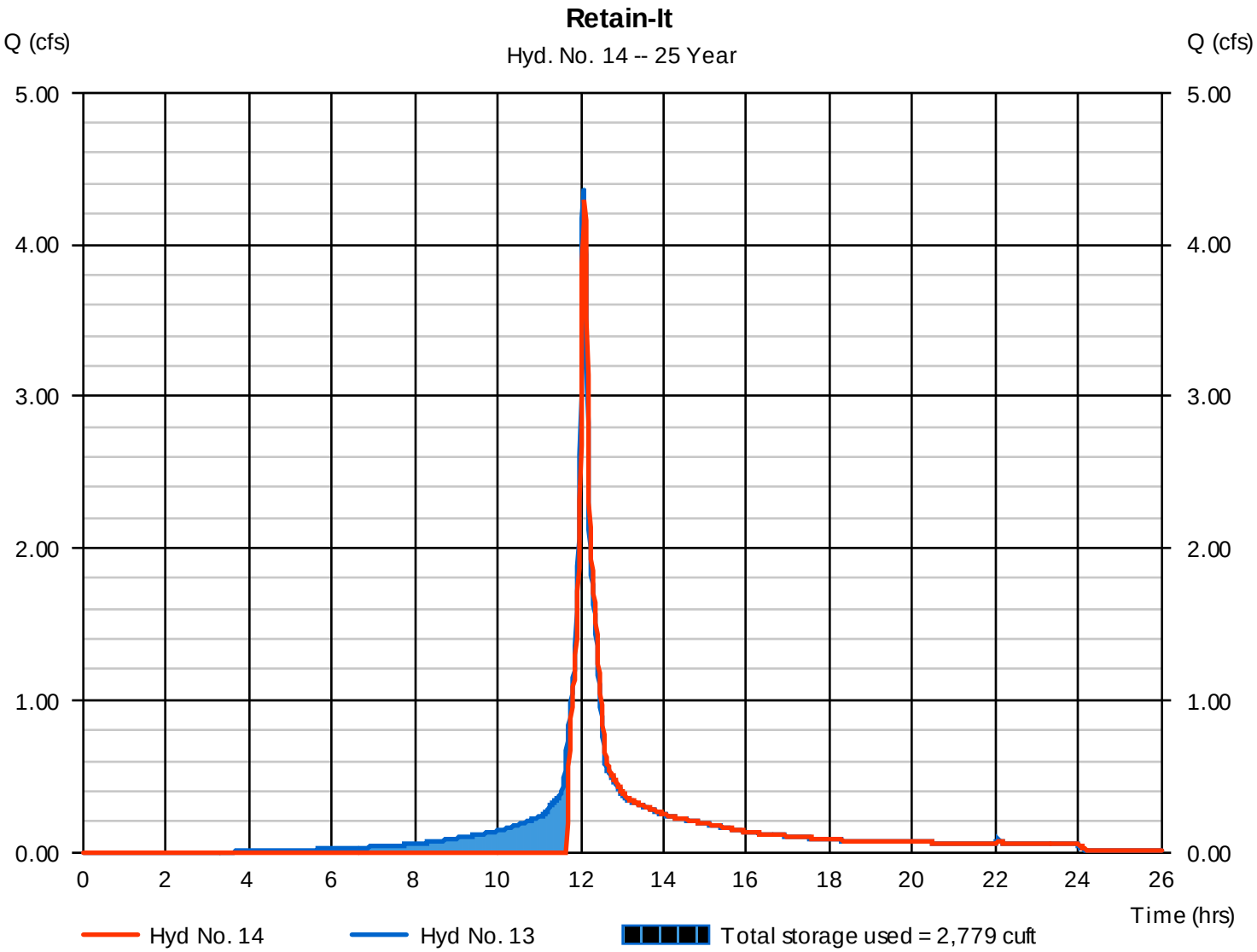
Hydrograph Report

Hyd. No. 14

Retain-It

Hydrograph type	= Reservoir	Peak discharge	= 4.286 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 11,644 cuft
Inflow hyd. No.	= 13 - Prior to Retain-It	Max. Elevation	= 43.72 ft
Reservoir name	= Subsurface Detention - Retain-It	Max. Storage	= 2,779 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

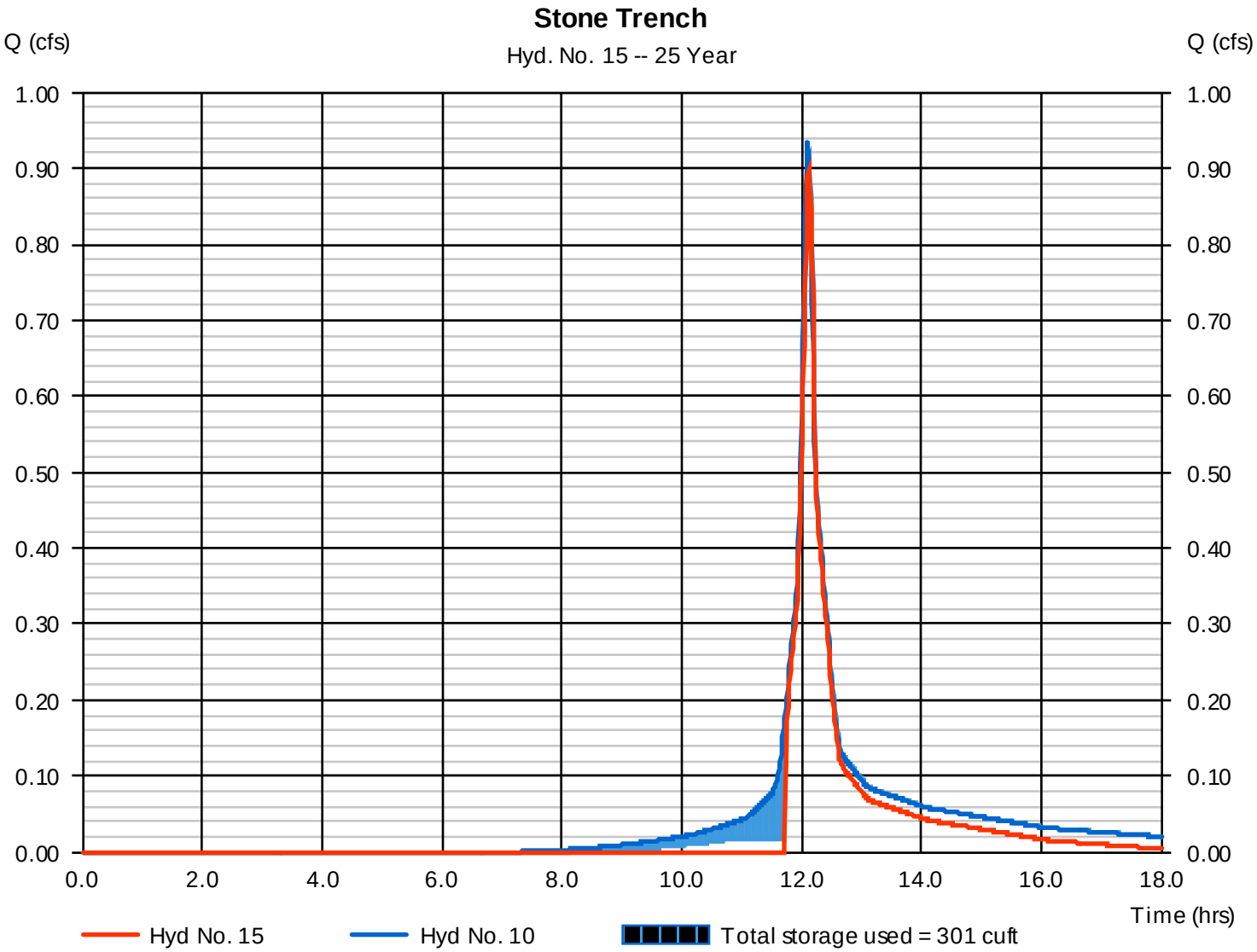
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 15

Stone Trench

Hydrograph type	= Reservoir	Peak discharge	= 0.897 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 1,964 cuft
Inflow hyd. No.	= 10 - PDA-2	Max. Elevation	= 44.70 ft
Reservoir name	= Stone Trench	Max. Storage	= 301 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

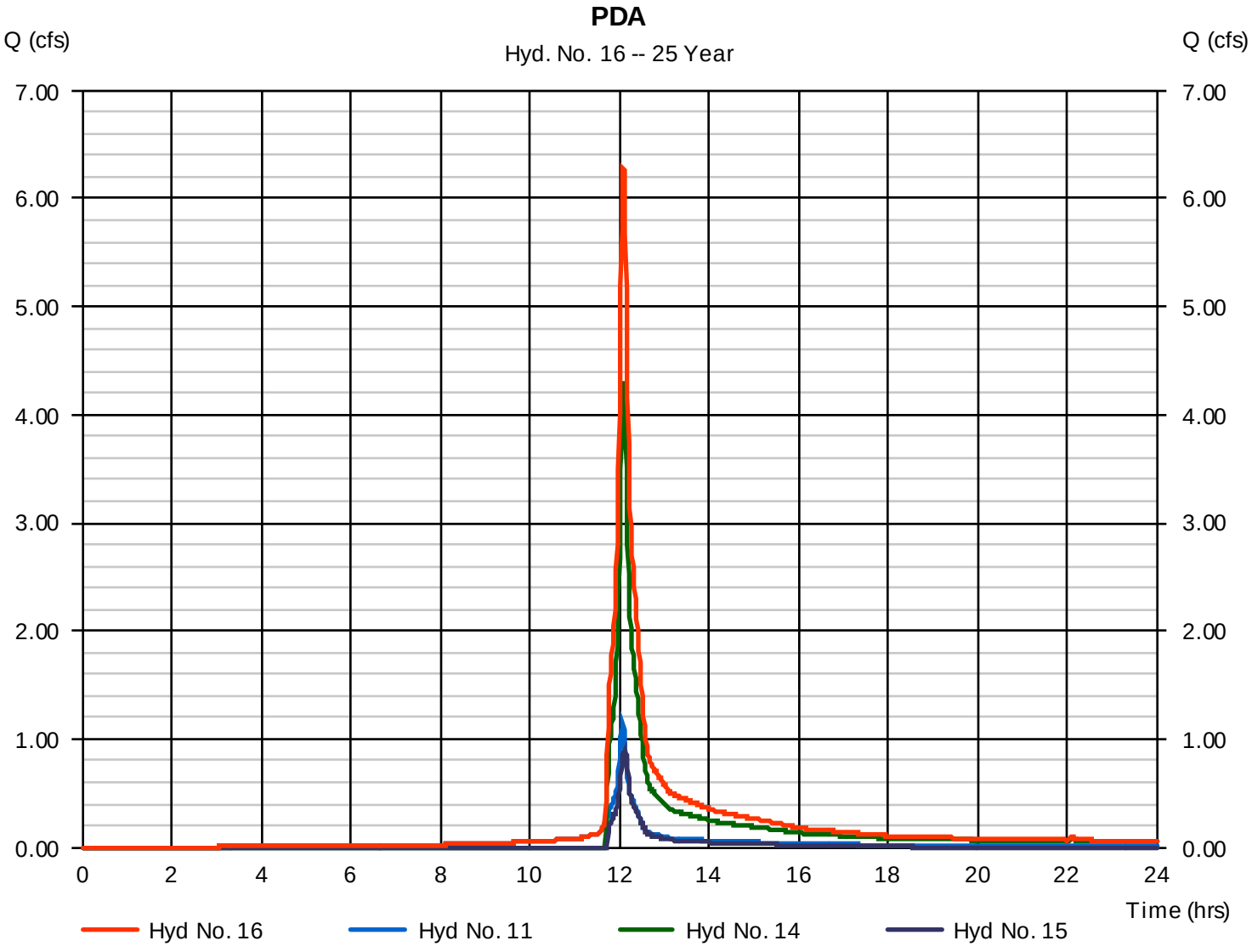


Hydrograph Report

Hyd. No. 16

PDA

Hydrograph type	= Combine	Peak discharge	= 6.275 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 17,477 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 0.180 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

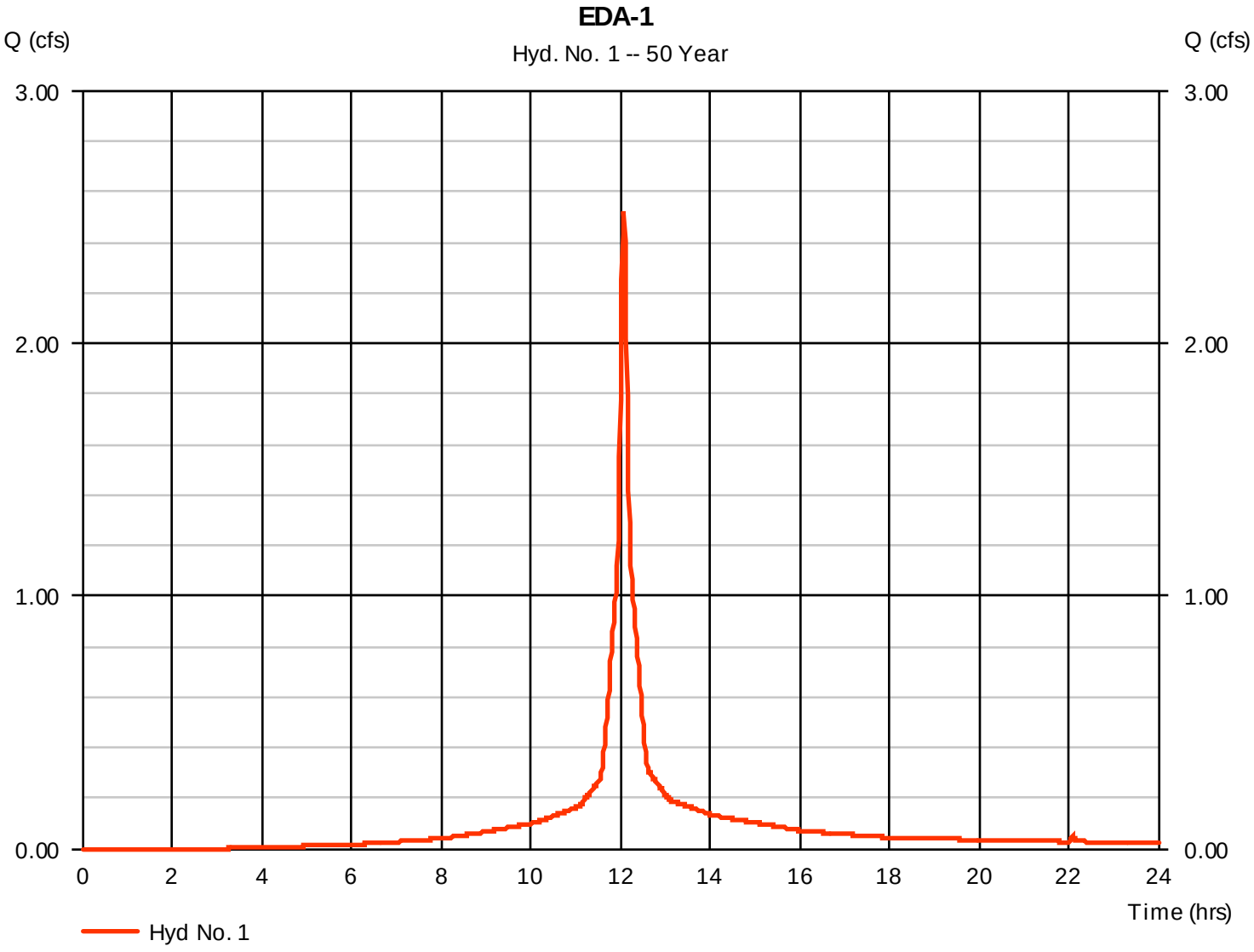
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.523	1	724	8,284	-----	-----	-----	EDA-1
2	SCS Runoff	2.572	1	724	8,048	-----	-----	-----	EDA-2a
3	SCS Runoff	2.373	1	724	8,351	-----	-----	-----	EDA-3
4	SCS Runoff	0.337	1	725	1,047	-----	-----	-----	EDA-2b
5	Combine	5.431	1	724	17,379	1, 2, 4	-----	-----	Total Culvert Flow (Ex Conditions)
6	Combine	7.804	1	724	25,731	3, 5	-----	-----	EDA
7	SCS Runoff	1.045	1	725	3,238	-----	-----	-----	PDA-1A
8	SCS Runoff	2.215	1	724	7,224	-----	-----	-----	PDA-1B
9	SCS Runoff	1.842	1	724	6,096	-----	-----	-----	PDA-1C
10	SCS Runoff	1.122	1	726	3,631	-----	-----	-----	PDA-2
11	SCS Runoff	1.311	1	724	4,458	-----	-----	-----	PDA-3
12	Reservoir	1.044	1	725	3,226	7	44.97	440	Surface Detention
13	Combine	5.080	1	725	16,546	8, 9, 12	-----	-----	Prior to Retain-It
14	Reservoir	4.979	1	726	14,069	13	43.77	2,825	Retain-It
15	Reservoir	1.070	1	727	2,525	10	44.88	318	Stone Trench
16	Combine	7.281	1	725	21,052	11, 14, 15	-----	-----	PDA

Hydrograph Report

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.523 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 8,284 cuft
Drainage area	= 0.360 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

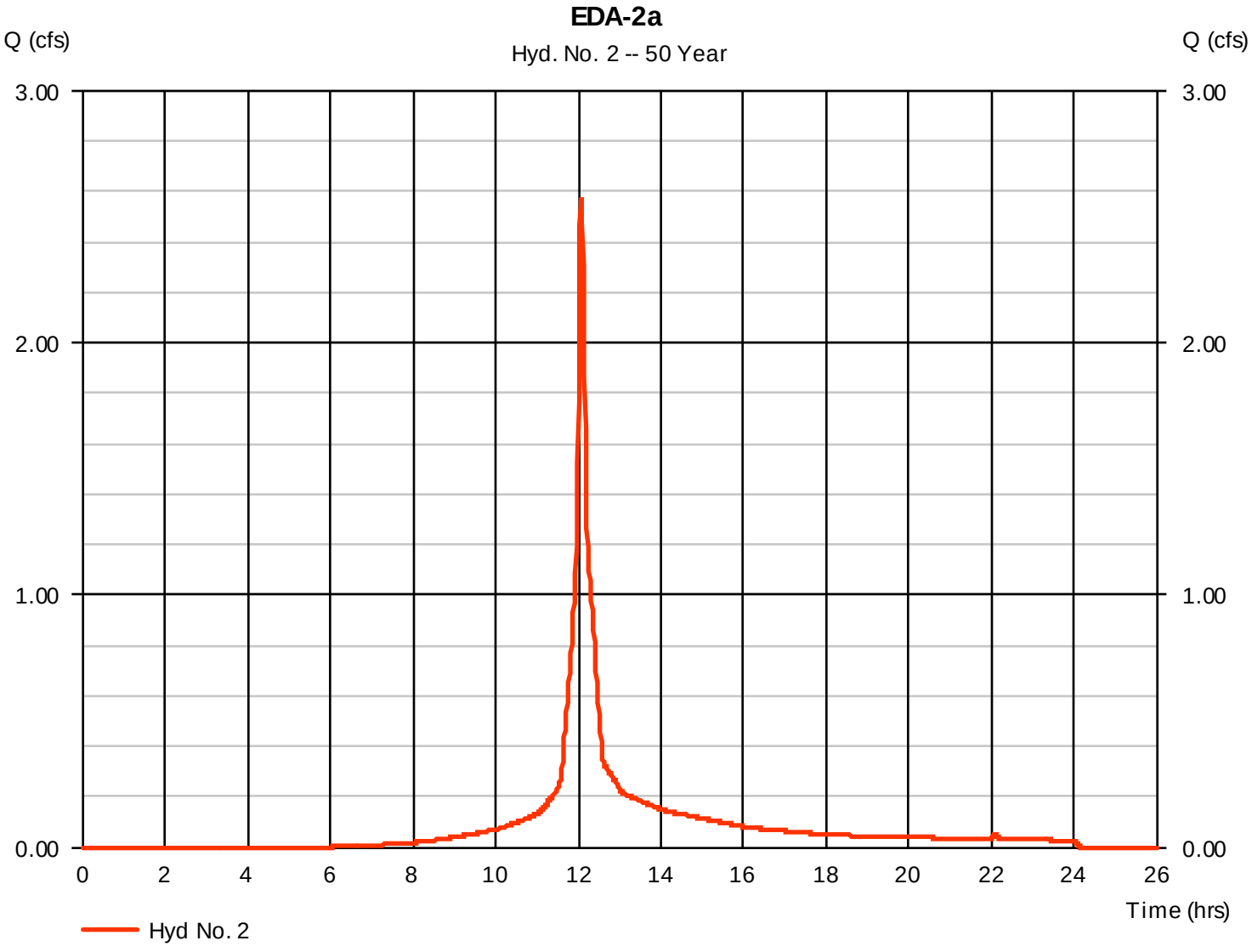


Hydrograph Report

Hyd. No. 2

EDA-2a

Hydrograph type	= SCS Runoff	Peak discharge	= 2.572 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 8,048 cuft
Drainage area	= 0.430 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

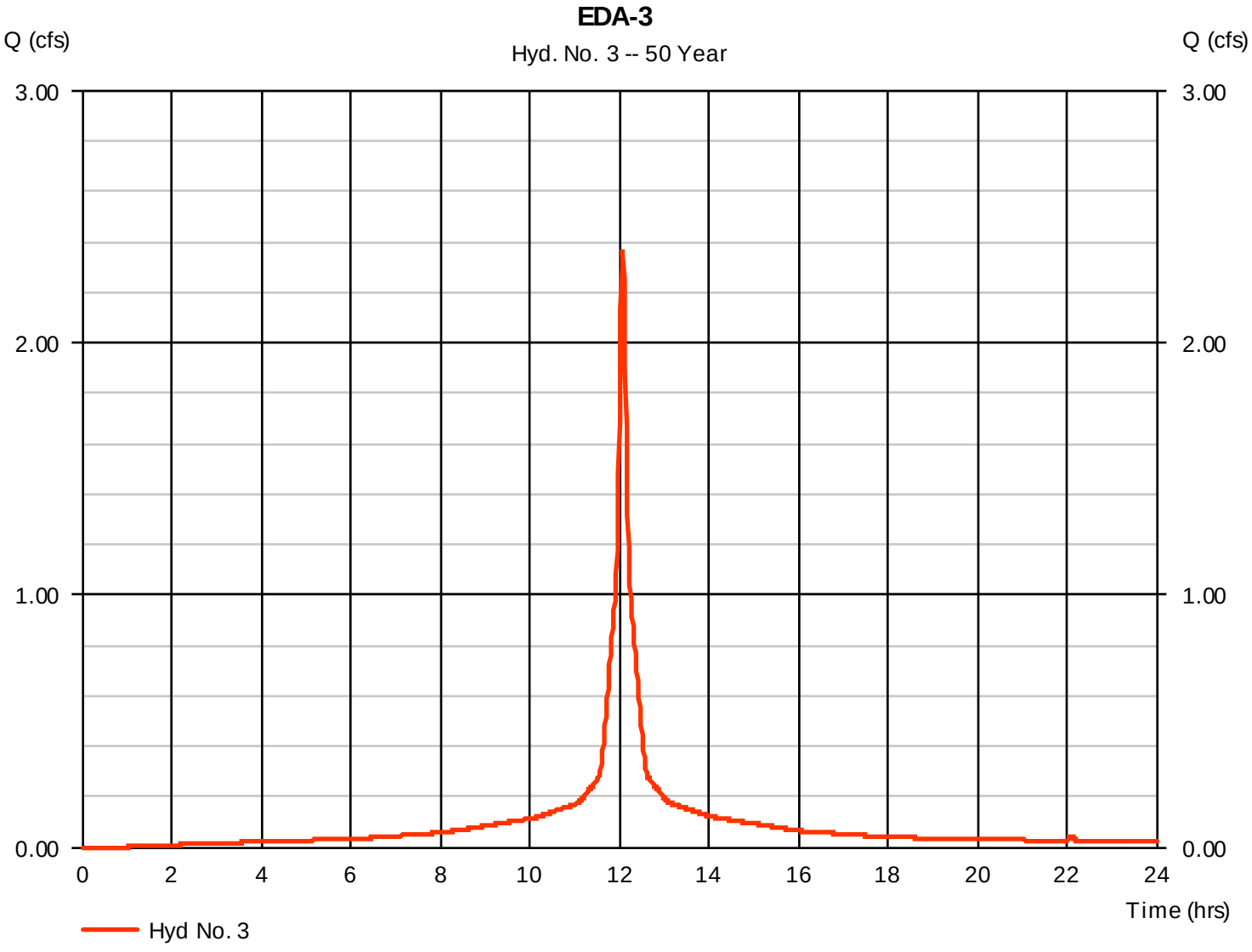


Hydrograph Report

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 2.373 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 8,351 cuft
Drainage area	= 0.320 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



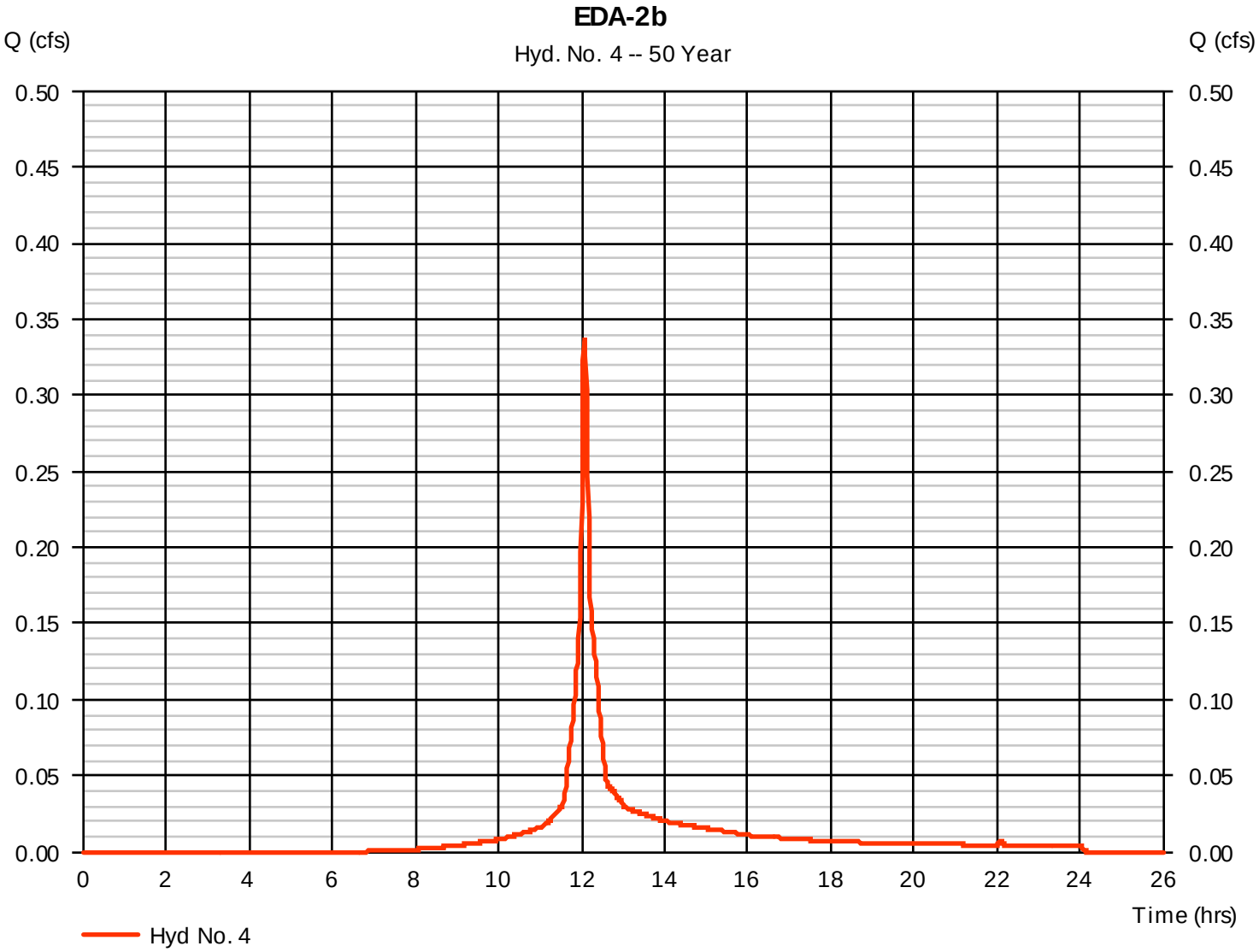
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 4

EDA-2b

Hydrograph type	= SCS Runoff	Peak discharge	= 0.337 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 1,047 cuft
Drainage area	= 0.060 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

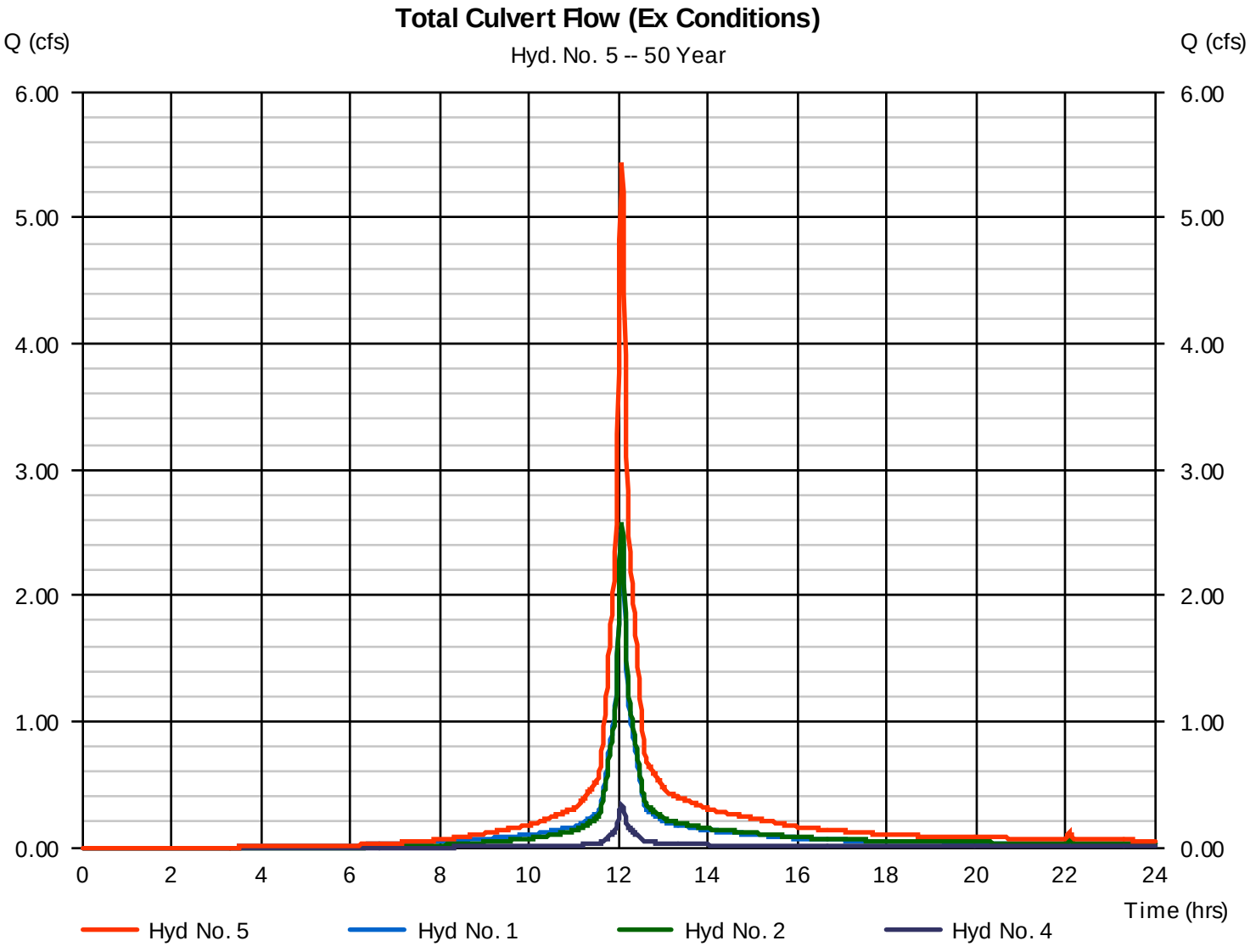


Hydrograph Report

Hyd. No. 5

Total Culvert Flow (Ex Conditions)

Hydrograph type	= Combine	Peak discharge	= 5.431 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 17,379 cuft
Inflow hyds.	= 1, 2, 4	Contrib. drain. area	= 0.850 ac

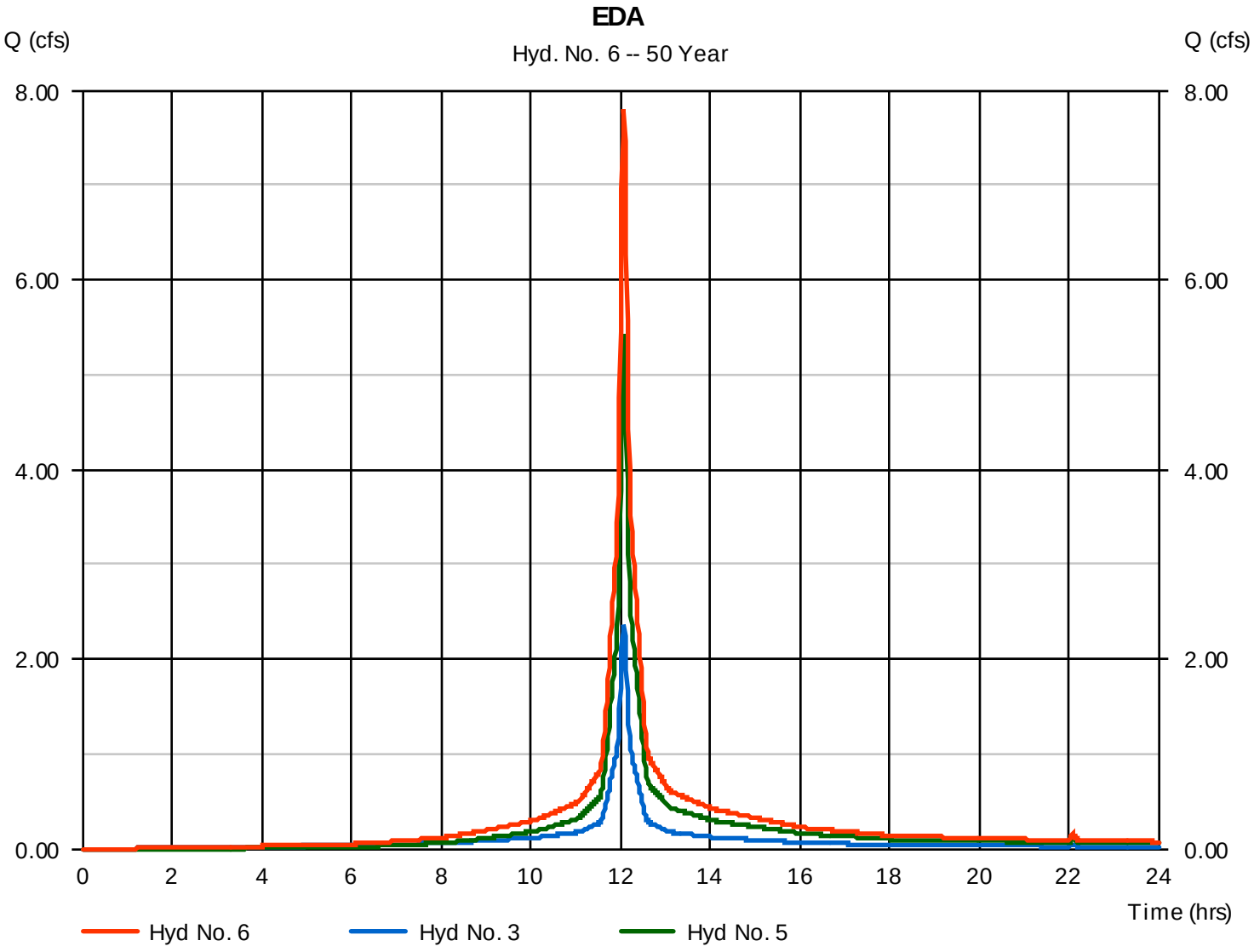


Hydrograph Report

Hyd. No. 6

EDA

Hydrograph type	= Combine	Peak discharge	= 7.804 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 25,731 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.320 ac

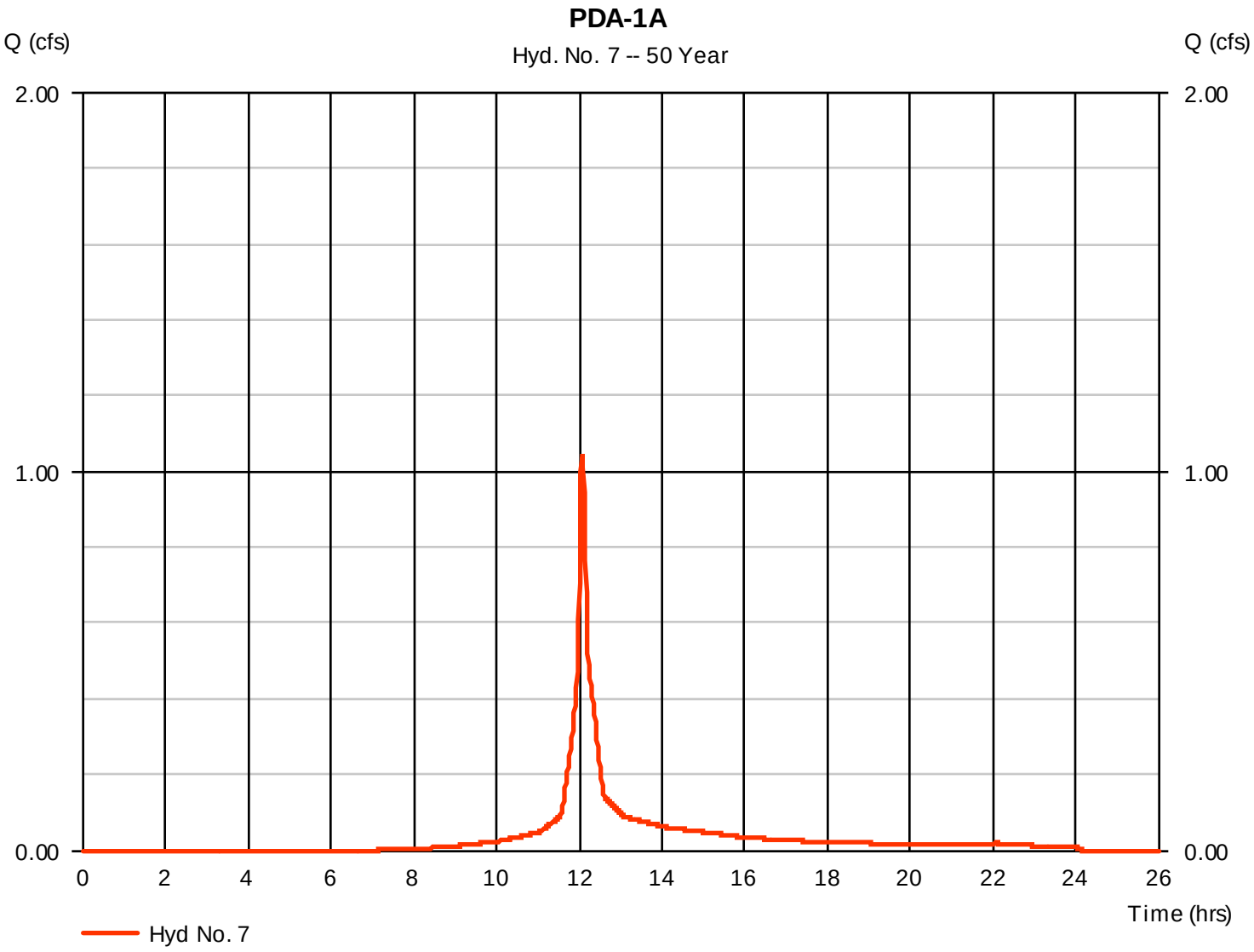


Hydrograph Report

Hyd. No. 7

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 1.045 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 3,238 cuft
Drainage area	= 0.190 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

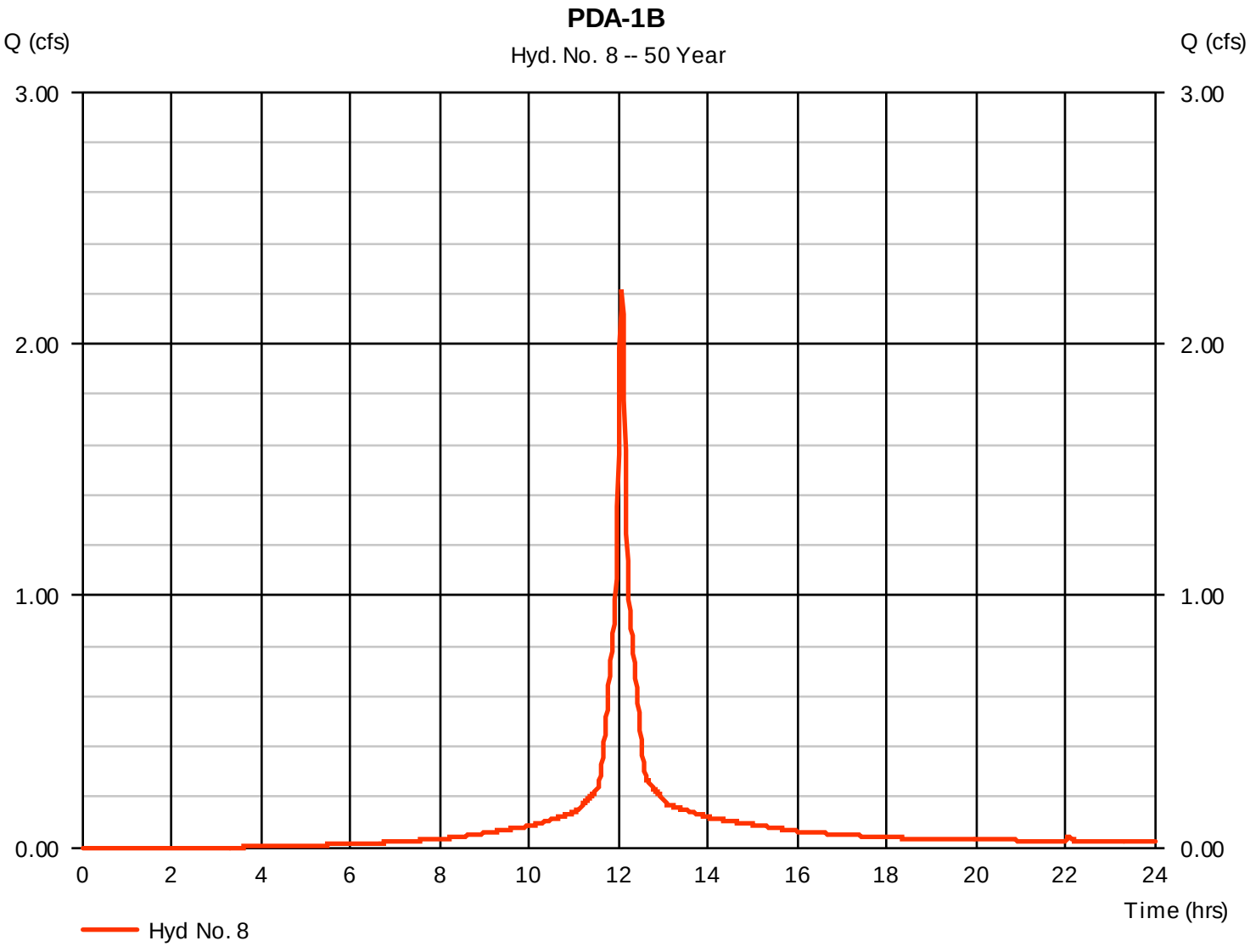


Hydrograph Report

Hyd. No. 8

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 2.215 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,224 cuft
Drainage area	= 0.320 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

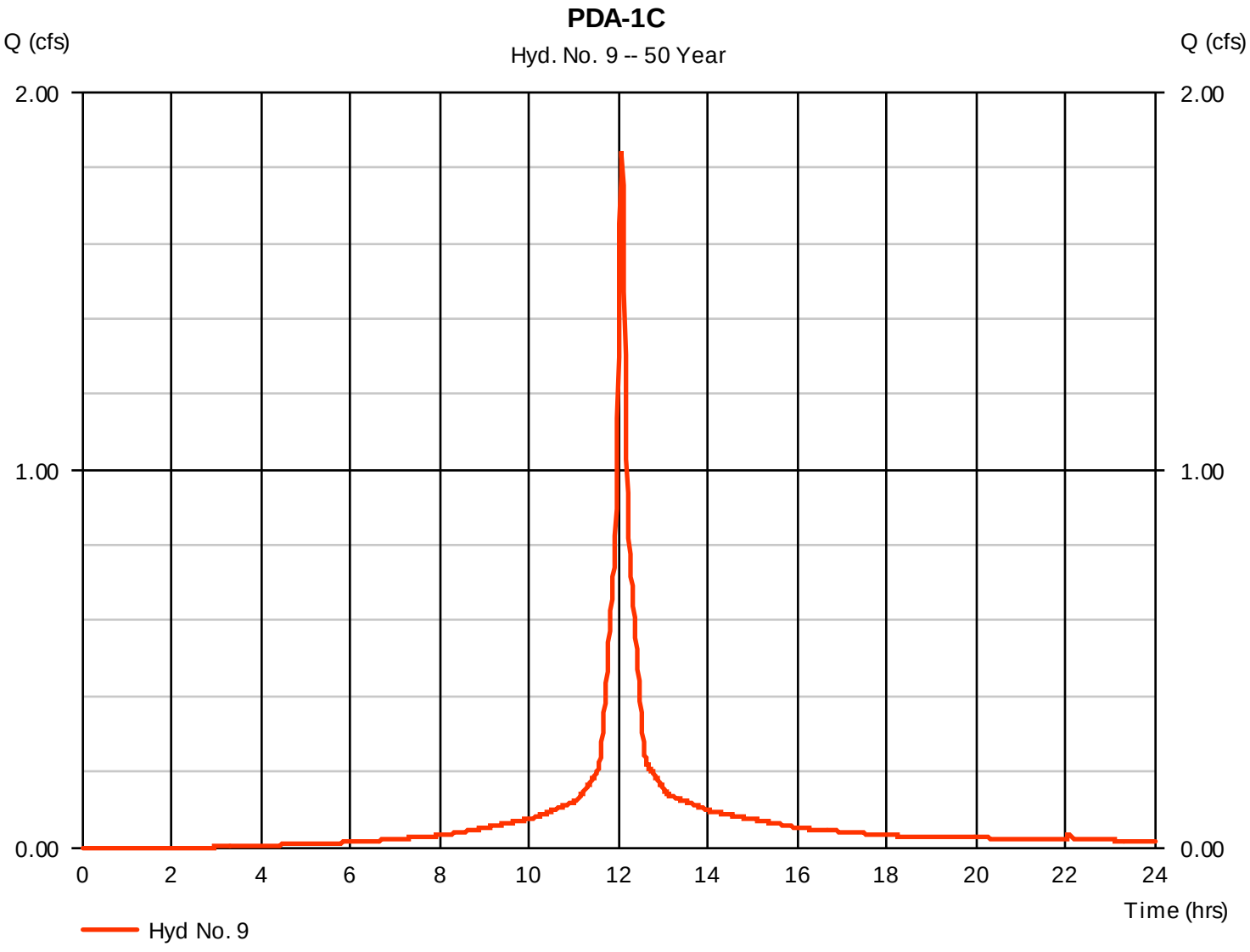


Hydrograph Report

Hyd. No. 9

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 1.842 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 6,096 cuft
Drainage area	= 0.260 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

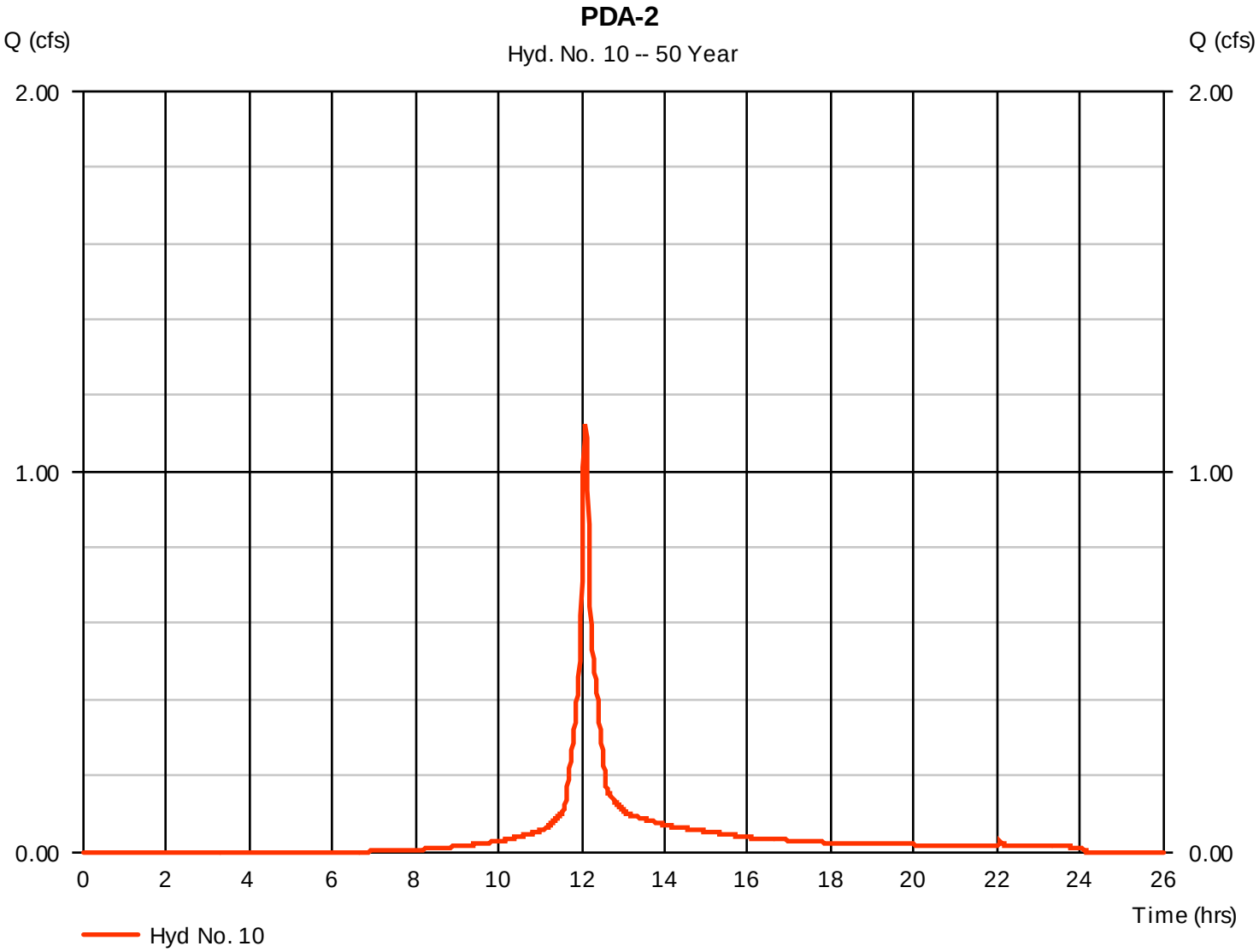


Hydrograph Report

Hyd. No. 10

PDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.122 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 3,631 cuft
Drainage area	= 0.220 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

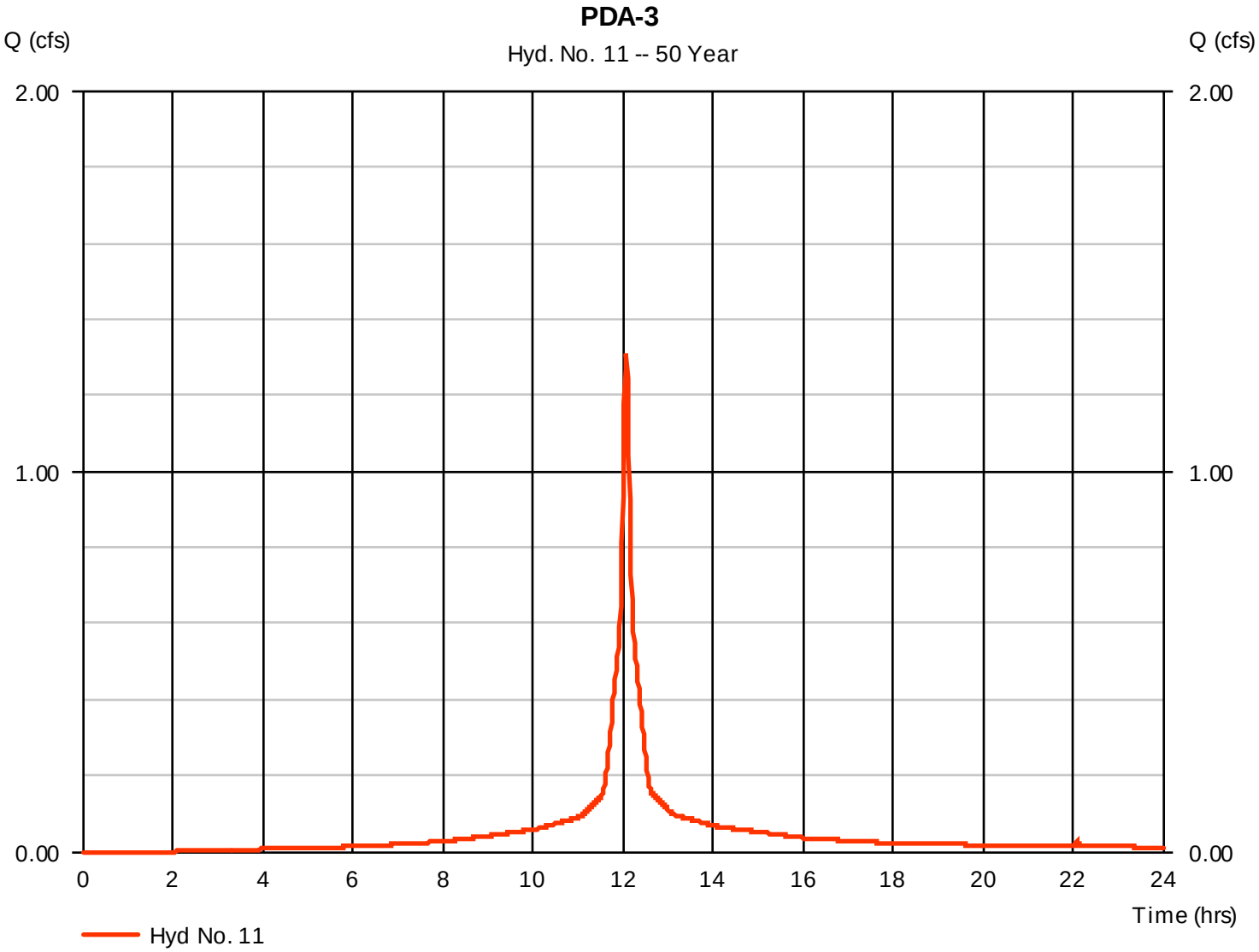


Hydrograph Report

Hyd. No. 11

PDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.311 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 4,458 cuft
Drainage area	= 0.180 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.33 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

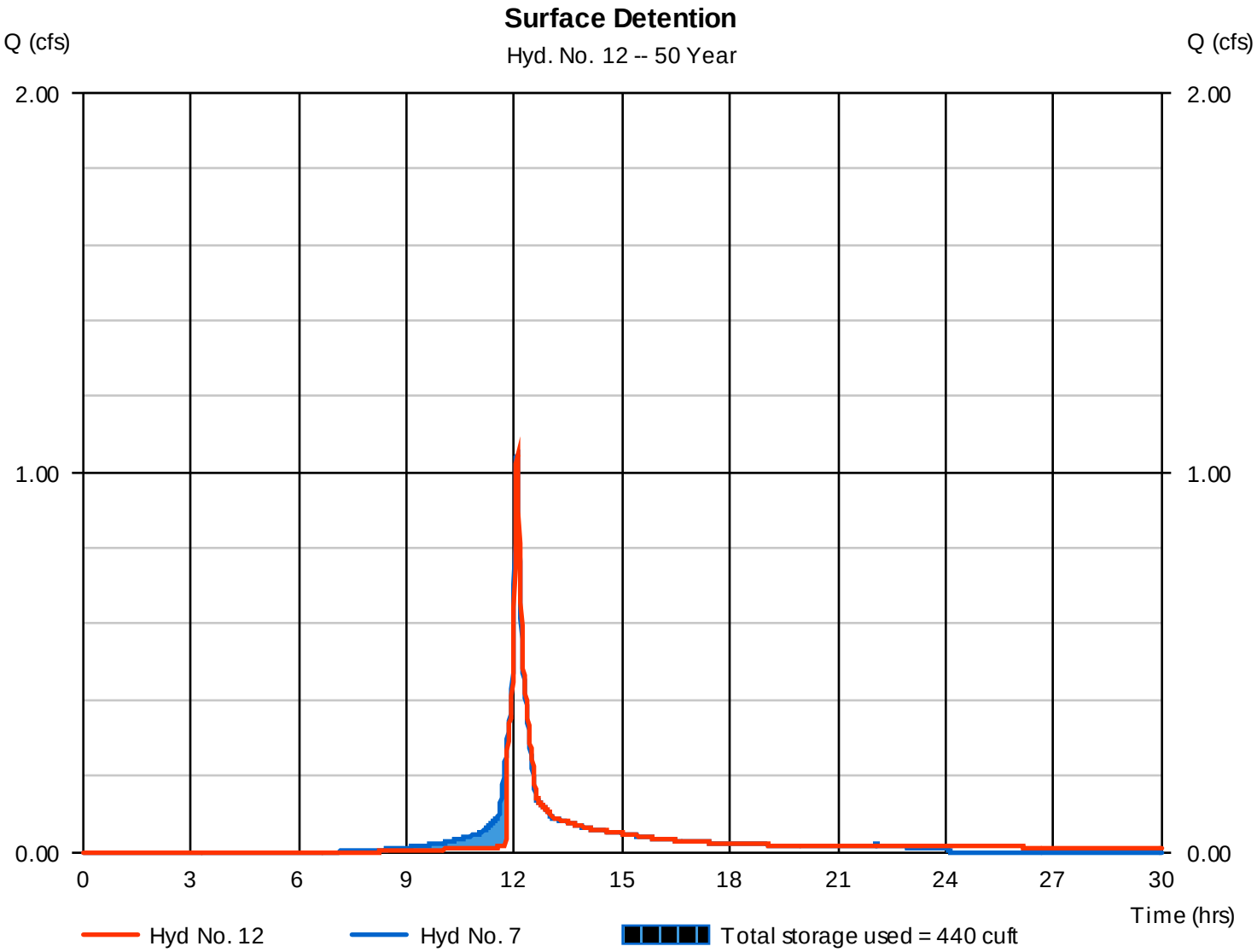
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 12

Surface Detention

Hydrograph type	= Reservoir	Peak discharge	= 1.044 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 3,226 cuft
Inflow hyd. No.	= 7 - PDA-1A	Max. Elevation	= 44.97 ft
Reservoir name	= Surface Detention	Max. Storage	= 440 cuft

Storage Indication method used. Outflow includes exfiltration.

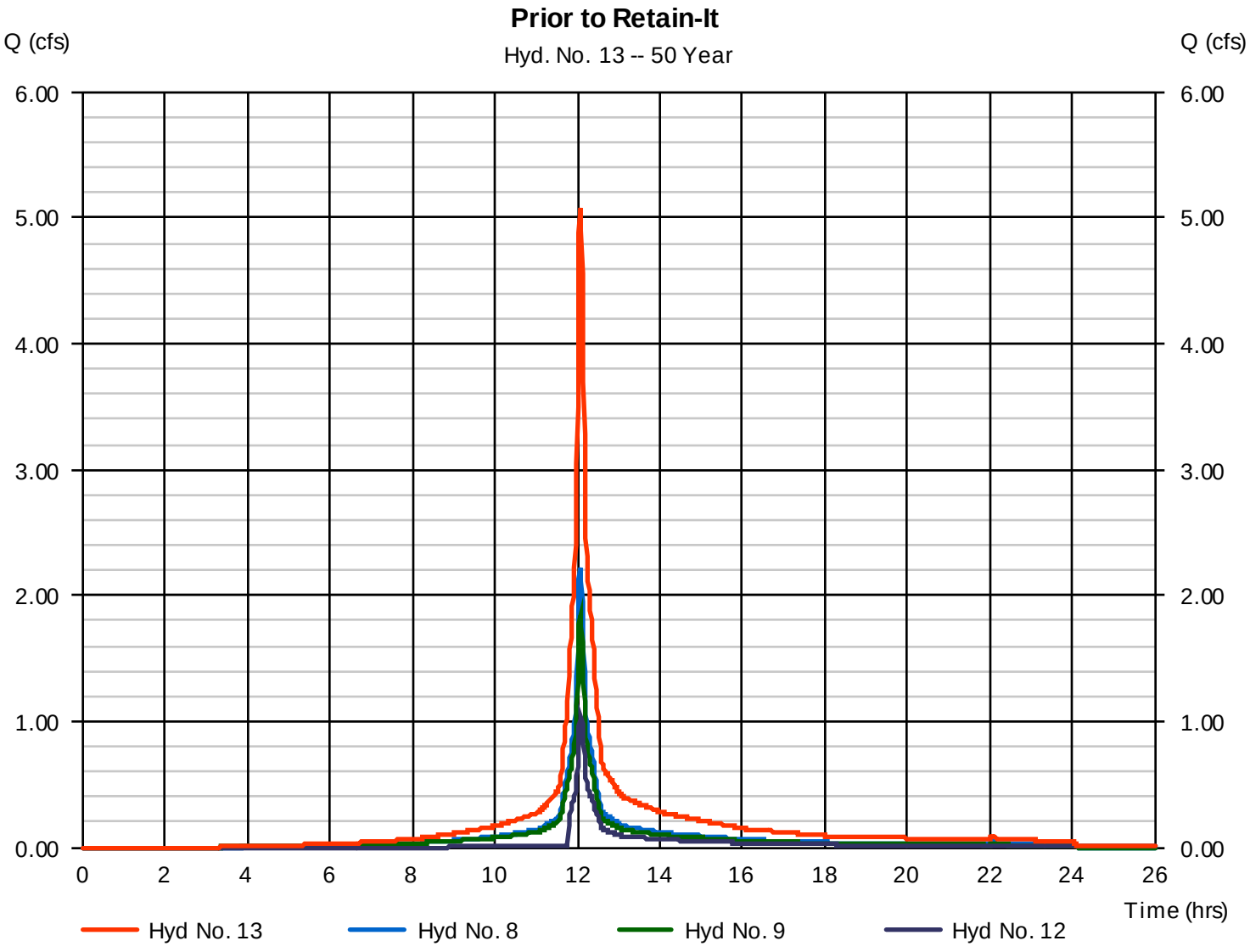


Hydrograph Report

Hyd. No. 13

Prior to Retain-It

Hydrograph type	= Combine	Peak discharge	= 5.080 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 16,546 cuft
Inflow hyds.	= 8, 9, 12	Contrib. drain. area	= 0.580 ac



Hydrograph Report

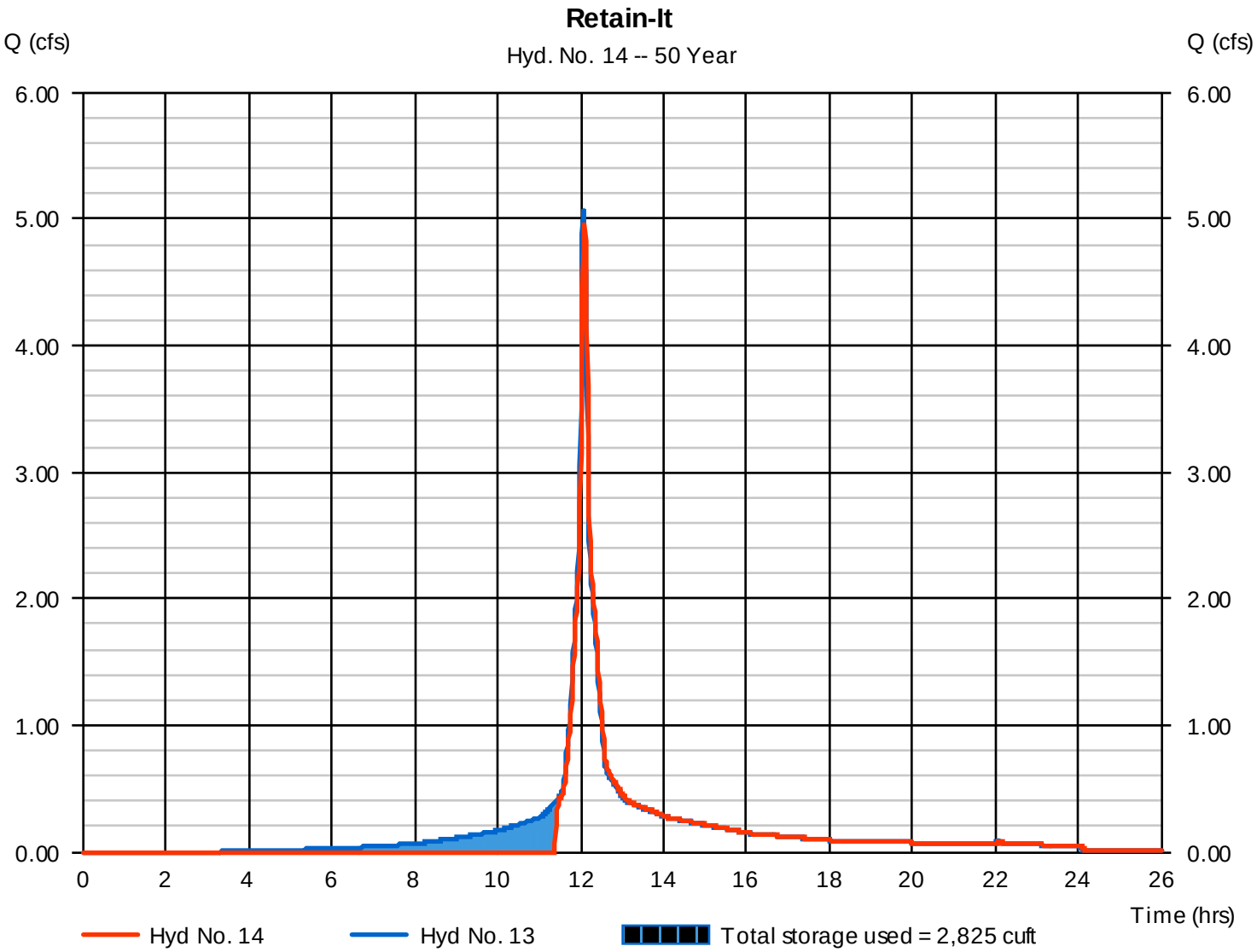
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 14

Retain-It

Hydrograph type	= Reservoir	Peak discharge	= 4.979 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 14,069 cuft
Inflow hyd. No.	= 13 - Prior to Retain-It	Max. Elevation	= 43.77 ft
Reservoir name	= Subsurface Detention - Retain-It	Max. Storage	= 2,825 cuft

Storage Indication method used. Outflow includes exfiltration.



Hydrograph Report

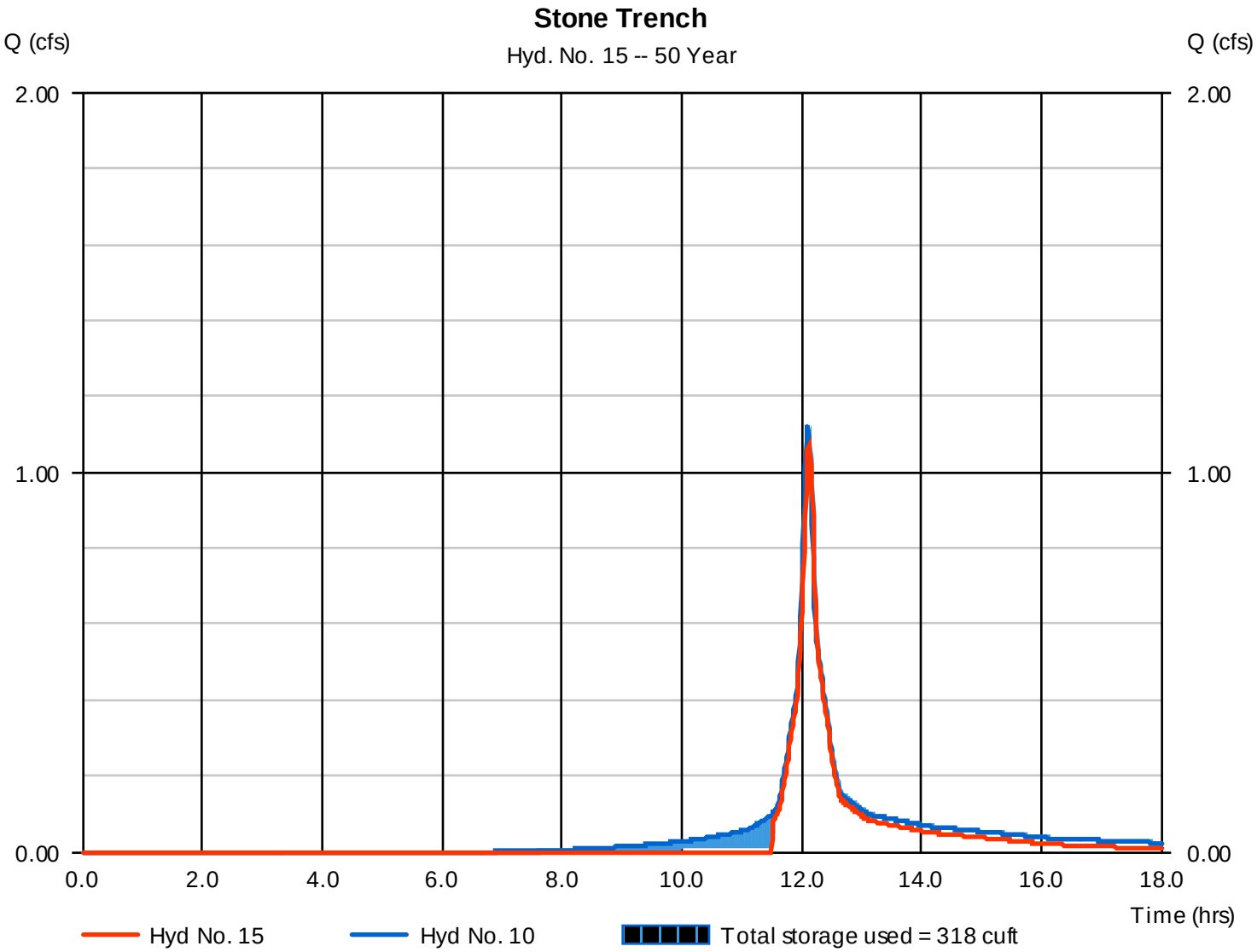
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 15

Stone Trench

Hydrograph type	= Reservoir	Peak discharge	= 1.070 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 2,525 cuft
Inflow hyd. No.	= 10 - PDA-2	Max. Elevation	= 44.88 ft
Reservoir name	= Stone Trench	Max. Storage	= 318 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

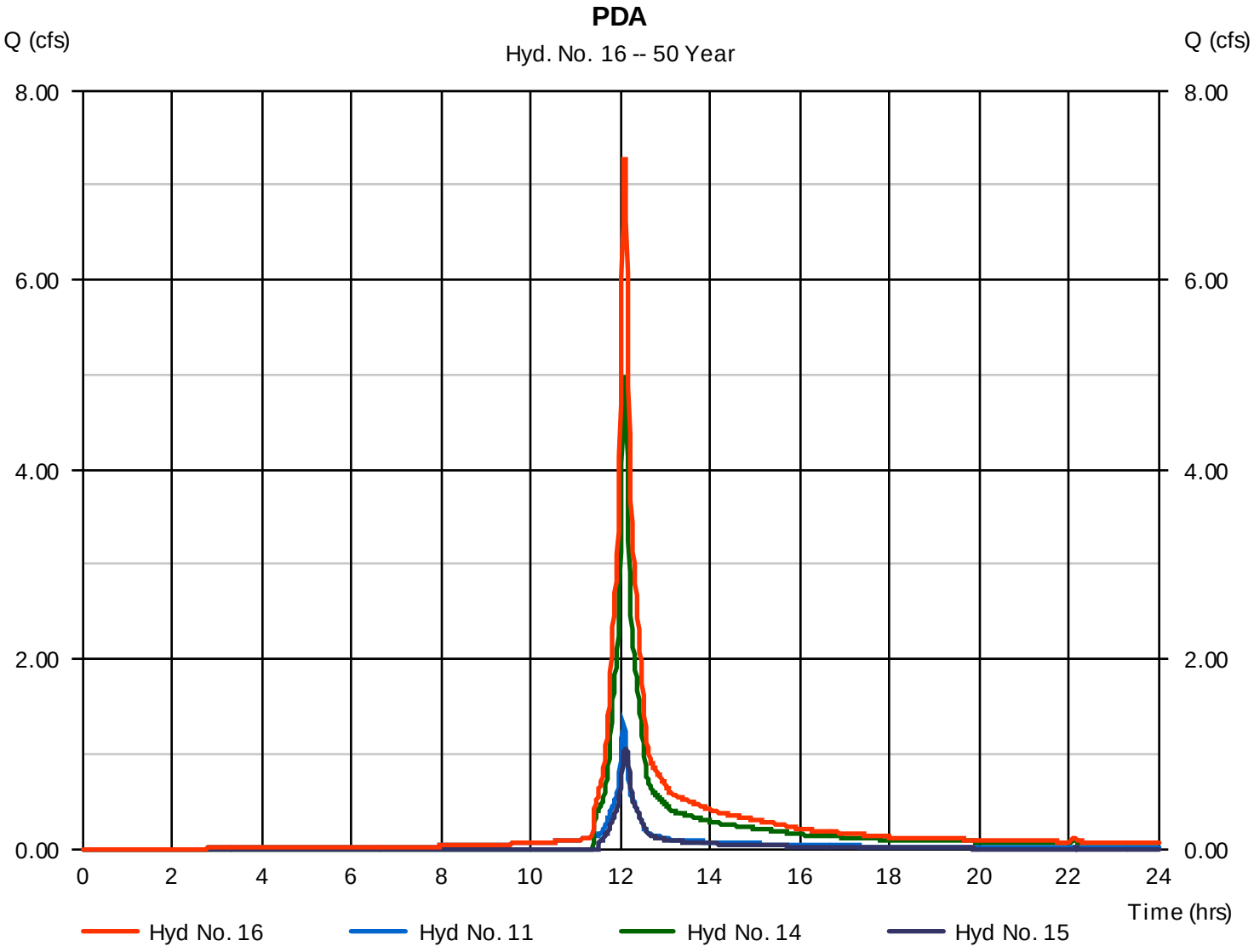


Hydrograph Report

Hyd. No. 16

PDA

Hydrograph type	= Combine	Peak discharge	= 7.281 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 21,052 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 0.180 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.887	1	724	9,556	-----	-----	-----	EDA-1
2	SCS Runoff	3.016	1	724	9,493	-----	-----	-----	EDA-2a
3	SCS Runoff	2.687	1	724	9,499	-----	-----	-----	EDA-3
4	SCS Runoff	0.399	1	725	1,245	-----	-----	-----	EDA-2b
5	Combine	6.302	1	724	20,294	1, 2, 4	-----	-----	Total Culvert Flow (Ex Conditions)
6	Combine	8.989	1	724	29,793	3, 5	-----	-----	EDA
7	SCS Runoff	1.239	1	725	3,857	-----	-----	-----	PDA-1A
8	SCS Runoff	2.540	1	724	8,351	-----	-----	-----	PDA-1B
9	SCS Runoff	2.104	1	724	7,018	-----	-----	-----	PDA-1C
10	SCS Runoff	1.327	1	725	4,314	-----	-----	-----	PDA-2
11	SCS Runoff	1.490	1	724	5,101	-----	-----	-----	PDA-3
12	Reservoir	1.239	1	725	3,845	7	44.98	446	Surface Detention
13	Combine	5.857	1	724	19,214	8, 9, 12	-----	-----	Prior to Retain-It
14	Reservoir	5.554	1	726	16,738	13	43.84	2,896	Retain-It
15	Reservoir	1.255	1	727	3,168	10	45.12	339	Stone Trench
16	Combine	8.203	1	726	25,007	11, 14, 15	-----	-----	PDA

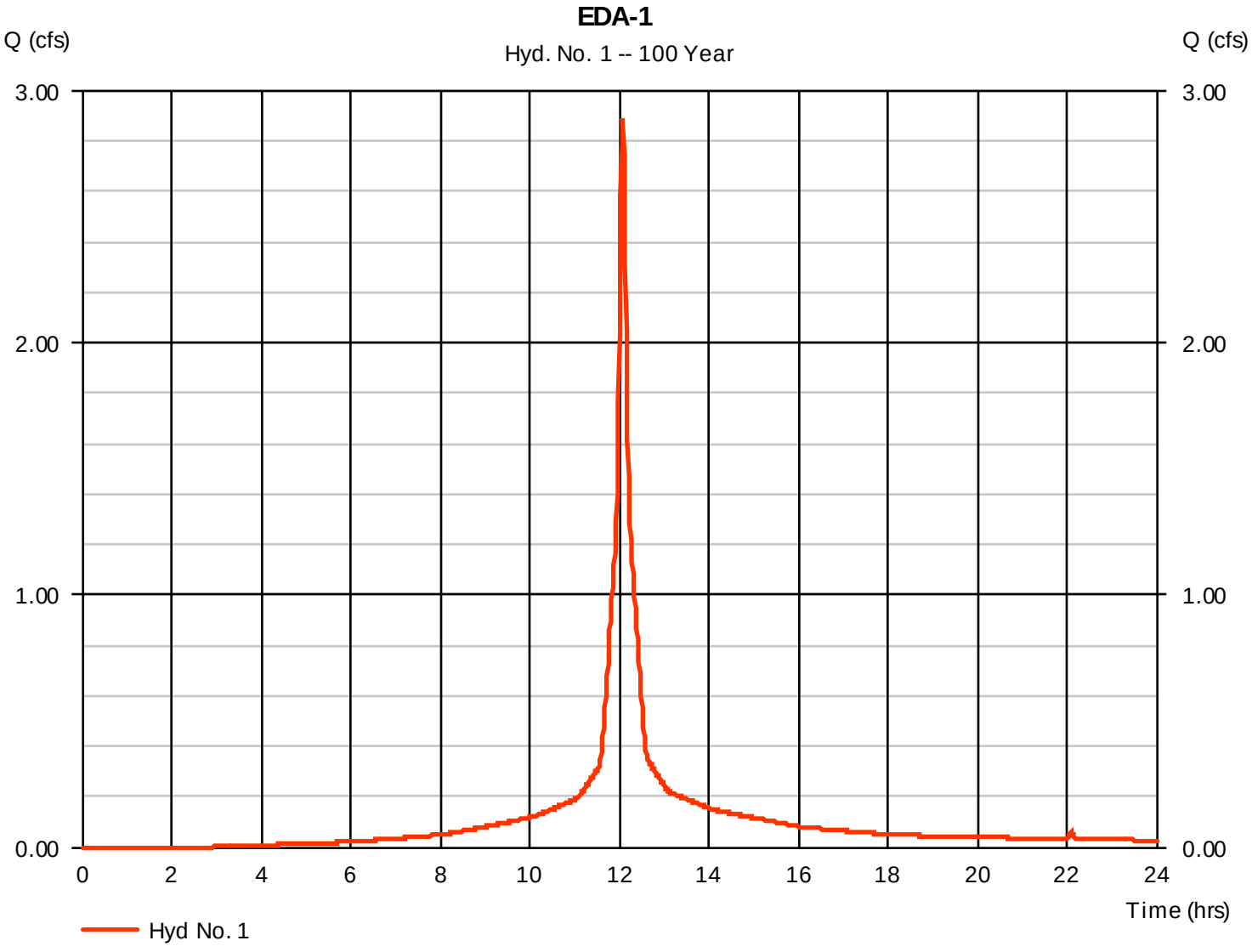
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.887 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 9,556 cuft
Drainage area	= 0.360 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

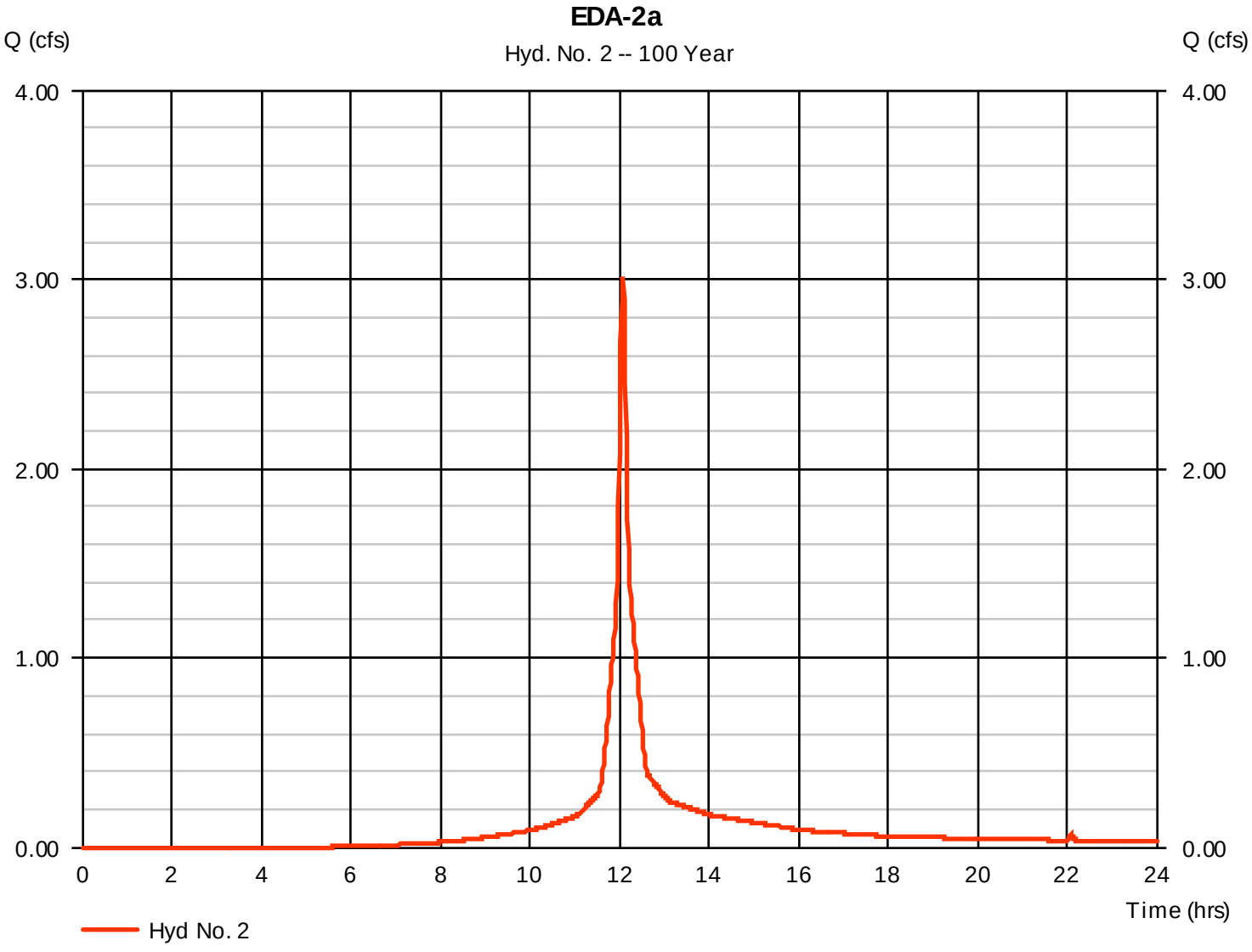


Hydrograph Report

Hyd. No. 2

EDA-2a

Hydrograph type	= SCS Runoff	Peak discharge	= 3.016 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 9,493 cuft
Drainage area	= 0.430 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

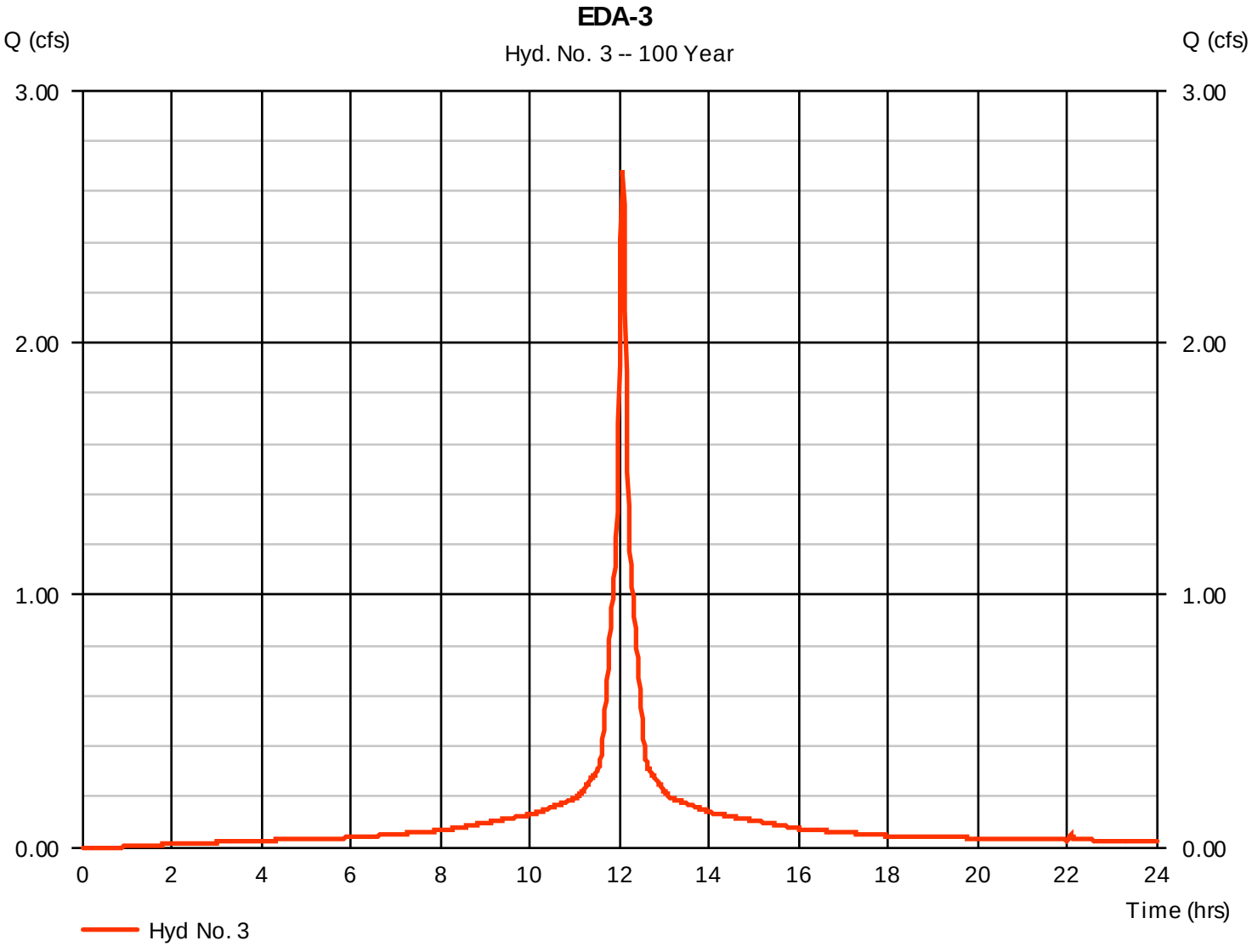


Hydrograph Report

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 2.687 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 9,499 cuft
Drainage area	= 0.320 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

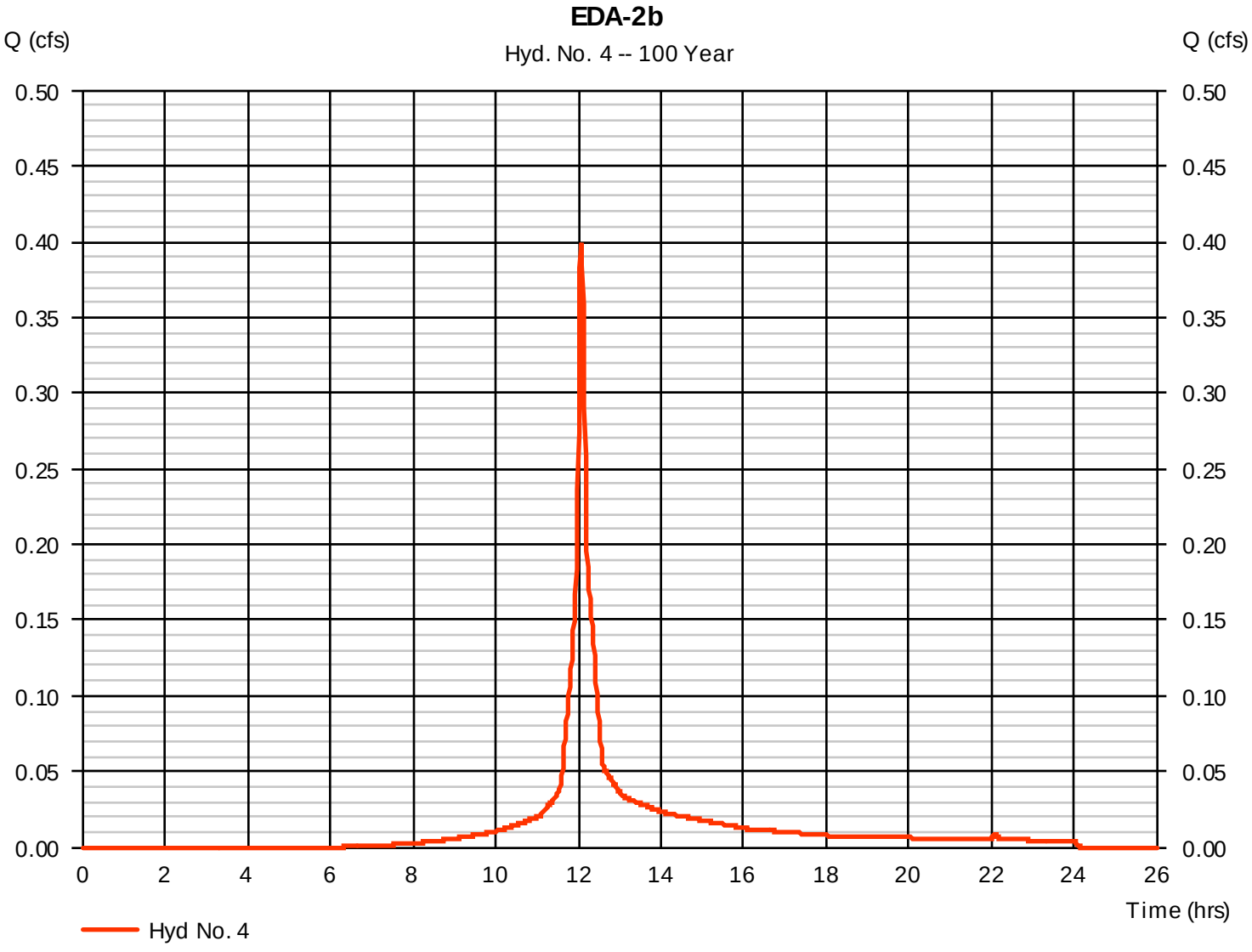


Hydrograph Report

Hyd. No. 4

EDA-2b

Hydrograph type	= SCS Runoff	Peak discharge	= 0.399 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 1,245 cuft
Drainage area	= 0.060 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

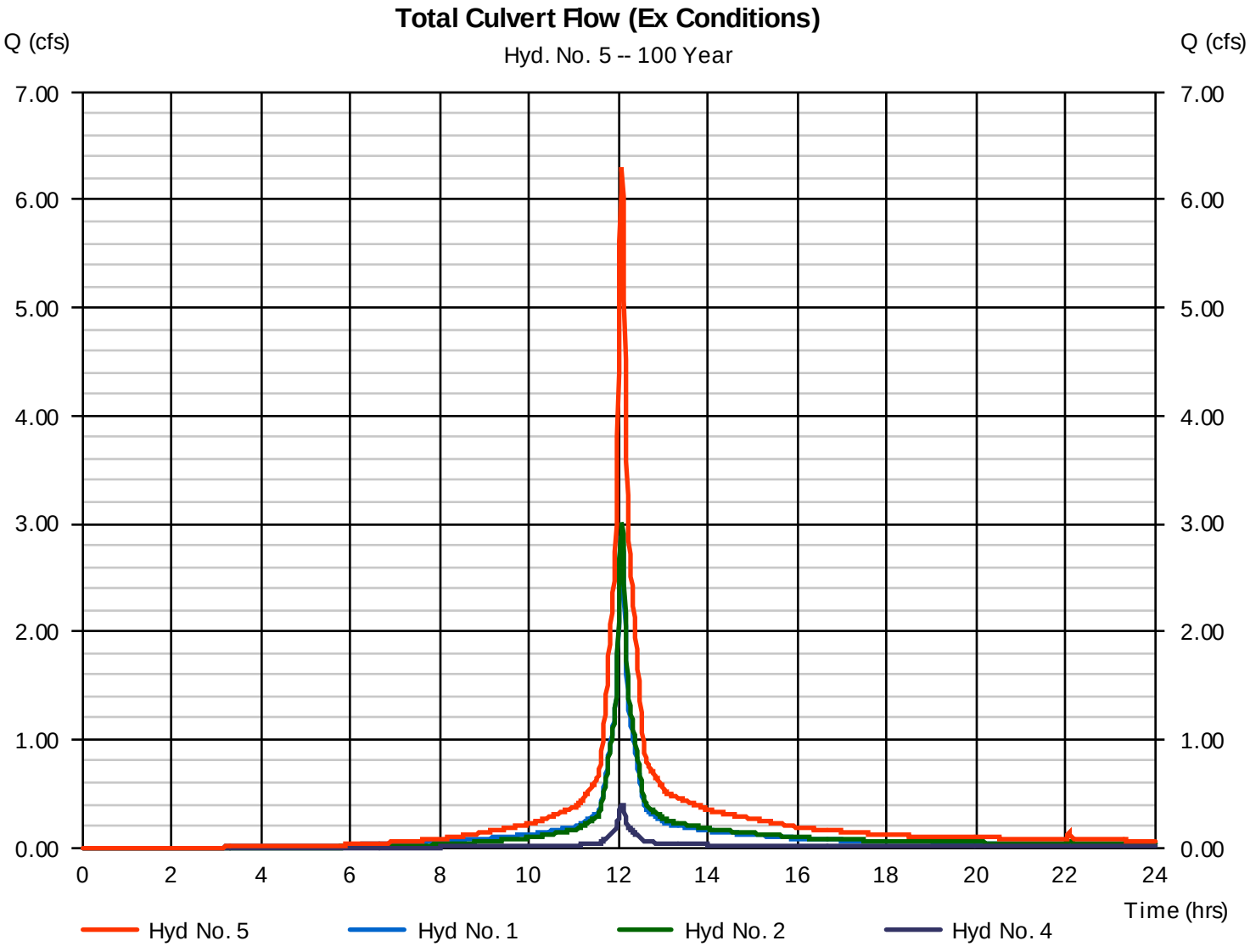


Hydrograph Report

Hyd. No. 5

Total Culvert Flow (Ex Conditions)

Hydrograph type	= Combine	Peak discharge	= 6.302 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 20,294 cuft
Inflow hyds.	= 1, 2, 4	Contrib. drain. area	= 0.850 ac

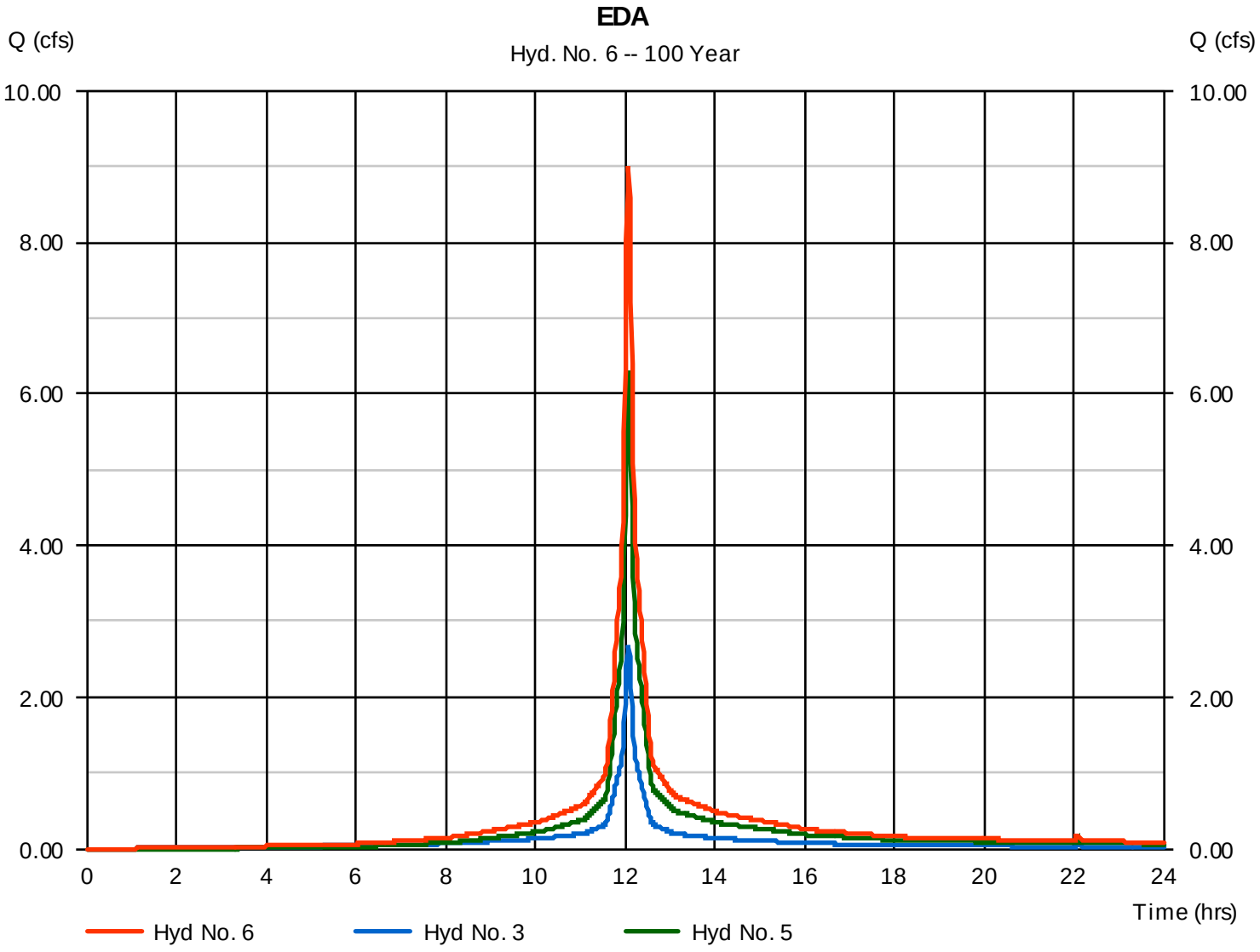


Hydrograph Report

Hyd. No. 6

EDA

Hydrograph type	= Combine	Peak discharge	= 8.989 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 29,793 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.320 ac

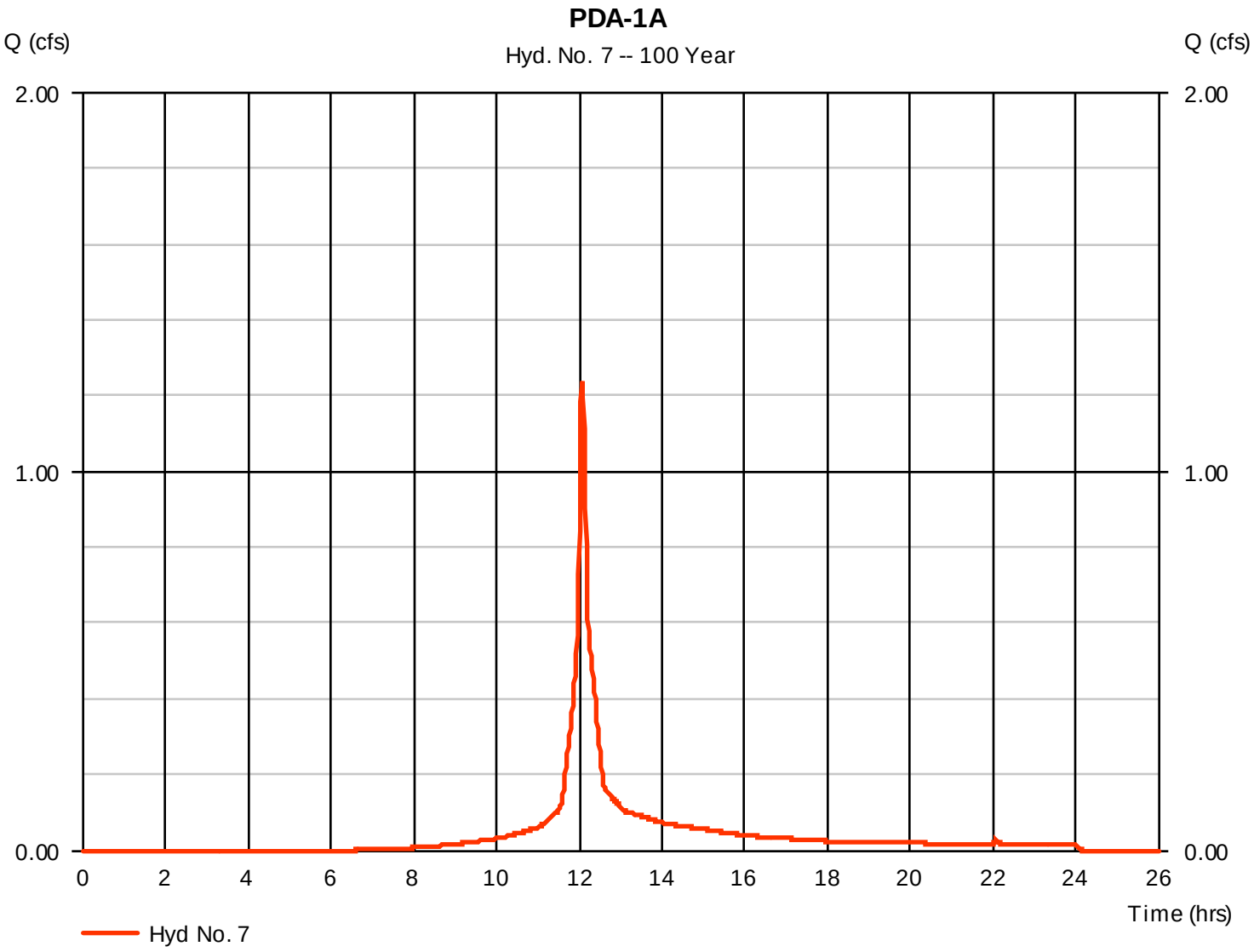


Hydrograph Report

Hyd. No. 7

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 1.239 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 3,857 cuft
Drainage area	= 0.190 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



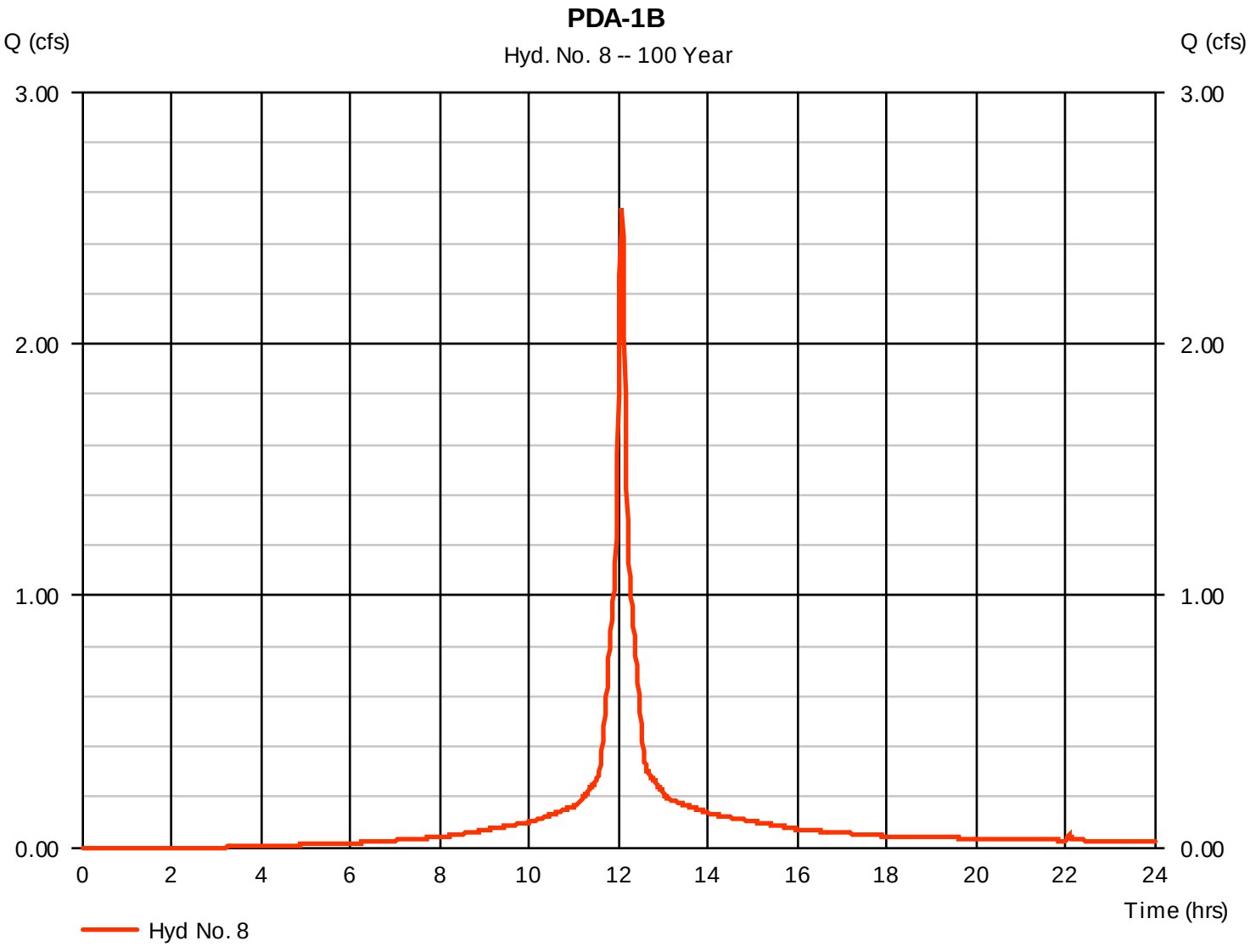
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 8

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 2.540 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 8,351 cuft
Drainage area	= 0.320 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

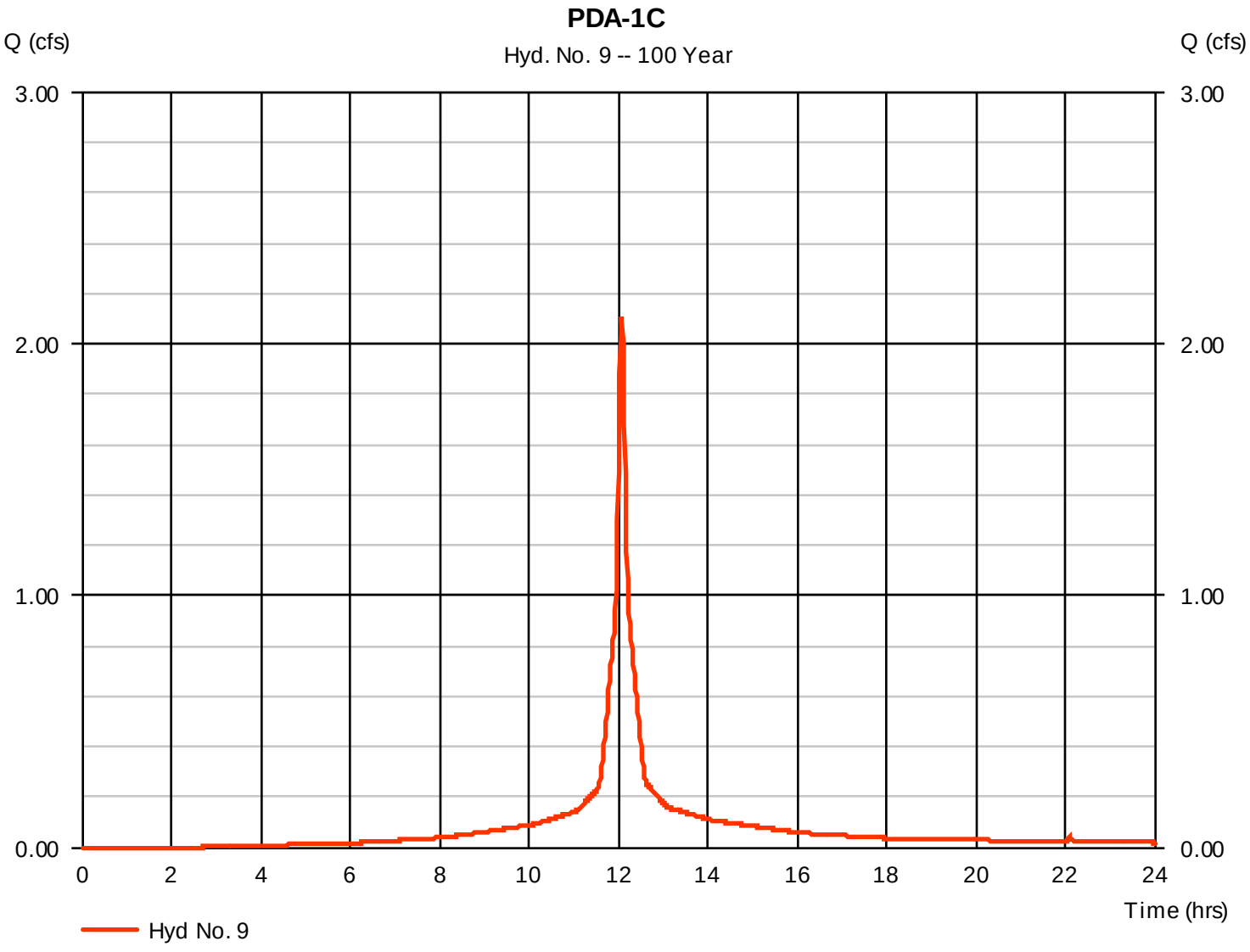


Hydrograph Report

Hyd. No. 9

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 2.104 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,018 cuft
Drainage area	= 0.260 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

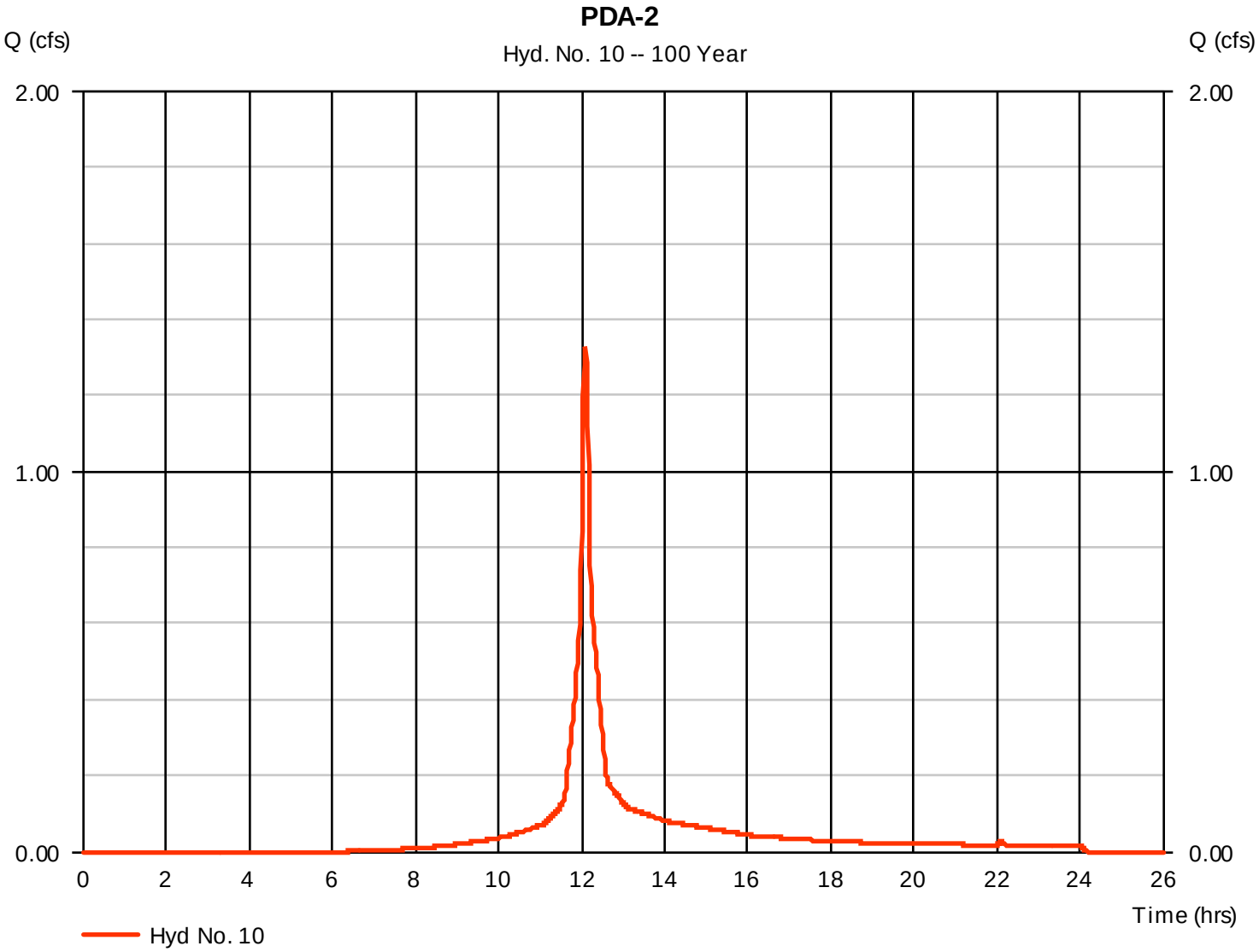


Hydrograph Report

Hyd. No. 10

PDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.327 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 4,314 cuft
Drainage area	= 0.220 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

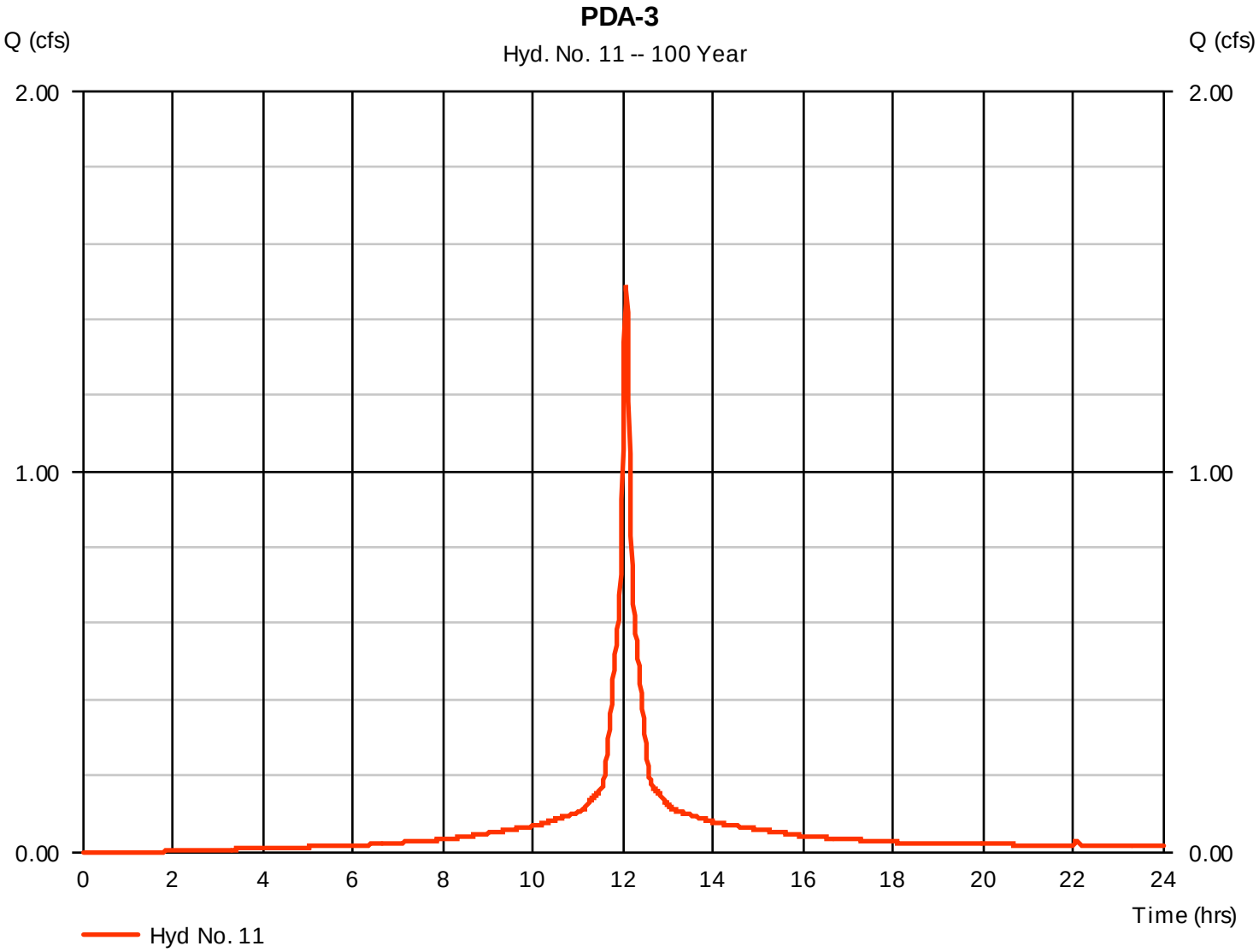


Hydrograph Report

Hyd. No. 11

PDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.490 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,101 cuft
Drainage area	= 0.180 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.29 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

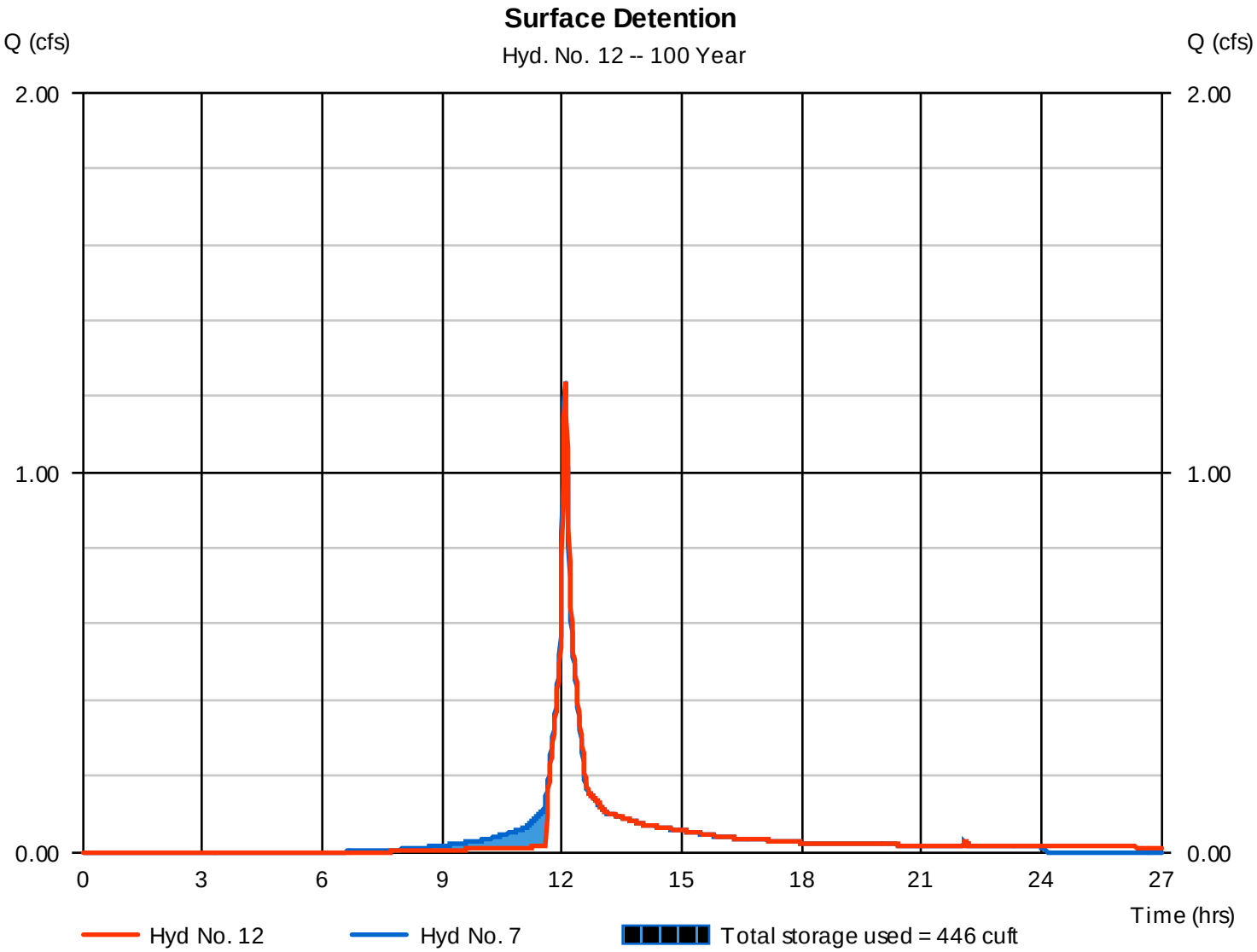
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 12

Surface Detention

Hydrograph type	= Reservoir	Peak discharge	= 1.239 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.08 hrs
Time interval	= 1 min	Hyd. volume	= 3,845 cuft
Inflow hyd. No.	= 7 - PDA-1A	Max. Elevation	= 44.98 ft
Reservoir name	= Surface Detention	Max. Storage	= 446 cuft

Storage Indication method used. Outflow includes exfiltration.

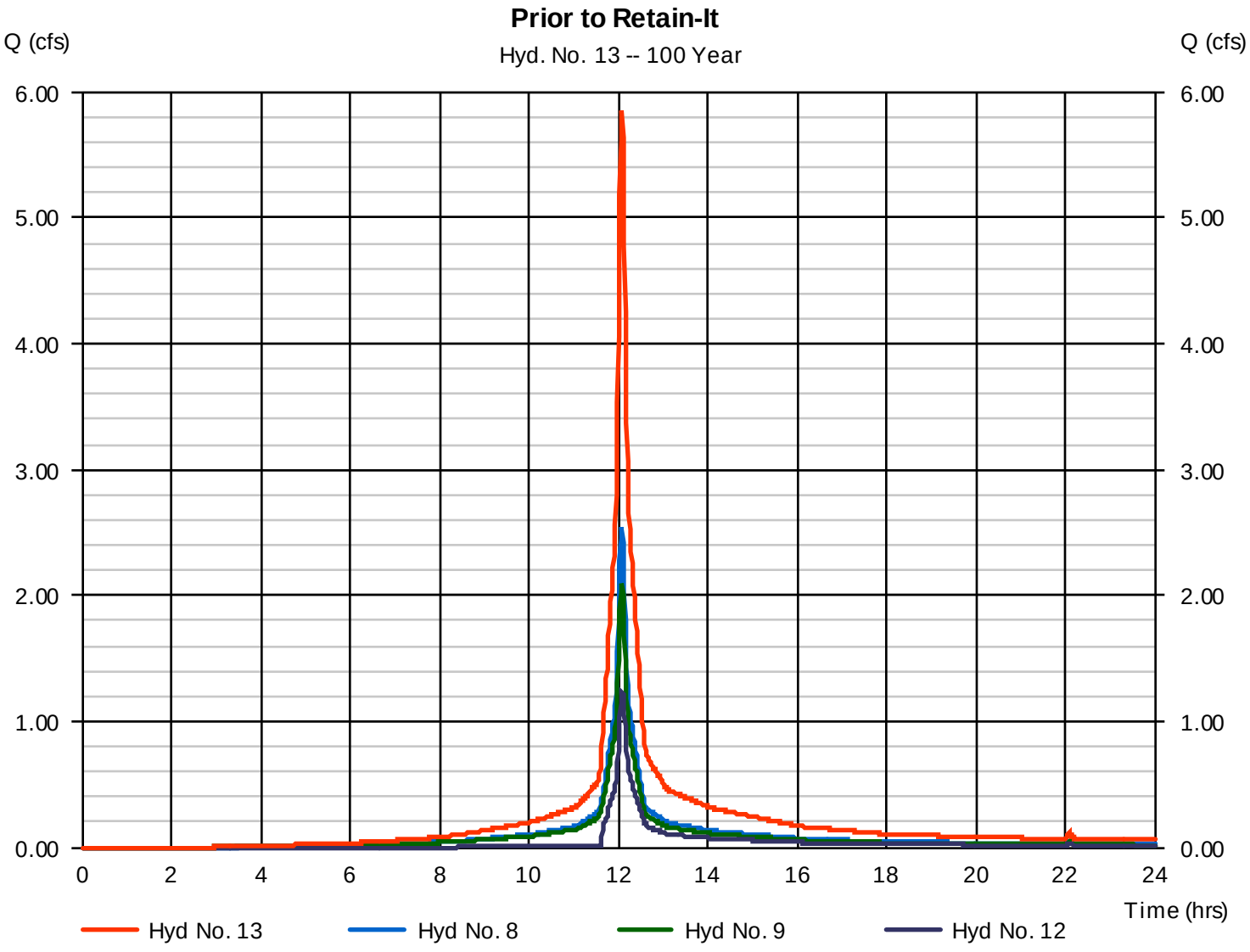


Hydrograph Report

Hyd. No. 13

Prior to Retain-It

Hydrograph type	= Combine	Peak discharge	= 5.857 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 19,214 cuft
Inflow hyds.	= 8, 9, 12	Contrib. drain. area	= 0.580 ac



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 03 / 23 / 2021

Pond No. 1 - Surface Detention

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 43.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	43.50	196	0	0
0.50	44.00	262	114	114
1.00	44.50	336	149	263
1.50	45.00	420	189	452
1.87	45.37	534	176	628

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 42.95	0.00	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	0.00	0.00	0.00
Crest El. (ft)	= 44.85	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 1.600 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	43.50	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.05	11	43.55	0.11 oc	---	---	---	0.00	---	---	---	0.001	---	0.001
0.10	23	43.60	0.11 oc	---	---	---	0.00	---	---	---	0.002	---	0.002
0.15	34	43.65	0.11 oc	---	---	---	0.00	---	---	---	0.003	---	0.003
0.20	46	43.70	0.11 oc	---	---	---	0.00	---	---	---	0.004	---	0.004
0.25	57	43.75	0.11 oc	---	---	---	0.00	---	---	---	0.005	---	0.005
0.30	68	43.80	0.11 oc	---	---	---	0.00	---	---	---	0.006	---	0.006
0.35	80	43.85	0.11 oc	---	---	---	0.00	---	---	---	0.007	---	0.007
0.40	91	43.90	0.11 oc	---	---	---	0.00	---	---	---	0.008	---	0.008
0.45	103	43.95	0.11 oc	---	---	---	0.00	---	---	---	0.009	---	0.009
0.50	114	44.00	0.11 oc	---	---	---	0.00	---	---	---	0.010	---	0.010
0.55	129	44.05	0.11 oc	---	---	---	0.00	---	---	---	0.010	---	0.010
0.60	144	44.10	0.11 oc	---	---	---	0.00	---	---	---	0.010	---	0.010
0.65	159	44.15	0.11 oc	---	---	---	0.00	---	---	---	0.011	---	0.011
0.70	174	44.20	0.11 oc	---	---	---	0.00	---	---	---	0.011	---	0.011
0.75	189	44.25	0.11 oc	---	---	---	0.00	---	---	---	0.011	---	0.011
0.80	204	44.30	0.11 oc	---	---	---	0.00	---	---	---	0.011	---	0.011
0.85	218	44.35	0.11 oc	---	---	---	0.00	---	---	---	0.012	---	0.012
0.90	233	44.40	0.11 oc	---	---	---	0.00	---	---	---	0.012	---	0.012
0.95	248	44.45	0.11 oc	---	---	---	0.00	---	---	---	0.012	---	0.012
1.00	263	44.50	0.11 oc	---	---	---	0.00	---	---	---	0.012	---	0.012
1.05	282	44.55	0.11 oc	---	---	---	0.00	---	---	---	0.013	---	0.013
1.10	301	44.60	0.11 oc	---	---	---	0.00	---	---	---	0.013	---	0.013
1.15	320	44.65	0.11 oc	---	---	---	0.00	---	---	---	0.013	---	0.013
1.20	339	44.70	0.11 oc	---	---	---	0.00	---	---	---	0.014	---	0.014
1.25	357	44.75	0.11 oc	---	---	---	0.00	---	---	---	0.014	---	0.014
1.30	376	44.80	0.11 oc	---	---	---	0.00	---	---	---	0.014	---	0.014
1.35	395	44.85	0.11 oc	---	---	---	0.00	---	---	---	0.015	---	0.015
1.40	414	44.90	0.28 oc	---	---	---	0.27	---	---	---	0.015	---	0.288
1.45	433	44.95	0.77 oc	---	---	---	0.77	---	---	---	0.015	---	0.787
1.50	452	45.00	1.42 oc	---	---	---	1.42	---	---	---	0.016	---	1.434
1.54	469	45.04	1.97 oc	---	---	---	1.97	---	---	---	0.016	---	1.990
1.57	487	45.07	2.59 oc	---	---	---	2.59	---	---	---	0.016	---	2.604
1.61	505	45.11	3.25 oc	---	---	---	3.25	---	---	---	0.017	---	3.271
1.65	522	45.15	3.97 oc	---	---	---	3.97	---	---	---	0.017	---	3.988
1.68	540	45.18	4.43 oc	---	---	---	4.43 s	---	---	---	0.018	---	4.444
1.72	557	45.22	4.63 oc	---	---	---	4.63 s	---	---	---	0.018	---	4.647
1.76	575	45.26	4.78 oc	---	---	---	4.78 s	---	---	---	0.019	---	4.802

Continues on next page...

Surface Detention

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
1.80	593	45.30	4.91 oc	---	---	---	4.91 s	---	---	---	0.019	---	4.931
1.83	610	45.33	5.03 oc	---	---	---	5.02 s	---	---	---	0.019	---	5.044
1.87	628	45.37	5.13 oc	---	---	---	5.12 s	---	---	---	0.020	---	5.144

...End

Hydrograph Report

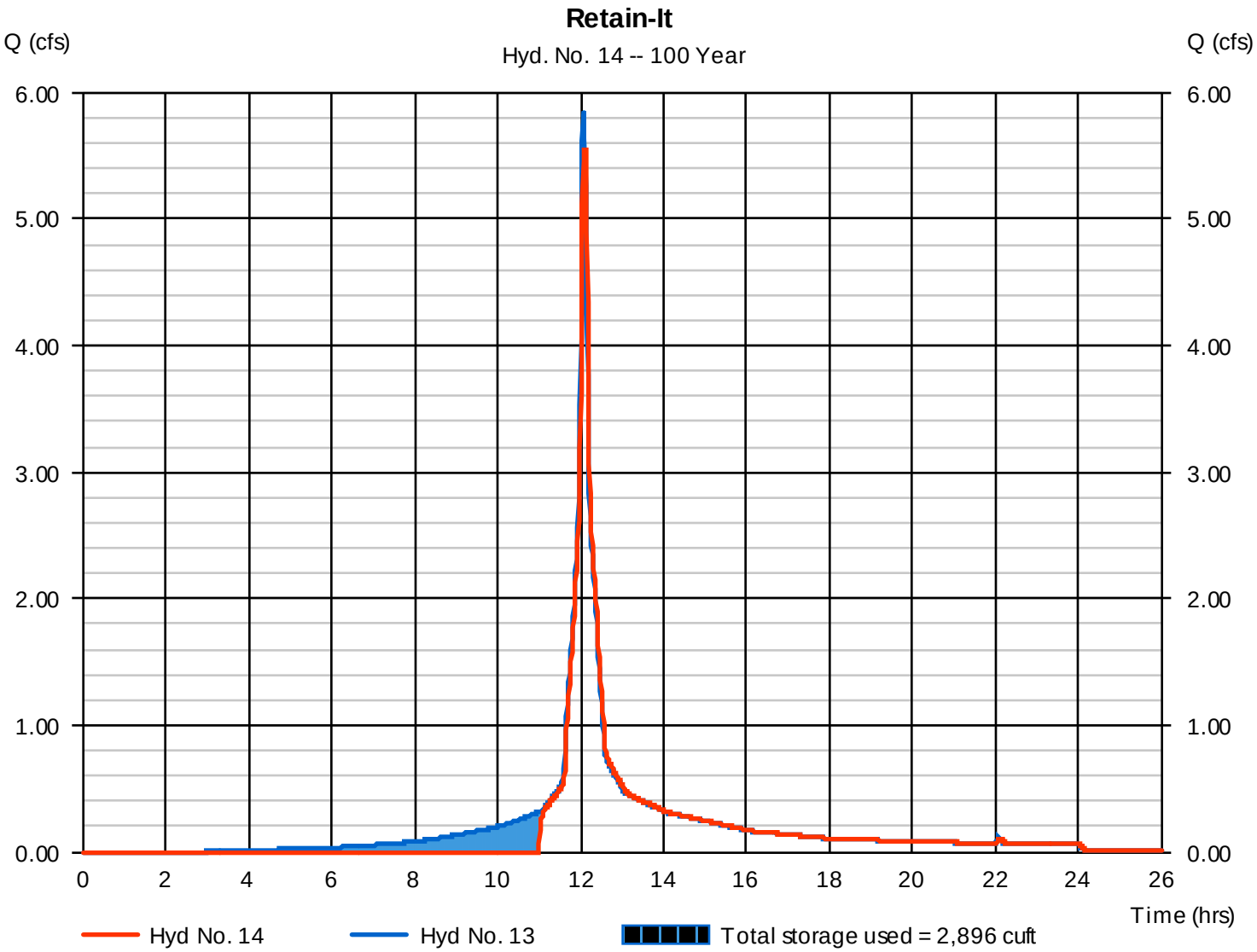
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 14

Retain-It

Hydrograph type	= Reservoir	Peak discharge	= 5.554 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 16,738 cuft
Inflow hyd. No.	= 13 - Prior to Retain-It	Max. Elevation	= 43.84 ft
Reservoir name	= Subsurface Detention - Retain-It	Max. Storage	= 2,896 cuft

Storage Indication method used. Outflow includes exfiltration.



Pond Report

Pond No. 2 - Subsurface Detention - Retain-It

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	40.00	n/a	0	0
1.00	41.00	n/a	205	205
1.01	41.01	n/a	0	205
2.00	42.00	n/a	947	1,152
3.00	43.00	n/a	946	2,098
4.00	44.00	n/a	947	3,045

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 41.00	0.00	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	0.00	0.00	0.00
Crest El. (ft)	= 43.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.250 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	40.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.10	21	40.10	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.20	41	40.20	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.30	62	40.30	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.40	82	40.40	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.50	103	40.50	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.60	123	40.60	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.70	144	40.70	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.80	164	40.80	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.90	185	40.90	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.01	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.01	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.01	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.01	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.01	205	41.01	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.11	300	41.11	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.21	394	41.21	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.31	489	41.31	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.41	584	41.41	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.50	679	41.50	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.60	773	41.60	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.70	868	41.70	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.80	963	41.80	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
1.90	1,057	41.90	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.00	1,152	42.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.10	1,247	42.10	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.20	1,341	42.20	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.30	1,436	42.30	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.40	1,530	42.40	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.50	1,625	42.50	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.60	1,720	42.60	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.70	1,814	42.70	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000

Continues on next page...

Subsurface Detention - Retain-It

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
2.80	1,909	42.80	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
2.90	2,003	42.90	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.00	2,098	43.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.10	2,193	43.10	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.20	2,287	43.20	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.30	2,382	43.30	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.40	2,477	43.40	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
3.50	2,572	43.50	0.77 oc	---	---	---	0.77	---	---	---	0.000	---	0.772
3.60	2,666	43.60	2.18 oc	---	---	---	2.18	---	---	---	0.000	---	2.183
3.70	2,761	43.70	4.01 oc	---	---	---	4.01	---	---	---	0.000	---	4.011
3.80	2,856	43.80	5.44 ic	---	---	---	5.44 s	---	---	---	0.000	---	5.441
3.90	2,950	43.90	5.71 ic	---	---	---	5.71 s	---	---	---	0.000	---	5.707
4.00	3,045	44.00	5.89 ic	---	---	---	5.89 s	---	---	---	0.000	---	5.887

...End

Hydrograph Report

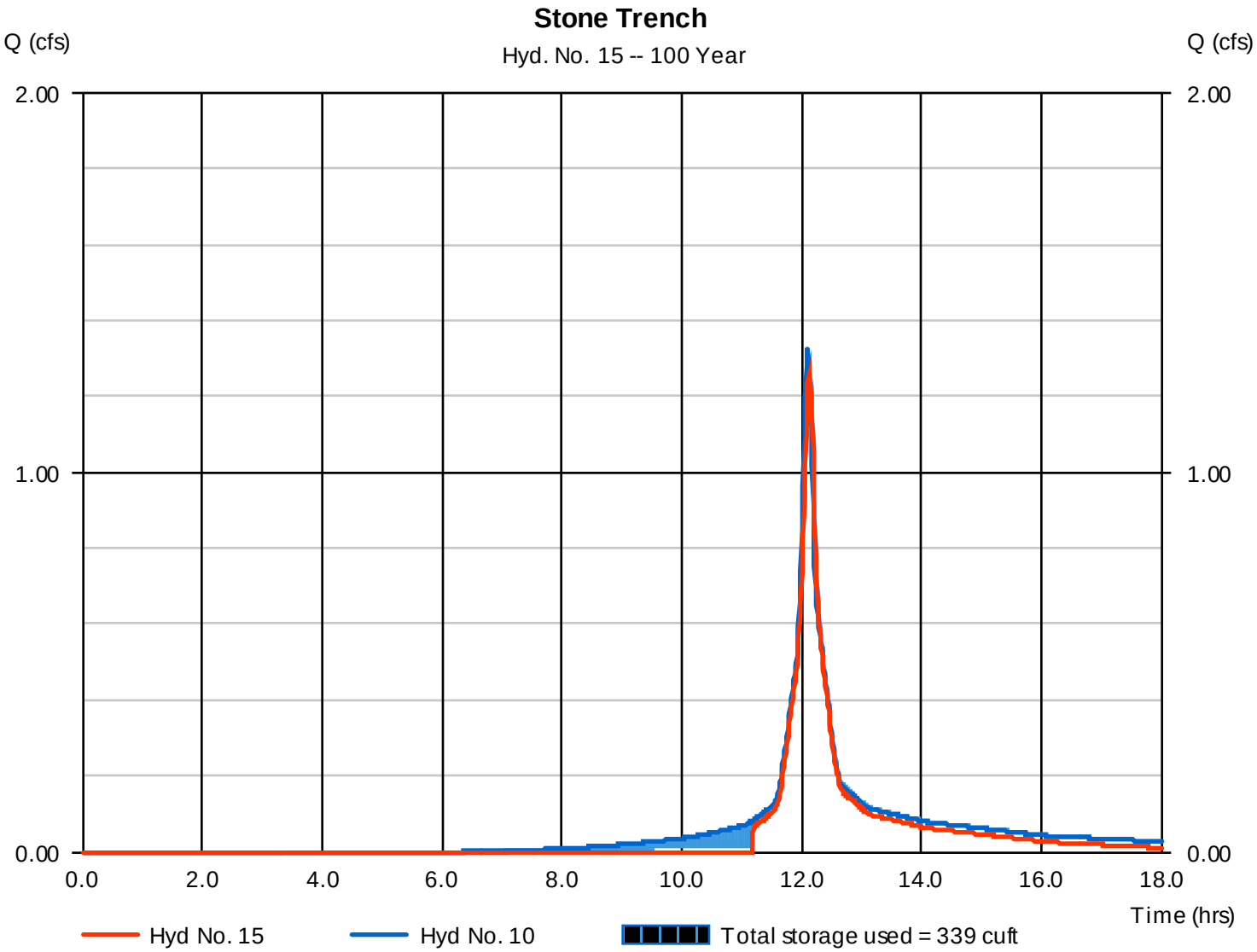
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Hyd. No. 15

Stone Trench

Hydrograph type	= Reservoir	Peak discharge	= 1.255 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 3,168 cuft
Inflow hyd. No.	= 10 - PDA-2	Max. Elevation	= 45.12 ft
Reservoir name	= Stone Trench	Max. Storage	= 339 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

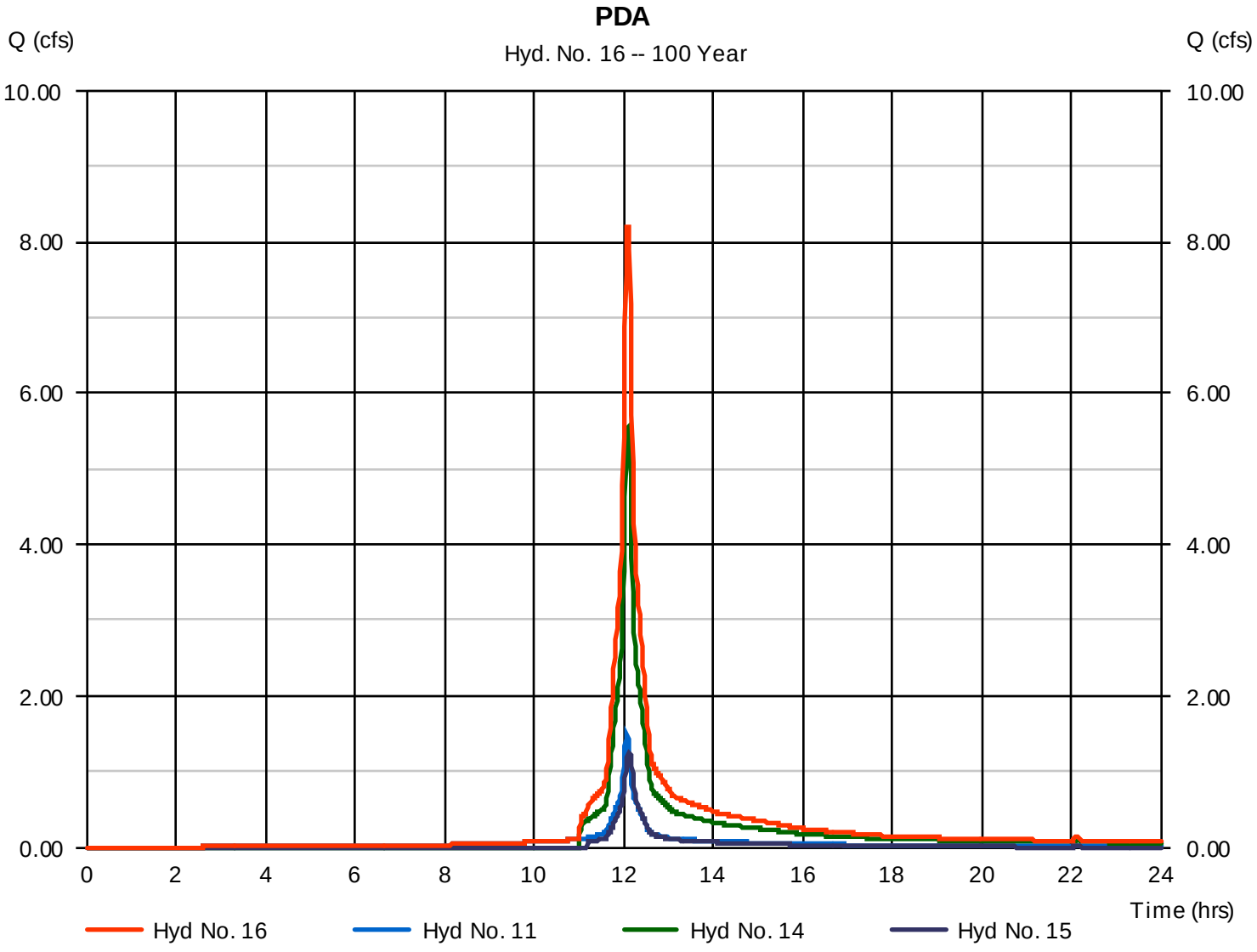


Hydrograph Report

Hyd. No. 16

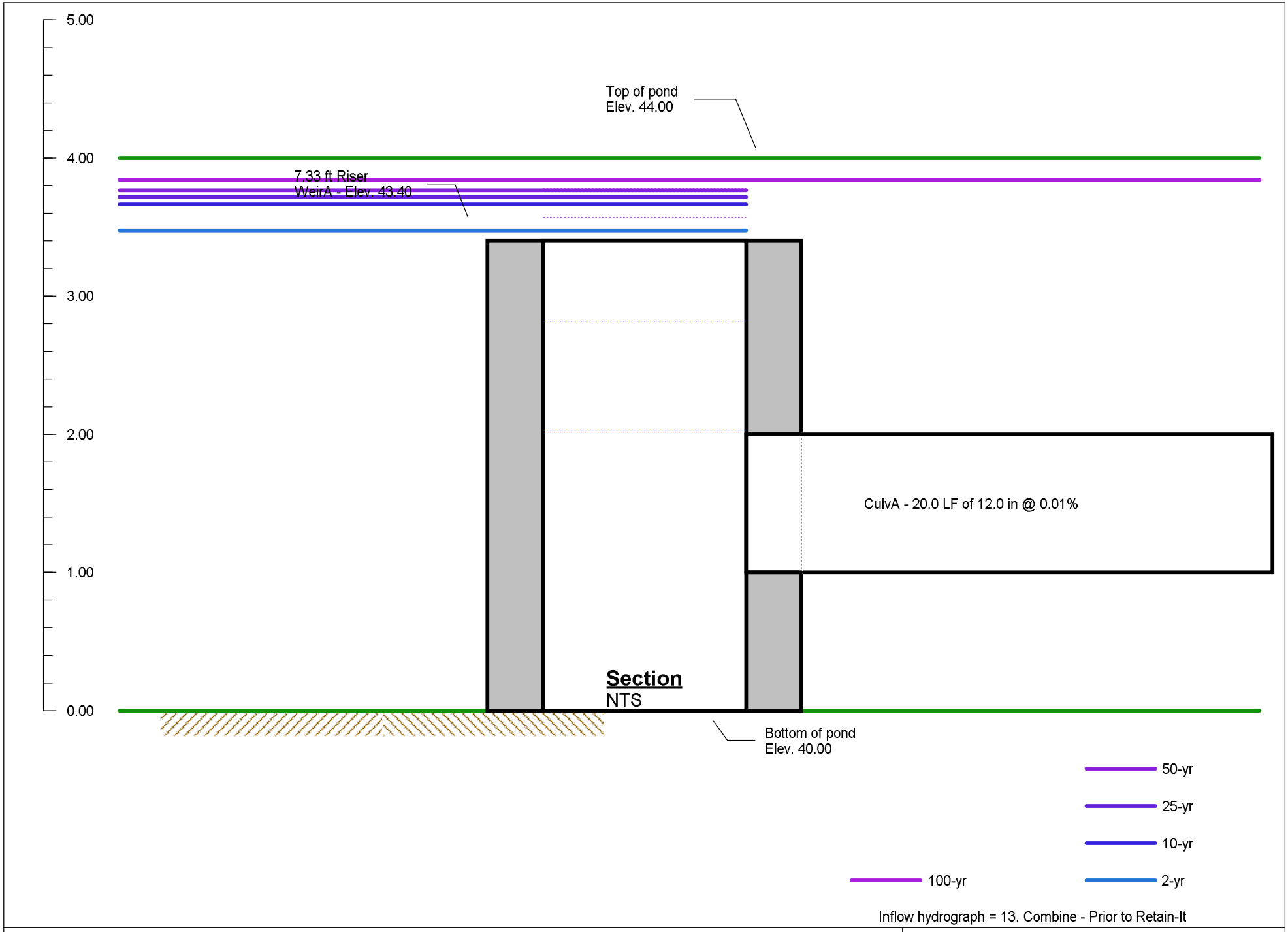
PDA

Hydrograph type	= Combine	Peak discharge	= 8.203 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 25,007 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 0.180 ac



Pond No. 2 - Subsurface Detention - Retain-It

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020



Project: Hydrographs - Roslindale Revised with Trench Detention.gpw

Tuesday, 05 / 11 / 2021

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Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 05 / 11 / 2021

Pond No. 2 - Subsurface Detention - Retain-It

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	40.00	n/a	0	0
1.00	41.00	n/a	205	205
1.01	41.01	n/a	0	205
2.00	42.00	n/a	947	1,152
3.00	43.00	n/a	946	2,098
4.00	44.00	n/a	947	3,045

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 41.00	0.00	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

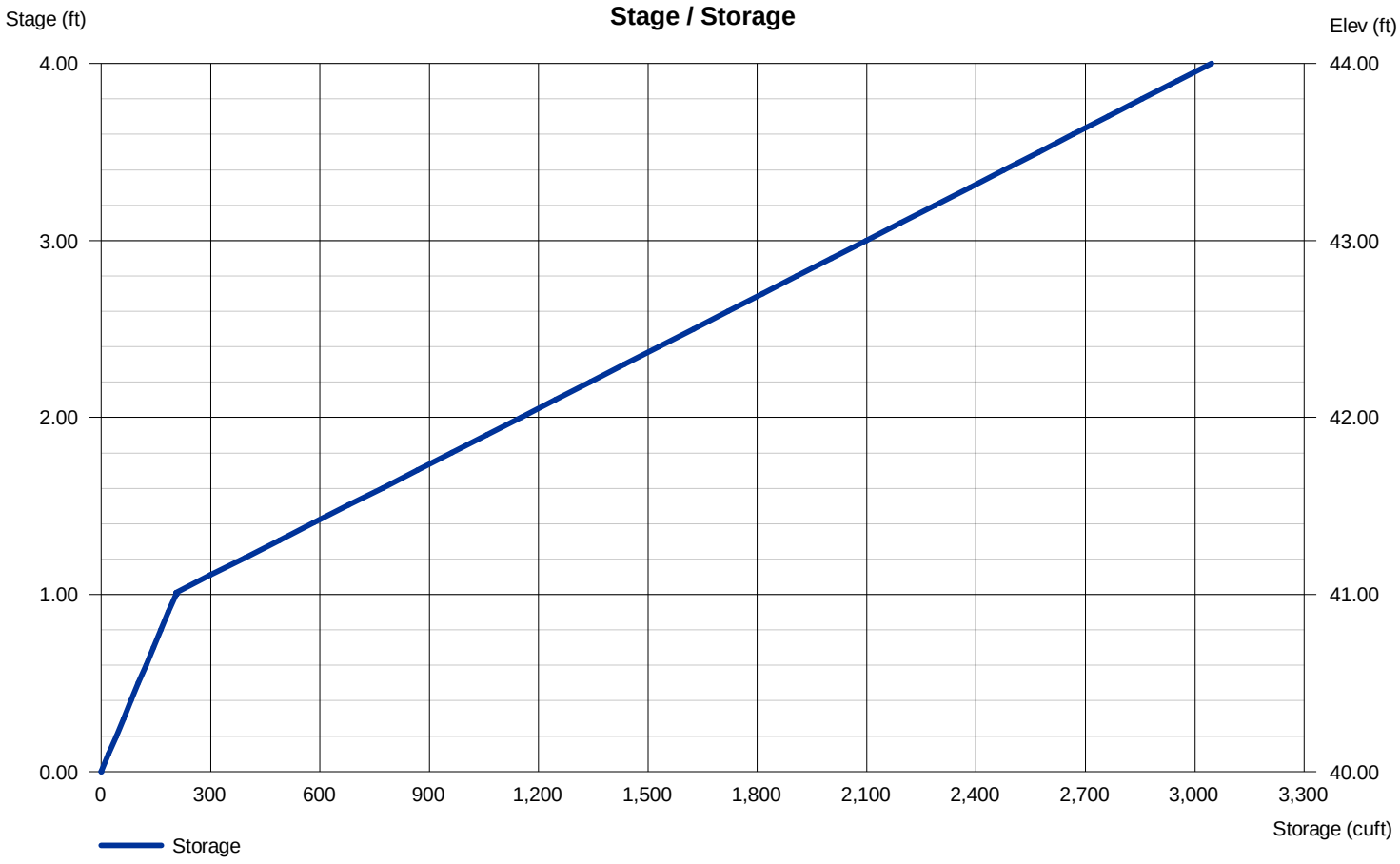
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	0.00	0.00	0.00
Crest El. (ft)	= 43.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.250 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



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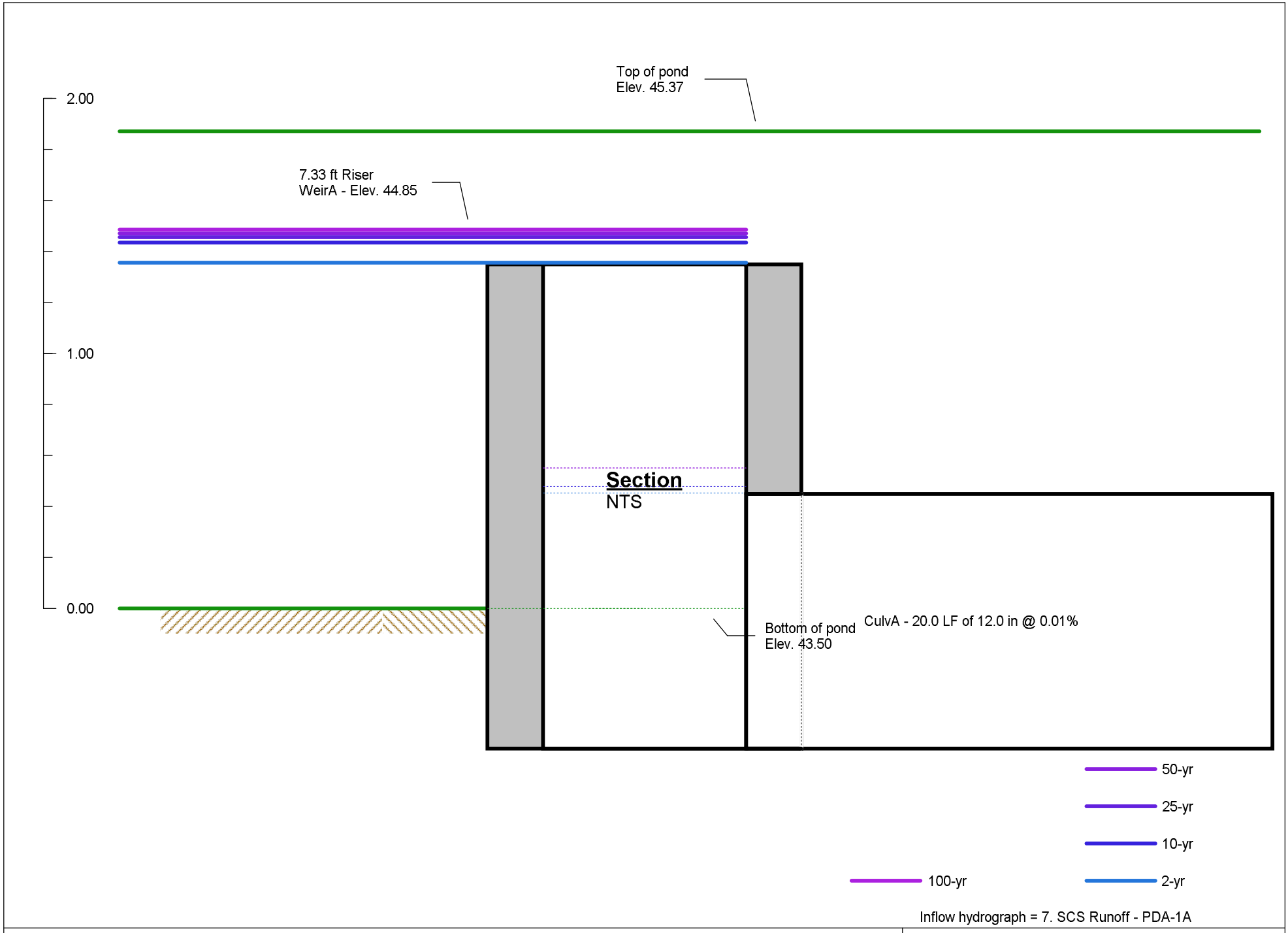
Pond No. 1 - Surface Detention



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Pond Report

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Pond No. 1 - Surface Detention

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 43.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	43.50	196	0	0
0.50	44.00	262	114	114
1.00	44.50	336	149	263
1.50	45.00	420	189	452
1.87	45.37	534	176	628

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 42.95	0.00	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.01	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

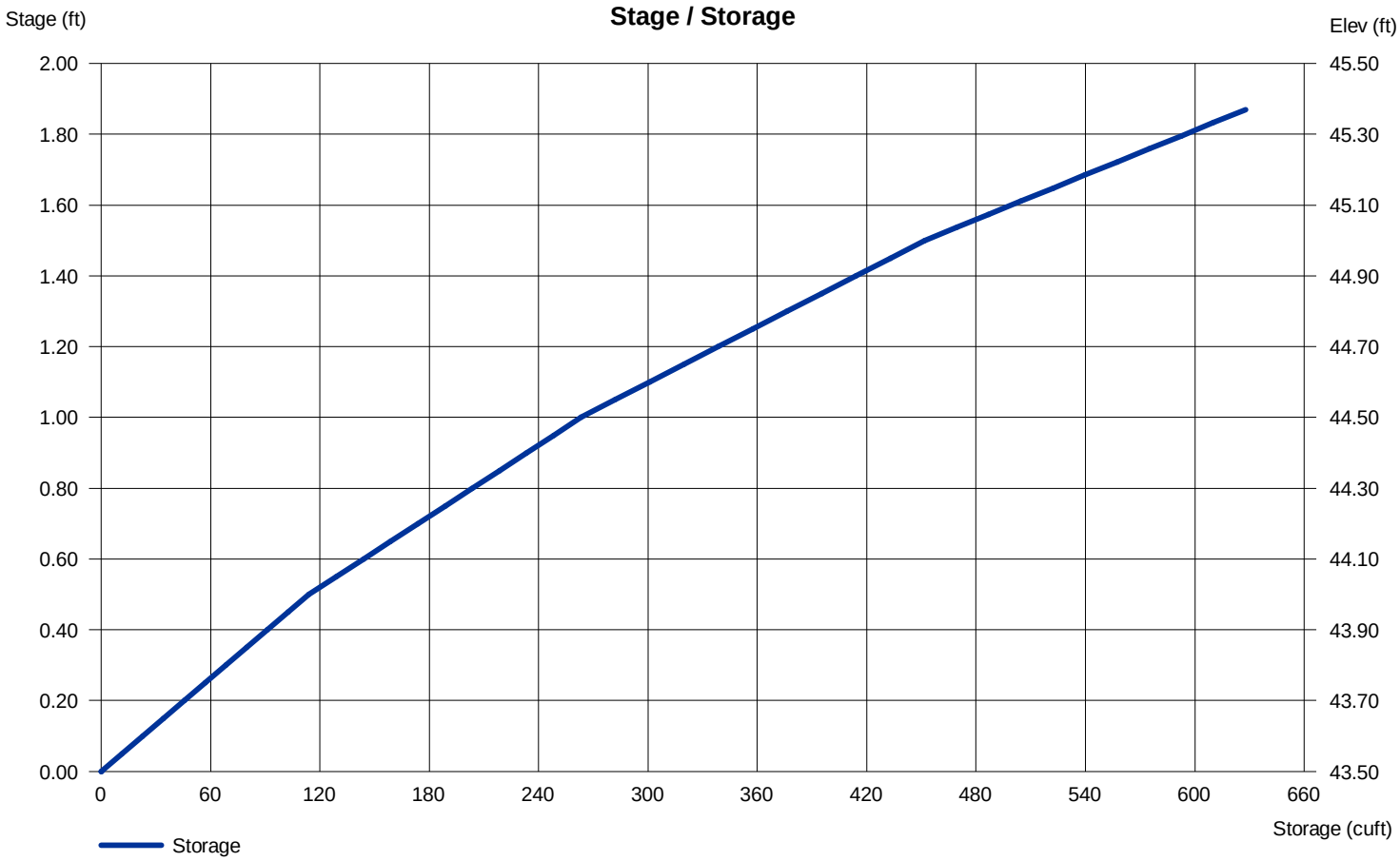
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	0.00	0.00	0.00
Crest El. (ft)	= 44.85	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 1.600 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



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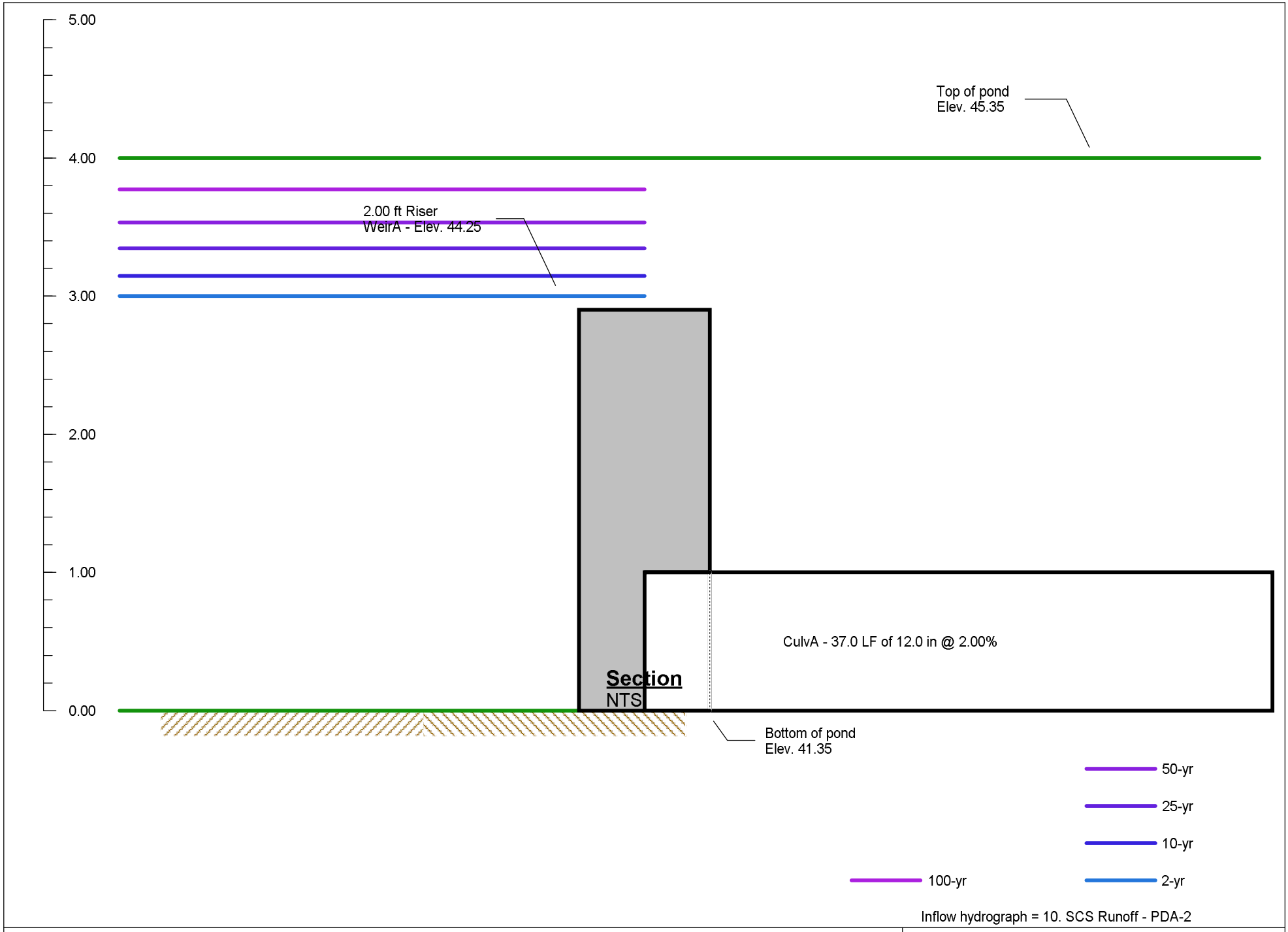
Pond No. 3 - Stone Trench



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Pond Report

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Pond No. 3 - Stone Trench

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 41.35 ft . Voids = 30.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	41.35	300	0	0
1.00	42.35	300	90	90
2.00	43.35	300	90	180
3.00	44.35	300	90	270
4.00	45.35	300	90	360

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 41.35	0.00	0.00	0.00
Length (ft)	= 37.00	0.00	0.00	0.00
Slope (%)	= 2.00	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

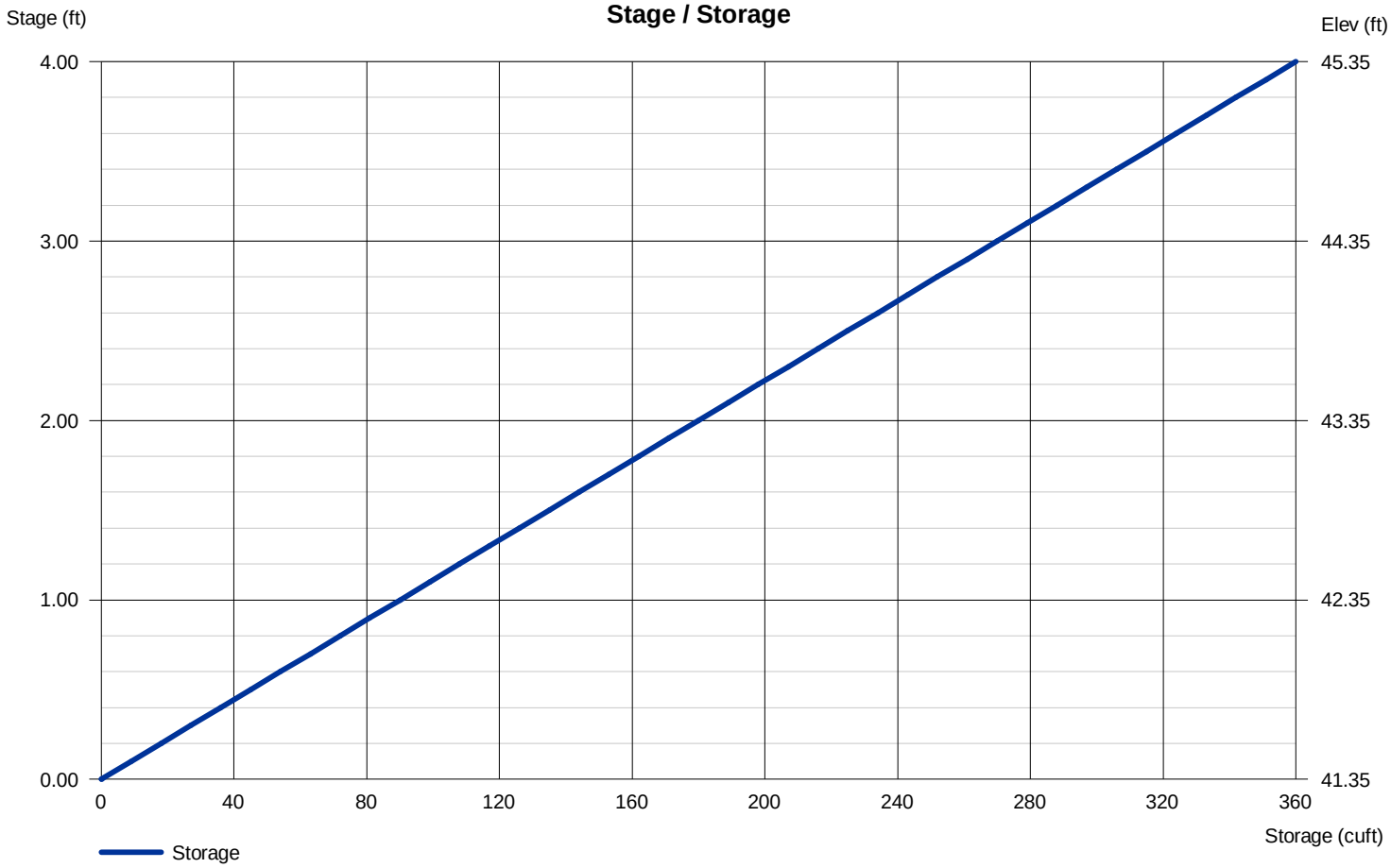
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 2.00	0.00	0.00	0.00
Crest El. (ft)	= 44.25	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 2.320 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



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Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: **Existing** Proposed **EDA-1**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.26	25.92
A/B	Gravel	76			0.05	3.47
A/B	Open Space (Fair)	55			0.05	2.86
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.36	32.25

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{32.25}{0.36} =$ 89.05 Use CN = **90**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: **Existing** Proposed **EDA-2A**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.25	24.50
A/B	Gravel	76			0.00	0.00
A/B	Open Space	55			0.18	9.90
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.43	34.40

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{34.40}{0.43} =$ 80.00 Use CN = **80**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: **Existing** Proposed **EDA-2B**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.01	0.98
A/B	Gravel	76			0.04	3.04
A/B	Open Space	55			0.01	0.55
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.06	4.57

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{4.57}{0.06} =$ 76.17 Use CN = **77**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: **Existing** Proposed **EDA-3**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.30	29.40
A/B	Gravel	76			0.02	1.52
A/B	Open Space	55			0.00	0.06
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.32	30.98

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{30.98}{0.32} =$ 96.50 Use CN = **97**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Existing **Proposed** **PDA-1A**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.09	8.82
A/B	Gravel	76			0.00	0.00
A/B	Open Space	55			0.10	5.50
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.19	14.32

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{14.32}{0.19} =$ 75.37 Use CN = **76**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Existing **Proposed** **PDA-1B**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.25	24.50
A/B	Gravel	76			0.00	0.00
A/B	Open Space	55			0.07	3.85
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.32	28.35

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{28.35}{0.32} =$ 88.59 Use CN = **89**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Existing **Proposed** **PDA-1C**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.14	13.72
A/B	Gravel	76			0.00	0.00
A/B	Open Space	55			0.03	1.65
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.17	15.37

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{15.37}{0.17} =$ 90.41 Use CN = **91**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Existing **Proposed** **PDA-2**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.11	10.78
A/B	Gravel	76			0.00	0.00
A/B	Open Space	55			0.11	6.05
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.22	16.83

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{16.83}{0.22} =$ 76.50 Use CN = **77**

Project **Scrub-A-Dub Auto Wash** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Existing **Proposed** **PDA-2**

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1] Table 2-2	CN [1] Fig. 2-3	CN [1] Fig. 2-4	Area ☐ acres ☐ mi^2 ☐ %	Product of CN x area
A/B	Impervious	98			0.16	15.68
A/B	Gravel	76			0.00	0.00
A/B	Open Space	55			0.02	1.10
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one CN source per line				Totals =	0.18	16.78

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{16.78}{0.18} =$ 93.22 Use CN = **94**

Project **Scrub-A-Dub Auto Care** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Present **Developed** **PDA-1A**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
A/B	Impervious pavement	0.95			0.09	0.09
A/B	Pervious	0.35			0.10	0.04
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	0.19	0.12

$$C\ (\text{weighted}) = \frac{\text{total product}}{\text{total area}} = \frac{0.12}{0.19} = 0.63$$

Use C = **0.63**

Project **Scrub-A-Dub Auto Care** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Present **Developed** **PDA-1B**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
A/B	Impervious pavement	0.95			0.25	0.24
A/B	Pervious	0.35			0.07	0.02
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	0.32	0.26

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.26}{0.32} =$ 0.82 Use C = **0.82**

Project **Scrub-A-Dub Auto Care** By **STM** Date **3/20/2021**

Location **Roslindale, Massachusetts** Checked **CJB** Date **3/20/2021**

Bold one: Present **Developed** **PDA-1C**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
A/B	Impervious pavement	0.95			0.14	0.13
A/B	Pervious	0.35			0.03	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	0.17	0.14

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.14}{0.17} =$ 0.84 Use C = **0.84**

Project **Scrub-A-Dub Auto Wash** By **EJP** Date **7/29/2020**

Location **Roslindale, Massachusetts** Checked **CJB** Date **7/29/2020**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	**AB**			
1. Surface description (table 3-1)			**SMOOTH SURFACE**			
2. Manning's roughness coeff., n (table 3-1)			**0.011**			
3. Flow Length, L (total L ≤ 100 ft)		ft	**100**			
4. Two-yr 24-hr rainfall, P_2		in	**3.35**			
5. Land slope, s		ft/ft	**0.012**			
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}s^{0.4}}$	Compute T_t	hr	**0.025**	+	**0.000**	**0.025**

Shallow concentrated flow		Segment ID	**BC**			
7. Surface description (paved or unpaved)			**paved**			
8. Flow length, L		ft	**5.9**			
9. Watercourse slope, s		ft/ft	**0.015**			
10. Average velocity, V (figure 3-1)		ft/s	**2.3**			
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	**0.001**	+	**0.000**	= **0.001**

Channel flow		Segment ID				
12. Cross sectional flow area, a		ft^2				
13. Wetted perimeter, p_w		ft				
14. Hydraulic radius, r	$r = \frac{a}{p_w}$ Compute r	ft	**0**		**0**	
15. Channel slope, s		ft/ft				
16. Manning's roughness coeff., n			**0.03**		**0.03**	
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s				
18. Flow length, L		ft				
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	**0.000**	+	**0.000**	

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)	**Hours**	**0.026**
	Minutes	**1.560**

***6 Mins. to be used as a minimum value**

Project **Scrub-A-Dub Auto Wash** By **EJP** Date **7/29/2020**

Location **Roslindale, Massachusetts** Checked **CJB** Date **7/29/2020**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	**AB**				
1. Surface description (table 3-1)			**SMOOTH SURFACE**				
2. Manning's roughness coeff., n (table 3-1)			**0.011**				
3. Flow Length, L (total L ≤ 100 ft)		ft	**100**				
4. Two-yr 24-hr rainfall, P_2		in	**3.35**				
5. Land slope, s		ft/ft	**0.028**				
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$	Compute T_t	hr	**0.017**	+	**0.000**	**0.017**	
Shallow concentrated flow		Segment ID	**BC**				
7. Surface description (paved or unpaved)			**PAVED**				
8. Flow length, L		ft	**129.42**				
9. Watercourse slope, s		ft/ft	**0.028**				
10. Average velocity, V (figure 3-1)		ft/s	**3.4**				
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	**0.011**	+	**0.000**	**0.011**	
Channel flow		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, p_w		ft					
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft	**0**		**0**		
15. Channel slope, s		ft/ft					
16. Manning's roughness coeff., n			**0.03**		**0.03**		
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s	**0.00**		**0.00**		
18. Flow length, L		ft					
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	**0.000**	+	**0.000**	**0.000**	
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)					**Hours**	**0.028**	
					Minutes	**1.701**	

***6 Mins. to be used as a minimum value**

Project	**Scrub-A-Dub Auto Wash**	By	**EJP**	Date	**7/29/2020**
Location	**Roslindale, Massachusetts**	Checked	**CJB**	Date	**7/29/2020**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)			Segment ID	**AB**		**A-2**		
1. Surface description (table 3-1)				**SMOOTH SURFACE**		**SMOOTH SURFACE**		
2. Manning's roughness coeff., n (table 3-1)				**0.011**				
3. Flow Length, L (total L ≤ 100 ft)			ft	**100**				
4. Two-yr 24-hr rainfall, P_2			in	**3.35**				
5. Land slope, s			ft/ft	**0.026**				
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$		Compute T_t	hr	**0.018**	+	**#DIV/0!**	=	**0.018**

Shallow concentrated flow			Segment ID	**BC**				
7. Surface description (paved or unpaved)				**PAVED**				
8. Flow length, L			ft	**22.06**				
9. Watercourse slope, s			ft/ft	**0.026**				
10. Average velocity, V (figure 3-1)			ft/s	**3**				
11. $T_t = \frac{L}{3600\ V}$		Compute T_t	hr	**0.002**	+	**#DIV/0!**	=	**0.002**

Channel flow			Segment ID					
12. Cross sectional flow area, a			ft^2					
13. Wetted perimeter, p_w			ft					
14. Hydraulic radius, r	$r = \frac{a}{p_w}$	Compute r	ft	**#DIV/0!**		**#DIV/0!**		
15. Channel slope, s			ft/ft					
16. Manning's roughness coeff., n				**0.03**		**0.03**		
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$		Compute V	ft/s	**0.00**		**0.00**		
18. Flow length, L			ft					
19. $T_t = \frac{L}{3600\ V}$		Compute T_t	hr	**0.000**	+	**0.000**	=	**0.000**

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)	**Hours** =	**0.020**
	Minutes =	**1.200**

***6 Mins. to be used as a minimum value**

Project	**Scrub-A-Dub Auto Wash**	By	**EJP**	Date	**7/29/2020**
Location	**Roslindale, Massachusetts**	Checked	**CJB**	Date	**7/29/2020**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)			Segment ID	**AB**				
1. Surface description (table 3-1)				**SMOOTH SURFACE**	**SMOOTH SURFACE**			
2. Manning's roughness coeff., n (table 3-1)				**0.011**	**0.011**			
3. Flow Length, L (total L $\leq$ 100 ft)			ft	**99.34**				
4. Two-yr 24-hr rainfall, P_2			in	**3.35**				
5. Land slope, s			ft/ft	**0.017**				
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$		Compute T_t	hr	**0.021**	+ **0.000**	=	**0.021**	

Shallow concentrated flow			Segment ID					
7. Surface description (paved or unpaved)								
8. Flow length, L			ft					
9. Watercourse slope, s			ft/ft					
10. Average velocity, V (figure 3-1)			ft/s					
11. $T_t = \frac{L}{3600\ V}$		Compute T_t	hr	**0.000**	+ **0.000**	=	**0.000**	

Channel flow			Segment ID					
12. Cross sectional flow area, a			ft^2					
13. Wetted perimeter, p_w			ft					
14. Hydraulic radius, r	$r = \frac{a}{p_w}$	Compute r	ft	**0**	**0**			
15. Channel slope, s			ft/ft					
16. Manning's roughness coeff., n				**0.03**	**0.03**			
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$		Compute V	ft/s	**0.00**	**0.00**			
18. Flow length, L			ft					
19. $T_t = \frac{L}{3600\ V}$		Compute T_t	hr	**0.000**	+ **0.000**	=	**0.000**	

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)	**Hours**	=	**0.021**
	Minutes	=	**1.257**

***6 Mins. to be used as a minimum value**

Project	**Scrub-A-Dub**	By	**STM**	Date	**3/15/2021**
Location	**Roslindale, MA**	Checked	**CJB**	Date	**3/15/2021**

Bold One: Present **Developed** — **PDA-2**

Bold One: T_c T_t through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

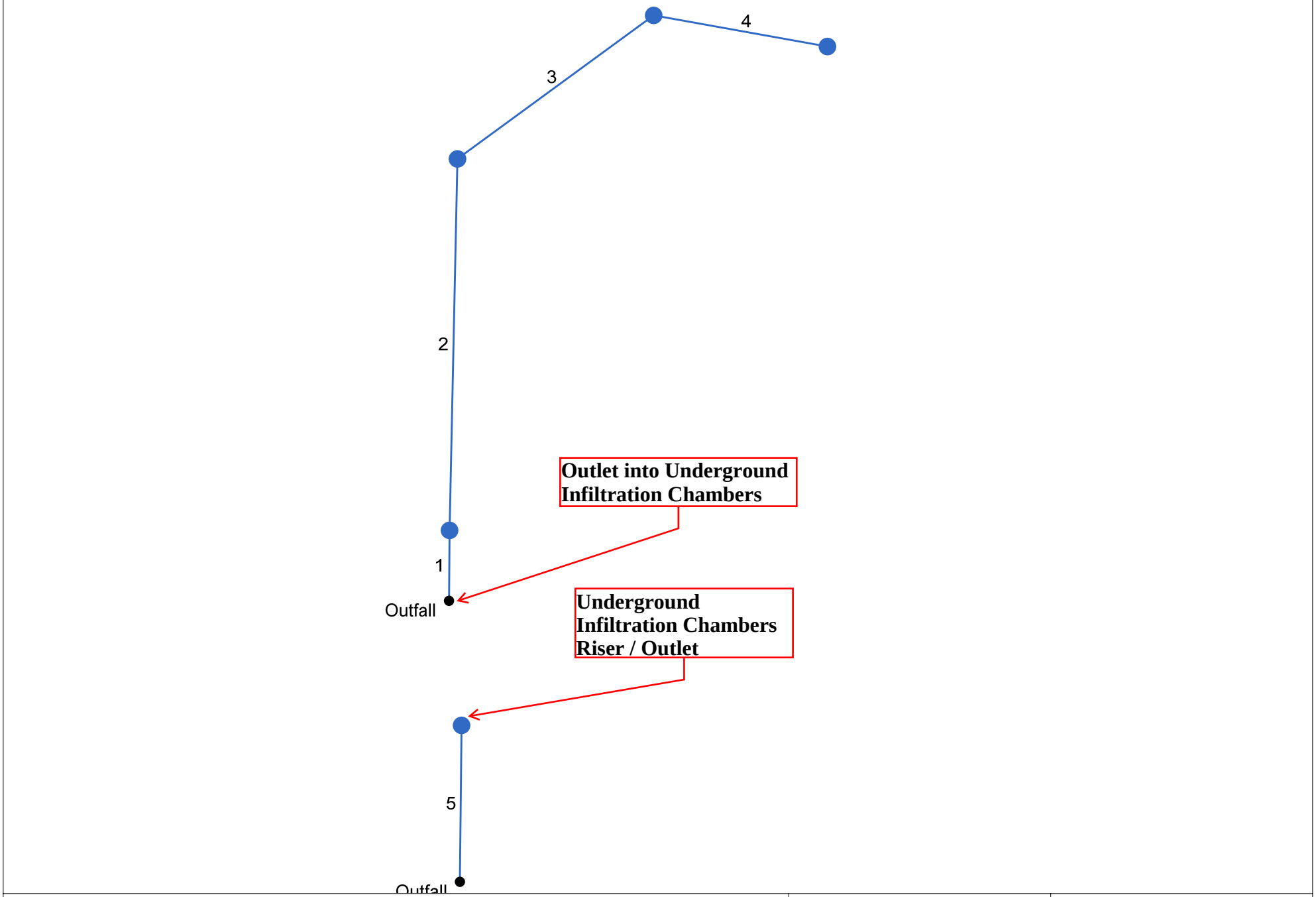
Sheet flow (Applicable to T_c Only)		Segment ID	**AB**		**BC**		
1. Surface description (table 3-1)			**Grass**		**Gravel**		
2. Manning's roughness coeff., n (table 3-1)			**0.240**		**0.011**		
3. Flow Length, L (total L ≤ 100 ft)		ft	**54**		**46**		
4. Two-yr 24-hr rainfall, P_2		in	**3.35**		**3.35**		
5. Land slope, s		ft/ft	**0.055**		**0.010**		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	**0.095**	+	**0.014**	=	**0.109**

Shallow concentrated flow		Segment ID	**CD**				
7. Surface description (paved or unpaved)			**Unpaved**				
8. Flow length, L		ft	**75**				
9. Watercourse slope, s		ft/ft	**0.01**				
10. Average velocity, V (figure 3-1)		ft/s	**1.6**				
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	**0.013**	+		=	**0.013**

Channel flow		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, p_w		ft					
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft					
15. Channel slope, s		ft/ft					
16. Manning's roughness coeff., n							
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s					
18. Flow length, L		ft					
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+		=	**0.000**

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)	**Hours**	=	**0.122**
	Minutes	=	**7.305**

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: Storm Sewer.stm	Number of lines: 5	Date: 3/23/2021

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1		Grate	45.50	Cir	4.00	4.00	18	Cir	41.90	12	Cir	41.90
2		Grate	44.80	Cir	4.00	4.00	12	Cir	42.41	12	Cir	42.41
3		Manhole	45.80	Cir	4.00	4.00	12	Cir	42.72	12	Cir	42.72
4		Grate	44.85	Cir	4.00	4.00	12	Cir	42.95			
5		Manhole	44.00	Cir	4.00	4.00	12	Cir	41.00			

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1		6.05	18	Cir	18.000	41.81	41.90	0.500	42.77	42.87	0.19	43.07	End	Grate
2		3.93	12	Cir	95.000	41.90	42.41	0.537	43.07*	44.05*	0.48	44.53	1	Grate
3		1.24	12	Cir	62.000	42.41	42.72	0.500	44.53*	44.60*	0.03	44.63	2	Manhole
4		1.24	12	Cir	45.000	42.72	42.95	0.511	44.63*	44.67*	0.04	44.71	3	Grate
5		5.55	12	Cir	40.000	40.83	41.00	0.425	41.77*	42.58*	0.78	43.36	End	Manhole

Project File: Storm Sewer.stm | Number of lines: 5 | Run Date: 3/23/2021

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Tabulation

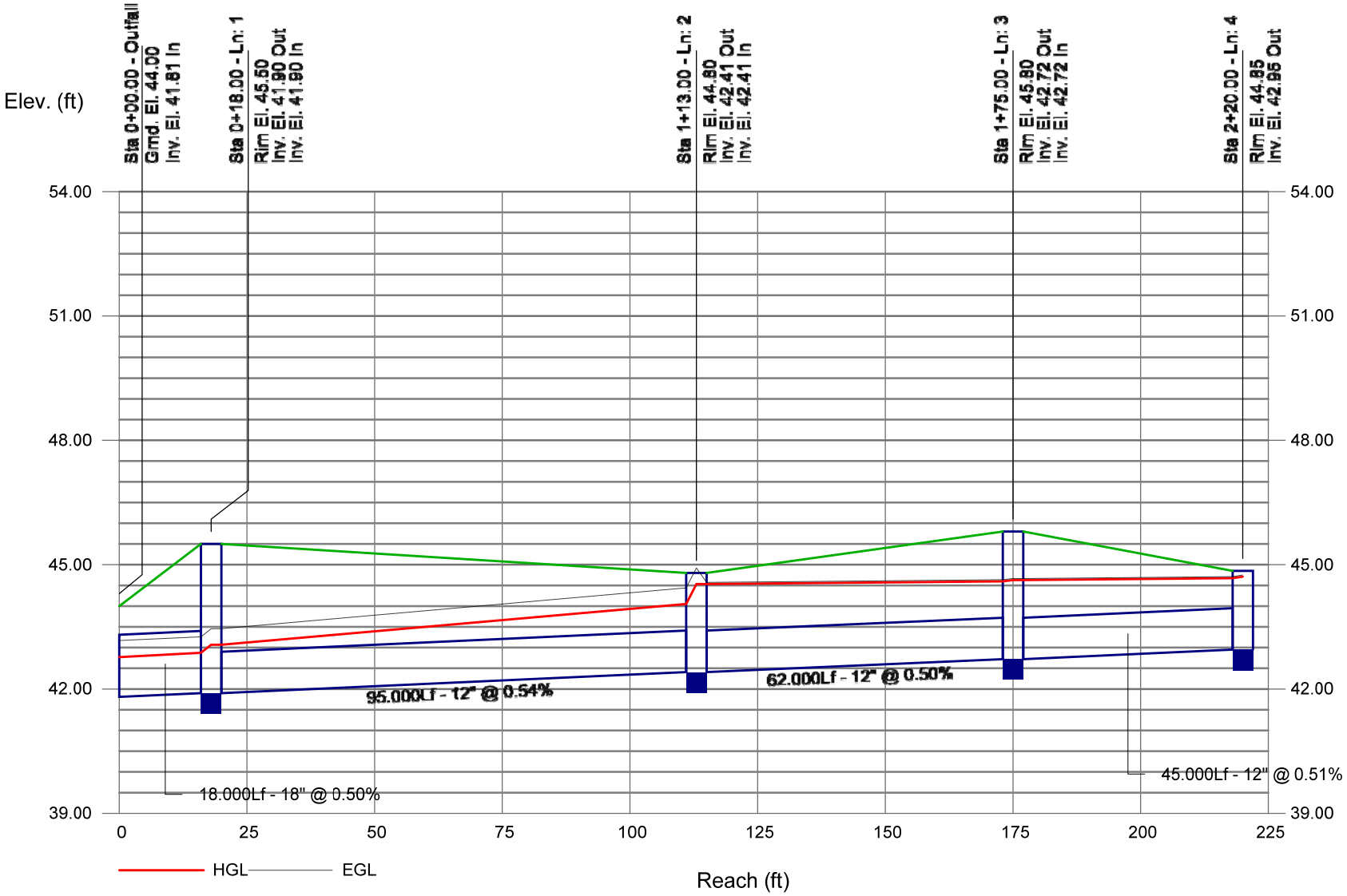
Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	18.000	0.26	0.58	0.84	0.22	0.48	6.0	6.3	10.0	6.05	8.04	5.02	18	0.50	41.81	41.90	42.77	42.87	44.00	45.50	
2	1	95.000	0.32	0.32	0.82	0.26	0.26	6.0	6.0	10.2	3.93	2.83	5.00	12	0.54	41.90	42.41	43.07	44.05	45.50	44.80	
3	2	62.000	0.00	0.00	0.00	0.00	0.00	0.0	0.5	0.0	1.24	2.73	1.58	12	0.50	42.41	42.72	44.53	44.60	44.80	45.80	
4	3	45.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.24	2.76	1.58	12	0.51	42.72	42.95	44.63	44.67	45.80	44.85	
5	End	40.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5.55	2.52	7.15	12	0.42	40.83	41.00	41.77	42.58	45.10	44.00	

Project File: Storm Sewer.stm | Number of lines: 5 | Run Date: 3/23/2021

NOTES:Intensity = 53.63 / (Inlet time + 3.80) ^ 0.73; Return period =Yrs. 100 ; c = cir e = ellip b = box

Storm Sewer Profile

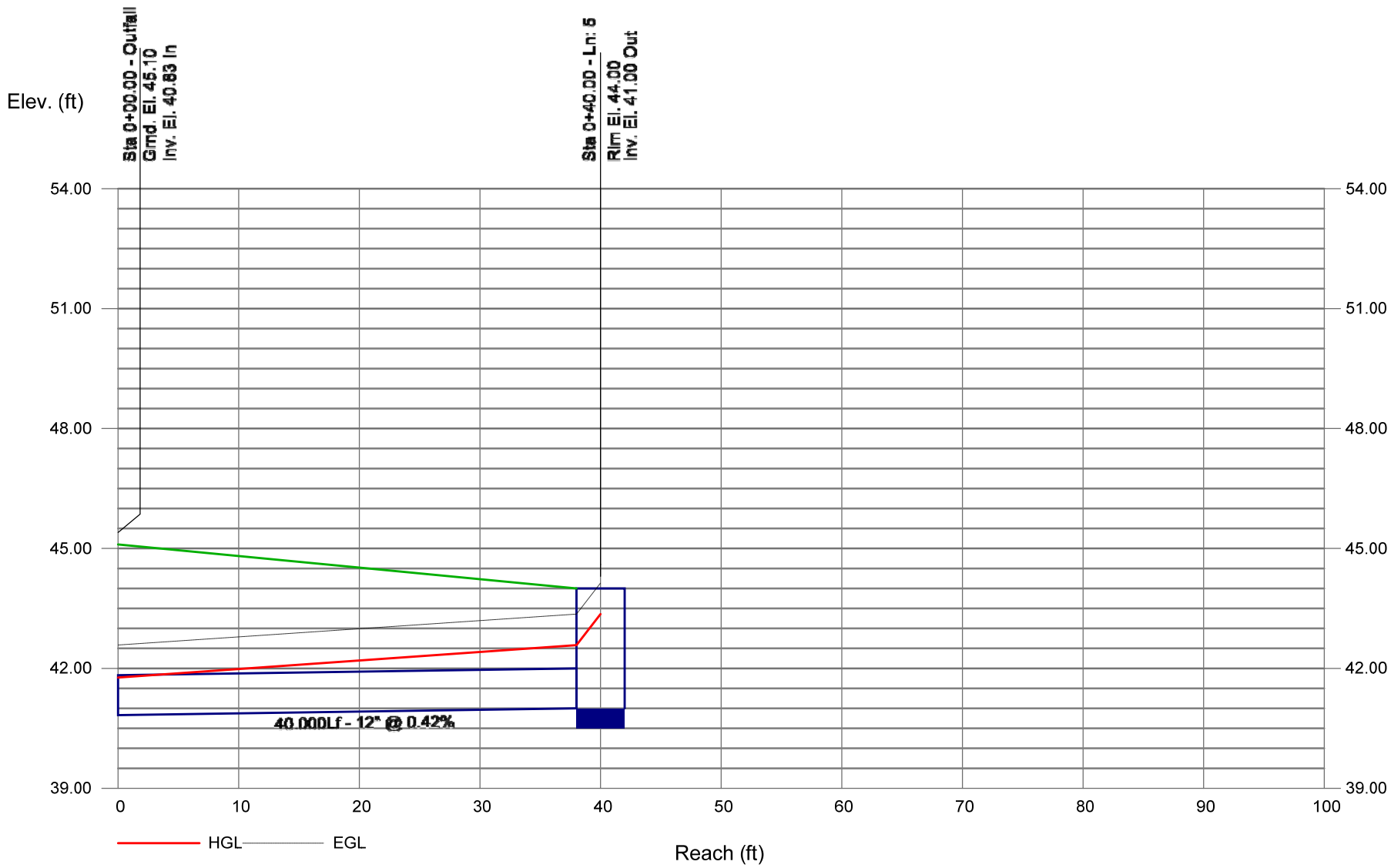
Proj. file: Storm Sewer.stm



100-Year Storm Event

Storm Sewer Profile

Proj. file: Storm Sewer.stm



100-Year Storm Event

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: 565 American Legion Highway - WQS

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump Catch Basin	25%	**1.00**	0.25	0.75
Hydrodynamic Separator	84.1%(See Appendix C, Drainage Calculations)	0.75	0.63	0.12
		0.12		

Total TSS Removal = **87%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: Scrub-A-Dub - Roslindale

Prepared By: Solli Engineering

Date: 09/02/20

*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

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CONTECH® ENGINEERED SOLUTIONS

CDS TECHNOLOGIES

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD

PROPOSED CARWASH IMPREOVEMENT ROSLINDALE, MA

Area	**0.54 ac**	Unit Site Designation	**WQS**
Weighted C	**0.9**	Rainfall Station #	**69**
t_c	**6 min**		
CDS Model	**1515-3**	CDS Treatment Capacity	**1.0 cfs**

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (cfs)	Treated Flowrate (cfs)	Incremental Removal (%)
0.02	10.2%	10.2%	0.01	0.01	9.8
0.04	9.6%	19.8%	0.02	0.02	9.3
0.06	9.4%	29.3%	0.03	0.03	9.0
0.08	7.7%	37.0%	0.04	0.04	7.3
0.10	8.6%	45.6%	0.05	0.05	8.1
0.12	6.3%	51.9%	0.06	0.06	5.9
0.14	4.7%	56.5%	0.07	0.07	4.3
0.16	4.6%	61.2%	0.08	0.08	4.3
0.18	3.5%	64.7%	0.09	0.09	3.2
0.20	4.3%	69.1%	0.10	0.10	3.9
0.25	8.0%	77.1%	0.12	0.12	7.1
0.30	5.6%	82.7%	0.15	0.15	4.9
0.35	4.4%	87.0%	0.17	0.17	3.7
0.40	2.5%	89.5%	0.19	0.19	2.1
0.45	2.5%	92.1%	0.22	0.22	2.1
0.50	1.4%	93.5%	0.24	0.24	1.1
0.75	5.0%	98.5%	0.36	0.36	3.7
1.00	1.0%	99.5%	0.49	0.49	0.7
1.50	0.0%	99.5%	0.73	0.73	0.0
2.00	0.0%	99.5%	0.97	0.97	0.0
3.00	0.5%	100.0%	1.46	1.00	0.1
					90.5
				Removal Efficiency Adjustment[2] =	6.5%
				Predicted % Annual Rainfall Treated =	93.4%
				Predicted Net Annual Load Removal Efficiency =	**84.1%**

1 - Based on 10 years of hourly precipitation data from NCDC Station 770, Boston WSFO AP, Suffolk County, MA
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

Project: Proposed Carwash Impreovement
Location: Roslindale, MA
Prepared For: Solli Engineering

Purpose: To calculate the water quality flow rate (WQF) over a given site area. In this situation the WQF is derived from the first 1" of runoff from the contributing impervious surface.

Reference: Massachusetts Dept. of Environmental Protection Wetlands Program / United States Department of Agriculture Natural Resources Conservation Service TR-55 Manual

Procedure: Determine unit peak discharge using Figure 1 or 2. Figure 2 is in tabular form so is preferred. Using the tc, read the unit peak discharge (qu) from Figure 1 or Table in Figure 2. qu is expressed in the following units: cfs/mi^2/watershed inches (csm/in).

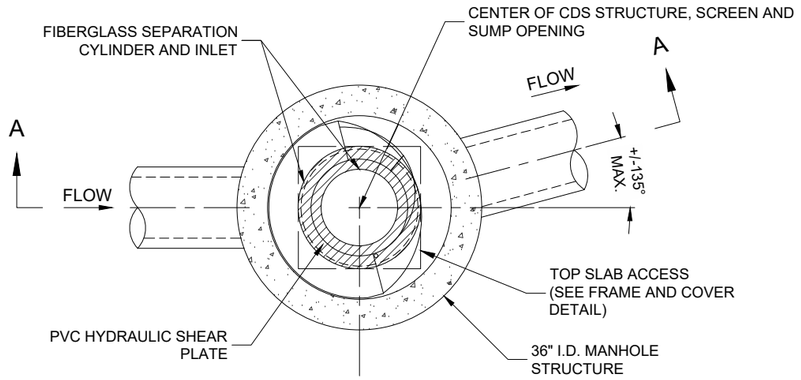
Compute Q Rate using the following equation:

$$Q = (qu)\ (A)\ (WQV)$$

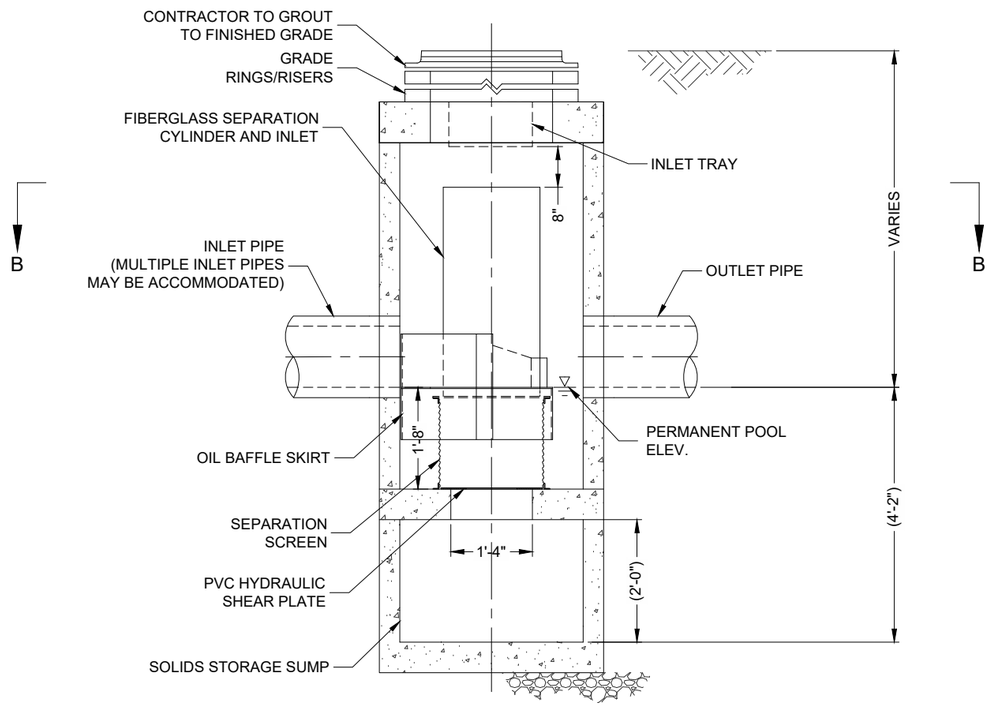
where:

Q = flow rate associated with first 1" of runoff
qu = the unit peak discharge, in csm/in.
A = impervious surface drainage area (in square miles)
WQV = water quality volume in watershed inches (1" in this case)

Structure Name	Impv. (acres)	A (miles^2)	t_c (min)	t_c (hr)	WQV (in)	qu (csm/in.)	Q (cfs)
WQS	0.54	0.0008438	6.0	0.100	1.00	774.00	0.65



PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.

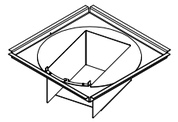
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CDS1515-3-C DESIGN NOTES

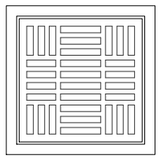
CDS1515-3-C RATED TREATMENT CAPACITY IS 1.0 CFS, OR PER LOCAL REGULATIONS.

THE STANDARD CDS1515-3-C WITH GRATED INLET CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES



INLET TRAY
NOT TO SCALE



24" X 24" FRAME AND GRATE
(MAY VARY)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO..
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

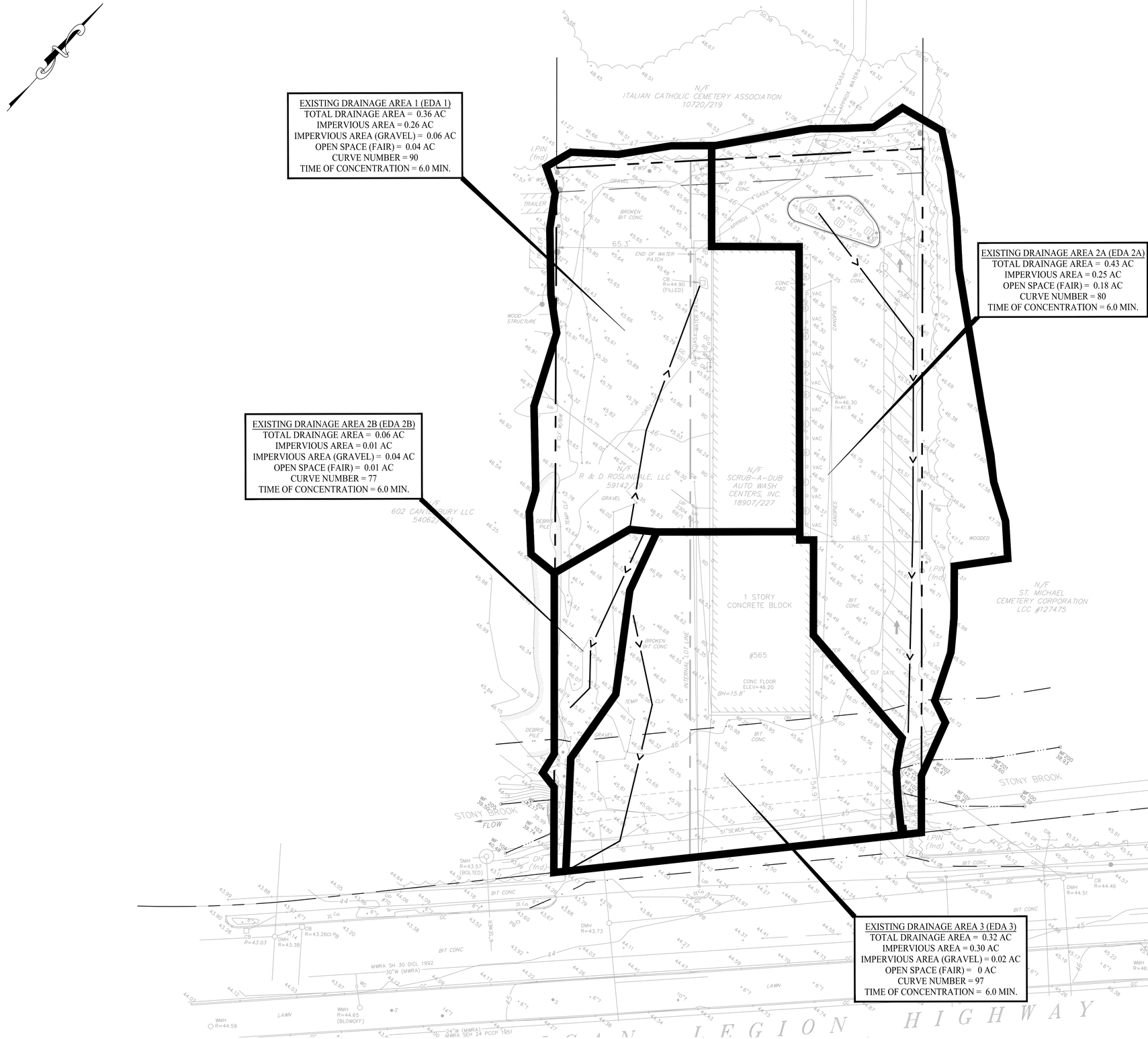
CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS1515-3-C
ONLINE CDS
STANDARD DETAIL

I:\STORMWATERJURISDICTIONS\USA\MA_SDE DESIGN TOOLS_STANDARD DETAILS\CDS\CDS1515-3-C-DTL WITH GRATED INLET.DWG 7/16/2020 2:30 PM

APPENDIX D
DESIGN PLANS

Existing Drainage Area Map (EDA)
Proposed Drainage Area Map (PDA)
Site Layout Plan (2.11)
Grading, Drainage and Utility Plan (2.21)
Soil Erosion & Sediment Control Plan (2.31)
Soil Erosion & Sediment Control Notes & Details (2.41)
Landscape Plan (2.61)
Lighting Plan (2.71)



GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTIONS STORMWATER MANAGEMENT HANDBOOK AND THE CITY OF HOLYOKE, MASSACHUSETTS STORMWATER REGULATIONS.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF DRAINAGE AREA
- FLOW PATH

Rev. #:	Date	Description
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: EXISTING DRAINAGE AREA PLAN

Sheet #: EDA

Mar 20, 2021 - 11:38am ssm
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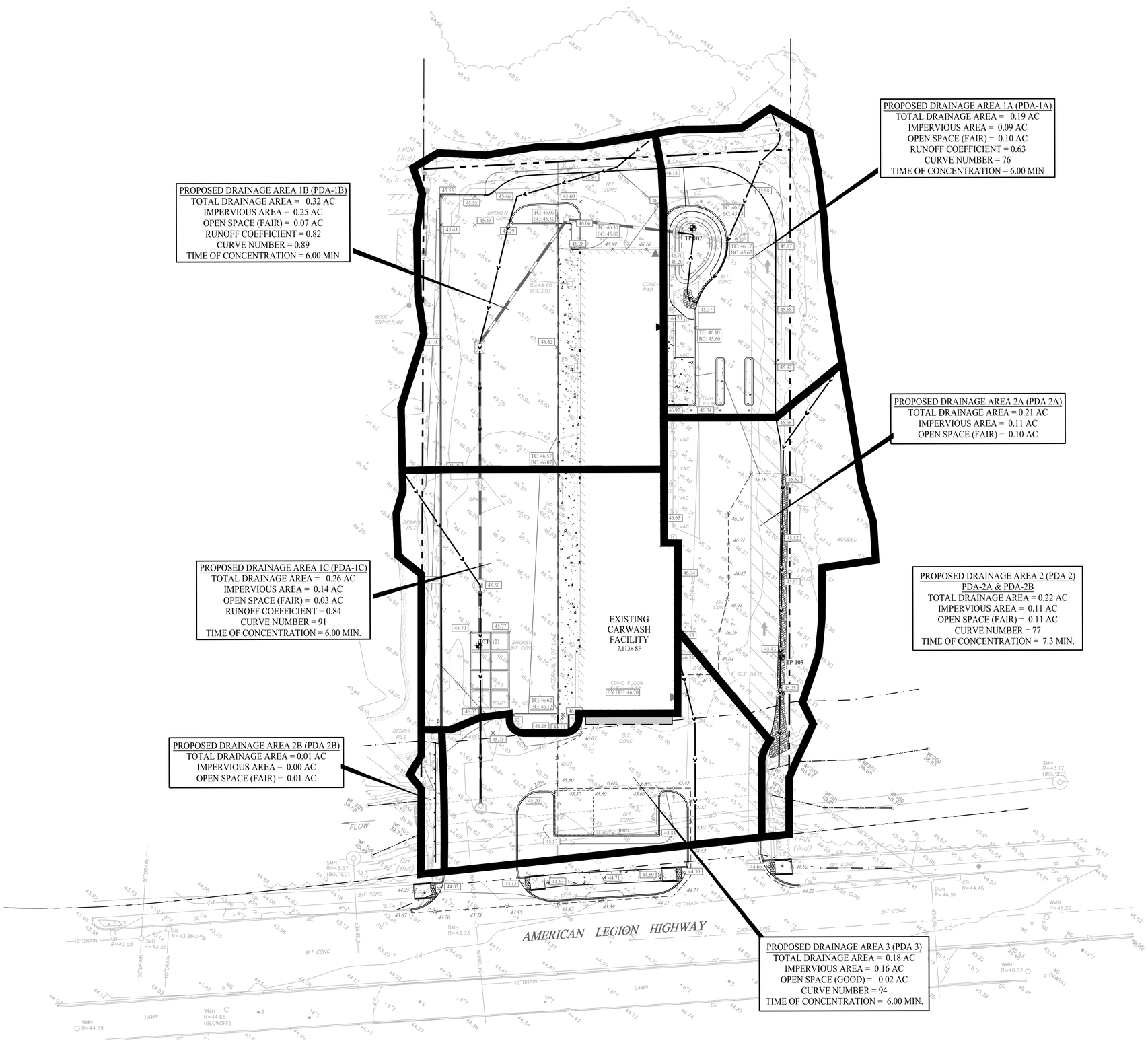
GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTIONS STORMWATER MANAGEMENT HANDBOOK AND THE CITY OF HOLYOKE, MASSACHUSETTS STORMWATER REGULATIONS.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF DRAINAGE AREA
- FLOW PATH



Rev. #:	Date	Description
1	03/15/21	BWSC Response to Comments

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351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
PROPOSED DRAINAGE AREA PLAN	PDA

Mar 24, 2021 - 8:39am ssm
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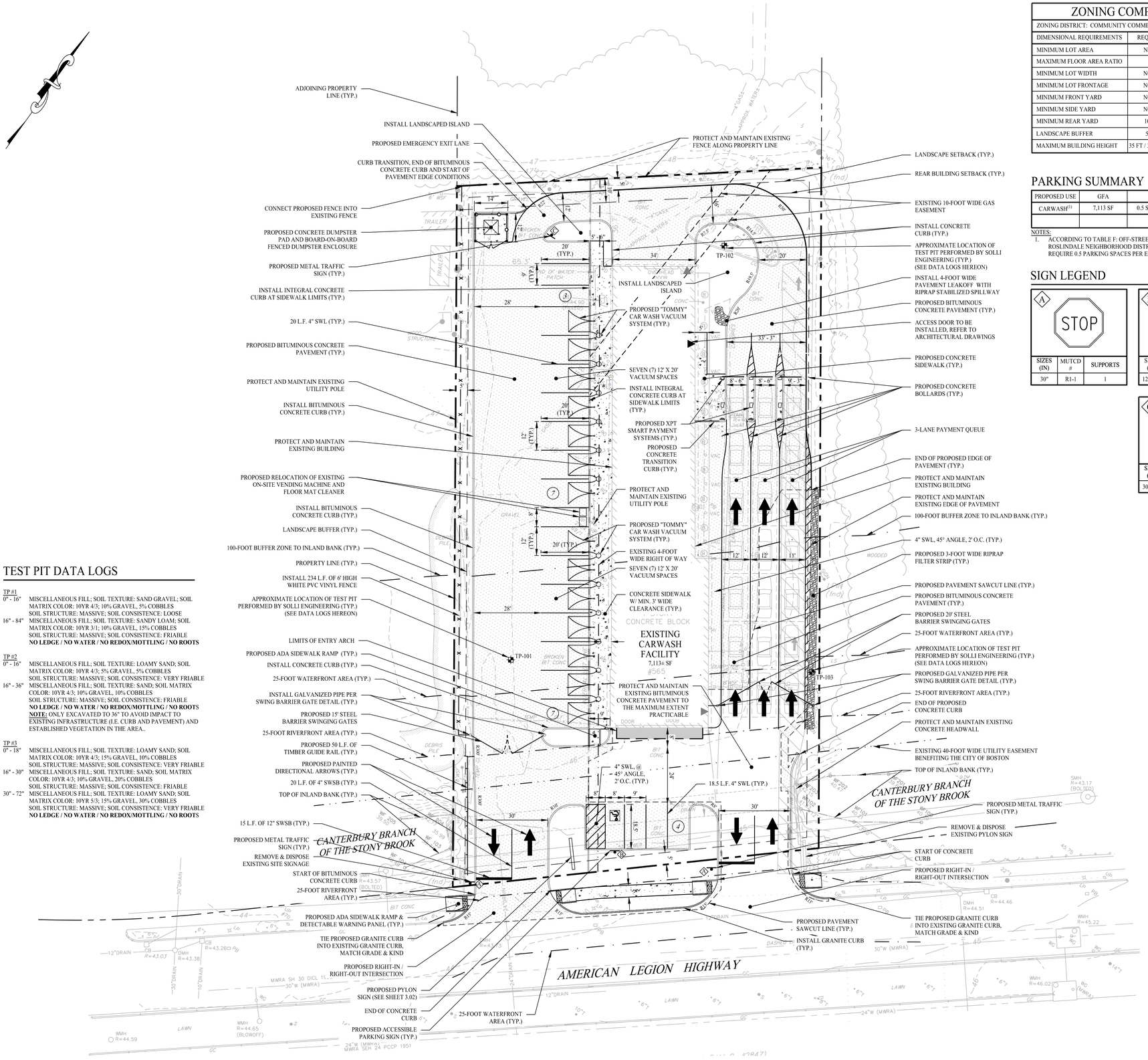

TEST PIT DATA LOGS

TP #1
0" - 16" MISCELLANEOUS FILL; SOIL TEXTURE: SAND GRAVEL; SOIL MATRIX COLOR: 10YR 4/3; 10% GRAVEL, 5% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: LOOSE
16" - 84" MISCELLANEOUS FILL; SOIL TEXTURE: SANDY LOAM; SOIL MATRIX COLOR: 10YR 3/1; 10% GRAVEL, 15% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: FRIABLE **NO LEDGE / NO WATER / NO REDOX/MOTTLING / NO ROOTS**

TP #2
0" - 16" MISCELLANEOUS FILL; SOIL TEXTURE: LOAMY SAND; SOIL MATRIX COLOR: 10YR 4/3; 5% GRAVEL, 5% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: VERY FRIABLE
16" - 36" MISCELLANEOUS FILL; SOIL TEXTURE: SAND; SOIL MATRIX COLOR: 10YR 4/3; 10% GRAVEL, 10% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: FRIABLE **NO LEDGE / NO WATER / NO REDOX/MOTTLING / NO ROOTS**
NOTE: ONLY EXCAVATED TO 36" TO AVOID IMPACT TO EXISTING INFRASTRUCTURE (I.E. CURB AND PAVEMENT) AND ESTABLISHED VEGETATION IN THE AREA..

TP #3
0" - 18" MISCELLANEOUS FILL; SOIL TEXTURE: LOAMY SAND; SOIL MATRIX COLOR: 10YR 4/3; 15% GRAVEL, 10% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: VERY FRIABLE
16" - 30" MISCELLANEOUS FILL; SOIL TEXTURE: SAND; SOIL MATRIX COLOR: 10YR 4/3; 10% GRAVEL, 20% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: FRIABLE
30" - 72" MISCELLANEOUS FILL; SOIL TEXTURE: LOAMY SAND; SOIL MATRIX COLOR: 10YR 5/3; 15% GRAVEL, 30% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: VERY FRIABLE **NO LEDGE / NO WATER / NO REDOX/MOTTLING / NO ROOTS**

ZONING COMPLIANCE TABLE

ZONING DISTRICT: COMMUNITY COMMERCIAL (CC-1)			
DIMENSIONAL REQUIREMENTS	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	NONE	44,062± SF	44,062± SF
MAXIMUM FLOOR AREA RATIO	1.0	0.16	0.16
MINIMUM LOT WIDTH	NONE	152.3± FT	152.3± FT
MINIMUM LOT FRONTAGE	NONE	153.8± FT	153.8± FT
MINIMUM FRONT YARD	NONE	54.9± FT	54.9± FT
MINIMUM SIDE YARD	NONE	46.3± FT	46.3± FT
MINIMUM REAR YARD	10 FT	36.7± FT	36.7± FT
LANDSCAPE BUFFER	5 FT	< 5 FT	< 5 FT
MAXIMUM BUILDING HEIGHT	35 FT / 3 FLOORS	15.8 FT	< 35 FT

PARKING SUMMARY

PROPOSED USE	GFA	REQUIREMENT[1]	REQ.	PROP.
CARWASH[1]	7,113 SF	0.5 SPACES / 1,000 SF OF GFA	4	7
		TOTAL	4	7

NOTES:
1. ACCORDING TO TABLE F: OFF-STREET PARKING REQUIREMENTS IN THE ROSLINDALE NEIGHBORHOOD DISTRICT VEHICULAR USES (CARWASHES) REQUIRE 0.5 PARKING SPACES PER EVERY 1,000 SF OF GROSS FLOOR AREA.

SIGN LEGEND

A — STOP

SIZES (IN)	MUTCD #	SUPPORTS
30"	R1-1	1

B — HANDICAPPED PARKING / VAN ACCESSIBLE

SIZES (IN)	MUTCD #	SUPPORTS
12"x18"	R7-8b (VAN)	1

C — DO NOT ENTER

SIZES (IN)	MUTCD #	SUPPORTS
30"x30"	R5-1	1

LEGEND

PROPERTY LINE
ADJOINING LOT LINE
BUILDING SETBACK
LANDSCAPE BUFFER
LIMIT OF EASEMENT
EXISTING BUILDING LIMITS
SAWCUT PAVEMENT LINE
EDGE OF PAVEMENT
BITUMINOUS CONCRETE CURB
GRANITE CURB
TRANSITION CURB
STANDARD DUTY BITUMINOUS CONCRETE PAVEMENT
CONCRETE SIDEWALK / PAVEMENT
SIDEWALK LIMITS
PAVEMENT ARROW MARKINGS
PARKING SPACE COUNT
STORMWATER BASIN
WOOD FENCE
PVC VINYL FENCE
SWINGING BARRIER GATE
BUILDING OVERHANG LINE / CANOPY
TEST PIT
VEHICLE
DUMPSTER / TRASH RECEPTACLE
TRAFFIC SIGN
TRAFFIC SIGN DESIGNATION
TOP OF INLAND BANK
25-FOOT RIVERFRONT AREA
25-FOOT WATERFRONT AREA
100-FOOT BUFFER ZONE TO INLAND BANK
PAVEMENT STRIPING - WHITE STANDARD AND ADA PARKING SPACES
"TOMMY" CAR WASH VACUUM SYSTEM
EXISTING DOOR
PROPOSED DOOR

GENERAL NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.
4. THE SUBJECT IS A PROPERTY CONSISTING OF A TOTAL AREA OF APPROXIMATELY 1.011 ACRES (44,062± SQUARE FEET), LOCATED IN THE COMMUNITY COMMERCIAL (CC-1) ZONING DISTRICT OF ROSLINDALE, MASSACHUSETTS. CAR WASH FACILITIES ARE ALLOWED CONDITIONALLY WITH SITE PLAN REVIEW APPROVAL BY THE CITY OF BOSTON BOARD OF APPEAL, BOSTON REDEVELOPMENT AUTHORITY, AND THE ZONING COMMISSION. THIS LAYOUT WILL REQUIRE BOARD OF APPEAL APPROVAL.
5. THIS SITE LIES WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X). FLOOD ZONE INFORMATION TAKEN FROM FEMA FLOOD INSURANCE RATE MAP NUMBER NO. 25025C0086G, DATE 09/25/2009.
6. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT (888) 344-7233 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY AND SECURITY OF THE SITE DURING ALL PHASES OF CONSTRUCTION. THE ARCHITECT AND ENGINEER ARE NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ARCHITECT AND ENGINEER HAVE NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
8. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
9. THE CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING AND BUILDING EXPANSIONS.
10. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
11. ALL SITE DIMENSIONS ARE REFERENCED TO THE FACE OF CURBS OR EDGE OF PAVING AS APPLICABLE UNLESS OTHERWISE NOTED. ALL BUILDING DIMENSIONS ARE REFERENCED TO THE OUTSIDE FACE OF THE STRUCTURE.
12. TRAFFIC CONTROL SIGNAGE SHALL CONFORM TO THE STATE DOT STANDARD DETAIL SHEETS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. SIGNS SHALL BE INSTALLED PLUMB WITH THE EDGE OF THE SIGN 2' OFF THE FACE OF THE CURB, AND WITH 7' VERTICAL CLEARANCE UNLESS OTHERWISE DETAILED OR NOTED.
13. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
14. PAVEMENT MARKING KEY:
    4" SWL 4" SOLID WHITE LINE
    12" SWSB 12" SOLID WHITE STOP BAR
15. PARKING SPACES SHALL BE STRIPED WITH 4" SWL; HATCHED AREA SHALL BE STRIPED WITH 4" SWL AT A 45° ANGLE, 2' ON CENTER. HATCHING, SYMBOLS, AND STRIPING FOR HANDICAPPED SPACES SHALL BE PAINTED BLUE. OTHER MARKINGS SHALL BE PAINTED WHITE OR AS NOTED.
16. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE CIVIL ENGINEER.
17. PAVEMENT MARKINGS SHALL BE HOT APPLIED TYPE IN ACCORDANCE WITH MASSACHUSETTS DOT SPECIFICATIONS, UNLESS WHERE EPOXY RESIN PAVEMENT MARKINGS ARE INDICATED.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
3	06/08/21	Boston Con. Comm. Initial Comments
2	05/10/21	BWSC Response to Comments
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

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501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
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Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
SITE LAYOUT	2.11

Jun 08, 2021 – 12:39pm Sam
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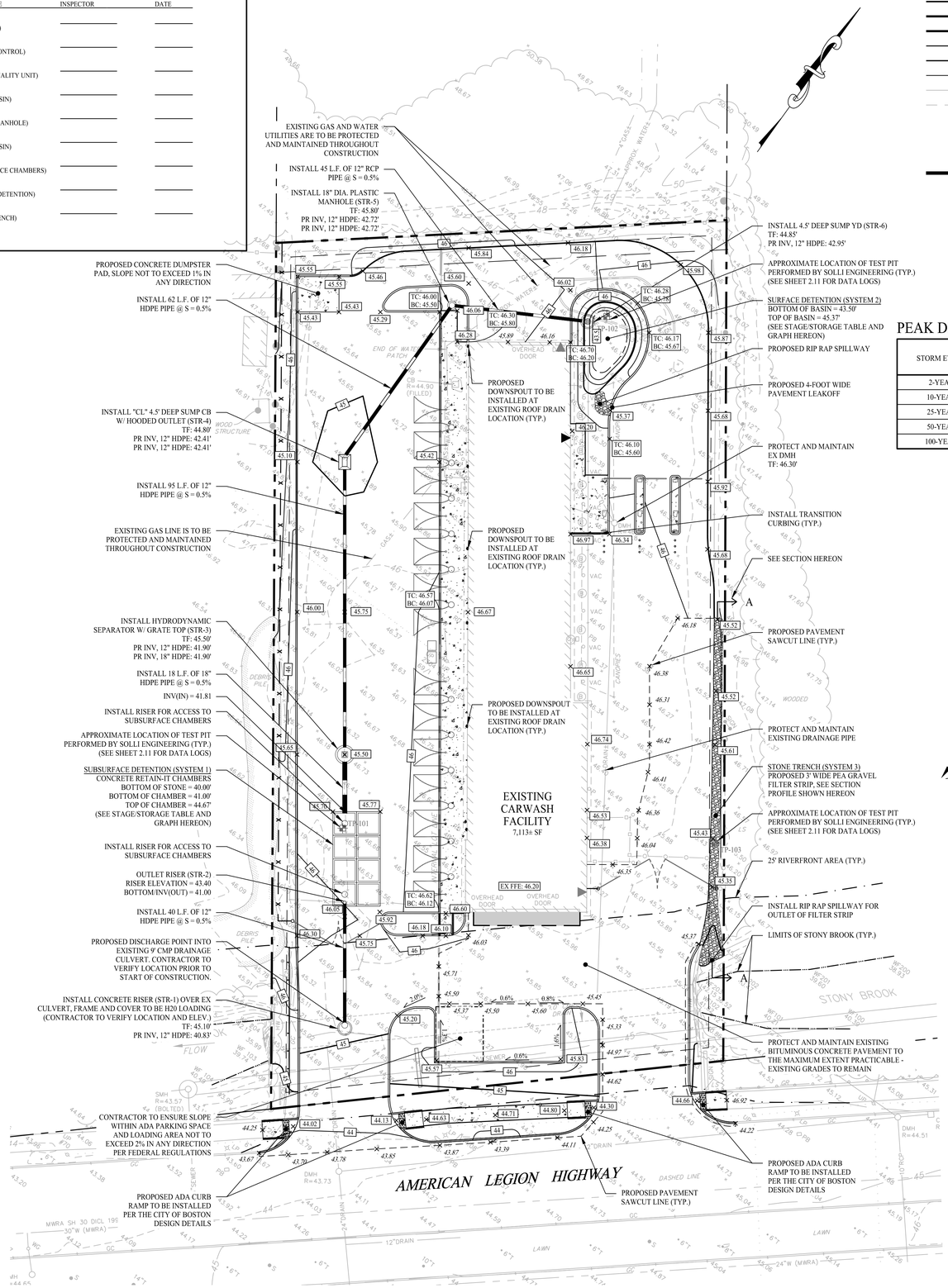
BWSC INSPECTION LIST

STRUCTURE	INSPECTOR	DATE
STR-1 (MANHOLE)		
STR-2 (OUTLET CONTROL)		
STR-3 (WATER QUALITY UNIT)		
STR-4 (CATCH BASIN)		
STR-5 (PLASTIC MANHOLE)		
STR-6 (CATCH BASIN)		
SYSTEM-1 (SUBSURFACE CHAMBERS)		
SYSTEM-2 (SURFACE DETENTION)		
SYSTEM-3 (STONE TRENCH)		



LEGEND

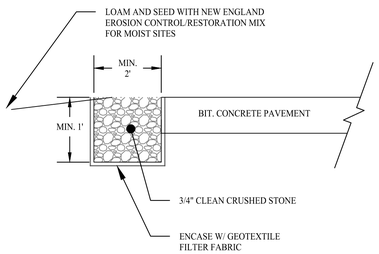
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- MAJOR CONTOURS (420)
- MINOR CONTOURS (421)
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- CONTOUR LABEL (420)
- SPOT ELEVATION (568.85)
- EXISTING SPOT ELEVATION (568.85)
- STORM DRAIN PIPE
- TYPE "C" CATCH BASIN
- TYPE "CL" CATCH BASIN
- YARD DRAIN
- STORM MANHOLE
- WATER QUALITY UNIT
- RIP RAP

PEAK DISCHARGE RATE TABLE

STORM EVENT	OVERALL EXISTING PEAK FLOW (CFS)	OVERALL PROPOSED PEAK FLOW (CFS)	PERCENT REDUCTION IN PEAK FLOW
2-YEAR	2.931	0.938	67.9%
10-YEAR	5.251	4.928	6.2%
25-YEAR	6.718	6.354	5.4%
50-YEAR	7.804	7.389	5.3%
100-YEAR	8.989	8.325	7.4%

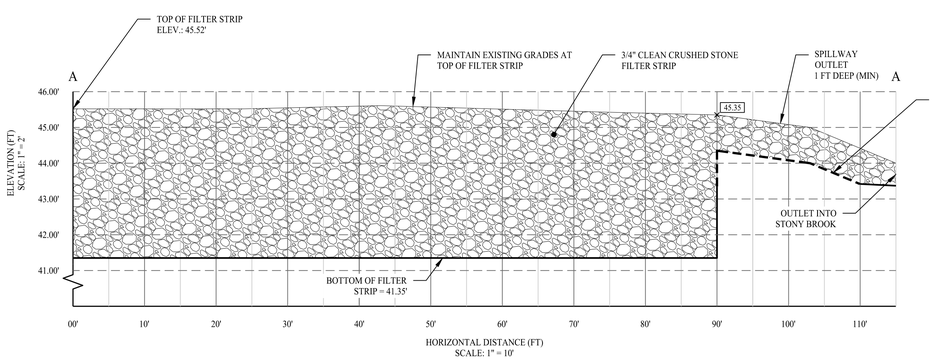
ABBREVIATIONS

@	AT
BC	BOTTOM OF CURB
CB	CATCH BASIN
CL	CURBLESS
DIA	DIAMETER
DMH	DRAINAGE MANHOLE
EX	EXISTING
FFE	FINISHED FLOOR ELEVATION
HDPE	HIGH-DENSITY POLYETHYLENE
INV	INVERT
LF	LINEAR FEET
PR	PROPOSED
RCP	REINFORCED CONCRETE PIPE
S	SLOPE
TC	TOP OF CURB
TF	TOP OF FRAME
TYP	TYPICAL
YD	YARD DRAIN



STONE FILTER STRIP

SCALE: NTS



SECTION A - FILTER STRIP PROFILE

SCALE: AS SHOWN

BWSC STORMWATER REQUIREMENTS & CALCULATIONS

FOR ALL RE/CONSTRUCTION PROJECTS IN THE CITY OF BOSTON IT IS MANDATORY TO RETAIN STORMWATER ON SITE. A VOLUME OF RUNOFF EQUAL TO ONE INCH OF RAINFALL TIMES THE TOTAL IMPERVIOUS AREA ON SITE MUST BE INFILTRATED PRIOR TO DISCHARGE TO A STORM DRAIN OR A COMBINED SEWER SYSTEM FOR PROJECTS LESS THAN 100,000 SQUARE FEET OF FLOOR AREA.

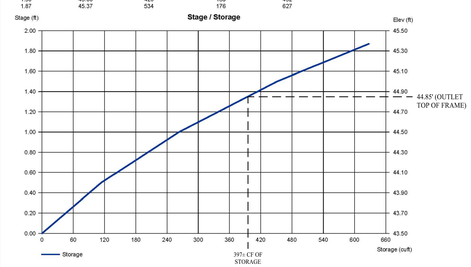
ON-SITE IMPERVIOUS AREA
TOTAL IMPERVIOUS AREA ON-SITE = 36,882± SQUARE FEET = 5,311,008± SQUARE INCHES
5,311,008± SQUARE INCHES x 1 INCH OF RAINFALL = 5,311,008± CUBIC INCHES
5,311,008± CUBIC INCHES ÷ 3,073.5± CUBIC FEET

STONE TRENCH
LENGTH OF TRENCH = 90 FEET
WIDTH OF TRENCH = 3 FEET
DEPTH OF TRENCH = 3 FEET
STONE TRENCH WITH 30% VOID
90 FEET x 3 FEET x 3 FEET = 810 CUBIC FEET
810 FEET x 30% = 243± CUBIC FEET

SURFACE DETENTION
BOTTOM OF BASIN = 43.50
TOP OF BASIN = 45.37
TOP OF RISER (OUTLET) = 44.85

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	43.50	196	0	0
0.50	44.00	262	114	114
1.00	44.50	336	149	263
1.50	45.00	420	189	452
1.87	45.37	534	176	627

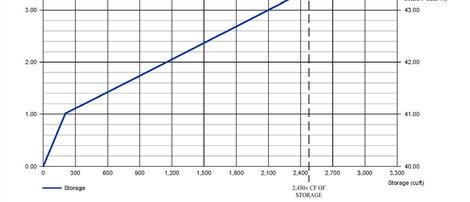


SURFACE DETENTION TOTAL STORAGE = 397± CUBIC FEET

SUBSURFACE DETENTION
CONCRETE RETAIN-IT CHAMBERS
BOTTOM OF STONE = 40.00'
BOTTOM OF CHAMBER = 41.00'
TOP OF CHAMBER = 44.67

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	40.00	n/a	0	0
1.00	41.00	n/a	205	205
1.01	41.01	n/a	0	205
2.00	42.00	n/a	947	1,152
3.00	43.00	n/a	947	2,098
4.00	44.00	n/a	947	3,045



SUBSURFACE DETENTION TOTAL STORAGE = 2,450± CUBIC FEET

TOTAL STORAGE PROVIDED = 243± CF + 397± CF + 2,450± CF = 3,090± CUBIC FEET OF ON-SITE RETENTION

3,090± CF > 3,073.5± CF

DRAINAGE & UTILITY NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT
3. EXISTING BOUNDARY, TOPOGRAPHY AND SITE CONDITIONS WERE TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.
4. EXISTING BROOK LIMITS ARE BASED ON THE DELINEATION PERFORMED BY LUCAS ENVIRONMENTAL, LLC ON JULY 6, 2020, REFER TO THE SURVEY PERFORMED BY PRECISION LAND SURVEYING, INC. FOR THE FULL EXTENT OF THE BROOK AND RIVERFRONT AREA.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY GOVERNMENT AND LOCAL AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY CONSTRUCTION PERMITS FROM LOCAL GOVERNING AUTHORITIES AND STATE REQUIRED TO PERFORM ALL REQUIRED WORK, INCLUDING FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES. THE CONTRACTOR SHALL POST ALL BONDS, EXCEPT MASSACHUSETTS DOT ENCROACHMENT PERMIT BOND, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
6. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT (888) 344-7233 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
7. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
8. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
9. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF VEHICLES AND PEDESTRIANS CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC CONTROLLERS AS REQUIRED, ORDERED BY THE ENGINEER OR REQUIRED BY THE STATE AND LOCAL GOVERNING AUTHORITIES.
10. ALL DISTURBANCE INCURRED TO CITY, COUNTY, OR STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER.
11. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.
12. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLANDS IN ACCORDANCE WITH THE REGULATIONS OF THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
13. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
14. GRADING CONTRACTOR SHALL RESTORE TO GRADE AND COMPACTION ALL AREAS DISTURBED BY BUILDING CONSTRUCTION PRIOR TO PAVING OPERATIONS COMMENCING.
15. THE PROPERTY IS NOT LOCATED WITHIN A ZONE II WELLHEAD PROTECTION AREA.
16. THE PROJECT SITE IS LOCATED WITHIN FEMA AREAS OF MINIMAL FLOOD HAZARD (ZONE X).
17. ALL CATCH BASINS PROPOSED ARE TO BE 4.5 FOOT DEEP SUMP CATCH BASINS WITH HOODED OUTLETS, SEE DETAILS ON SHEET 3.02.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

Rev. #:	Date	Description
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

COMMONWEALTH OF MASSACHUSETTS KEVIN M. SOLLI CIVIL NO. 51952 REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E. MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
GRADING, DRAINAGE & UTILITY PLAN	2.21

Mar 24, 2021 – 10:13am Casey
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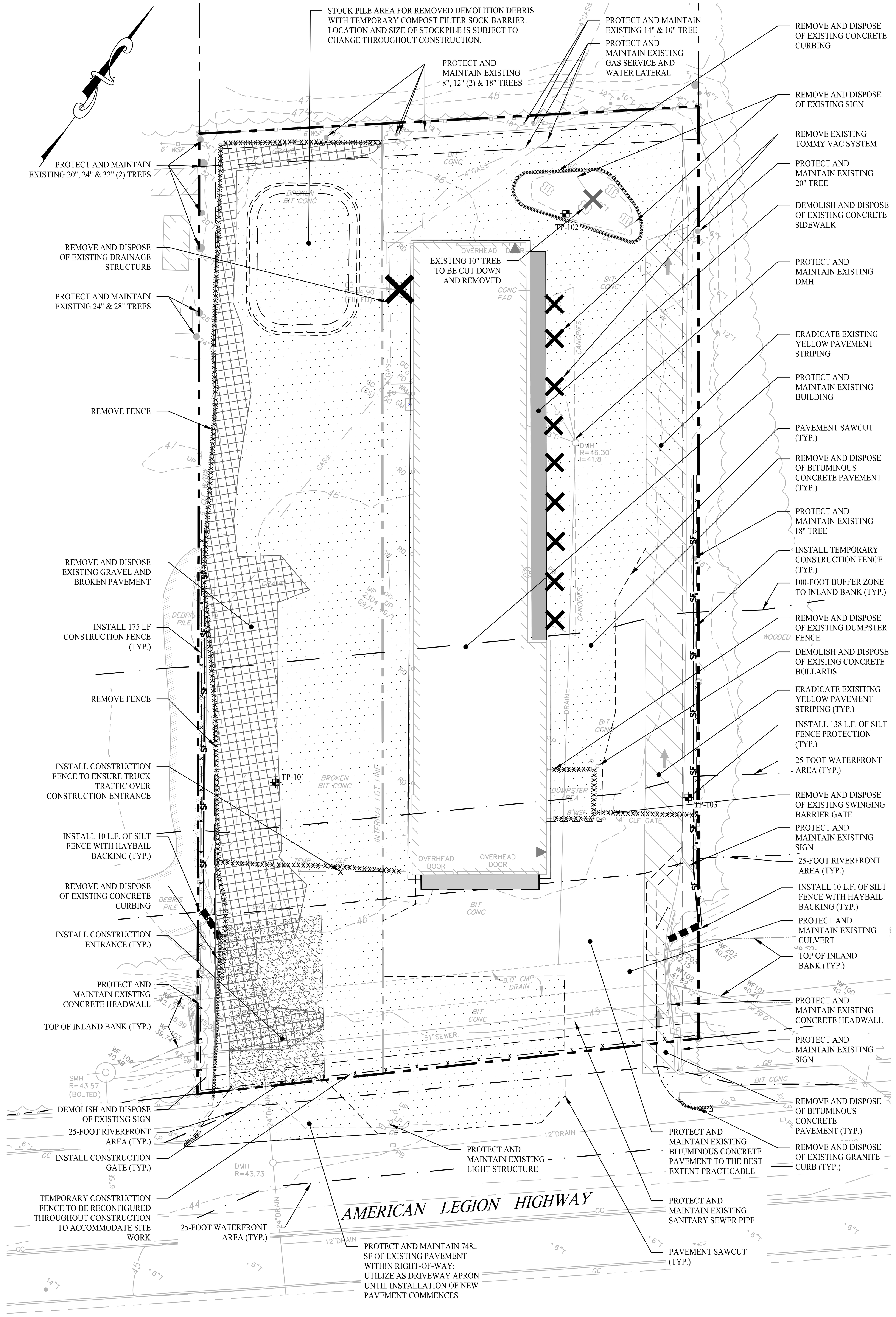
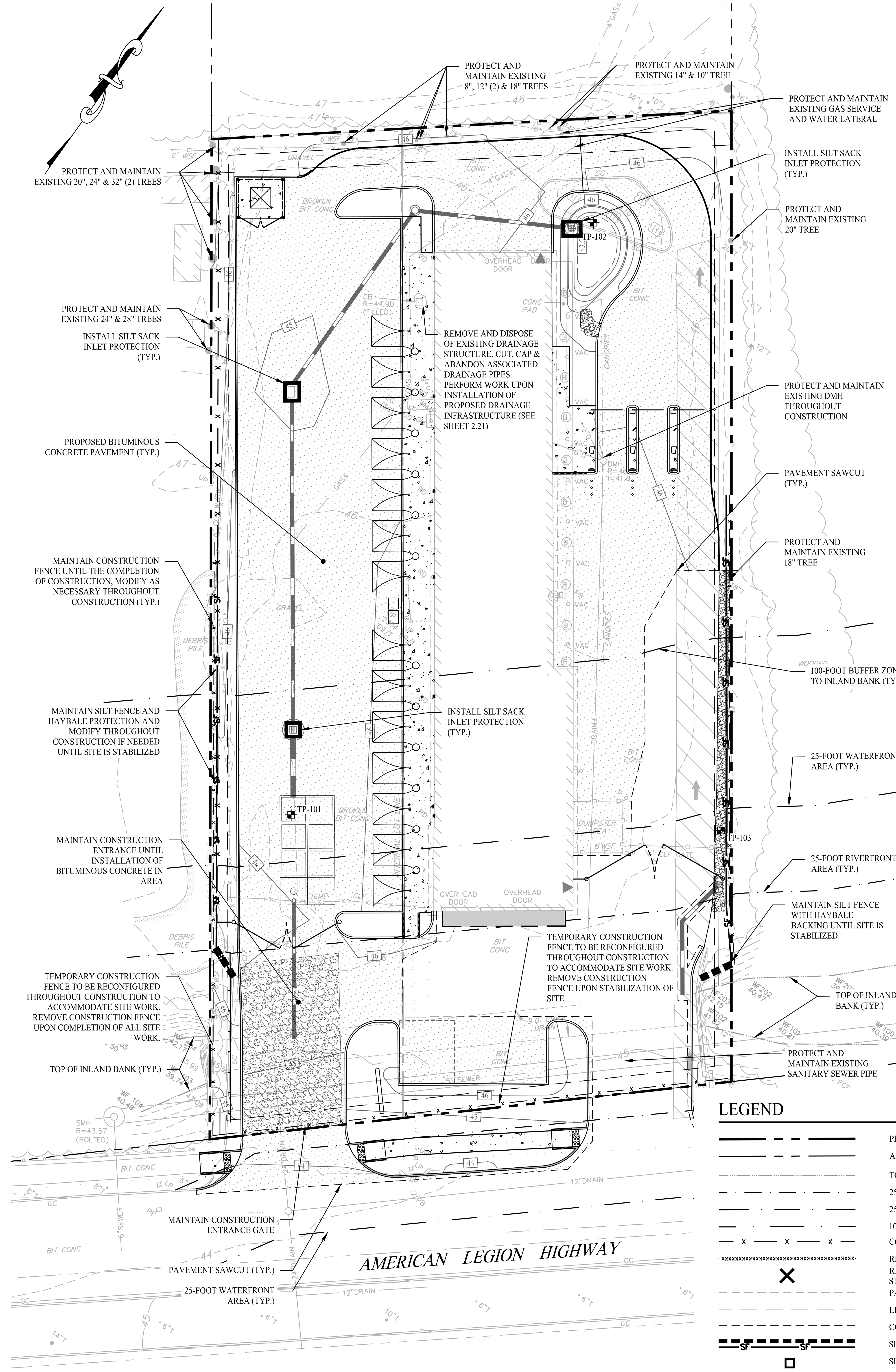


DEMOLITION & SOIL EROSION CONTROL PLAN - PHASE I



SOIL EROSION CONTROL PLAN - PHASE II

DEMOLITION NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. CONTRACTOR SHALL SECURE ANY PERMITS, PAY ALL FEES AND PERFORM CLEARING AND GRUBBING AND DEBRIS REMOVAL PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
4. SEDIMENT AND EROSION CONTROLS AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN AND/OR DEMOLITION PLAN SHALL BE INSTALLED BY THE DEMOLITION CONTRACTOR PRIOR TO START OF DEMOLITION AND CLEARING AND GRUBBING OPERATIONS.
5. REMOVE AND DISPOSE OF ANY SIDEWALKS, FENCES, WALLS, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFF SITE LANDFILL, BY AN APPROVED HAULER. HAULER SHALL COMPLY WITH ALL REGULATORY REQUIREMENTS.
6. THE CONTRACTOR SHALL SECURE ALL PERMITS FOR THEIR DEMOLITION AND DISPOSAL OF THEIR DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED. BUILDING DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS AND DISPOSAL OF ALL BUILDING DEMOLITION DEBRIS IN AN APPROVED OFF-SITE LANDFILL.
7. ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR.
8. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY PROVIDER TO CUT AND PLUG ALL SERVICE PIPING AT THE STREET LINE OR AT THE MAIN, AS REQUIRED BY THE UTILITY PROVIDER, OR AS OTHERWISE NOTED OR SHOWN ON THE CONTRACT DRAWINGS. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED. THE CONTRACTOR SHALL PAY ALL UTILITY PROVIDER FEES FOR ABANDONMENTS AND REMOVALS.
9. THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING DEMOLITION ACTIVITIES. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, AND OR PROPERTY CORNERS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
10. THE DEMOLITION CONTRACTOR SHALL STABILIZE THE SITE AND KEEP EROSION CONTROL MEASURES IN PLACE UNTIL THE COMPLETION OF HIS WORK OR UNTIL THE COMMENCEMENT OF WORK BY THE SITE CONTRACTOR, WHICHEVER OCCURS FIRST, AS REQUIRED OR DEEMED NECESSARY BY THE ENGINEER OR OWNER'S REPRESENTATIVE. THE SITE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE MAINTENANCE OF EXISTING EROSION AND SEDIMENTATION CONTROLS AND FOR INSTALLATION OF ANY NEW EROSION AND SEDIMENTATION CONTROLS AS PER THE SEDIMENT AND EROSION CONTROL PLAN, AT THAT TIME.
11. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.
12. THE CONTRACTOR SHALL ADHERE TO ALL OSHA FEDERAL STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN PROXIMITY OF OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY PROVIDER FEES SHALL BE PAID BY THE CONTRACTOR.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF VEHICLES AND PEDESTRIANS CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC CONTROLLERS AS REQUIRED OR AS ORDERED BY THE ENGINEER OR AS REQUIRED BY THE LOCAL GOVERNING AUTHORITIES, OR AS REQUIRED BY PERMIT STIPULATIONS. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY IS GRANTED.
14. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICES AND STORM DRAINAGE SYSTEMS. PRIOR TO DEMOLITION OR CONSTRUCTION THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT 811 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
15. THE CONTRACTOR SHALL REPAIR PAVEMENTS BY INSTALLING TEMPORARY AND PERMANENT PAVEMENTS IN PUBLIC RIGHTS OF WAYS AS REQUIRED BY LOCAL GOVERNING AUTHORITIES AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MADOT) AND PER PERMIT REQUIREMENTS DUE TO DEMOLITION AND PIPE REMOVAL ACTIVITIES.
16. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE OWNER.
17. NO WORK ON THIS SITE SHALL BE INITIATED BY THE CONTRACTOR UNTIL A PRE-CONSTRUCTION MEETING WITH OWNER AND THE CIVIL ENGINEER IS PERFORMED.
18. ALL EXISTING UTILITIES TO THE BUILDING ARE TO BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION.
19. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OR UTILITY DISCONNECTIONS UNTIL AUTHORIZED TO DO SO BY THE OWNER.
20. NO SALVAGE SHALL BE PERMITTED UNLESS PAID TO THE OWNER AS A CREDIT.
21. ARCHITECT OR ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ARCHITECT AND ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOBSITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY, AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
22. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REQUIREMENTS AND REGULATIONS.
23. PRIOR TO DEMOLITION ALL TRASH AND DEBRIS PRESENT ON-SITE SHALL BE PICKED UP AND REMOVED OF PROPERLY.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

LEGEND

- PROPERTY LINE
- ADJOINING LOT LINE
- TOP OF INLAND BANK
- 25-FOOT RIVERFRONT AREA
- 25-FOOT WATERFRONT AREA
- 100-FOOT BUFFER ZONE TO INLAND BANK
- CONSTRUCTION FENCE
- REMOVE EXISTING CURB
- REMOVE EXISTING DRAINAGE STRUCTURE
- PAVEMENT SAWCUT
- LIMITS OF MATERIAL STOCKPILE
- COMPOSITE FILTER SOCK
- SILT FENCE WITH HAYBALE BACKING
- SILT SACK INLET PROTECTION
- CONSTRUCTION ENTRANCE
- REMOVE AND DISPOSE EXISTING ASPHALT PAVING
- DEMOLISH AND DISPOSE OF EXISTING CONCRETE
- TOMMY VAC SYSTEM TO BE REMOVED
- EXISTING TREE TO BE CUT DOWN AND REMOVED
- FENCE / ROCK WALL REMOVAL

Rev. #:	Date	Description
2	06/08/21	Boston Con. Comm. Initial Comments
1	05/10/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

COMMONWEALTH OF MASSACHUSETTS KEVIN M. SOLLI CIVIL No. 51952 REGISTERED PROFESSIONAL ENGINEER

Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: SOIL EROSION & SEDIMENT CONTROL PLAN

Sheet #: 2.31

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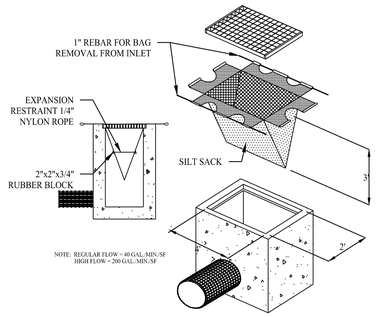

SILT SACK INLET PROTECTION

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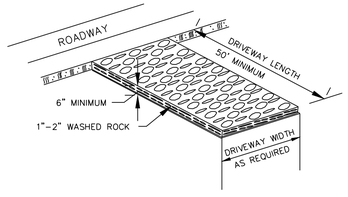

CONSTRUCTION ENTRANCE

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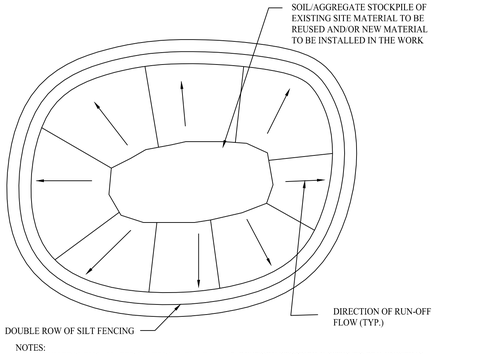

NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

2. SILT/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

MATERIALS STOCKPILE DETAIL

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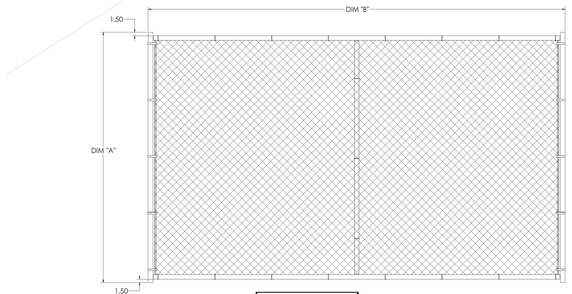
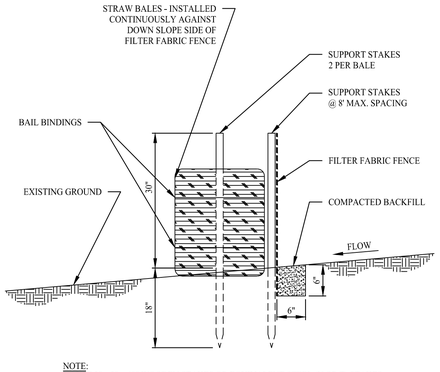


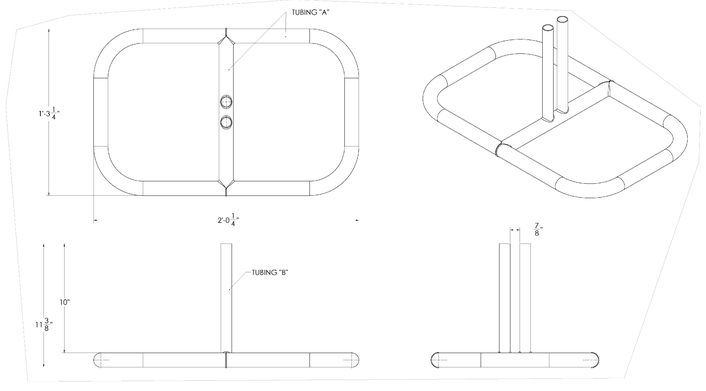
				CHAIN LINK WIRE	
PART NUMBER	DIM. "A"	DIM. "B"	TUBING MATERIAL	GAUGE	DIAMOND SIZE
071050	6'	10'	1-3/8" x 16 Gauge	11.5	2-1/4"
071051	6'	12'	1-3/8" x 16 Gauge	11.5	2-1/4"
071053	8'	10'	1-3/8" x 16 Gauge	11.5	2-1/4"
071072	6'	10'	1-3/8" x 16 Gauge	12.5	2-3/8"
071073	6'	12'	1-3/8" x 16 Gauge	12.5	2-3/8"
071077	6'	10'	1-3/8" x 16 Gauge	11.5	2-3/8"
071078	6'	12'	1-3/8" x 16 Gauge	11.5	2-3/8"



NOTE:
1. USE 2" x 2" x 48" WOODEN STAKES OR EQUIVALENT STEEL (U OR T) STAKES.

SILT FENCE WITH HAYBALE BACKING

SCALE: NTS



TEMPORARY CONSTRUCTION FENCE

SCALE: NTS

SOIL EROSION AND EROSION CONTROL NOTES

SEDIMENT AND EROSION CONTROL NARRATIVE

THE SEDIMENT AND EROSION CONTROL PLAN WAS DEVELOPED TO PROTECT THE EXISTING ROADWAY AND STORM DRAINAGE SYSTEMS, ADJACENT PROPERTIES, AND ANY ADJACENT WETLAND AREA AND ANY ADJACENT WATER COURSE FROM SEDIMENT LADEN SURFACE RUNOFF AND EROSION.

CONSTRUCTION SCHEDULE

THE ANTICIPATED STARTING DATE FOR CONSTRUCTION IS SPRING 2021 WITH COMPLETION ANTICIPATED BY FALL 2022. APPROPRIATE EROSION CONTROL MEASURES AS DESCRIBED HEREIN, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ALL SITE CLEARING OR CONSTRUCTION ACTIVITY. SCHEDULE WORK TO MINIMIZE THE LENGTH OF TIME THAT BARE SOIL WILL BE EXPOSED.

CONTINGENCY EROSION PLAN

THE CONTRACTOR SHALL INSTALL ALL SPECIFIED EROSION CONTROL MEASURES AND WILL BE REQUIRED TO MAINTAIN THEM IN THEIR INTENDED FUNCTIONING CONDITION. THE AGENTS OF THE CITY OF BOSTON HAVE THE AUTHORITY TO REQUIRE SUPPLEMENTAL MAINTENANCE OR ADDITIONAL MEASURES IF FIELD CONDITIONS ARE ENCOUNTERED BEYOND WHAT WOULD NORMALLY BE ANTICIPATED.

CONSTRUCTION SEQUENCE

1. CONTACT THE CITY OF BOSTON ZONING OFFICIAL AND BUILDING INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT.
2. WRAP FILTER FABRIC AROUND GRATES OF CATCH BASINS OR INSTALL SILT SACKS ON CATCH BASIN INLET. INSTALL SILT FENCE AND OTHER EROSION CONTROL DEVICES INDICATED ON THESE PLANS AT PERIMETER OF PROPOSED SITE DISTURBANCE AND INSTALL ALL OTHER EROSION CONTROL MEASURES INDICATED ON THESE PLANS.
3. INSTALL EROSION CONTROL MEASURES.
4. COMMENCE INSTALLATION OF DRAINAGE SYSTEM.
5. INSTALL SILT SACK INLET PROTECTION TO NEW STRUCTURES.
6. TRANSFER RESPONSIBILITY FOR SOIL EROSION AND SEDIMENT CONTROL AT CLOSING.
7. TO DEVELOP THE AREA FOLLOW THESE GENERAL CONSTRUCTION NOTES.
8. COMMENCE EARTHWORK. INSTALL ADDITIONAL EROSION CONTROLS AS WORK PROGRESSES AND CONTINUE STORM DRAINAGE SYSTEM CONSTRUCTION.
9. CONSTRUCTION STAKING OF ALL PAVEMENT AREAS AND UTILITIES.
10. ROUGH GRADING AND FILLING OF SUBGRADES AND SLOPES.
11. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
12. CONTINUE INSTALLATION OF STORM DRAINAGE AS SUBGRADE ELEVATIONS ARE ACHIEVED.
13. THROUGHOUT CONSTRUCTION SEQUENCE, REMOVE SEDIMENT FROM BEHIND SILT FENCES AND OTHER EROSION CONTROL DEVICES. REMOVAL SHALL BE ON A PERIODIC BASIS (EVERY SIGNIFICANT RAINFALL OF 0.10 INCH OR GREATER). INSPECTION OF EROSION CONTROL MEASURES SHALL BE ON A WEEKLY BASIS AND AFTER EACH RAINFALL OF 0.10 INCHES OR GREATER. SEDIMENT COLLECTED SHALL BE DEPOSITED AND SPREAD EVENLY UPLAND ON SLOPES DURING CONSTRUCTION.
14. INSTALL UTILITIES. COMPLETE STORM DRAINAGE SYSTEM.
15. CONSTRUCT PAVEMENT STRUCTURE AND COMPLETE PAVING.
16. CONDUCT FINE GRADING.
17. FINAL FINE GRADING OF SLOPE AND NON-PAVED AREAS, IF REQUIRED.
18. LANDSCAPE NON-PAVED AREAS AND PERIMETER AREAS, IF REQUIRED.
19. CLEAN STORM DRAINAGE PIPE AND STRUCTURES OF DEBRIS AND SEDIMENT.
20. UPON DIRECTION OF THE CITY OF SPRINGFIELD EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED FOLLOWING CLEARING AND GRUBBING.

OPERATION REQUIREMENTS

CLEARING AND GRUBBING OPERATIONS:
1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES WILL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING OPERATIONS.
2. FOLLOWING INSTALLATION OF ALL SEDIMENTATION AND EROSION CONTROL MEASURES, THE CONTRACTOR SHALL NOT PROCEED WITH GRADING, FILLING OR OTHER CONSTRUCTION OPERATIONS UNTIL THE ENGINEER HAS INSPECTED AND APPROVED ALL INSTALLATIONS.
3. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CLEARING AND GRUBBING OPERATIONS SO AS NOT TO DISTURB SEDIMENTATION AND EROSION CONTROL DEVICES.
4. FOLLOWING THE COMPLETION OF CLEARING AND GRUBBING OPERATIONS, ALL AREAS SHALL BE STABILIZED WITH TOPSOIL AND SEEDING OR PROCESSED AGGREGATE STONE AS SOON AS PRACTICAL.

ROUGH GRADING OPERATIONS:
1. DURING THE REMOVAL AND/OR PLACEMENT OF EARTH AS INDICATED ON THE GRADING AND DRAINAGE PLAN, TOPSOIL SHALL BE STRIPPED AND APPROPRIATELY STOCKPILED FOR REUSE, IF REQUIRED.
2. ALL STOCKPILED TOPSOIL THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE SEEDED, MULCHED WITH HAY, AND ENCLOSED BY A SILTATION FENCE.

PLACEMENT OF DRAINAGE STRUCTURES AND UTILITIES OPERATIONS:
1. SILT FENCES SHALL BE INSTALLED AT THE DOWNHILL SIDES OF MUD PUMP DISCHARGES AND UTILITY TRENCH MATERIAL STOCKPILES. HAY BALES MAY BE USED IF SHOWN ON THE EROSION CONTROL PLANS OR IF DIRECTED BY THE PROJECT ENGINEER.

FINAL GRADING AND PAVING OPERATIONS:
1. ALL INLET AND OUTLET PROTECTION SHALL BE PLACED AND MAINTAINED AS SHOWN ON EROSION CONTROL PLANS AND DETAILS, AND AS DESCRIBED IN SPECIFICATIONS AND AS DESCRIBED HEREIN.
2. NO CUT OR FILL SLOPES SHALL EXCEED 3:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED.
3. PAVEMENT SUB-BASE AND BASE COURSES SHALL BE INSTALLED OVER AREAS TO BE PAVED AS SOON AS FINAL SUB-GRADES ARE ESTABLISHED AND UNDERGROUND UTILITIES AND STORM DRAINAGE SYSTEMS HAVE BEEN INSTALLED.
4. AFTER CONSTRUCTION OF PAVEMENT, TOPSOIL, FINAL SEED, MULCH AND LANDSCAPING, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES ONLY AFTER ALL AREAS HAVE BEEN PAVED AND/OR GRASS HAS BEEN WELL ESTABLISHED AND THE SITE HAS BEEN INSPECTED AND APPROVED BY A CITY OF BOSTON LAND USE AGENT.

INSTALLATION OF SEDIMENTATION AND EROSION CONTROL MEASURES

I. SILTATION FENCE:
A. DIG A SIX INCH TRENCH ON THE UPHILL SIDE OF THE DESIGNATED FENCE LINE LOCATION.
B. POSITION THE POST AT THE BACK OF THE TRENCH (DOWNHILL SIDE), AND HAMMER THE POST AT LEAST 1.5 FEET INTO THE GROUND.
C. LAY THE BOTTOM SIX INCHES OF THE FABRIC INTO THE TRENCH TO PREVENT UNDERMINING BY STORM WATER RUN-OFF.
D. BACKFILL THE TRENCH AND COMPACT.

II. SILT SACK INLET PROTECTION
A. REMOVE CATCH BASIN GRATE AND PROPERLY PLACE THE SILT SACK INTO THE FRAME OF THE CATCH BASIN.
B. PLACE GRATE BACK ONTO FRAME AND ENSURE NO PORTIONS OF THE SILT SACK HAVE SAGGED INTO THE CATCH BASIN.
C. ONCE GRATE IS PLACED BACK ONTO FRAME OBSERVE TO SEE IF SILT SACK IS INSTALLED IN A MANNER THAT WILL ALLOW FOR SEDIMENT TO BE FILTERED OUT DURING STORM EVENTS.

III. CONSTRUCTION ENTRANCE/FENCE
A. REMOVE ALL VEGETATION AND OTHER MATERIALS FROM THE FOUNDATION AREA. GRADE AND CROWN FOUNDATION FOR POSITIVE DRAINAGE.
B. PLACE 1-3IN STONE A MINIMUM OF 100FT ALONG THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD. AGGREGATE SHOULD BE PLACED AT LEAST 6" THICK.
C. GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN STONE FILL AND EARTH SURFACE TO TO REDUCE THE MIGRATION OF SOIL PARTICLES FROM THE UNDERLYING SOIL INTO THE STONE AND VICE VERSA.
D. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE.
E. FILTER FABRIC FENCE SHALL BE INSTALLED DOWN GRADIENT FROM THE CONSTRUCTION ENTRANCE IN ORDER TO CONTAIN ANY SEDIMENT-LADEN RUNOFF FROM THE ENTRANCE.

OPERATION AND MAINTENANCE OF SEDIMENTATION AND EROSION CONTROL MEASURES

I. SILTATION FENCE:
A. ALL SILTATION FENCES SHALL BE INSPECTED AS A MINIMUM WEEKLY OR AFTER EACH RAINFALL. ALL DETERIORATED FABRIC AND DAMAGED POSTS SHALL BE REPLACED AND PROPERLY REPOSITIONED IN ACCORDANCE WITH THIS PLAN.
B. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE FENCE WHEN THEY EXCEED A HEIGHT OF ONE FOOT.

II. SILT SACK INLET PROTECTION
A. ALL SILT SACK INLET PROTECTION DEVICES SHALL BE INSPECTED AS A MINIMUM WEEKLY OR AFTER EACH RAINFALL. ALL DETERIORATE SILT SACKS AND SACKS THAT APPEAR TO HAVE AN EXCESS OF SEDIMENT SHALL BE REPLACED AND PROPERLY REPOSITIONED IN ACCORDANCE WITH THIS PLAN.
B. SEDIMENT DEPOSITS SHALL BE REMOVED FROM THE SILT SACKS WHEN THEY EXCEED A COUPLE INCHES OF SEDIMENT WITHIN THE CATCH BASIN.

III. CONSTRUCTION ENTRANCE/FENCE
A. THE CONSTRUCTION ENTRANCE AND FENCE SHALL BE INSPECTED AT A MINIMUM WEEKLY AND AFTER HEAVY RAINS OR HEAVY USE.
B. REMOVE MUD AND HEAVY SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD IMMEDIATELY.
C. THE GRAVEL PAD SHALL BE TOPDRESSED WITH NEW STONE WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE GRAVEL.
D. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
E. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

EROSION AND SEDIMENT CONTROL PLAN

1. CATCH BASINS WILL BE PROTECTED WITH HAY BALE FILTERS, SILT SACKS, SILTATION FENCE, OR OTHER INLET PROTECTION DEVICES PER DETAILS, THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, LATEST EDITION.
3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO CONSTRUCTION WHENEVER POSSIBLE.
4. ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
5. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD, IF NECESSARY OR REQUIRED OR AS DIRECTED BY THE ENGINEER OR BY LOCAL GOVERNING OFFICIALS.
6. SEDIMENT REMOVED FROM EROSION CONTROL STRUCTURES WILL BE DISPOSED IN A MANNER WHICH IS CONSISTENT WITH THE INTENT AND REQUIREMENTS OF THE EROSION CONTROL PLANS, NOTES, AND DETAILS.
7. THE OWNER IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

SEDIMENT AND EROSION CONTROL NOTES

1. THE SEDIMENT AND EROSION CONTROL PLAN IS ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL TREATMENT FOR THIS SITE. SEE SEDIMENT AND EROSION CONTROL DETAILS AND CONSTRUCTION SEQUENCE. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

2. THE OWNER IS RESPONSIBLE FOR IMPLEMENTING THIS SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE PROPER INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED WITH CONSTRUCTION ON THE SITE OF THE REQUIREMENTS AND OBJECTIVES OF THIS PLAN, INFORMING THE GOVERNING AUTHORITY OR INLAND WETLANDS AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE SEDIMENT AND EROSION CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.

3. AN EROSION CONTROL BOND MAY BE REQUIRED TO BE POSTED WITH THE CITY OF BOSTON TO ENSURE IMPLEMENTATION OF THE EROSION CONTROL MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POSTING OF THIS BOND AND FOR INQUIRIES TO THE CITY OF BOSTON FOR INFORMATION ON THE METHOD, TYPE AND AMOUNT OF THE BOND POSTING UNLESS OTHERWISE DIRECTED BY THE OWNER.

4. VISUAL SITE INSPECTIONS SHALL BE CONDUCTED WEEKLY, AND AFTER EACH MEASURABLE PRECIPITATION EVENT OF 0.10 INCHES OR GREATER BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT THE EROSION AND SEDIMENT CONTROL (E&S) BMPS ARE OPERATIONAL AND EFFECTIVE IN PREVENTING POLLUTION. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT, AND INCLUDE:
A) A SUMMARY OF THE SITE CONDITIONS, E&S BMPS, AND COMPLIANCE; AND
B) THE DATE, TIME, AND THE NAME OF THE PERSON CONDUCTING THE INSPECTION
C) RECOMMENDATIONS TO MAKE REPAIRS WHEN NECESSARY.

5. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, PREPARED BY MADEP, LATEST EDITION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE CITY OF BOSTON LAND USE AGENT. THE CONTRACTOR SHALL KEEP A COPY OF THE GUIDELINES ON-SITE FOR REFERENCE DURING CONSTRUCTION.

6. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, CIVIL ENGINEER, CITY OF BOSTON LAND USE AGENT, OR GOVERNING AGENCIES. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED.

7. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, RIP RAP ETC.) ON-SITE FOR MAINTENANCE AND EMERGENCY REPAIRS.

8. INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO CLEARING OR CONSTRUCTION. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SILT FENCE UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE FENCE.

9. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE HAY ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.

10. INSTALL SILT FENCE ACCORDING TO MANUFACTURER'S INSTRUCTION; PARTICULARLY, BURY LOWER EDGE OF FABRIC INTO GROUND. SILT FENCE SHALL BE MIRAFI ENVIROFENCE, AMOCO SILT STOP OR EQUIVALENT APPROVED BY THE CIVIL ENGINEER. FILTER FABRIC USED SHALL BE MIRAFI 100X OR EQUIVALENT. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

11. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. OTHER DUST CONTROL MEASURES TO BE USED AS NECESSARY INCLUDE WATERING DOWN DISTURBED AREAS, USING CALCIUM CHLORIDE, AND COVERING LOADS ON DUMP TRUCKS.

12. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

13. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG OR EQUIVALENT SEDIMENT REMOVAL FACILITY, OVER UNDISTURBED VEGETATED AREAS.

14. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF UTILITY AND STORM PIPE TRENCHES SO AS TO ALLOW THE TRENCH TO INTERCEPT ALL SILT LADEN RUNOFF.

15. CONTRACTOR SHALL ONLY EXCAVATE AS MUCH UTILITY AND STORM PIPE TRENCH WORK AS CAN BE COMPLETED, BACKFILLED AND STABILIZED IN ONE DAY SO AS TO LIMIT THE AMOUNT OF OPEN, DISTURBED TRENCHING.

16. ANY STOCKPILES OF STRIPPED MATERIALS ARE TO BE PERIODICALLY SPRAYED WITH WATER OR A CRUSTING AGENT TO STABILIZE POTENTIALLY WIND-BLOWN MATERIAL. HAUL ROADS BOTH INTO AND AROUND THE SITE ARE TO BE SPRAYED AS NEEDED TO SUPPRESS DUST. TRUCKS HAULING IMPORT FILL MATERIAL ARE TO BE TARPED TO AID IN THE CONTROL OF AIRBORNE DUST. DURING HIGH WIND EVENTS (20 TO 30 MPH SUSTAINED) CONSTRUCTION ACTIVITY SHALL BE LIMITED OR CEASED IF DUST CANNOT BE CONTROLLED BY WETTING.

17. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOT AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS WHEN AUTHORIZED BY LOCAL GOVERNING AUTHORITY. FILE NOT (NOTICE OF TERMINATION) WITH GOVERNING AUTHORITY RESPONSIBLE FOR REGULATING STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES PER NPDES.

PHASE I CONSTRUCTION SEQUENCE

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT.
2. INSTALL SILT FENCE(S) ON THE SITE (CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL SILT FENCE PROTECTION).
3. INSTALL SILT SACK INLET PROTECTIONS.
4. INSTALL TREE PROTECTIONS.
5. PREPARE TEMPORARY PARKING AND STORAGE AREAS.
6. HALT ALL ACTIVITIES AND CONTACT THE ENGINEER OF RECORD TO PERFORM INSPECTION AND CERTIFICATION OF BEST MANAGEMENT PRACTICES (BMP'S). GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT THE STORM WATER PRE-CONSTRUCTION MEETING WITH THE ENGINEER, AGENCIES AND GROUND-DISTURBING CONTRACTOR BEFORE PROCEEDING WITH CONSTRUCTION.
7. REMOVE ALL EXISTING DRAINAGE STRUCTURES, PIPING AND INFILTRATION SYSTEMS PROPOSED TO BE REMOVED.
8. CUT AND CAP ALL DRAINAGE PIPES AS DIRECTED ON PLAN HEREON.
9. BEGIN CLEARING AND GRUBBING THE SITE.
10. BEGIN GRADING THE SITE.

PHASE II CONSTRUCTION SEQUENCE

1. TEMPORARILY SEED, THROUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE.
2. INSTALL CURBS.
3. INSTALL INLET PROTECTION AT ALL PROPOSED STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED. PROTECT AND MAINTAIN ALL EXISTING INLET PROTECTION THAT WERE INSTALLED DURING PHASE I.
4. INSTALL UTILITIES AS SHOWN ON SHEET 2.21.
5. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
6. PREPARE SITE FOR PAVING.
7. PAVE AREA SHOWN ON PHASE II PLAN.
8. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
9. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS INCLUDING OUT LOTS.
10. CONSTRUCT SIDEWALK
11. OBTAIN CONCURRENCE WITH THE CONSTRUCTION MANAGER THAT THE SITE HAS BEE FULLY STABILIZED THEN:
    11.1. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES,
    11.2. STABLIZE ANY AREAS DISTURBED BY THE REMOVAL OF BMP'S, AND
    11.3. ASK THE CM TO CONTACT THE ENGINEER TO COMPLETE THE ENGINEERS ON-SITE INSPECTIONS AND REPORT.
12. CONTINUE DAILY INSPECTION REPORTS UNTIL THE FINAL DAILY INSPECTION REPORT IS SIGNED BY THE CONSTRUCTION MANAGER AND SUBMITTED.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
1	05/10/21	BWSC Response to Comments

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	EJP
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	NTS

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS	2.41

May 11, 2021 - 11:58am Sam
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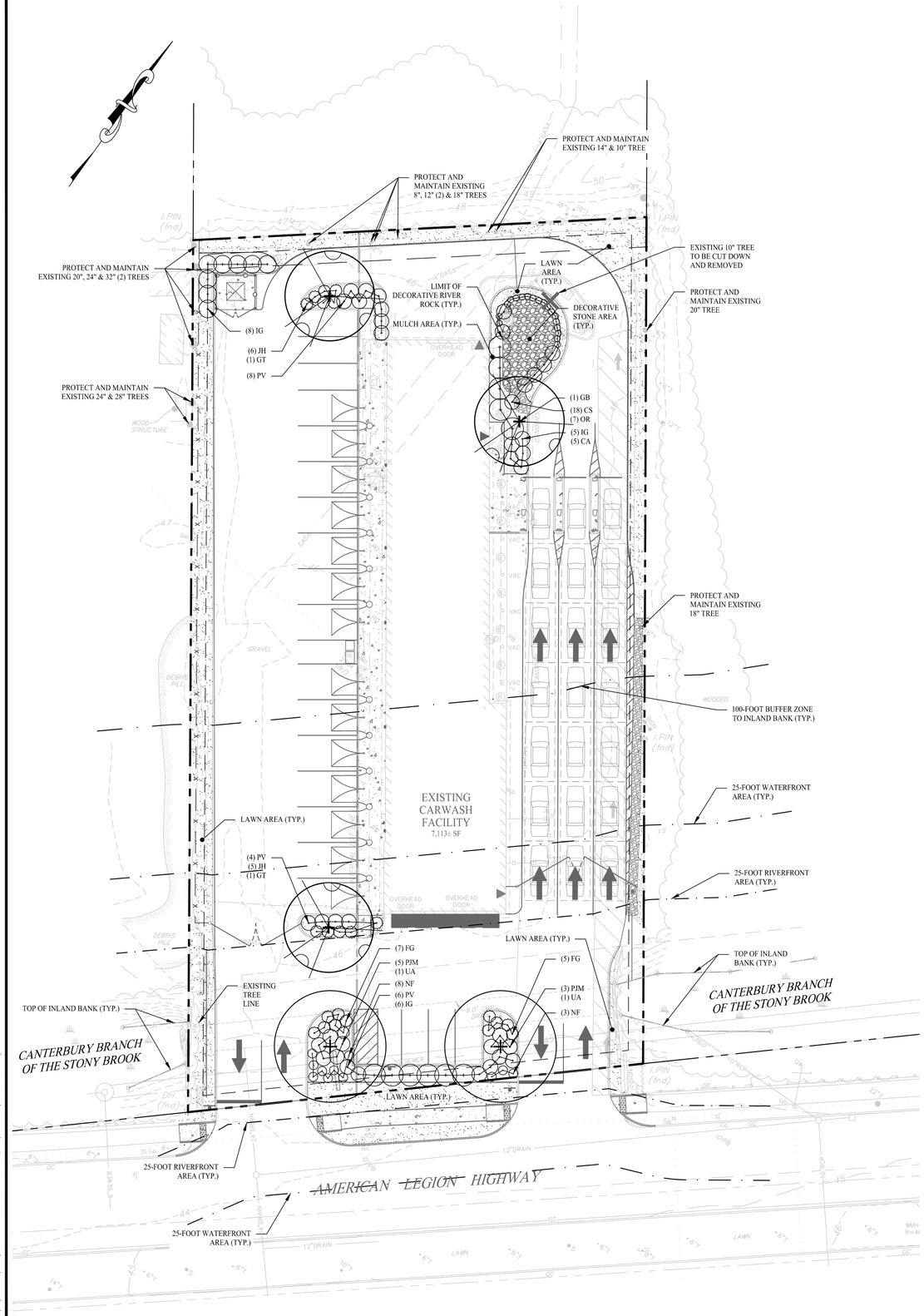

Jun 08, 2021 - 12:43pm Sam
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PROPOSED PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	COMMENTS
TREES						
GT	2	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS COMMON HONEYLOCUST	B&B	2" - 2 1/2" CAL	FULL, EXTRA HEAVY
UA	2	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	B&B	2" - 2 1/2" CAL	FULL, EXTRA HEAVY
UNDERSTORY TREES						
GB	1	GINKGO BILOBA 'FASTIGATA'	MAIDENHAIR TREE	B&B	2" - 2 1/2" CAL	FULL, EXTRA HEAVY
UPLAND SHRUBS / GRASSES						
CA	5	CLETHRA ALNIFOLIA 'RUBY SPICE'	RUBY SPICE SUMMERSWEET	CONT	24"-36" HT	FULL, EXTRA HEAVY
FG	13	FESTUCA GLAUCA 'ELIJAH BLUE'	ELIJAH BLUE FESCUE GRASS	CONT	#1 CONT	FULL, EXTRA HEAVY
IG	19	ILEX GLABRA	INKBERRY	CONT	24"-36" HT	FULL, EXTRA HEAVY
PJM	8	RHODODENDRON PJM	PJM RHODODENDRON	CONT	24"-36" HT	FULL, EXTRA HEAVY
PV	18	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCHGRASS	CONT	24"-36" HT	FULL, EXTRA HEAVY
GROUNDCOVER						
JH	11	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	CONT	#1 CONT	FULL, EXTRA HEAVY
PERENNIALS / SEDGES/ FERNS						
CS	18	CAREX STRICTA	TUSSOCK SEDGE	CONT	#1 CONT	FULL, EXTRA HEAVY
NF	11	NEPETA FAASSENII 'WALKER'S LOW'	WALKER'S LOW CATMINT	CONT	#1 CONT	FULL, EXTRA HEAVY
OR	7	OSMUNDA REGALIS	ROYAL FERN	CONT	#1 CONT	FULL, EXTRA HEAVY
SEED MIX						
LAWN: PENNINGTON SMART SEED SUN AND SHADE APPLICATION RATE PER MFR. RECOMMENDATIONS						

GENERAL NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.

PLANTING SOIL NOTES

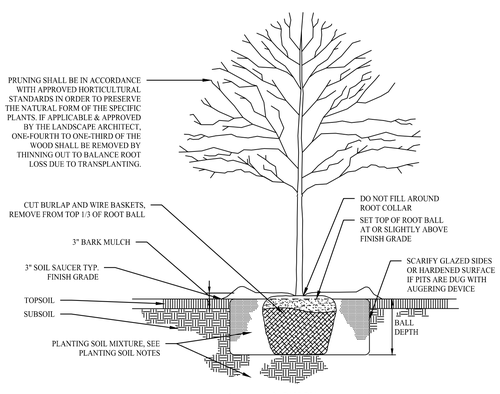
1. ALL PLANTING MIXES SHALL BE PREPARED PRIOR TO DELIVERY TO SITE
2. PLANTING MIX FOR TREES AND SHRUBS SHALL BE AS FOLLOWS
   3 PARTS SCREED TOPSOIL
   1 PART CLEAN WASHED COARSE SAND
   1 PART PEAT HUMUS
   5 LBS. SUPER PHOSPHATE PER CUBIC YARD OF MIX
3. MYCORRHIZAL INNCOULANT TO BE MYCOR TREE SAVER TRANSPLANT BY PLANT HEALTH CARE, INC. (1-800-421-9051) OR APPROVED EQUAL.
4. TERRASORB AVAILABLE FROM PLANT HEALTH CARE, INC. OR APPROVED EQUAL
5. SUBMIT CERTIFICATION OF PLANTING MIX FOR TREES AND SHRUBS FROM SOIL DISTRIBUTOR.
6. TOPSOIL MIX SHALL INCLUDE:
   3 PARTS SCREENED TOPSOIL
   1 PART SAND
   1 PART HUMUS
   5 LBS. SUPER PHOSPHATE PER CU. YD. OF MIX
7. TOPSOIL:
   A. PROVIDE A NATURAL, FERTILE, FRIABLE, NATURAL LOAM SURFACE SOIL CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH, OF UNIFORM COMPOSITION THROUGHOUT AND WITHOUT ADMIXTURES OF SUBSOIL, AND FREE OF STONES, LUMPS, PLANTS, ROOTS, STICKS OR OTHER EXTRANEOUS MATTER.
   B. TOPSOIL SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 20% ORGANIC MATTER AS DETERMINED BY THE WET COMBUSTION METHOD.
   C. MECHANICAL ANALYSIS

SCREEN SIZE	% BY WEIGHT PASSING
1"	100
V4"	97 - 100
NO. 200	20 - 65

   D. CONTRACTORS SHALL BE RESPONSIBLE FOR ALL TESTING AND ANALYSIS OF EXISTING AND IMPORTED SOILS. FURNISH A SOIL ANALYSIS MADE BY A QUALIFIED INDEPENDENT SOIL - TESTING AGENCY STATING PERCENTAGES OF ORGANIC MATTER, INORGANIC MATTER (SILT, CLAY, AND SAND), DELETERIOUS MATERIAL, PH, AND MINERAL AND PLANT - NUTRIENT CONTENT OF TOPSOIL.
   E. REPORT SUITABILITY OF TOPSOIL FOR LAWN AND SHRUB PLANTING GROWTH. RECOMMEND QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENT AND ANY LIMESTONE, ALUMINUM SULFATE, OR OTHER SOIL AMENDMENTS TO BE ADDED TO PRODUCE A SATISFACTORY TOPSOIL.

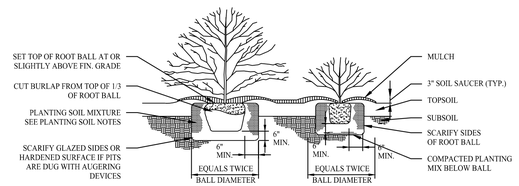
PLANTING NOTES

1. BE AWARE OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OR PLANTING OPERATIONS. USE CARE TO PROTECT EXISTING UTILITIES FROM DAMAGE, CONTACT "CALL BEFORE YOU DIG" PRIOR TO EXCAVATION.
2. ALL PLANTINGS ARE TO BE INSTALLED BY A QUALIFIED LANDSCAPE CONTRACTOR.
3. THE CONTRACTOR SHALL BE REQUIRED TO CARRY WORKMEN'S COMPENSATION INSURANCE AND COMPREHENSIVE GENERAL LIABILITY INSURANCE. CERTIFICATES WILL BE REQUIRED PRIOR TO SIGNING CONTRACTS.
4. CONTRACTOR IS RESPONSIBLE FOR JOBSITE SAFETY. CONTRACTOR SHALL MAINTAIN A SAFE JOBSITE AT ALL TIMES.
5. CONTRACTOR SHALL BE FAMILIAR WITH THE SITE VERIFY ALL DIMENSIONS, GRADES AND EXISTING CONDITIONS, REPORT ANY DISCREPANCIES TO LANDSCAPE DESIGNER.
6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED FOR COMPLETING WORK.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL EXCAVATED SOIL, BRUSH AND DEBRIS OFF-SITE IN A SAFE AND LEGAL MANNER.
8. NOTIFY OWNER OR LANDSCAPE DESIGNER 72 HOURS MINIMUM IN ADVANCE OF STARTING PLANTING OPERATIONS. RECEIVE APPROVAL FOR LAYOUT OF ALL BED LINES AND MATERIAL LOCATIONS PRIOR TO INSTALLATION.
9. PROTECT EXISTING VEGETATION TO REMAIN FROM DAMAGE DURING CONSTRUCTION. IT IS THE INTENT OF THIS CONTRACT TO AVOID ANY DISTURBANCE TO EXISTING VEGETATION ON THE SITE OTHER THAN THOSE SPECIFICALLY DESIGNATED FOR REMOVAL. ADJUSTMENTS SHALL BE MADE IN THE FIELD AT THE DIRECTION OF THE LANDSCAPE DESIGNER.
10. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL PLANTING, SEEDING AND TREE WORK WITH OTHER TRADES. RESPECT OTHER TRADES WORK AT ALL TIMES.
11. CONTRACTOR IS TO EXERCISE EXTREME CARE DURING THE COURSE OF DEMOLITION AND REMOVALS ANY DAMAGE TO EXISTING FACILITIES, UTILITIES OR TREES TO REMAIN SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE IN KIND.
12. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL AREAS DAMAGED TO PRE-EXISTING CONDITIONS AS A RESULT OF PLANTING OPERATIONS TO OWNERS AND/OR LANDSCAPE DESIGNERS APPROVAL.
13. VEGETATION TO BE REMOVED, NOT INDICATED ON PLAN, SHALL BE TAGGED IN FIELD BY LANDSCAPE DESIGNER.
14. THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO REJECT INFERIOR PLANT MATERIALS AND SUBSTITUTIONS. THE LANDSCAPE DESIGNER IS WILLING TO MAKE TWO TRIPS TO SUPPLIERS TO TAG, REVIEW AND APPROVE MATERIALS. PREVIOUSLY UNAPPROVED MATERIALS MAY BE REJECTED AT THE SITE. MINIMALLY, ALL MATERIALS WILL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1 - 2004) OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
15. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN GOOD, HEALTHY AND FLOURISHING CONDITION FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE. THE CONTRACTOR SHALL REPLACE, AS SOON AS WEATHER AND SEASONAL CONDITIONS PERMIT, ALL DEAD PLANTS AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE DESIGNER DURING, AND AT THE END OF THE GUARANTEE PERIOD. WARRANTY REPLACEMENT WILL BE PROVIDED AT NO COST TO THE OWNER AND INCLUDE MATERIALS AND LABOR. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE INCURRED DURING REPLACEMENT OF WARRANTY MATERIALS.
16. WHEN THERE IS A DISCREPANCY BETWEEN PLANT QUANTITIES SHOWN ON THE PLANT LIST & THE PLAN, USE THE QUANTITIES FROM THE PLAN.
17. PERENNIALS, GROUNDCOVERS & GRASSES TO BE FIELD LOCATED BY LANDSCAPE DESIGNER. COORDINATE TO NOTIFY LANDSCAPE DESIGNER AT LEAST 72 HOURS IN ADVANCE OF EXPECTED INSTALLATION DATE. ON THAT DATE ALL BEDS SHALL BE PREPARED & ALL PLANT MATERIAL SHALL BE ON SITE.
18. PROVIDE A MINIMUM 6" TOPSOIL FOR ALL DISTURBED AREAS. SUBMIT SAMPLE OF TOPSOIL AND SOIL TEST RESULTS FOR LANDSCAPE DESIGNER APPROVAL PRIOR TO DELIVERING TO SITE.
19. MULCH ALL BEDS SHOWN AS CONTINUOUS WITH A 3" MINIMUM OF DOUBLE SHREDDED CEDAR BARK MULCH. SAMPLE TO BE SUBMITTED TO LANDSCAPE DESIGNER FOR APPROVAL.
20. ALL PLANT MATERIALS TO BE SOURCED FROM LOCALLY GROWN GROWERS.
21. TRANSPLANTED MATERIALS TO BE WATERED, HEELED IN AND TENDED BY CONTRACTOR UNTIL FINAL PLACEMENT.



TREE PLANTING

SCALE: NTS



NOTE
1. IN AREAS OF MASS PLANTING, CONTINUOUSLY EXCAVATE AND MULCH ENTIRE BED.

SHRUB / GROUNDCOVER PLANTING

SCALE: NTS

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- TOP OF INLAND BANK
- 25-FOOT RIVERFRONT AREA
- 25-FOOT WATERFRONT AREA
- 100-FOOT BUFFER ZONE TO INLAND BANK
- EXISTING TREE LINE
- OVERSTORY TREE
- UNDERSTORY TREE
- SHRUBS & GROUNDCOVER
- LAWN
- 1 - 3" DECORATIVE RIVER ROCK
- EXISTING TREE TO BE CUT DOWN AND REMOVED

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
3	06/08/21	Boston Con. Comm. Initial Comments
2	05/10/21	BWSC Response to Comments
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	MFB
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

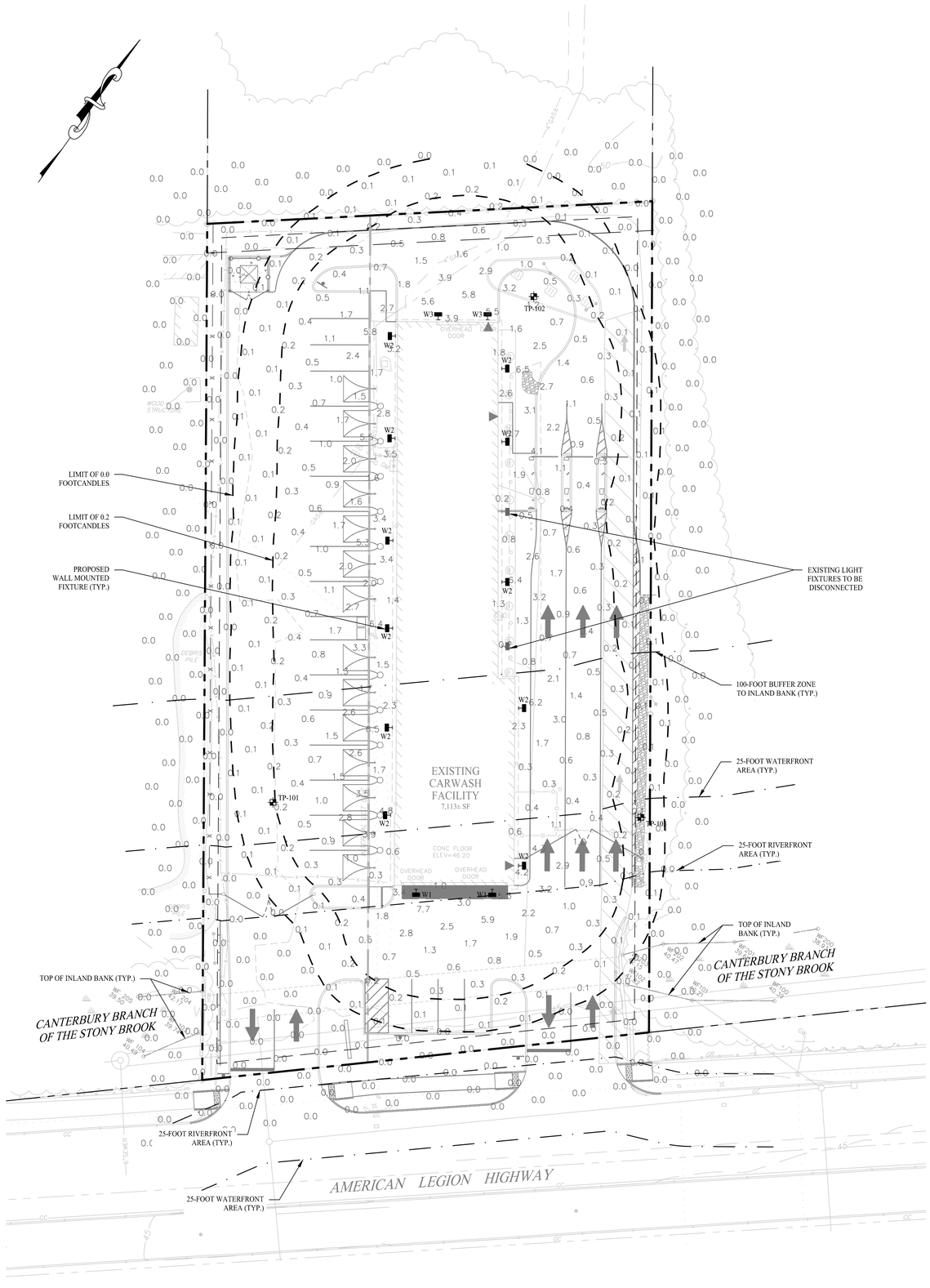
COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
LANDSCAPING PLAN	2.61



LIGHTING NOTES

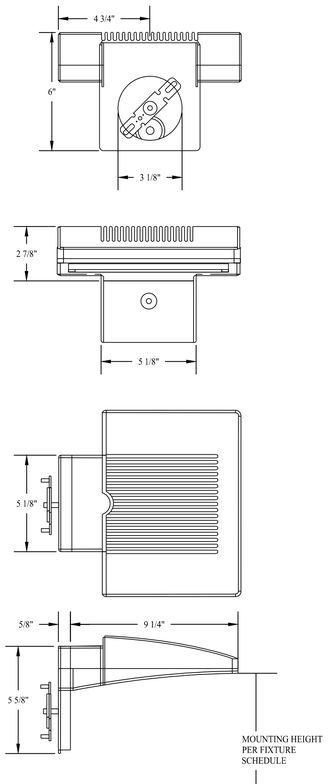
1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.
4. ALL LIGHT FIXTURES TO BE MOUNTED AND INSTALLED PER MANUFACTURER SPECIFICATIONS.
5. ALL WORK AND RELATED MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
6. PROPOSED WALL MOUNTED FIXTURES ON THE NORTH AND EAST FACADES OF THE BUILDING ARE TO REPLACE EXISTING FIXTURES. EXISTING FIXTURES NOT PROPOSED FOR REPLACEMENT SHALL BE DISCONNECTED.

LEGEND

0.1 0.1 0.1 / 0.1 0.1 0.0 / 0.1 0.0 0.0	PROPOSED FOOTCANDLES
	PROPOSED WALL MOUNTED FIXTURE
	LINE OF 0.2 & 0.0 FOOTCANDLES
	EXISTING WALL MOUNTED FIXTURE TO BE DISCONNECTED

FIXTURE SCHEDULE

QTY	CALLOUT	SYMBOL	FIXTURE DESCRIPTION	MODEL	NOTES	LUMENS
2	W1		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 11' MOUNTING HEIGHT	3529
11	W2		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 12' 6" MOUNTING HEIGHT	3529
2	W3		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 13' 2" MOUNTING HEIGHT	3529



PROPOSED WALL MOUNTED LIGHT FIXTURE - W1, W2 & W3

RAB LIGHTING LED WALL PACK, MODEL WPLED26N, POWDER COATED ALUMINUM, BRONZE
SCALE: NTS

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
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BWSC INFORMATION

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501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	MFB
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: LIGHTING PLAN

Sheet #: 2.71

Jun 09, 2021 - 12:44pm Sam
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APPENDIX E
LONG-TERM OPERATIONS AND MAINTENANCE PLAN

Long-Term Operations and Maintenance Plan Prepared by Solli Engineering, LLC

LONG-TERM INSPECTIONS & MAINTENANCE MANUAL

For The Proposed:

Carwash Site Improvements

Located At:
565 & 569 American Legion Highway
Boston (Roslindale), Massachusetts 01040

Prepared On:
September 10th, 2020

Revised On:
March 22nd, 2021

Prepared By:

SOLLI ENGINEERING

351 Newbury Street, Suite 303
Boston, Massachusetts 02115
T: (617) 203-3160

Prepared For:

ScrubaDub A Great Carwash

172 Worcester Street
Natick, Massachusetts 01760

TABLE OF CONTENTS

INTRODUCTION

The long-term Stormwater Management System Operations and Maintenance (O&M) Plan, filed with the City of Boston, shall be implemented at the proposed carwash redevelopment at 565 & 569 American Legion Highway (Parcel ID 1806563001 and 1806563002), to ensure that the stormwater management functions as designed. The owner possesses the primary responsibility for overseeing and implementing the O&M plan and assigning a Property Manager who will be responsible for the proper operation and maintenance of the stormwater structures. In case of transfer of property ownership, future property owners shall be notified of the presence of the stormwater management system and the requirements for proper implementation of the O&M plan. Included in the manual is the O&M plan identifying key components of the stormwater system as well as a log for tracking inspections & maintenance.

The stormwater management system protects and enhances the stormwater runoff water quality through the removal of sediment and pollutants, and source control significantly reduces the amount of pollutants entering the system. Preventive maintenance of the system will include a comprehensive source reduction program of regular vacuuming and litter removal, prohibitions on the use of pesticides and maintenance of designated waste and recycling.

RESPONSIBILITY

The purpose of the Stormwater Operations and Maintenance (O&M) plan is to ensure inspection of the system, removal of accumulated sediments, oils, and debris and implementation of corrective action and record keeping activities. The below O&M activities associated with the site will be performed by a Contract Operator for the scope of maintenance. The Contract Operator will be a professional engineer or other technical professional with expertise and experience with stormwater management facilities operation and maintenance.

The ongoing responsibility is the Owner, its successors and assigns. Adequate maintenance is defined in this document as good working condition.

Contact information is provided:

Responsibility for Operations and Maintenance

Contact:	Bob Paisner / Scrub-A-Dub Auto Care
Address:	172 Worcester Street
City, State:	Natick, Massachusetts 01760

DOCUMENTATION
An inspection and maintenance record log and schedule will be kept by the Owner or Property Manager summarizing inspections, maintenance, repairs and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. Inspection & Maintenance Logs will be kept on file at the on-site Property Management office.

MAINTENANCE PROGRAM

The Owner, Property Manager and maintenance staff will conduct the Operation and Maintenance program set forth in this document. The Owner or Property Manager will ensure that inspections and record keeping are timely and accurate, and that cleaning and maintenance are performed in accordance with the recommended frequency for each stormwater component. Inspection & Maintenance Log Forms, shall include the date and the amount of the last significant storm event in excess of 1" of rain in a 24-hour period, physical conditions of the structures, depth of sediment in structures, evidence of overtopping or debris blockage and maintenance required of each structure. The following areas, facilities and measures will be inspected by the Owner or Property Manager and maintained as specified below. Identified deficiencies will be corrected. Accumulated sediments and debris will be properly handled and disposed of off-site, in accordance with local, state, and federal guidelines and regulations.

DETENTION BASIN
Detention basins are stormwater runoff impoundments that are constructed for the short-term detention of stormwater runoff from a completed development that allows a controlled release from the structure. To successfully maintain the design parameters the following will be required for upkeep:

Maintenance:

- Inspections after major storm events for the first few months after construction is essential to ensure it is stabilized and functioning properly and if necessary, take corrective action.
- The detention basin is proposed to be improved with New England Erosion Control / Restoration Mix; this seed mix requires maintenance 1-2 times annually. Mowing can be performed by push mower or weedwhacker.
- Inspection of side slopes, riprap, health of the turf and leakage should continuously occur.
- Sediments, trash and debris shall be removed and disposed of in an approved manner.

All maintenance for the detention basin should be in accordance with the Maintenance section of the Detention Basin BMP provided in the Massachusetts Stormwater Handbook.

SUBSURFACE INFILTRATION SYSTEM
Subsurface infiltration systems are used widely for controlling the quantity of stormwater runoff as well as the quality where space is limited. Subsurface infiltration systems' performance varies by manufacturer and system design. As shown on Sheet 2.21 of the approved plans for Scrubadub (Roslindale), the subsurface infiltration system is to incorporate 3' Retain-it chambers (Or approved equal). According to the Owners Maintenance Manual provided by Retain-It, the infiltration chambers are "self-sufficient and operate without requiring any outside assistance, except for periodic inspection to verify optimal performance and maintenance for removal of collected pollutants." The chambers should be inspected periodically with a greater number of inspections to take place during the system start up (just after installation). To successfully maintain the design parameters the following will be required for upkeep:

Periodically:

- Inspector shall visually inspect the system to help identify issues of concern. The inspector should look for signs of slow flows, backed up water, visible oil, trash and debris or an excessive amount of sediment in the storage area.
- During periodic inspections the inspector should visibly inspect the outlet control structure for issues of concern.
- If sediment is observed to be causing issues of concern, a vacuum truck should be used to suck the accumulated sediments, oils and greases and trash and debris from the system.
- Sediments, trash and debris shall be removed and disposed of in an approved manner.
- Any indications of hazardous material, determined by visual inspection, testing, smell or abnormality, should be reported and handled per appropriate regulations.

The subsurface infiltration system has been designed to have a drawdown time of less than 72 hours. If any irregularities in the structure's performance are observed the engineer of record shall be notified.

For more information regarding the Retain-It Owners Maintenance Guide visit:
http://retain-it.com/library/retain-it-sms-owners-maintenance-guide.pdf

HYDRODYNAMIC SEPARATOR UNIT

Hydrodynamic separators protect the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captures pollutants is essential to the continuous, long term functioning of the separator. The unit will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the structure will no longer be able to store removed sediment and oil.

As shown on Sheet 2.21 of the approved plans for the carwash redevelopment, the stormwater management system is to incorporate one Contech CDS systems (or approved equal). According to the Contech CDS Guide Operation, Design, Performance and Maintenance, inspections shall take place at regular intervals to ensure optimum performance. At a minimum, inspections shall be performed twice a year (Ex.: spring & fall) however more frequent inspections may be required depending several things one being severity of winter (excessive sanding/salting). The frequency of cleanout is determined in the field after installation. During the first year of operation, the unit should be inspected regularly and then after, every six months (twice a year) to determine the rate of sediment and floatables accumulation. A simple probe can be used to determine the level of accumulated solids stored in the sump. This information should be recorded in the inspection logs. On the log it is important to note the date, location of structure (or identification), estimated volume of floatables, and depth of sediment. Securely replace the top of the structure and take down any safety equipment. Then notify the engineer of record for any irregularities in the structure's performance if any. The system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. Sediment and debris removal can be done manually or with approved sump-vac (or equal).

For more information regarding the CDS Guide Operation, Design, Performance and Maintenance visit:
https://www.conteches.com/Portals/0/Documents/Design%20Guides/CDS-Design%20Guide.pdf?ver=2018-05-16-083621-907

DEEP SUMP CATCH BASIN

Deep sump catch basins are underground concrete structures which are designed to retain removed trash, debris, and coarse sediment from stormwater runoff and serve as temporary spill containment devices for floatables such as oil and greases prior to discharge into a storm sewer pipe. The functions of a deep sump catch basin include:

- A grate and/or vertical notch found in the curbing that allow stormwater to enter the structure while filtering out larger objects such as trash and leaves.
- A four and a half foot (minimum) sump below the invert of the storm sewer pipe provides an area for detention time which allows sands and other sediments to settle out of the runoff prior discharge.

At a minimum, deep sump catch basins and drain manholes shall be inspected twice per year. Ideally, inspections should be conducted in the fall, at the end of the leaf-drop, in the spring following snow-melt and following heavy rain falls, defined as a storm event exceeding one inch of rain fall within a twenty-four hour period to verify that inlet openings are not clogged by debris. Each structure should be cleaned whenever the depth of sediment deposits is greater than or equal to one half the depth of the sump from the bottom of the structure to the bottom of the lowest pipe invert. Structures shall be inspected for a buildup of sediments, oils, debris, cracks, breaks, or deformations. Any function of the catch basin and drain manhole that is not in working order will be replaced with similar materials, as per detail, to prevent the storm sewer system from failing.

The catch basins shall be cleaned by means of handheld shovels, scallop shovel and/or vacuum truck. Vacuum truck may be required instead of shovels to avoid damage to structure. The grate opening shall be clear of any foreign or lodged object. If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials or other methods and salts used in the winter will be removed from the catch basin sumps in the early spring. Leaves, pine needles and branches brought down by autumn winds, rain, and cold weather will be removed from the catch basin sumps in the late fall. Collected sediment, debris and hydrocarbons will be properly disposed of per local, state and federal requirements.

RIPRAP APRON OUTLET PROTECTION

Inspect at least once annually for accumulation of sediment and debris and for signs of erosion within approach channel, riprap apron or down-slope of the apron. Remove debris whenever observed during inspection. Remove sediment when accumulation exceeds 25% of riprap depth. Snow should not be stored within or down-slope of the riprap apron. Repair any erosion and re-grade or replace riprap material, as warranted by inspection. Reconstruct the riprap apron if down-slope channelization indicates that the apron is not level or that discharge has become concentrated, and corrections cannot be made through minor re-grading.

PESTICIDES, HERBICIDES AND FERTILIZERS

Pesticides and herbicides shall be used sparingly. Fertilizers should be restricted to the use of organic fertilizers only. Exterior storage of fertilizers, herbicides, pesticides or other toxic or hazardous materials should be prohibited.

TRASH REMOVAL

Once a month the owner of the site or a designated property manager should walk the site and remove any debris or trash that is seen. The site walk shall include the existing surface detention basin to the east of the retaining wall and the surrounding wooded area adjacent to the edge of the proposed paved area to the south. All trash and debris are to be collected and disposed of in an approved manner.

SNOW REMOVAL

Snow accumulations removed from roadway, driveway and parking areas should be placed in landscaped areas on-site where sand and other debris will remain after snowmelt for later removal. Excess snow should be removed from the site and properly disposed of in an approved snow disposal facility. Care must be exercised not to deposit snow in the following areas: on top of storm drain catch basins; in natural depressions and where sand and debris can directly get into the watercourse.

EMERGENCY SPILL CONTAINMENT

The Owner, along with the on-site Property Manager is responsible for educating staff and informing tenants on the environmental benefits associated with the use of pavement at the site. Staff must be trained, and tenants informed via the community website as to the proper spill prevention control and response procedures should a spill occur on the pavement surface. Proper spill control products, such as a granular dry absorbent, must be kept on-site at the property management office in a clean, dry chemical and corrosion resistant container.

A spill of greater than 10 gallons of oil or a spill of any quantity that has reached a surface water, into a sewer, storm drain, ditch, or culvert leading to a surface water, is immediately reported to one or more municipal, state, or federal authority.

In the event of a hazardous waste spill on-site, the following protocol should be followed.

- If it is safe to do so, maintenance staff or tenants detecting an oil spill should immediately stop the release and use available materials to prevent the spread of oil.
- If there is a potentially flammable, toxic or explosive condition, evacuate the vicinity of the spill.
- If it's believed that a reportable or dangerous condition exists, immediately call your local Fire Department to notify them of the release.
- If it is believed that a reportable condition exists, immediately call the Massachusetts Department of Environmental Protection (DEP) to notify them of the release. Call the DEP Emergency Response Section toll free statewide number, 1-888-304-1133. Be prepared to provide the following information to the DEP and the Fire Department:
    - Identity of the caller
    - Contact phone number
    - Location of the spill
    - Type of product spilled
    - Approximate quantity or product spilled
    - Extent of actual and/or potential water pollution
    - Date and time of spill
    - Cause of spill
- Contact a Licensed Site Professional (LSP) to assist in further handling of the material(s) and DEP.

	Title:	Inpsection #:
	Location:	Project #:
		Field Date:

INSPECTION & MAINTENANCE LOG

Name(s) & Title(s) of Individual(s) performing inspection: _____

Week of Inspection: _____

Type of Inspection:

☐ Monthly ☐ Quarterly ☐ Biannually ☐ Annually ☐ Emergency

Weather (during inspection)

☐ Clear ☐ Cloudy ☐ Rain ☐ Snow ☐ Sunny ☐ Windy ☐ Fog

Other:

Time of Inspection:		**Temp. during inspection:**	°F
Start Time: a.m.	**End Time:** a.m.	**Precip. since last inspection:**	"

Site Specific BMP's

#	BMP	Maintenance Required		Corrective Action Needed & Notes
1		☐ Yes	☐ No	
2		☐ Yes	☐ No	
3		☐ Yes	☐ No	
4		☐ Yes	☐ No	
5		☐ Yes	☐ No	
6		☐ Yes	☐ No	
7		☐ Yes	☐ No	
8		☐ Yes	☐ No	
9		☐ Yes	☐ No	
10		☐ Yes	☐ No	

Overall Site Maintenance Concerns

BMP/Activity	Maintenance Required		Corrective Action Needed & Notes
Are discharge points & receiving waters free of any sediment deposits?	☐ Yes	☐ No	
Are storm drain inlets properly working?	☐ Yes	☐ No	
Is trash/litter from site areas collected & placed in covered dumpsters?	☐ Yes	☐ No	
What is the level of sediment within the two hyrdrodynamic separators?	☐ Yes	☐ No	
What is the levels of oil/grit/trash within the infiltration system or hydrodynamic separators?	☐ Yes	☐ No	
(Other)	☐ Yes	☐ No	

Inspector(s) Signature(s): _____

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APPENDIX F
ILLICIT DISCHARGE STATEMENT

Illicit Discharge Statement Prepared by Solli Engineering, LLC

ILLICIT DISCHARGE STATEMENT

Project: **Proposed Carwash Improvements**
565 & 569 American Legion Highway
Roslindale, Massachusetts
Project No.: 2001001

Date: **June 23rd, 2021**

This statement is provided in accordance with the provisions of the Massachusetts Stormwater Management Standard 10 and of the Massachusetts Stormwater Management handbook.

- All stormwater management systems contain no connection to the site's wastewater sewer system or to any other non-stormwater collection system.
- Existing groundwater collection systems on the site are not connected to the site's wastewater sewer system or to any other non-stormwater collection system.
- The facility's operation & Maintenance Plan is designed to prevent any discharge of non-stormwater to the drainage system.
- No known existing illicit discharges are on-site, any and all illicit discharge identified during or after construction will be immediately disconnected.
- The proposed modifications and redevelopment will **NOT** produce illicit discharges, such as wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease.

Solli Engineering, LLC

Kevin Solli, PE, CPESC, CDP, LEED AP BD+C
Founder / Principal

501 Main Street, Suite 2A
Monroe, CT 06468
Office: (203) 880-5455

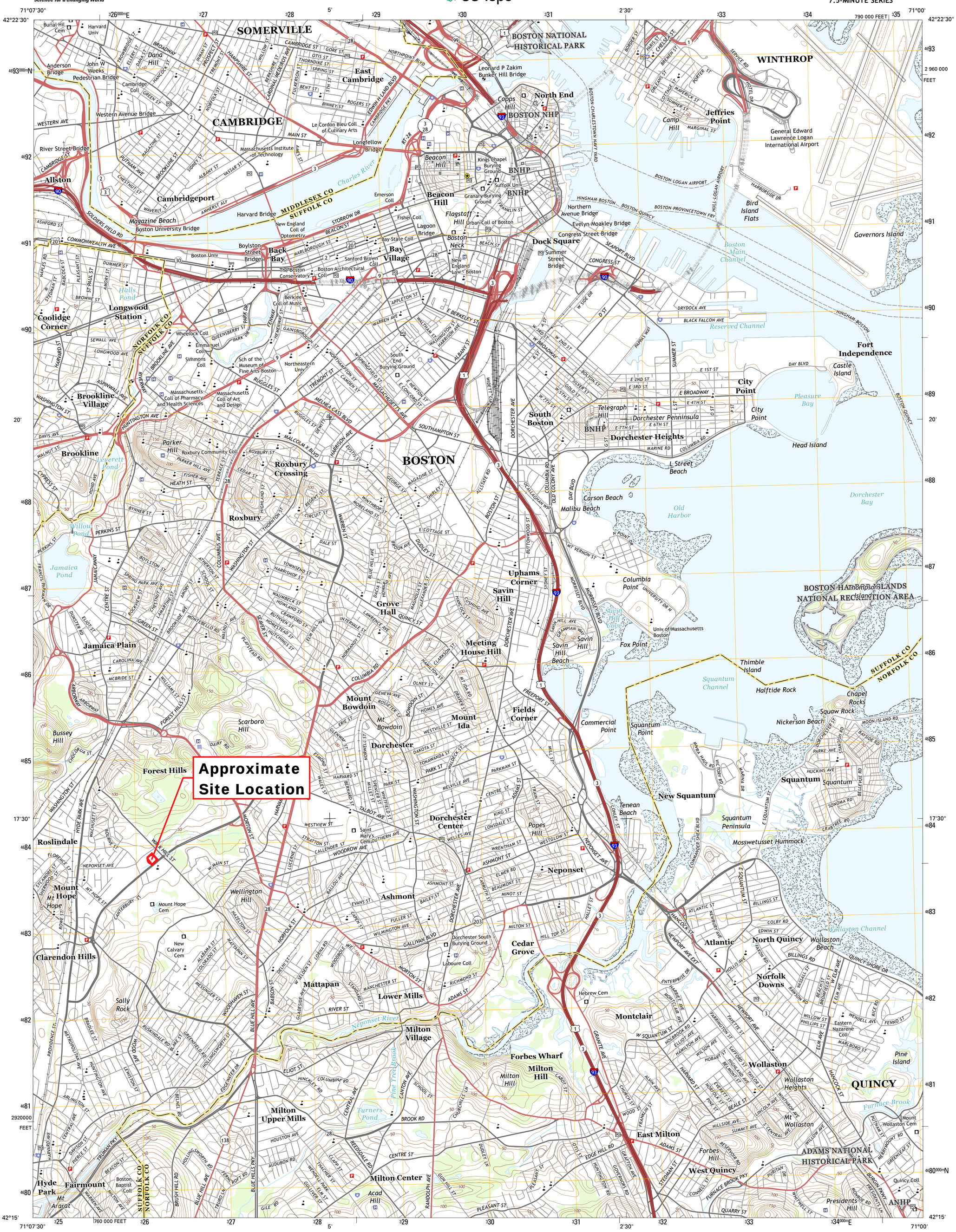
351 Newbury Street, Suite 303
Boston, MA 02115
Office: (617) 203-3160

www.SolliEngineering.com

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

BOSTON SOUTH QUADRANGLE
MASSACHUSETTS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 19T
10 000-foot ticks: Massachusetts Coordinate System of 1983
(mainland zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2014
Roads..... HERE, ©2013 - 2014
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2008
Boundaries.....Multiple sources; see metadata file 1972 - 2015

MN
14° 49'
263 MILS
GN
1° 23'
25 MILS
UTM GRID AND 2015 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
CG
Grid Zone Designation
19T

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES
1 Lexington
2 Boston North
3 Lynn
4 Newton
5 Hull
6 Norwood
7 Blue Hills
8 Weymouth

BOSTON SOUTH, MA
2015

NSN. 7643016369497
NGA REF NO. USGSX24K4932

SOLLI ENGINEERING

June 23rd, 2021

Kate Oetheimer / Conservation Assistant
Boston Conservation Commission
Boston City Hall Room 709
Boston, MA 02201
617-635-3850
CC@boston.gov

RE: Notice of Intent – Abutter Notification Translation
Proposed Carwash Improvement
565 & 569 American Legion Highway
Roslindale, Massachusetts

Dear Boston Conservation Commission Staff:

I, Francisco La Orden, have reviewed the English and Spanish abutter notices prepared by Solli Engineering, LLC, for the proposed improvements at the ScrubaDub Carwash in Roslindale, MA and I certify, as someone who is fluent in both Spanish and English that the translation is a fluent and certified translation.

Respectfully,
Solli Engineering, LLC

Francisco La Orden
Landscape Designer

501 Main Street, Suite 2A
Monroe, CT 06468
Office: (203) 880-5455

351 Newbury Street, Suite 303
Boston, MA 02115
Office: (617) 203-3160

www.SolliEngineering.com

565 American Legion Highway Roslindale, MA - 300' Abutter List

FULL_ADDRESS	CITY	ZIPCODE	OWNER	ADDRESSEE	MAIL_ADDRESS	MAIL_CS	MAIL_ZIPCODE	STATE
620 CANTERBURY ST	ROSLINDALE	2131	TABERNACLE BAPTIST	C/O SERGE DESIR	PO BOX 366198	HYDE PARK	2136	MA
569 AMERICAN LEGION HW	ROSLINDALE	2131	R&D ROSLINDALE LLC		172 WORCESTER RD	NATICK	1760	MA
565 AMERICAN LEGION HW	ROSLINDALE	2131	565 REALTY INC		172 WORCESTER ST	NATICK		MA
594 AMERICAN LEGION HW 594-11	ROSLINDALE	2131	SANTOS TASHIANI M		594 AMERICAN LEGION HWY #11	ROSLINDALE	2136	MA
594 AMERICAN LEGION HW 594-5	ROSLINDALE	2131	MOORE EUSTACE E		594 AMERICAN LEGION HWY #5	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-7	ROSLINDALE	2131	ALVARADO ALEXANDER		60 CAMELOT RIDGE DR	BRANDON	33511	FL
596 AMERICAN LEGION HW 596-5	ROSLINDALE	2131	FELDMAN IGOR		596 AMERICAN LEGION HWY #5	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-1	ROSLINDALE	2131	ERJ CONDOS LLC MASS LLC	C/O EDWARD REID JR	PO BOX 59	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-7	ROSLINDALE	2131	BARRUOS RAFAEL	C/O RAFAEL O BARRUOS	590 AMERICAN LEGION HWY #7	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-8	ROSLINDALE	2131	LYNCH THOMAS C		594 AMERICAN LEGION HWY #8	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-4	ROSLINDALE	2131	JENKINS RENEE		590 AMERICAN LEGION HWY #4	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-10	ROSLINDALE	2131	PAUL JAMES A		592 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-2	ROSLINDALE	2131	MHLABA MELENI		594 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
582 CANTERBURY ST 7	ROSLINDALE	2131	NIX ROGER		582 CANTERBURY ST, UNIT 7	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-10	ROSLINDALE	2131	DURAN MAYRA		590 AMERICAN LEGION HIGHWAY #10	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-7	ROSLINDALE	2131	BLACK JAMES	C/O BMC	2077 CENTRE ST	WEST ROXBURY	2132	MA
590 AMERICAN LEGION HW 590-3	ROSLINDALE	2131	MORA JOSE E		1106 RIVER ST #3	HYDE PARK	2136	MA
590 AMERICAN LEGION HW 590-9	ROSLINDALE	2131	DORVILMAR BETSY L		590 AMERICAN LEGION HWY #9	ROSLINDALE	2131	MA
582 CANTERBURY ST 4	ROSLINDALE	2131	INCOME SOURCE LLC		839 ALBANY ST	BOSTON	2119	MA
592 AMERICAN LEGION HW 592-4	ROSLINDALE	2131	LAY DARA		592 AMERICAN LEGION HWY #4	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-10	ROSLINDALE	2131	HERNANDEZ ROLANDO		594 AMERICAN LEGION HWY #10	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-4	ROSLINDALE	2131	PIERRE SANDRA		594 AMERICAN LEGION HWY #4	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-12	ROSLINDALE	2131	PERLA LUZ M		590 AMERICAN LEGION HWY #12	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-6	ROSLINDALE	2131	ST LOUIS GABY R		590 AMERICAN LEGION HWY #6	ROSLINDALE	2131	MA
582 CANTERBURY ST 1	ROSLINDALE	2131	CHAPURAN MATTHEW P		582 CANTERBURY ST, UNIT 1	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-2	ROSLINDALE	2131	JENKINS LYNNE R		596 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-1	ROSLINDALE	2131	JOSEPH YVON		592 AMERICAN LEGION HWY #592-1	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-3	ROSLINDALE	2131	JEFFREY AND RITA RICHARDS LIVING TRUST		10 ALFRED ROAD	MILTON	2186	MA
594 AMERICAN LEGION HW 594-9	ROSLINDALE	2131	AUSTIN HAROLD A	C/O HAROLD A. AUSTIN	P O BOX 303162	JAMAICA PLAIN	2130	MA
592 AMERICAN LEGION HW 592-9	ROSLINDALE	2131	HERNANDEZ KENNETH J	C/O KENNETH HERNANDEZ	592 AMERICAN LEGION HWY #9	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-1	ROSLINDALE	2131	MCKENZIE NATASHA N		594 AMERICAN LEGION HWY #1	BOSTON	2131	MA
590 AMERICAN LEGION HW 590-11	ROSLINDALE	2131	WILLIAMS CHARLES C JR		590 AMERICAN LEGION HWY #11	ROSLINDALE	2131	MA
582 CANTERBURY ST	ROSLINDALE	2131	582 CANTERBURY LLC		321 WEST GROVE ST	MIDDLEBORO	2346	MA
596 AMERICAN LEGION HW 596-1	ROSLINDALE	2131	PEREZ YANIV	C/O YANIV PEREZ / LIVNA PEREZ	67 HAMLET ST	NEWTON	2459	MA
582 CANTERBURY ST 6	ROSLINDALE	2131	JUNG GRACE HA EUN		35 SCHOOL ST, UNIT 6	DRACUT	1826	MA
594 AMERICAN LEGION HW 594-12	ROSLINDALE	2131	PENA NORVIA M		594 AMERICAN LEGION HWY #12	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-6	ROSLINDALE	2131	KONICK BRIAN J		592 AMERICAN LEGION HWY #6	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-12	ROSLINDALE	2131	SANTOS GOMES JANET		592 AMERICAN LEGION HWY, UNIT 592-12	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-4	ROSLINDALE	2131	LEWIS DOROTHY R		32 COLORADO ST 4	MATTAPAN	2126	MA
590 AMERICAN LEGION HW 590-8	ROSLINDALE	2131	SCHULTE JACQUELINE M		590 AMERICAN LEGION HWY #8	ROSLINDALE	2131	MA
582 CANTERBURY ST 3	ROSLINDALE	2131	HOURICAN AMANDA		582 CANTERBURY ST, UNIT 3	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-5	ROSLINDALE	2131	MAMOUNAS PETER		37 WEBB ST	LEXINGTON	2420	MA
592 AMERICAN LEGION HW 592-11	ROSLINDALE	2131	ROSARIO YURI		592 AMERICAN LEGION HWY #11	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-3	ROSLINDALE	2131	CHAPMAN CYRIL O JR	C/O CYRIL CHAPMAN	P O BOX 339	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-3	ROSLINDALE	2131	LONG ROSE GIROUX		596 AMERICAN LEGION HWY #3	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-5	ROSLINDALE	2131	CHACON MARIA		590 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
582 CANTERBURY ST 2	ROSLINDALE	2131	STORY NATHANIEL A		582 CANTERBURY ST, UNIT 2	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-2	ROSLINDALE	2131	MARTIN BEVERLY		592 AMERICAN LEGION HWY, UNIT 592-2	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-6	ROSLINDALE	2131	PENA EVELYN		594 AMERICA LEGION HWY #594-6	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-8	ROSLINDALE	2131	LOUISNE REGINALD		592 AMERICAN LEGION HW #592-8	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-6	ROSLINDALE	2131	AUSTIN HAROLD		PO BOX 303162	JAMAICA PLAIN	2130	MA
590 AMERICAN LEGION HW 590-2	ROSLINDALE	2131	COVENEY JAMES		590 AMERICAN LEGION HWY #560-2	ROSLINDALE	2131	MA
596 590 AMERICAN LEGION HW	ROSLINDALE	2131	LEGION ARMS CONDO TR	C/O CHARLES C WILLIAMS JR	PO BOX 293	ROSLINDALE	2131	MA
582 CANTERBURY ST 5	ROSLINDALE	2131	SHIH MEREDITH P		582 CANTERBURY ST, UNIT 5	ROSLINDALE	2131	MA
581 AMERICAN LEGION HW	ROSLINDALE	2131	CANALE ARNOLD F TS		57 BARBARA LN	MILTON	2186	MA

574 576 CANTERBURY ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110 MA
289 WALK HILL ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110 MA
283 WALK HILL ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110 MA
586 CANTERBURY ST	ROSLINDALE	2131	ST MICHAEL CEMETERY CORP		500 CANTERBURY ST	ROSLINDALE	2131 MA
574 576 CANTERBURY ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110 MA
530 AMERICAN LEGION HW	ROSLINDALE	2131	MAZZELLA JENNIE I TS		335 WALK HILL ST	ROSLINDALE	2131 MA
602 CANTERBURY ST	ROSLINDALE	2131	CANTERBURY PARTNERS LLC	C/O D2 DEVELOPMENT LLC	407 DUDLEY ST	ROXBURY	2119 MA
223 WALK HILL ST	JAMAICA PLAIN	2130	ITALIAN CATH CEM ASSN		223 WALK HILL	ROSLINDALE	2131 MA
570 AMERICAN LEGION HW	ROSLINDALE	2131	CITY OF BOSTON		570 AMER LEGION HWY	ROSLINDALE	2131 MA
335 WALK HILL ST	ROSLINDALE	2131	MAZZELLA JENNIE I		335 WALK HILL ST	ROSLINDALE	2131 MA
598 CANTERBURY ST	ROSLINDALE	2131	ST MICHAELS CEMETARY ITALIAN		227 WALK HILL ST	ROSLINDALE	2131 MA
578 CANTERBURY ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110 MA
594 CANTERBURY ST	ROSLINDALE	2131	ITALIAN CATHOLIC CEMETERY		594 CANTERBURY	ROSLINDALE	2131 MA

569 American Legion Highway Roslindale, MA - 300' Abutter List

FULL_ADDRESS	CITY	ZIPCODE	OWNER	ADDRESSEE	MAIL_ADDRESS	MAIL_CS	MAIL_ZIPCODE	STATE
582 CANTERBURY ST 5	ROSLINDALE	2131	SHIH MEREDITH P		582 CANTERBURY ST, UNIT 5	ROSLINDALE	2131	MA
581 AMERICAN LEGION HW	ROSLINDALE	2131	CANALE ARNOLD F TS		57 BARBARA LN	MILTON	2186	MA
596 590 AMERICAN LEGION HW	ROSLINDALE	2131	LEGION ARMS CONDO TR	C/O CHARLES C WILLIAMS JR	PO BOX 293	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-2	ROSLINDALE	2131	COVENEY JAMES		590 AMERICAN LEGION HWY #560-2	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-6	ROSLINDALE	2131	AUSTIN HAROLD		PO BOX 303162	JAMAICA PLAIN	2130	MA
592 AMERICAN LEGION HW 592-8	ROSLINDALE	2131	LOUISNE REGINALD		592 AMERICAN LEGION HW #592-8	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-6	ROSLINDALE	2131	PENA EVELYN		594 AMERICA LEGION HWY #594-6	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-2	ROSLINDALE	2131	MARTIN BEVERLY		592 AMERICAN LEGION HWY, UNIT 592-2	ROSLINDALE	2131	MA
582 CANTERBURY ST 2	ROSLINDALE	2131	STORY NATHANIEL A		582 CANTERBURY ST, UNIT 2	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-5	ROSLINDALE	2131	CHACON MARIA		590 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-3	ROSLINDALE	2131	LONG ROSE GIROUX		596 AMERICAN LEGION HWY #3	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-3	ROSLINDALE	2131	CHAPMAN CYRIL O JR	C/O CYRIL CHAPMAN	P O BOX 339	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-11	ROSLINDALE	2131	ROSARIO YURI		592 AMERICAN LEGION HWY #11	ROSLINDALE	2131	MA
530 AMERICAN LEGION HW	ROSLINDALE	2131	MAZZELLA JENNIE I TS		335 WALK HILL ST	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-5	ROSLINDALE	2131	MAMOUNAS PETER		37 WEBB ST	LEXINGTON	2420	MA
582 CANTERBURY ST 3	ROSLINDALE	2131	HOURICAN AMANDA		582 CANTERBURY ST, UNIT 3	ROSLINDALE	2131	MA
620 CANTERBURY ST	ROSLINDALE	2131	TABERNACLE BAPTIST	C/O SERGE DESIR	PO BOX 366198	HYDE PARK	2136	MA
590 AMERICAN LEGION HW 590-8	ROSLINDALE	2131	SCHULTE JACQUELINE M		590 AMERICAN LEGION HWY #8	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-4	ROSLINDALE	2131	LEWIS DOROTHY R		32 COLORADO ST 4	MATTAPAN	2126	MA
594 CANTERBURY ST	ROSLINDALE	2131	ITALIAN CATHOLIC CEMETERY		594 CANTERBURY	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-12	ROSLINDALE	2131	SANTOS GOMES JANET		592 AMERICAN LEGION HWY, UNIT 592-12	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-6	ROSLINDALE	2131	KONICK BRIAN J		592 AMERICAN LEGION HWY #6	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-12	ROSLINDALE	2131	PENA NORVIA M		594 AMERICAN LEGION HWY #12	ROSLINDALE	2131	MA
574 576 CANTERBURY ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110	MA
582 CANTERBURY ST 6	ROSLINDALE	2131	JUNG GRACE HA EUN		35 SCHOOL ST, UNIT 6	DRACUT	1826	MA
596 AMERICAN LEGION HW 596-1	ROSLINDALE	2131	PEREZ YANIV	C/O YANIV PEREZ / LIVNA PEREZ	67 HAMLET ST	NEWTON	2459	MA
582 CANTERBURY ST	ROSLINDALE	2131	582 CANTERBURY LLC		321 WEST GROVE ST	MIDDLEBORO	2346	MA
569 AMERICAN LEGION HW	ROSLINDALE	2131	R&D ROSLINDALE LLC		172 WORCESTER RD	NATICK	1760	MA
590 AMERICAN LEGION HW 590-11	ROSLINDALE	2131	WILLIAMS CHARLES C JR		590 AMERICAN LEGION HWY #11	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-1	ROSLINDALE	2131	MCKENZIE NATASHA N		594 AMERICAN LEGION HWY #1	BOSTON	2131	MA
586 CANTERBURY ST	ROSLINDALE	2131	ST MICHAEL CEMETERY CORP		500 CANTERBURY ST	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-9	ROSLINDALE	2131	HERNANDEZ KENNETH J	C/O KENNETH HERNANDEZ	592 AMERICAN LEGION HWY #9	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-9	ROSLINDALE	2131	AUSTIN HAROLD A	C/O HAROLD A. AUSTIN	P O BOX 303162	JAMAICA PLAIN	2130	MA
592 AMERICAN LEGION HW 592-3	ROSLINDALE	2131	JEFFREY AND RITA RICHARDS LIVING TRUST		10 ALFRED ROAD	MILTON	2186	MA
592 AMERICAN LEGION HW 592-1	ROSLINDALE	2131	JOSEPH YVON		592 AMERICAN LEGION HWY #592-1	ROSLINDALE	2131	MA
602 CANTERBURY ST	ROSLINDALE	2131	CANTERBURY PARTNERS LLC	C/O D2 DEVELOPMENT LLC	407 DUDLEY ST	ROXBURY	2119	MA
596 AMERICAN LEGION HW 596-2	ROSLINDALE	2131	JENKINS LYNNE R		596 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
582 CANTERBURY ST 1	ROSLINDALE	2131	CHAPURAN MATTHEW P		582 CANTERBURY ST, UNIT 1	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-6	ROSLINDALE	2131	ST LOUIS GABY R		590 AMERICAN LEGION HWY #6	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-12	ROSLINDALE	2131	PERLA LUZ M		590 AMERICAN LEGION HWY #12	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-4	ROSLINDALE	2131	PIERRE SANDRA		594 AMERICAN LEGION HWY #4	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-10	ROSLINDALE	2131	HERNANDEZ ROLANDO		594 AMERICAN LEGION HWY #10	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-4	ROSLINDALE	2131	LAY DARA		592 AMERICAN LEGION HWY #4	ROSLINDALE	2131	MA
582 CANTERBURY ST 4	ROSLINDALE	2131	INCOME SOURCE LLC		839 ALBANY ST	BOSTON	2119	MA
590 AMERICAN LEGION HW 590-9	ROSLINDALE	2131	DORVILMAR BETSY L		590 AMERICAN LEGION HWY #9	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-3	ROSLINDALE	2131	MORA JOSE E		1106 RIVER ST #3	HYDE PARK	2136	MA
594 AMERICAN LEGION HW 594-7	ROSLINDALE	2131	BLACK JAMES	C/O BMC	2077 CENTRE ST	WEST ROXBURY	2132	MA
578 CANTERBURY ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110	MA
565 AMERICAN LEGION HW	ROSLINDALE	2131	565 REALTY INC		172 WORCESTER ST	NATICK		MA
590 AMERICAN LEGION HW 590-10	ROSLINDALE	2131	DURAN MAYRA		590 AMERICAN LEGION HIGHWAY #10	ROSLINDALE	2131	MA
582 CANTERBURY ST 7	ROSLINDALE	2131	NIX ROGER		582 CANTERBURY ST, UNIT 7	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-2	ROSLINDALE	2131	MHLABA MELENI		594 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
598 CANTERBURY ST	ROSLINDALE	2131	ST MICHAELS CEMETARY ITALIAN		227 WALK HILL ST	ROSLINDALE	2131	MA
223 WALK HILL ST	JAMAICA PLAIN	2130	ITALIAN CATH CEM ASSN		223 WALK HILL	ROSLINDALE	2131	MA

592 AMERICAN LEGION HW 592-10	ROSLINDALE	2131	PAUL JAMES A		592 AMERICAN LEGION HWY	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-4	ROSLINDALE	2131	JENKINS RENEE		590 AMERICAN LEGION HWY #4	ROSLINDALE	2131	MA
335 WALK HILL ST	ROSLINDALE	2131	MAZZELLA JENNIE I		335 WALK HILL ST	ROSLINDALE	2131	MA
594 AMERICAN LEGION HW 594-8	ROSLINDALE	2131	LYNCH THOMAS C		594 AMERICAN LEGION HWY #8	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-7	ROSLINDALE	2131	BARRUOS RAFAEL	C/O RAFAEL O BARRUOS	590 AMERICAN LEGION HWY #7	ROSLINDALE	2131	MA
570 AMERICAN LEGION HW	ROSLINDALE	2131	CITY OF BOSTON		570 AMER LEGION HWY	ROSLINDALE	2131	MA
590 AMERICAN LEGION HW 590-1	ROSLINDALE	2131	ERJ CONDOS LLC MASS LLC	C/O EDWARD REID JR	PO BOX 59	ROSLINDALE	2131	MA
596 AMERICAN LEGION HW 596-5	ROSLINDALE	2131	FELDMAN IGOR		596 AMERICAN LEGION HWY #5	ROSLINDALE	2131	MA
592 AMERICAN LEGION HW 592-7	ROSLINDALE	2131	ALVARADO ALEXANDER		60 CAMELOT RIDGE DR	BRANDON	33511	FL
594 AMERICAN LEGION HW 594-5	ROSLINDALE	2131	MOORE EUSTACE E		594 AMERICAN LEGION HWY #5	ROSLINDALE	2131	MA
574 576 CANTERBURY ST	ROSLINDALE	2131	JBBM REALTY TRUST		101 FEDERAL ST, UNIT 1405	BOSTON	2110	MA
594 AMERICAN LEGION HW 594-11	ROSLINDALE	2131	SANTOS TASHIANI M		594 AMERICAN LEGION HWY #11	ROSLINDALE	2136	MA

BABEL NOTICE

English:

IMPORTANT! This document or application contains **important information** about your rights, responsibilities and/or benefits. It is crucial that you understand the information in this document and/or application, and we will provide the information in your preferred language at no cost to you. If you need them, please contact us at cc@boston.gov or 617-635-3850.

Spanish:

¡IMPORTANTE! Este documento o solicitud contiene **información importante** sobre sus derechos, responsabilidades y/o beneficios. Es fundamental que usted entienda la información contenida en este documento y/o solicitud, y le proporcionaremos la información en su idioma preferido sin costo alguno para usted. Si los necesita, póngase en contacto con nosotros en el correo electrónico cc@boston.gov o llamando al 617-635-3850.

Haitian Creole:

AVI ENPÒTAN! Dokiman oubyen aplikasyon sa genyen **enfòmasyon ki enpòtan** konsènan dwa, responsablite, ak/oswa benefis ou yo. Li enpòtan ke ou konprann enfòmasyon ki nan dokiman ak/oubyen aplikasyon sa, e n ap bay enfòmasyon an nan lang ou prefere a, san ou pa peye anyen. Si w bezwen yo, tanpri kontakte nou nan cc@boston.gov oswa 617-635-3850.

Traditional Chinese:

非常重要！這份文件或是申請表格包含關於您的權利，責任，和／或福利的重要信息。請您務必完全理解這份文件或申請表格的全部信息，這對我們來說十分重要。我們會免費給您提供翻譯服務。如果您有需要請聯系我們的郵箱 cc@boston.gov 電話# 617-635-3850..

Vietnamese:

QUAN TRỌNG! Tài liệu hoặc đơn yêu cầu này chứa **thông tin quan trọng** về các quyền, trách nhiệm và/hoặc lợi ích của bạn. Việc bạn hiểu rõ thông tin trong tài liệu và/hoặc đơn yêu cầu này rất quan trọng, và chúng tôi sẽ cung cấp thông tin bằng ngôn ngữ bạn muốn mà không tính phí. Nếu quý vị cần những dịch vụ này, vui lòng liên lạc với chúng tôi theo địa chỉ cc@boston.gov hoặc số điện thoại 617-635-3850.

Simplified Chinese:

非常重要！这份文件或是申请表格包含关于您的权利，责任，和／或福利的重要信息。请您务必完全理解这份文件或申请表格的全部信息，这对我们来说十分重要。我们会免费给您提供翻译服务。如果您有需要请联系我们的邮箱 cc@boston.gov 电话# 617-635-3850.

CITY of BOSTON

Cape Verdean Creole:

INPURTANTI! Es dukumentu ó aplikason ten **informason inpurtanti** sobri bu direitus, rasponsabilidadis i/ó benefísius. Ê krusial ki bu intendi informason na es dukumentu i/ó aplikason ó nu ta da informason na língua di bu preferênsia sen ninhun kustu pa bó. Si bu prisiza del, kontata-nu na cc@boston.gov ó 617-635-3850.

Arabic:

مهم! يحتوي هذا المستند أو التطبيق على معلومات مهمة حول حقوقك ومسؤولياتك أو فوائدك. من الأهمية أن تفهم المعلومات الواردة في هذا المستند أو التطبيق. سوف نقدم المعلومات بلغتك المفضلة دون أي تكلفة عليك. إذا كنت في حاجة إليها، يرجى الاتصال بنا على cc@boston.gov أو 617-635-3850.

Russian:

ВАЖНО! В этом документе или заявлении содержится **важная информация** о ваших правах, обязанностях и/или льготах. Для нас очень важно, чтобы вы понимали приведенную в этом документе и/или заявлении информацию, и мы готовы бесплатно предоставить вам информацию на предпочитаемом вами языке. Если Вам они нужны, просьба связаться с нами по адресу электронной почты cc@boston.gov, либо по телефону 617-635-3850.

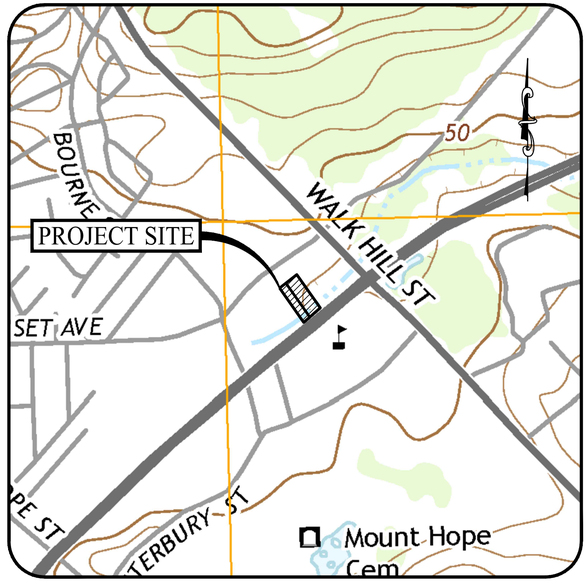
Portuguese:

IMPORTANTE! Este documento ou aplicativo contém **Informações importantes** sobre os seus direitos, responsabilidades e/ou benefícios. É importante que você compreenda as informações contidas neste documento e/ou aplicativo, e nós iremos fornecer as informações em seu idioma de preferência sem nenhum custo para você. Se precisar deles, fale conosco: cc@boston.gov ou 617-635-3850.

French:

IMPORTANT ! Ce document ou cette demande contient des **informations importantes** concernant vos droits, responsabilités et/ou avantages. Il est essentiel que vous compreniez les informations contenues dans ce document et/ou cette demande, que nous pouvons vous communiquer gratuitement dans la langue de votre choix. Si vous en avez besoin, veuillez nous contacter à cc@boston.gov ou au 617-635-3850.

CITY of BOSTON



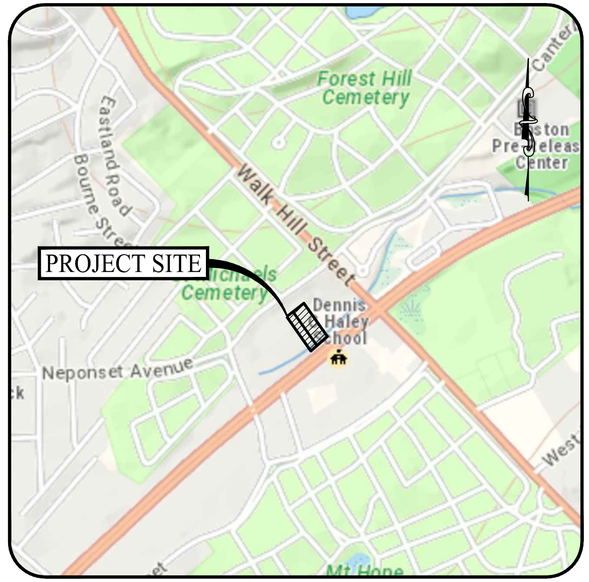
USGS MAP

SCALE: 1" = 500'

PROPOSED CARWASH IMPROVEMENTS

565 & 569 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

PERMITTING PLAN SET



LOCATION MAP

SCALE: 1" = 500'

PREPARED FOR:

ScrubaDub
A Great Carwash

172 WORCESTER STREET
NATICK, MA 01760

DRAWING LIST

SHEET #	SHEET NAME	PLAN DATE	LATEST REVISION
0.00	COVER SHEET	10/19/20	06/08/21
-	EXISTING CONDITIONS PLAN	07/15/20	N/A
2.11	SITE LAYOUT PLAN	10/19/20	06/08/21
2.21	GRADING, DRAINAGE & UTILITY PLAN	10/19/20	05/10/21
2.31	SOIL EROSION AND SEDIMENT CONTROL PLAN	10/19/20	06/08/21
2.41	SOIL EROSION AND SEDIMENT CONTROL DETAILS	10/19/20	05/10/21
2.61	LANDSCAPING PLAN	10/19/20	06/08/21
2.71	LIGHTING PLAN	10/19/20	06/08/21
3.01	CONSTRUCTION DETAILS	10/19/20	N/A
3.02	CONSTRUCTION DETAILS	10/19/20	N/A
3.03	CONSTRUCTION DETAILS	10/19/20	N/A
3.04	CONSTRUCTION DETAILS	03/15/21	05/10/21
D101	DEMOLITION FLOOR PLAN	10/23/20	N/A
D201	DEMOLITION ELEVATIONS	10/23/20	N/A
p. 1	CAR WASH CONCEPTUAL DESIGN	09/24/20	N/A
p. 2	CAR WASH ELEVATION VIEW	09/24/20	N/A
p. 3	OVERALL PERSPECTIVE VIEW	09/24/20	N/A
p. 4	CAR WASH EXISTING CONDITION PHOTOS	09/24/20	N/A
p. 5	PRECEDENT PHOTOS	09/24/20	N/A

SITE/CIVIL PLANS PREPARED BY:

SOLLI ENGINEERING

351 NEWBURY STREET, BOSTON, MASSACHUSETTS 02115

ARCHITECTURAL PLANS PREPARED BY:

HFA Creative Solutions Meaningful Places

HARRISON FRENCH & ASSOCIATES
CREATIVE SOLUTIONS,
MEANINGFUL PLACES
31 HAYWARD STREET
FRANKLIN, MASSACHUSETTS 02038

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

SURVEYOR OF RECORD

PRECISION LAND SURVEYING
32 TURNPIKE ROAD
SOUTHBOROUGH, MASSACHUSETTS 01772
(508) 460-1789

ARCHITECT

VAL WILLIAMS, AIA, NCARB
HARRISON FRENCH & ASSOCIATES (HFA)
31 HAYWARD STREET
FRANKLIN, MASSACHUSETTS 02038
(508) 528-0770

SITE/CIVIL ENGINEER

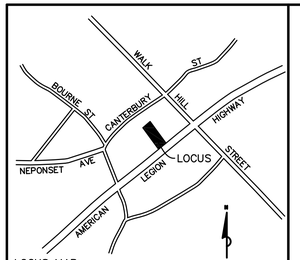
KEVIN SOLLI, P.E., CPESC, LEED AP BD+C
LICENSE NO. 51952
SOLLI ENGINEERING, LLC
351 NEWBURY STREET, SUITE 303
BOSTON, MASSACHUSETTS 02115
(617) 203-3160

Rev. #:	Date	Description
3	06/08/21	Boston Con. Comm. Initial Comments
2	05/10/21	BWSC Response to Comments
1	03/15/21	BWSC Response to Comments

Project:
PROPOSED CARWASH IMPROVEMENTS
565 & 569 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: COVER SHEET

Sheet #: 0.00



LOCUS MAP:
NOT TO SCALE

NOTES:

1) THE ELEVATIONS SHOWN HEREON ARE BASED ON THE CITY OF BOSTON DATUM, BOSTON CITY BASE, AS DETERMINED BY GPS OBSERVATIONS AND AN OPUS REDUCTION PERFORMED ON JULY 14, 2020.

2) THIS PLAN AND THE SURVEY ON WHICH IT WAS BASED WERE PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT, AND ARE SUBJECT TO THE FINDINGS SUCH A REPORT MAY DISCLOSE.

3) UTILITIES IN ADJACENT ROADWAYS WERE NOT INVESTIGATED AS A PART OF THE CURRENT WORK EFFORT. LIMITED UTILITY INFORMATION WAS AVAILABLE FOR THE LOCUS PROPERTIES, ADDITIONAL UTILITIES NOT SHOWN HEREON MAY EXIST.

4) WETLAND FLAGS SHOWN HEREON WERE PLACED BY LUCAS ENVIRONMENTAL, LLC, ON JULY 6, 2020, AND FIELD LOCATED BY THIS OFFICE ON JULY 15, 2020.

5) OWNERSHIP INFORMATION:
#565 AMERICAN LEGION HIGHWAY (PARCEL ID 1806563001)
SCRUB-A-DUB AUTO WASH CENTERS, INC.
DEED BOOK 18907 PAGE 227

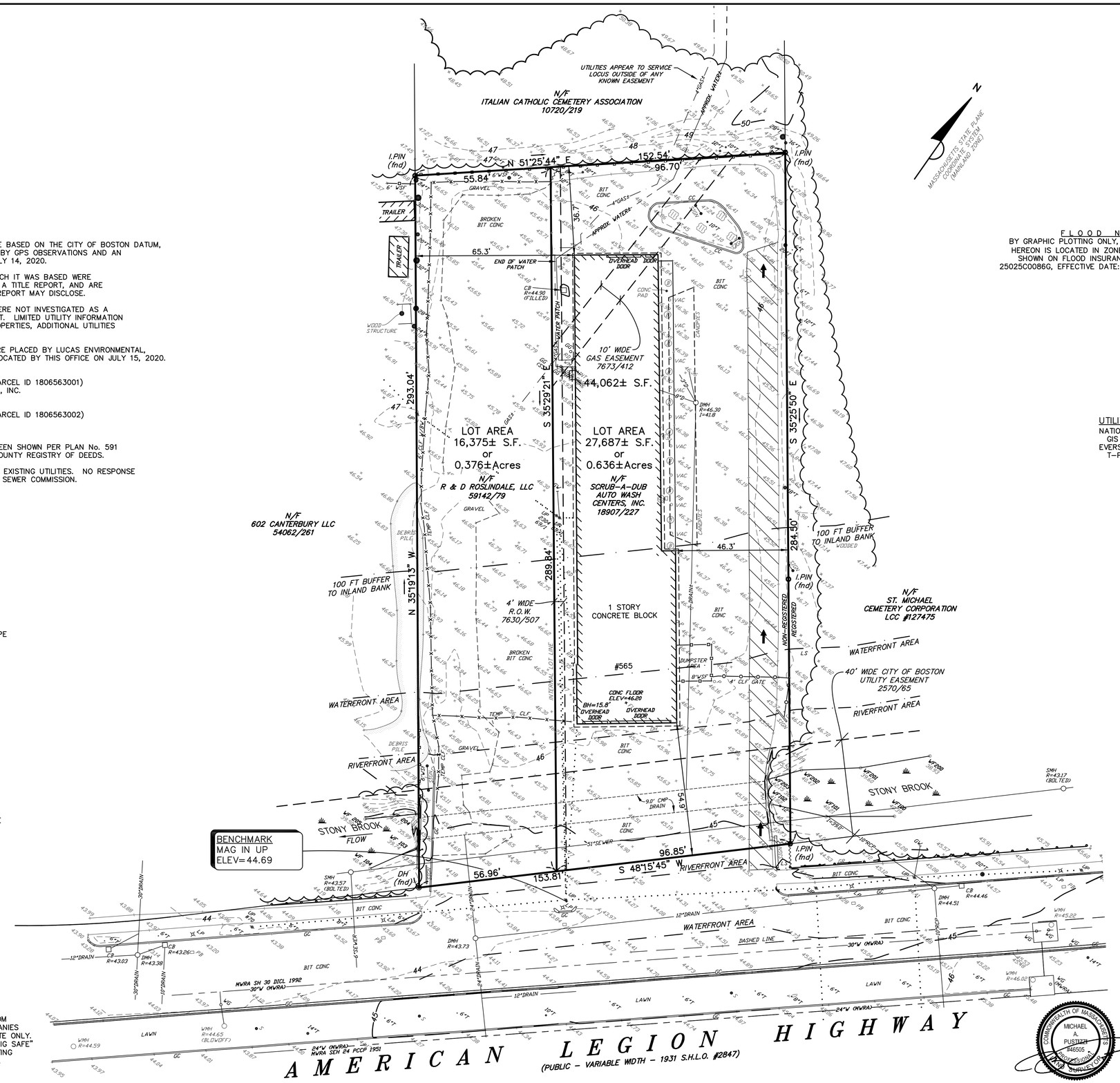
#569 AMERICAN LEGION HIGHWAY (PARCEL ID 1806563002)
R&D ROSLINDALE, LLC
DEED BOOK 59142 PAGE 79

6) BOUNDARY LINE INFORMATION HAS BEEN SHOWN PER PLAN No. 591 OF 2019 FILED WITH THE SUFFOLK COUNTY REGISTRY OF DEEDS.

7) LIMITED INFORMATION AVAILABLE FOR EXISTING UTILITIES. NO RESPONSE RECEIVED FROM BOSTON WATER AND SEWER COMMISSION.

LEGEND:

B	BARREL
BIT CONC	BITUMINOUS CONCRETE
CB	CATCH BASIN
CC	CONCRETE CURB
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
DH	DRILL HOLE
DMH	DRAIN MANHOLE
GC	GRANITE CURB
GG	GAS GATE
GR	GUARD RAIL
GW	GUY WIRE
HW	HEAD WALL
I.PIN	IRON PIN
I=	INVERT=
LP	LIGHT POLE
OH	OVERHANG
P	POST
PB	PULL BOX
R=	RIM=
RD	ROOF DRAIN
S	SIGN
SMH	SEWER MANHOLE
UP	UTILITY POLE
VAC	VACUUM
WG	WATER GATE
WMH	WATER MANHOLE
WSF	WOOD STOCKADE FENCE
12"T	12" TREE
. . . . .	OVERHEAD WIRE



FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON IS LOCATED IN ZONE X (UNSHADED) AS SHOWN ON FLOOD INSURANCE RATE MAP No. 25025C0086G, EFFECTIVE DATE: SEPTEMBER 25, 2009.

UTILITY REFERENCES:

NATIONAL GRID (GAS)
GIS PLOT WRO--445
EVERSOURCE (ELECTRIC)
T-PLAN OF LOCUS AREA

REFERENCES:

SUFFOLK COUNTY REGISTRY OF DEEDS
PLAN 591 OF 2019
PLAN WITH DEED BOOK 7526 PG 92
PLAN WITH DEED BOOK 7673 PG 412

MASSACHUSETTS LAND COURT
LAND COURT PLAN 18629-A

MASSACHUSETTS HIGHWAY DEPARTMENT
1931 S.H.L.O. # 2847

DIG SAFE

UNDERGROUND UTILITIES WERE COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. BEFORE DESIGN AND CONSTRUCTION CALL "DIG SAFE" 1-888-344-7233. SOME DATA IS CONFLICTING AND CAN ONLY BE VERIFIED BY EXCAVATION.

ScrubaDub
A Great Carwash

#565-569 AMERICAN LEGION HIGHWAY

EXISTING CONDITIONS PLAN
IN
BOSTON, MA
(SUFFOLK COUNTY)

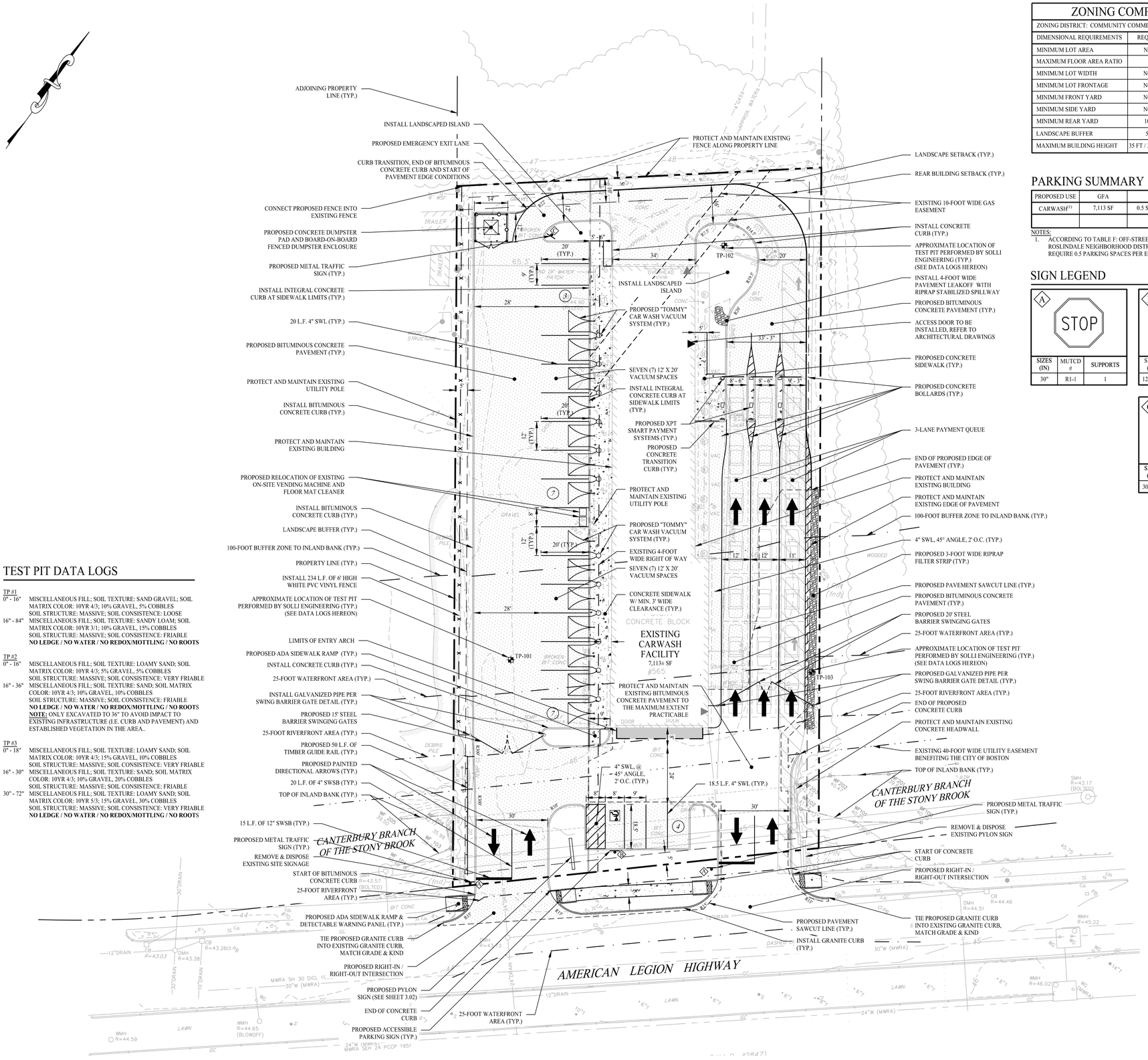
SCALE: 1"= 20' DATE: JULY 15, 2020

0 20 40 60 80 ft

COMMONWEALTH OF MASSACHUSETTS
MICHAEL A. PUSTILNIK
#46505
REGISTERED LAND SURVEYOR

Precision Land Surveying, Inc.
32 Turnpike Road
Southborough, Massachusetts 01772
TELE NO.: (508) 460-1789 FAX NO.: (508) 970-0096

4830TP1.DWG



TEST PIT DATA LOGS

TP #1
0" - 16" MISCELLANEOUS FILL; SOIL TEXTURE: SAND GRAVEL; SOIL MATRIX COLOR: 10YR 4/3; 10% GRAVEL, 5% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: LOOSE
16" - 84" MISCELLANEOUS FILL; SOIL TEXTURE: SANDY LOAM; SOIL MATRIX COLOR: 10YR 3/1; 10% GRAVEL, 15% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: FRIABLE **NO LEDGE / NO WATER / NO REDOX/MOTTLING / NO ROOTS**

TP #2
0" - 16" MISCELLANEOUS FILL; SOIL TEXTURE: LOAMY SAND; SOIL MATRIX COLOR: 10YR 4/3; 5% GRAVEL, 5% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: VERY FRIABLE
16" - 36" MISCELLANEOUS FILL; SOIL TEXTURE: SAND; SOIL MATRIX COLOR: 10YR 4/3; 10% GRAVEL, 10% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: FRIABLE **NO LEDGE / NO WATER / NO REDOX/MOTTLING / NO ROOTS**
NOTE: ONLY EXCAVATED TO 36" TO AVOID IMPACT TO EXISTING INFRASTRUCTURE (I.E. CURB AND PAVEMENT) AND ESTABLISHED VEGETATION IN THE AREA..

TP #3
0" - 18" MISCELLANEOUS FILL; SOIL TEXTURE: LOAMY SAND; SOIL MATRIX COLOR: 10YR 4/3; 15% GRAVEL, 10% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: VERY FRIABLE
16" - 30" MISCELLANEOUS FILL; SOIL TEXTURE: SAND; SOIL MATRIX COLOR: 10YR 4/3; 10% GRAVEL, 20% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: FRIABLE
30" - 72" MISCELLANEOUS FILL; SOIL TEXTURE: LOAMY SAND; SOIL MATRIX COLOR: 10YR 5/3; 15% GRAVEL, 30% COBBLES SOIL STRUCTURE: MASSIVE; SOIL CONSISTENCE: VERY FRIABLE **NO LEDGE / NO WATER / NO REDOX/MOTTLING / NO ROOTS**

ZONING COMPLIANCE TABLE

ZONING DISTRICT: COMMUNITY COMMERCIAL (CC-1)			
DIMENSIONAL REQUIREMENTS	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	NONE	44,062± SF	44,062± SF
MAXIMUM FLOOR AREA RATIO	1.0	0.16	0.16
MINIMUM LOT WIDTH	NONE	152.3± FT	152.3± FT
MINIMUM LOT FRONTAGE	NONE	153.8± FT	153.8± FT
MINIMUM FRONT YARD	NONE	54.9± FT	54.9± FT
MINIMUM SIDE YARD	NONE	46.3± FT	46.3± FT
MINIMUM REAR YARD	10 FT	36.7± FT	36.7± FT
LANDSCAPE BUFFER	5 FT	< 5 FT	< 5 FT
MAXIMUM BUILDING HEIGHT	35 FT / 3 FLOORS	15.8 FT	< 35 FT

PARKING SUMMARY

PROPOSED USE	GFA	REQUIREMENT[1]	REQ.	PROP.
CARWASH[1]	7,113 SF	0.5 SPACES / 1,000 SF OF GFA	4	7
		TOTAL	4	7

NOTES:
1. ACCORDING TO TABLE F: OFF-STREET PARKING REQUIREMENTS IN THE ROSLINDALE NEIGHBORHOOD DISTRICT VEHICULAR USES (CARWASHES) REQUIRE 0.5 PARKING SPACES PER EVERY 1,000 SF OF GROSS FLOOR AREA.

SIGN LEGEND

A — STOP

SIZES (IN)	MUTCD #	SUPPORTS
30"	R1-1	1

B — HANDICAPPED PARKING / VAN ACCESSIBLE

SIZES (IN)	MUTCD #	SUPPORTS
12"x18"	R7-8b (VAN)	1

C — DO NOT ENTER

SIZES (IN)	MUTCD #	SUPPORTS
30"x30"	R5-1	1

LEGEND

PROPERTY LINE
ADJOINING LOT LINE
BUILDING SETBACK
LANDSCAPE BUFFER
LIMIT OF EASEMENT
EXISTING BUILDING LIMITS
SAWCUT PAVEMENT LINE
EDGE OF PAVEMENT
BITUMINOUS CONCRETE CURB
GRANITE CURB
TRANSITION CURB
STANDARD DUTY BITUMINOUS CONCRETE PAVEMENT
CONCRETE SIDEWALK / PAVEMENT
SIDEWALK LIMITS
PAVEMENT ARROW MARKINGS
PARKING SPACE COUNT
STORMWATER BASIN
WOOD FENCE
PVC VINYL FENCE
SWINGING BARRIER GATE
BUILDING OVERHANG LINE / CANOPY
TEST PIT
VEHICLE
DUMPSTER / TRASH RECEPTACLE
TRAFFIC SIGN
TRAFFIC SIGN DESIGNATION
TOP OF INLAND BANK
25-FOOT RIVERFRONT AREA
25-FOOT WATERFRONT AREA
100-FOOT BUFFER ZONE TO INLAND BANK
PAVEMENT STRIPING - WHITE STANDARD AND ADA PARKING SPACES
"TOMMY" CAR WASH VACUUM SYSTEM
EXISTING DOOR
PROPOSED DOOR

GENERAL NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.
4. THE SUBJECT IS A PROPERTY CONSISTING OF A TOTAL AREA OF APPROXIMATELY 1.011 ACRES (44,062± SQUARE FEET), LOCATED IN THE COMMUNITY COMMERCIAL (CC-1) ZONING DISTRICT OF ROSLINDALE, MASSACHUSETTS. CAR WASH FACILITIES ARE ALLOWED CONDITIONALLY WITH SITE PLAN REVIEW APPROVAL BY THE CITY OF BOSTON BOARD OF APPEAL, BOSTON REDEVELOPMENT AUTHORITY, AND THE ZONING COMMISSION. THIS LAYOUT WILL REQUIRE BOARD OF APPEAL APPROVAL.
5. THIS SITE LIES WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X). FLOOD ZONE INFORMATION TAKEN FROM FEMA FLOOD INSURANCE RATE MAP NUMBER NO. 25025C0086G, DATE 09/25/2009.
6. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT (888) 344-7233 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY AND SECURITY OF THE SITE DURING ALL PHASES OF CONSTRUCTION. THE ARCHITECT AND ENGINEER ARE NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ARCHITECT AND ENGINEER HAVE NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
8. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL LOCAL AND STATE PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
9. THE CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING AND BUILDING EXPANSIONS.
10. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
11. ALL SITE DIMENSIONS ARE REFERENCED TO THE FACE OF CURBS OR EDGE OF PAVING AS APPLICABLE UNLESS OTHERWISE NOTED. ALL BUILDING DIMENSIONS ARE REFERENCED TO THE OUTSIDE FACE OF THE STRUCTURE.
12. TRAFFIC CONTROL SIGNAGE SHALL CONFORM TO THE STATE DOT STANDARD DETAIL SHEETS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. SIGNS SHALL BE INSTALLED PLUMB WITH THE EDGE OF THE SIGN 2' OFF THE FACE OF THE CURB, AND WITH 7' VERTICAL CLEARANCE UNLESS OTHERWISE DETAILED OR NOTED.
13. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
14. PAVEMENT MARKING KEY:
    4" SWL 4" SOLID WHITE LINE
    12" SWSB 12" SOLID WHITE STOP BAR
15. PARKING SPACES SHALL BE STRIPED WITH 4" SWL; HATCHED AREA SHALL BE STRIPED WITH 4" SWL AT A 45° ANGLE, 2' ON CENTER. HATCHING, SYMBOLS, AND STRIPING FOR HANDICAPPED SPACES SHALL BE PAINTED BLUE. OTHER MARKINGS SHALL BE PAINTED WHITE OR AS NOTED.
16. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE CIVIL ENGINEER.
17. PAVEMENT MARKINGS SHALL BE HOT APPLIED TYPE IN ACCORDANCE WITH MASSACHUSETTS DOT SPECIFICATIONS, UNLESS WHERE EPOXY RESIN PAVEMENT MARKINGS ARE INDICATED.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
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OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
3	06/08/21	Boston Con. Comm. Initial Comments
2	05/10/21	BWSC Response to Comments
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
SITE LAYOUT	2.11

Jun 08, 2021 – 12:39pm Sam
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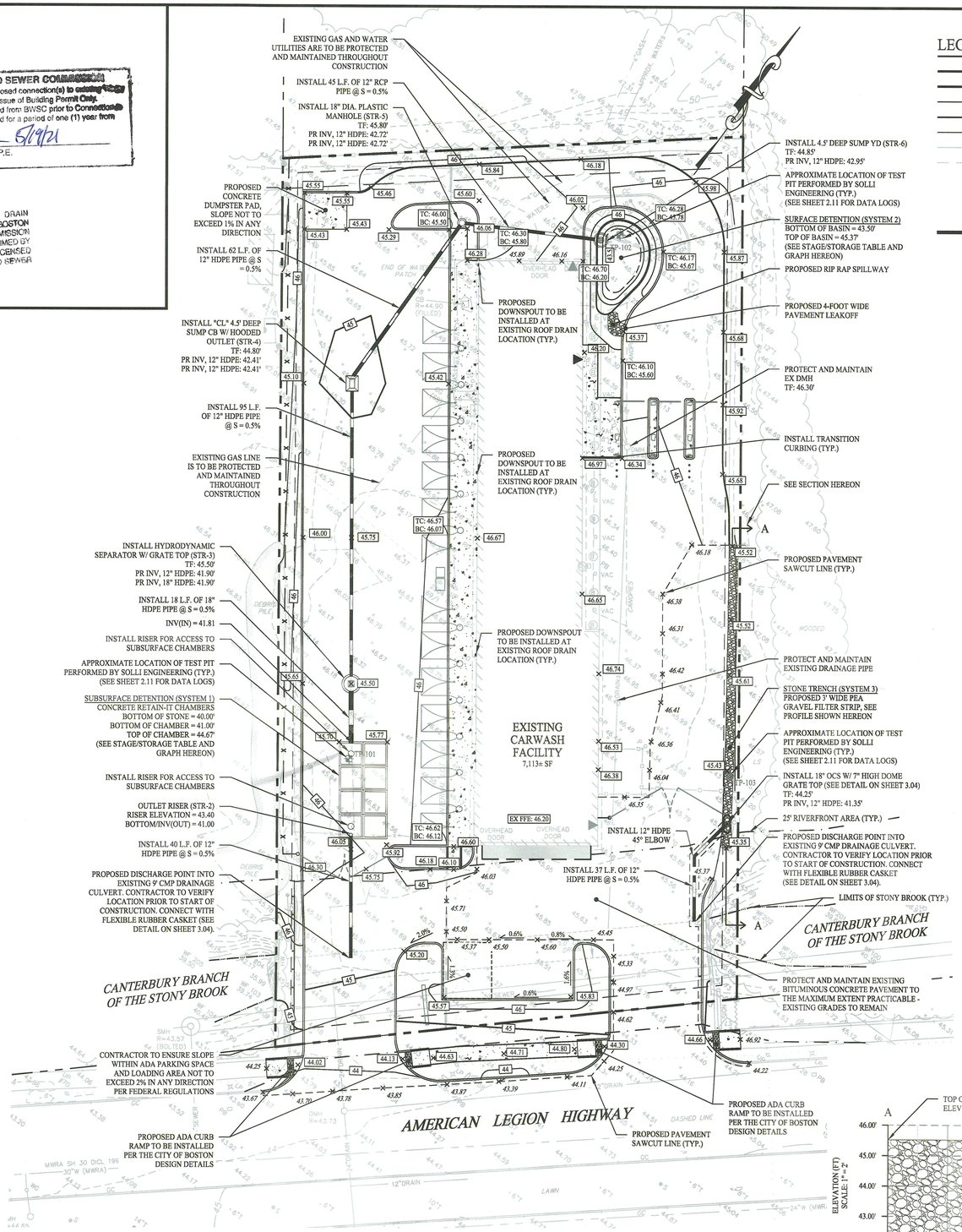
BOSTON WATER AND SEWER COMMISSION
Reviewed and approved as to proposed connection(s) to existing sewer and sewer facilities as shown, for issue of Building Permit Only. Additional Permits must be obtained from BWSC prior to Connection to BWSC facilities. Site Plans are valid for a period of one (1) year from date of approval.

JOHN P. SULLIVAN, JR. P.E.
Chief Engineer

ALL WATER, SEWER AND DRAIN SERVICE CONNECTIONS TO BOSTON WATER AND SEWER COMMISSION FACILITIES MUST BE PERFORMED BY A BONDED DRAIN LAYER LICENSED BY THE BOSTON WATER AND SEWER COMMISSION.



PEAK DISCHARGE RATE TABLE

STORM EVENT	OVERALL EXISTING PEAK FLOW (CFS)	OVERALL PROPOSED PEAK FLOW (CFS)	PERCENT REDUCTION IN PEAK FLOW
2-YEAR	2.931	0.925	68.4%
10-YEAR	5.251	4.882	7.0%
25-YEAR	6.718	6.275	6.6%
50-YEAR	7.804	7.281	6.7%
100-YEAR	8.989	8.203	8.7%

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- 420 MAJOR CONTOURS
- 421 MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- 420 CONTOUR LABEL
- 568.85 SPOT ELEVATION
- ×568.85 EXISTING SPOT ELEVATION
- STORM DRAIN PIPE
- TYPE "C" CATCH BASIN
- TYPE "CL" CATCH BASIN
- YARD DRAIN
- STORM MANHOLE
- WATER QUALITY UNIT
- RIP RAP

ABBREVIATIONS

@	AT
BC	BOTTOM OF CURB
CB	CATCH BASIN
CL	CURBLESS
DIA	DIAMETER
DMH	DRAINAGE MANHOLE
EX	EXISTING
FFE	FINISHED FLOOR ELEVATION
HDPE	HIGH-DENSITY POLYETHYLENE
INV	INVERT
LF	LINEAR FEET
PR	PROPOSED
RCP	REINFORCED CONCRETE PIPE
S	SLOPE
TC	TOP OF CURB
TF	TOP OF FRAME
TYP	TYPICAL
YD	YARD DRAIN

BWSC INSPECTION LIST

STRUCTURE	INSPECTOR	DATE
STR-1 (MANHOLE)		
STR-2 (OUTLET CONTROL)		
STR-3 (WATER QUALITY UNIT)		
STR-4 (CATCH BASIN)		
STR-5 (PLASTIC MANHOLE)		
STR-6 (CATCH BASIN)		
SYSTEM-1 (SUBSURFACE CHAMBERS)		
SYSTEM-2 (SURFACE DETENTION)		
SYSTEM-3 (STONE TRENCH)		

BWSC STORMWATER REQUIREMENTS & CALCULATIONS

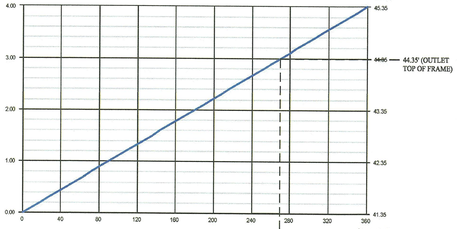
FOR ALL REDEVELOPMENT PROJECTS IN THE CITY OF BOSTON IT IS MANDATORY TO RETAIN STORMWATER ON SITE. A VOLUME OF RUNOFF EQUAL TO ONE INCH OF RAINFALL TIMES THE TOTAL IMPERVIOUS AREA ON SITE MUST BE INFILTRATED PRIOR TO DISCHARGE TO A STORM DRAIN OR A COMBINED SEWER SYSTEM FOR PROJECTS LESS THAN 100,000 SQUARE FEET OF FLOOR AREA.

ON-SITE IMPERVIOUS AREA
TOTAL IMPERVIOUS AREA ON-SITE = 36,882± SQUARE FEET = 5,311,008± SQUARE INCHES
5,311,008± SQUARE INCHES x 1 INCH OF RAINFALL = 5,311,008± CUBIC INCHES
5,311,008± CUBIC INCHES ÷ 3,073.5± CUBIC FEET

STONE TRENCH
BOTTOM OF TRENCH = 41.35
TOP OF TRENCH = 45.35
TOP OF DOME GRATE TOP (OCS) = 44.25

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	41.35	300	0	0
1.00	42.35	300	90	90
2.00	43.35	300	90	180
3.00	44.35	300	90	270
4.00	45.35	300	90	360

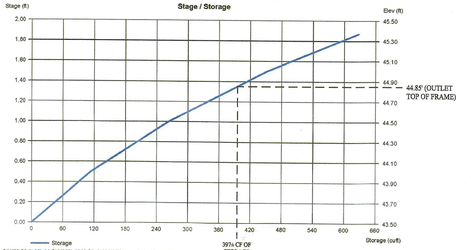


STONE TRENCH TOTAL STORAGE = 270± CUBIC FEET

SURFACE DETENTION
BOTTOM OF BASIN = 43.50
TOP OF BASIN = 45.37
TOP OF RISER (OUTLET) = 44.85

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	43.50	190	0	0
0.50	44.00	282	114	114
1.00	44.50	336	169	283
1.50	45.00	420	189	472
1.87	45.37	534	178	627

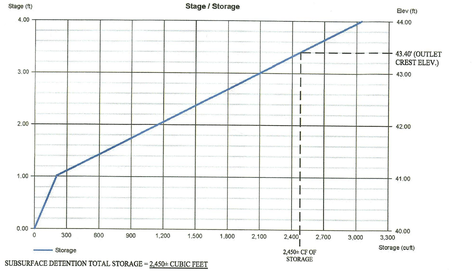


SURFACE DETENTION TOTAL STORAGE = 397± CUBIC FEET

SUBSURFACE DETENTION
CONCRETE RETAIN-IT CHAMBERS
BOTTOM OF STONE = 40.00'
BOTTOM OF CHAMBER = 41.00'
TOP OF CHAMBER = 44.67

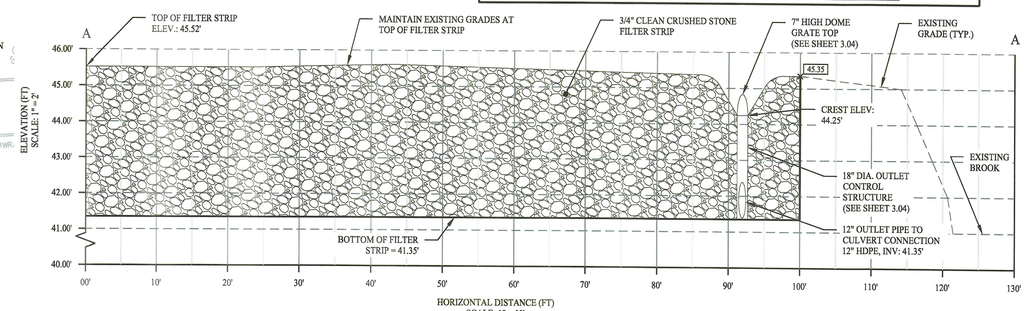
Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	40.00	n/a	0	0
1.00	41.00	n/a	205	205
1.01	41.01	n/a	0	205
2.00	42.00	n/a	947	1,152
3.00	43.00	n/a	947	2,098
4.00	44.00	n/a	947	3,045



SUBSURFACE DETENTION TOTAL STORAGE = 2,450± CUBIC FEET

TOTAL STORAGE PROVIDED = 270± CF + 397± CF + 2,450± CF = 3,117± CUBIC FEET OF ON-SITE RETENTION (3,117± CF > 3,073.5± CF)



SECTION A - FILTER STRIP PROFILE

SCALE: AS SHOWN

DRAINAGE & UTILITY NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. EXISTING BOUNDARY, TOPOGRAPHY AND SITE CONDITIONS WERE TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.
4. EXISTING BROOK LIMITS ARE BASED ON THE DELINEATION PERFORMED BY LUCAS ENVIRONMENTAL, LLC ON JULY 6, 2020, REFER TO THE SURVEY PERFORMED BY PRECISION LAND SURVEYING, INC. FOR THE FULL EXTENT OF THE BROOK AND RIVERFRONT AREA.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY GOVERNMENT AND LOCAL AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY CONSTRUCTION PERMITS FROM LOCAL GOVERNING AUTHORITIES AND STATE REQUIRED TO PERFORM ALL REQUIRED WORK, INCLUDING FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES. THE CONTRACTOR SHALL POST ALL BONDS, EXCEPT MASSACHUSETTS DOT ENCROACHMENT PERMIT BOND, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
6. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT (888) 344-7233 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES.
7. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
8. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
9. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF VEHICLES AND PEDESTRIANS CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC CONTROLLERS AS REQUIRED, ORDERED BY THE ENGINEER OR REQUIRED BY THE STATE AND LOCAL GOVERNING AUTHORITIES.
10. ALL DISTURBANCE INCURRED TO CITY, COUNTY, OR STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER.
11. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.
12. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLANDS IN ACCORDANCE WITH THE REGULATIONS OF THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
13. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
14. GRADING CONTRACTOR SHALL RESTORE TO GRADE AND COMPACTION ALL AREAS DISTURBED BY BUILDING CONSTRUCTION PRIOR TO PAVING OPERATIONS COMMENCING.
15. THE PROPERTY IS NOT LOCATED WITHIN A ZONE II WELLHEAD PROTECTION AREA.
16. THE PROJECT SITE IS LOCATED WITHIN FEMA AREAS OF MINIMAL FLOOD HAZARD (ZONE X).
17. ALL CATCH BASINS PROPOSED ARE TO BE 4.5 FOOT DEEP SUMP CATCH BASINS WITH HOODED OUTLETS, SEE DETAILS ON SHEET 3.02.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
2	05/10/21	BWSC Response to Comments
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

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Drawn By:	STM
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Approved By:	KMS
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COMMONWEALTH OF MASSACHUSETTS KEVIN M. SOLLI CIVIL NO. 51952 REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: GRADING, DRAINAGE & UTILITY PLAN

Sheet #: 2.21

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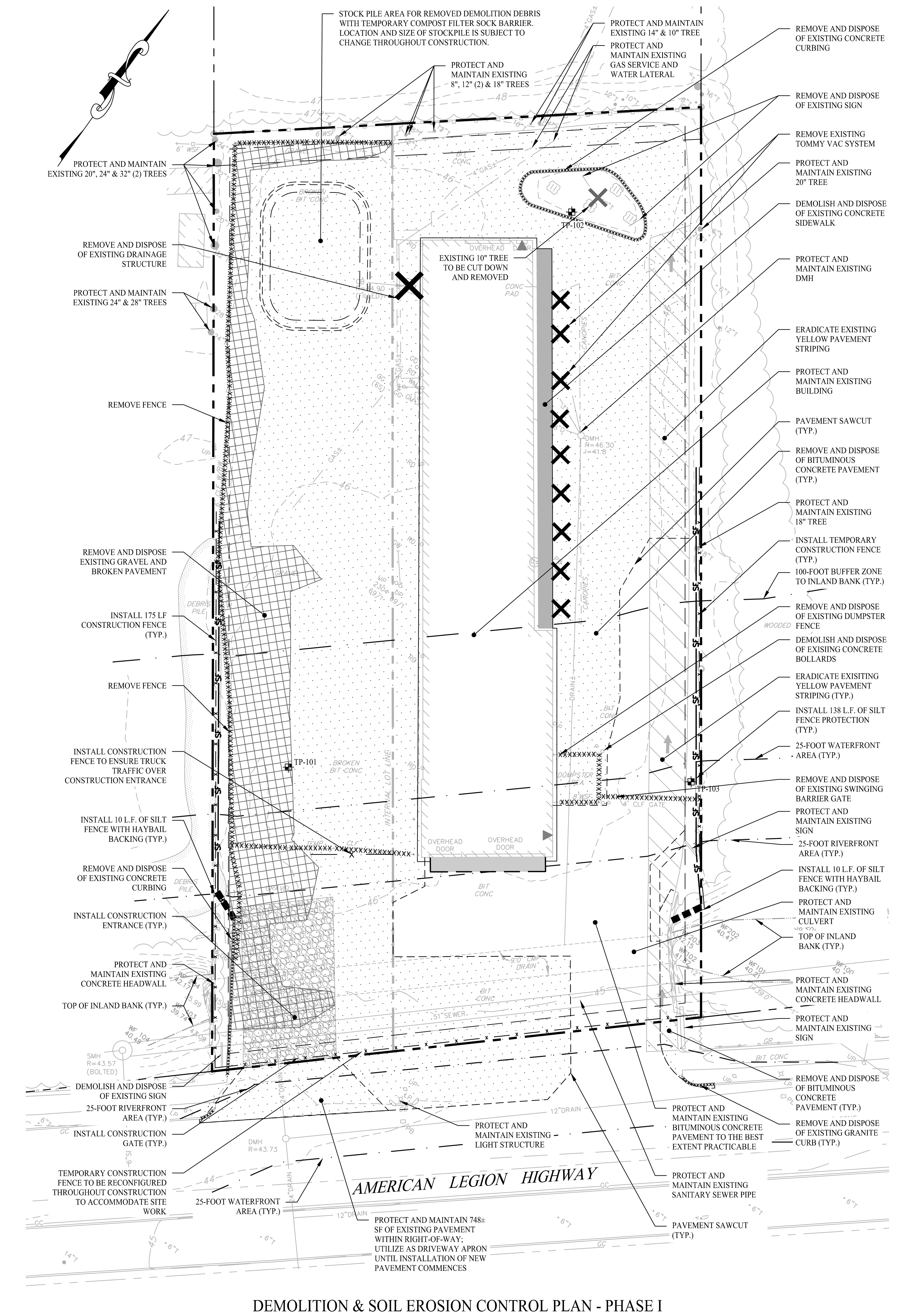
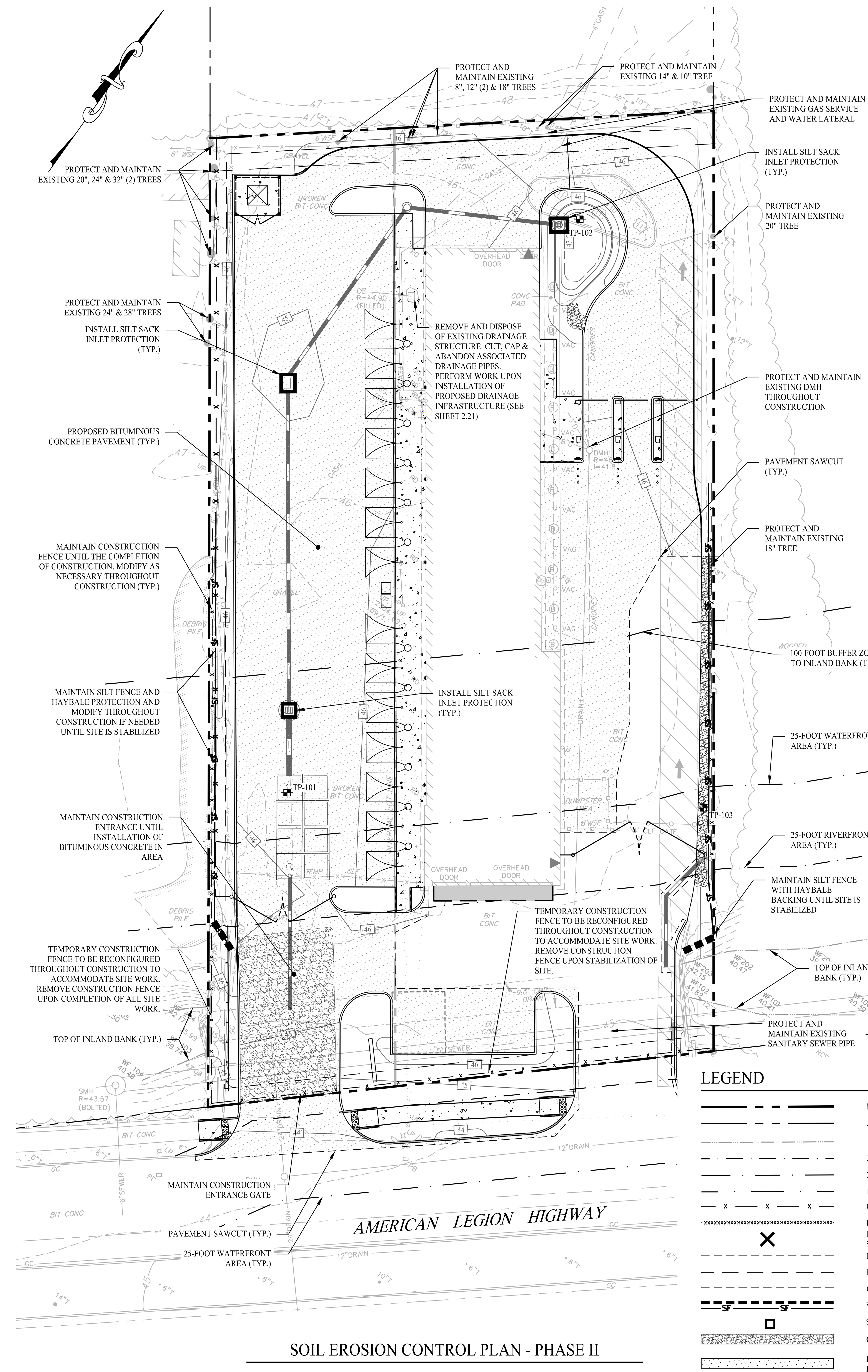


DEMOLITION & SOIL EROSION CONTROL PLAN - PHASE I



SOIL EROSION CONTROL PLAN - PHASE II

DEMOLITION NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. CONTRACTOR SHALL SECURE ANY PERMITS, PAY ALL FEES AND PERFORM CLEARING AND GRUBBING AND DEBRIS REMOVAL PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
4. SEDIMENT AND EROSION CONTROLS AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN AND/OR DEMOLITION PLAN SHALL BE INSTALLED BY THE DEMOLITION CONTRACTOR PRIOR TO START OF DEMOLITION AND CLEARING AND GRUBBING OPERATIONS.
5. REMOVE AND DISPOSE OF ANY SIDEWALKS, FENCES, WALLS, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFF SITE LANDFILL, BY AN APPROVED HAULER. HAULER SHALL COMPLY WITH ALL REGULATORY REQUIREMENTS.
6. THE CONTRACTOR SHALL SECURE ALL PERMITS FOR THEIR DEMOLITION AND DISPOSAL OF THEIR DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED. BUILDING DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS AND DISPOSAL OF ALL BUILDING DEMOLITION DEBRIS IN AN APPROVED OFF-SITE LANDFILL.
7. ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR.
8. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY PROVIDER TO CUT AND PLUG ALL SERVICE PIPING AT THE STREET LINE OR AT THE MAIN, AS REQUIRED BY THE UTILITY PROVIDER, OR AS OTHERWISE NOTED OR SHOWN ON THE CONTRACT DRAWINGS. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED. THE CONTRACTOR SHALL PAY ALL UTILITY PROVIDER FEES FOR ABANDONMENTS AND REMOVALS.
9. THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING DEMOLITION ACTIVITIES. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, AND OR PROPERTY CORNERS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
10. THE DEMOLITION CONTRACTOR SHALL STABILIZE THE SITE AND KEEP EROSION CONTROL MEASURES IN PLACE UNTIL THE COMPLETION OF HIS WORK OR UNTIL THE COMMENCEMENT OF WORK BY THE SITE CONTRACTOR, WHICHEVER OCCURS FIRST, AS REQUIRED OR DEEMED NECESSARY BY THE ENGINEER OR OWNER'S REPRESENTATIVE. THE SITE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE MAINTENANCE OF EXISTING EROSION AND SEDIMENTATION CONTROLS AND FOR INSTALLATION OF ANY NEW EROSION AND SEDIMENTATION CONTROLS AS PER THE SEDIMENT AND EROSION CONTROL PLAN, AT THAT TIME.
11. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.
12. THE CONTRACTOR SHALL ADHERE TO ALL OSHA FEDERAL STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN PROXIMITY OF OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY PROVIDER FEES SHALL BE PAID BY THE CONTRACTOR.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF VEHICLES AND PEDESTRIANS CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC CONTROLLERS AS REQUIRED OR AS ORDERED BY THE ENGINEER OR AS REQUIRED BY THE LOCAL GOVERNING AUTHORITIES, OR AS REQUIRED BY PERMIT STIPULATIONS. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY IS GRANTED.
14. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICES AND STORM DRAINAGE SYSTEMS. PRIOR TO DEMOLITION OR CONSTRUCTION THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT 811 AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
15. THE CONTRACTOR SHALL REPAIR PAVEMENTS BY INSTALLING TEMPORARY AND PERMANENT PAVEMENTS IN PUBLIC RIGHTS OF WAYS AS REQUIRED BY LOCAL GOVERNING AUTHORITIES AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MADOT) AND PER PERMIT REQUIREMENTS DUE TO DEMOLITION AND PIPE REMOVAL ACTIVITIES.
16. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE OWNER.
17. NO WORK ON THIS SITE SHALL BE INITIATED BY THE CONTRACTOR UNTIL A PRE-CONSTRUCTION MEETING WITH OWNER AND THE CIVIL ENGINEER IS PERFORMED.
18. ALL EXISTING UTILITIES TO THE BUILDING ARE TO BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION.
19. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OR UTILITY DISCONNECTIONS UNTIL AUTHORIZED TO DO SO BY THE OWNER.
20. NO SALVAGE SHALL BE PERMITTED UNLESS PAID TO THE OWNER AS A CREDIT.
21. ARCHITECT OR ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ARCHITECT AND ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOBSITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY, AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
22. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REQUIREMENTS AND REGULATIONS.
23. PRIOR TO DEMOLITION ALL TRASH AND DEBRIS PRESENT ON-SITE SHALL BE PICKED UP AND REMOVED OF PROPERLY.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
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OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #:	1302693
BWSC SITE PLAN #:	20386

LEGEND

- PROPERTY LINE
- ADJOINING LOT LINE
- TOP OF INLAND BANK
- 25-FOOT RIVERFRONT AREA
- 25-FOOT WATERFRONT AREA
- 100-FOOT BUFFER ZONE TO INLAND BANK
- CONSTRUCTION FENCE
- REMOVE EXISTING CURB
- REMOVE EXISTING DRAINAGE STRUCTURE
- PAVEMENT SAWCUT
- LIMITS OF MATERIAL STOCKPILE
- COMPOSITE FILTER SOCK
- SILT FENCE WITH HAYBALE BACKING
- SILT SACK INLET PROTECTION
- CONSTRUCTION ENTRANCE
- REMOVE AND DISPOSE EXISTING ASPHALT PAVING
- DEMOLISH AND DISPOSE OF EXISTING CONCRETE
- TOMMY VAC SYSTEM TO BE REMOVED
- EXISTING TREE TO BE CUT DOWN AND REMOVED
- FENCE / ROCK WALL REMOVAL

Rev. #:	Date	Description
2	06/08/21	Boston Con. Comm. Initial Comments
1	05/10/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

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COMMONWEALTH OF MASSACHUSETTS KEVIN M. SOLLI CIVIL NO. 51952 REGISTERED PROFESSIONAL ENGINEER

Kevin Solli, P.E.
MA 51952

Project:

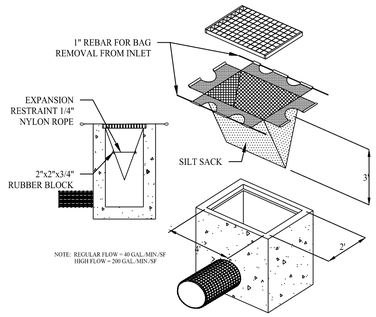
PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: SOIL EROSION & SEDIMENT CONTROL PLAN

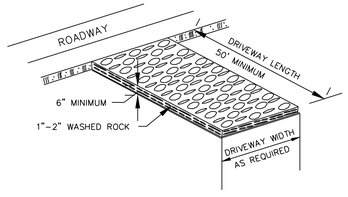
Sheet #: 2.31

Jun 08, 2021 - 12:41pm Sam B:\SE Files\Project Data\2020\2001001 - Scrubadub - Roslindale, MA\Cadd Data\2001001\2001001-2.31.dwg



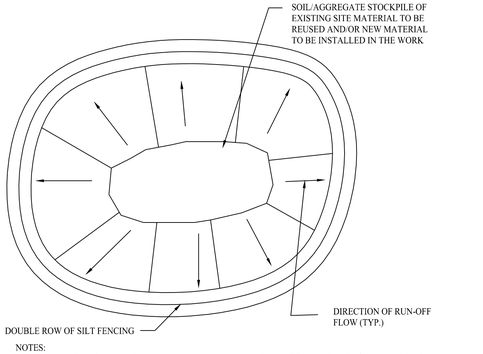
SILT SACK INLET PROTECTION

SCALE: NTS



CONSTRUCTION ENTRANCE

SCALE: NTS



NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

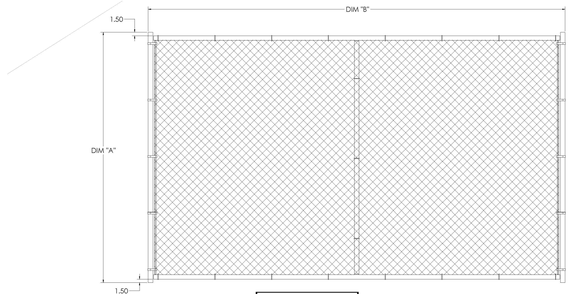
2. SILT/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

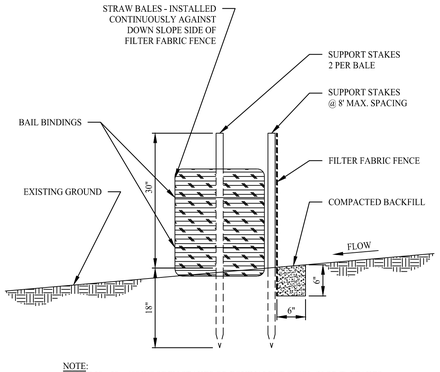
4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

MATERIALS STOCKPILE DETAIL

SCALE: NTS



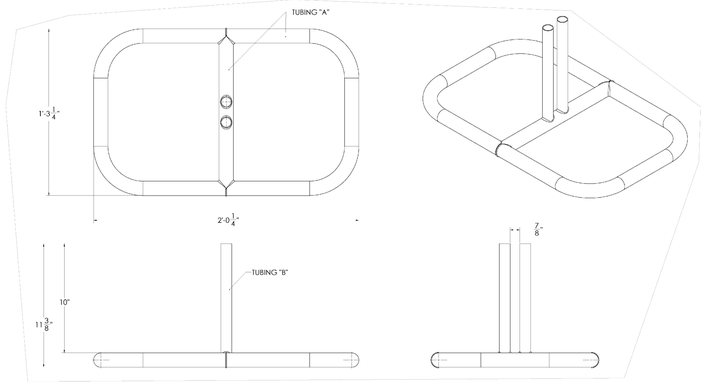
				CHAIN LINK WIRE	
PART NUMBER	DIM. "A"	DIM. "B"	TUBING MATERIAL	GAUGE	DIAMOND SIZE
071050	6'	10'	1-3/8" x 16 Gauge	11.5	2-1/4"
071051	6'	12'	1-3/8" x 16 Gauge	11.5	2-1/4"
071053	8'	10'	1-3/8" x 16 Gauge	11.5	2-1/4"
071072	6'	10'	1-3/8" x 16 Gauge	12.5	2-3/8"
071073	6'	12'	1-3/8" x 16 Gauge	12.5	2-3/8"
071077	6'	10'	1-3/8" x 16 Gauge	11.5	2-3/8"
071078	6'	12'	1-3/8" x 16 Gauge	11.5	2-3/8"



NOTE:
1. USE 2" x 2" x 48" WOODEN STAKES OR EQUIVALENT STEEL (U OR T) STAKES.

SILT FENCE WITH HAYBALE BACKING

SCALE: NTS



TEMPORARY CONSTRUCTION FENCE

SCALE: NTS

SOIL EROSION AND EROSION CONTROL NOTES

SEDIMENT AND EROSION CONTROL NARRATIVE

THE SEDIMENT AND EROSION CONTROL PLAN WAS DEVELOPED TO PROTECT THE EXISTING ROADWAY AND STORM DRAINAGE SYSTEMS, ADJACENT PROPERTIES, AND ANY ADJACENT WETLAND AREA AND ANY ADJACENT WATER COURSE FROM SEDIMENT LADEN SURFACE RUNOFF AND EROSION.

CONSTRUCTION SCHEDULE

THE ANTICIPATED STARTING DATE FOR CONSTRUCTION IS SPRING 2021 WITH COMPLETION ANTICIPATED BY FALL 2022. APPROPRIATE EROSION CONTROL MEASURES AS DESCRIBED HEREIN, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ALL SITE CLEARING OR CONSTRUCTION ACTIVITY. SCHEDULE WORK TO MINIMIZE THE LENGTH OF TIME THAT BARE SOIL WILL BE EXPOSED.

CONTINGENCY EROSION PLAN

THE CONTRACTOR SHALL INSTALL ALL SPECIFIED EROSION CONTROL MEASURES AND WILL BE REQUIRED TO MAINTAIN THEM IN THEIR INTENDED FUNCTIONING CONDITION. THE AGENTS OF THE CITY OF BOSTON HAVE THE AUTHORITY TO REQUIRE SUPPLEMENTAL MAINTENANCE OR ADDITIONAL MEASURES IF FIELD CONDITIONS ARE ENCOUNTERED BEYOND WHAT WOULD NORMALLY BE ANTICIPATED.

CONSTRUCTION SEQUENCE

1. CONTACT THE CITY OF BOSTON ZONING OFFICIAL AND BUILDING INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT.
2. WRAP FILTER FABRIC AROUND GRATES OF CATCH BASINS OR INSTALL SILT SACKS ON CATCH BASIN INLET. INSTALL SILT FENCE AND OTHER EROSION CONTROL DEVICES INDICATED ON THESE PLANS AT PERIMETER OF PROPOSED SITE DISTURBANCE AND INSTALL ALL OTHER EROSION CONTROL MEASURES INDICATED ON THESE PLANS.
3. INSTALL EROSION CONTROL MEASURES.
4. COMMENCE INSTALLATION OF DRAINAGE SYSTEM.
5. INSTALL SILT SACK INLET PROTECTION TO NEW STRUCTURES.
6. TRANSFER RESPONSIBILITY FOR SOIL EROSION AND SEDIMENT CONTROL AT CLOSING.
7. TO DEVELOP THE AREA FOLLOW THESE GENERAL CONSTRUCTION NOTES.
8. COMMENCE EARTHWORK. INSTALL ADDITIONAL EROSION CONTROLS AS WORK PROGRESSES AND CONTINUE STORM DRAINAGE SYSTEM CONSTRUCTION.
9. CONSTRUCTION STAKING OF ALL PAVEMENT AREAS AND UTILITIES.
10. ROUGH GRADING AND FILLING OF SUBGRADES AND SLOPES.
11. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
12. CONTINUE INSTALLATION OF STORM DRAINAGE AS SUBGRADE ELEVATIONS ARE ACHIEVED.
13. THROUGHOUT CONSTRUCTION SEQUENCE, REMOVE SEDIMENT FROM BEHIND SILT FENCES AND OTHER EROSION CONTROL DEVICES. REMOVAL SHALL BE ON A PERIODIC BASIS (EVERY SIGNIFICANT RAINFALL OF 0.10 INCH OR GREATER). INSPECTION OF EROSION CONTROL MEASURES SHALL BE ON A WEEKLY BASIS AND AFTER EACH RAINFALL OF 0.10 INCHES OR GREATER. SEDIMENT COLLECTED SHALL BE DEPOSITED AND SPREAD EVENLY UPLAND ON SLOPES DURING CONSTRUCTION.
14. INSTALL UTILITIES. COMPLETE STORM DRAINAGE SYSTEM.
15. CONSTRUCT PAVEMENT STRUCTURE AND COMPLETE PAVING.
16. CONDUCT FINE GRADING.
17. FINAL FINE GRADING OF SLOPE AND NON-PAVED AREAS, IF REQUIRED.
18. LANDSCAPE NON-PAVED AREAS AND PERIMETER AREAS, IF REQUIRED.
19. CLEAN STORM DRAINAGE PIPE AND STRUCTURES OF DEBRIS AND SEDIMENT.
20. UPON DIRECTION OF THE CITY OF SPRINGFIELD EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED FOLLOWING CLEARING AND GRUBBING.

OPERATION REQUIREMENTS

CLEARING AND GRUBBING OPERATIONS:
1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES WILL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING OPERATIONS.
2. FOLLOWING INSTALLATION OF ALL SEDIMENTATION AND EROSION CONTROL MEASURES, THE CONTRACTOR SHALL NOT PROCEED WITH GRADING, FILLING OR OTHER CONSTRUCTION OPERATIONS UNTIL THE ENGINEER HAS INSPECTED AND APPROVED ALL INSTALLATIONS.
3. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CLEARING AND GRUBBING OPERATIONS SO AS NOT TO DISTURB SEDIMENTATION AND EROSION CONTROL DEVICES.
4. FOLLOWING THE COMPLETION OF CLEARING AND GRUBBING OPERATIONS, ALL AREAS SHALL BE STABILIZED WITH TOPSOIL AND SEEDING OR PROCESSED AGGREGATE STONE AS SOON AS PRACTICAL.

ROUGH GRADING OPERATIONS:
1. DURING THE REMOVAL AND/OR PLACEMENT OF EARTH AS INDICATED ON THE GRADING AND DRAINAGE PLAN, TOPSOIL SHALL BE STRIPPED AND APPROPRIATELY STOCKPILED FOR REUSE, IF REQUIRED.
2. ALL STOCKPILED TOPSOIL THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE SEEDED, MULCHED WITH HAY, AND ENCLOSED BY A SILTATION FENCE.

PLACEMENT OF DRAINAGE STRUCTURES AND UTILITIES OPERATIONS:
1. SILT FENCES SHALL BE INSTALLED AT THE DOWNHILL SIDES OF MUD PUMP DISCHARGES AND UTILITY TRENCH MATERIAL STOCKPILES. HAY BALES MAY BE USED IF SHOWN ON THE EROSION CONTROL PLANS OR IF DIRECTED BY THE PROJECT ENGINEER.

FINAL GRADING AND PAVING OPERATIONS:
1. ALL INLET AND OUTLET PROTECTION SHALL BE PLACED AND MAINTAINED AS SHOWN ON EROSION CONTROL PLANS AND DETAILS, AND AS DESCRIBED IN SPECIFICATIONS AND AS DESCRIBED HEREIN.
2. NO CUT OR FILL SLOPES SHALL EXCEED 3:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED.
3. PAVEMENT SUB-BASE AND BASE COURSES SHALL BE INSTALLED OVER AREAS TO BE PAVED AS SOON AS FINAL SUB-GRADES ARE ESTABLISHED AND UNDERGROUND UTILITIES AND STORM DRAINAGE SYSTEMS HAVE BEEN INSTALLED.
4. AFTER CONSTRUCTION OF PAVEMENT, TOPSOIL, FINAL SEED, MULCH AND LANDSCAPING, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES ONLY AFTER ALL AREAS HAVE BEEN PAVED AND/OR GRASS HAS BEEN WELL ESTABLISHED AND THE SITE HAS BEEN INSPECTED AND APPROVED BY A CITY OF BOSTON LAND USE AGENT.

INSTALLATION OF SEDIMENTATION AND EROSION CONTROL MEASURES

I. SILTATION FENCE:
A. DIG A SIX INCH TRENCH ON THE UPHILL SIDE OF THE DESIGNATED FENCE LINE LOCATION.
B. POSITION THE POST AT THE BACK OF THE TRENCH (DOWNHILL SIDE), AND HAMMER THE POST AT LEAST 1.5 FEET INTO THE GROUND.
C. LAY THE BOTTOM SIX INCHES OF THE FABRIC INTO THE TRENCH TO PREVENT UNDERMINING BY STORM WATER RUN-OFF.
D. BACKFILL THE TRENCH AND COMPACT.

II. SILT SACK INLET PROTECTION
A. REMOVE CATCH BASIN GRATE AND PROPERLY PLACE THE SILT SACK INTO THE FRAME OF THE CATCH BASIN.
B. PLACE GRATE BACK ONTO FRAME AND ENSURE NO PORTIONS OF THE SILT SACK HAVE SAGGED INTO THE CATCH BASIN.
C. ONCE GRATE IS PLACED BACK ONTO FRAME OBSERVE TO SEE IF SILT SACK IS INSTALLED IN A MANNER THAT WILL ALLOW FOR SEDIMENT TO BE FILTERED OUT DURING STORM EVENTS.

III. CONSTRUCTION ENTRANCE/FENCE
A. REMOVE ALL VEGETATION AND OTHER MATERIALS FROM THE FOUNDATION AREA. GRADE AND CROWN FOUNDATION FOR POSITIVE DRAINAGE.
B. PLACE 1-3IN STONE A MINIMUM OF 100FT ALONG THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD. AGGREGATE SHOULD BE PLACED AT LEAST 6" THICK.
C. GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN STONE FILL AND EARTH SURFACE TO TO REDUCE THE MIGRATION OF SOIL PARTICLES FROM THE UNDERLYING SOIL INTO THE STONE AND VICE VERSA.
D. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE.
E. FILTER FABRIC FENCE SHALL BE INSTALLED DOWN GRADIENT FROM THE CONSTRUCTION ENTRANCE IN ORDER TO CONTAIN ANY SEDIMENT-LADEN RUNOFF FROM THE ENTRANCE.

OPERATION AND MAINTENANCE OF SEDIMENTATION AND EROSION CONTROL MEASURES

I. SILTATION FENCE:
A. ALL SILTATION FENCES SHALL BE INSPECTED AS A MINIMUM WEEKLY OR AFTER EACH RAINFALL. ALL DETERIORATED FABRIC AND DAMAGED POSTS SHALL BE REPLACED AND PROPERLY REPOSITIONED IN ACCORDANCE WITH THIS PLAN.
B. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE FENCE WHEN THEY EXCEED A HEIGHT OF ONE FOOT.

II. SILT SACK INLET PROTECTION
A. ALL SILT SACK INLET PROTECTION DEVICES SHALL BE INSPECTED AS A MINIMUM WEEKLY OR AFTER EACH RAINFALL. ALL DETERIORATE SILT SACKS AND SACKS THAT APPEAR TO HAVE AN EXCESS OF SEDIMENT SHALL BE REPLACED AND PROPERLY REPOSITIONED IN ACCORDANCE WITH THIS PLAN.
B. SEDIMENT DEPOSITS SHALL BE REMOVED FROM THE SILT SACKS WHEN THEY EXCEED A COUPLE INCHES OF SEDIMENT WITHIN THE CATCH BASIN.

III. CONSTRUCTION ENTRANCE/FENCE
A. THE CONSTRUCTION ENTRANCE AND FENCE SHALL BE INSPECTED AT A MINIMUM WEEKLY AND AFTER HEAVY RAINS OR HEAVY USE.
B. REMOVE MUD AND HEAVY SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD IMMEDIATELY.
C. THE GRAVEL PAD SHALL BE TOPDRESSED WITH NEW STONE WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE GRAVEL.
D. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
E. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

EROSION AND SEDIMENT CONTROL PLAN

1. CATCH BASINS WILL BE PROTECTED WITH HAY BALE FILTERS, SILT SACKS, SILTATION FENCE, OR OTHER INLET PROTECTION DEVICES PER DETAILS, THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, LATEST EDITION.
3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO CONSTRUCTION WHENEVER POSSIBLE.
4. ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
5. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD, IF NECESSARY OR REQUIRED OR AS DIRECTED BY THE ENGINEER OR BY LOCAL GOVERNING OFFICIALS.
6. SEDIMENT REMOVED FROM EROSION CONTROL STRUCTURES WILL BE DISPOSED IN A MANNER WHICH IS CONSISTENT WITH THE INTENT AND REQUIREMENTS OF THE EROSION CONTROL PLANS, NOTES, AND DETAILS.
7. THE OWNER IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

SEDIMENT AND EROSION CONTROL NOTES

1. THE SEDIMENT AND EROSION CONTROL PLAN IS ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL TREATMENT FOR THIS SITE. SEE SEDIMENT AND EROSION CONTROL DETAILS AND CONSTRUCTION SEQUENCE. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

2. THE OWNER IS RESPONSIBLE FOR IMPLEMENTING THIS SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE PROPER INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED WITH CONSTRUCTION ON THE SITE OF THE REQUIREMENTS AND OBJECTIVES OF THIS PLAN, INFORMING THE GOVERNING AUTHORITY OR INLAND WETLANDS AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE SEDIMENT AND EROSION CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.

3. AN EROSION CONTROL BOND MAY BE REQUIRED TO BE POSTED WITH THE CITY OF BOSTON TO ENSURE IMPLEMENTATION OF THE EROSION CONTROL MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POSTING OF THIS BOND AND FOR INQUIRIES TO THE CITY OF BOSTON FOR INFORMATION ON THE METHOD, TYPE AND AMOUNT OF THE BOND POSTING UNLESS OTHERWISE DIRECTED BY THE OWNER.

4. VISUAL SITE INSPECTIONS SHALL BE CONDUCTED WEEKLY, AND AFTER EACH MEASURABLE PRECIPITATION EVENT OF 0.10 INCHES OR GREATER BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT THE EROSION AND SEDIMENT CONTROL (E&S) BMPS ARE OPERATIONAL AND EFFECTIVE IN PREVENTING POLLUTION. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT, AND INCLUDE:
A) A SUMMARY OF THE SITE CONDITIONS, E&S BMPS, AND COMPLIANCE; AND
B) THE DATE, TIME, AND THE NAME OF THE PERSON CONDUCTING THE INSPECTION
C) RECOMMENDATIONS TO MAKE REPAIRS WHEN NECESSARY.

5. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, PREPARED BY MADEP, LATEST EDITION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE CITY OF BOSTON LAND USE AGENT. THE CONTRACTOR SHALL KEEP A COPY OF THE GUIDELINES ON-SITE FOR REFERENCE DURING CONSTRUCTION.

6. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, CIVIL ENGINEER, CITY OF BOSTON LAND USE AGENT, OR GOVERNING AGENCIES. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED.

7. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, RIP RAP ETC.) ON-SITE FOR MAINTENANCE AND EMERGENCY REPAIRS.

8. INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO CLEARING OR CONSTRUCTION. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SILT FENCE UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE FENCE.

9. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE HAY ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.

10. INSTALL SILT FENCE ACCORDING TO MANUFACTURER'S INSTRUCTION; PARTICULARLY, BURY LOWER EDGE OF FABRIC INTO GROUND. SILT FENCE SHALL BE MIRAFI ENVIROFENCE, AMOCO SILT STOP OR EQUIVALENT APPROVED BY THE CIVIL ENGINEER. FILTER FABRIC USED SHALL BE MIRAFI 100X OR EQUIVALENT. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

11. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. OTHER DUST CONTROL MEASURES TO BE USED AS NECESSARY INCLUDE WATERING DOWN DISTURBED AREAS, USING CALCIUM CHLORIDE, AND COVERING LOADS ON DUMP TRUCKS.

12. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

13. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG OR EQUIVALENT SEDIMENT REMOVAL FACILITY, OVER UNDISTURBED VEGETATED AREAS.

14. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF UTILITY AND STORM PIPE TRENCHES SO AS TO ALLOW THE TRENCH TO INTERCEPT ALL SILT LADEN RUNOFF.

15. CONTRACTOR SHALL ONLY EXCAVATE AS MUCH UTILITY AND STORM PIPE TRENCH WORK AS CAN BE COMPLETED, BACKFILLED AND STABILIZED IN ONE DAY SO AS TO LIMIT THE AMOUNT OF OPEN, DISTURBED TRENCHING.

16. ANY STOCKPILES OF STRIPPED MATERIALS ARE TO BE PERIODICALLY SPRAYED WITH WATER OR A CRUSTING AGENT TO STABILIZE POTENTIALLY WIND-BLOWN MATERIAL. HAUL ROADS BOTH INTO AND AROUND THE SITE ARE TO BE SPRAYED AS NEEDED TO SUPPRESS DUST. TRUCKS HAULING IMPORT FILL MATERIAL ARE TO BE TARPED TO AID IN THE CONTROL OF AIRBORNE DUST. DURING HIGH WIND EVENTS (20 TO 30 MPH SUSTAINED) CONSTRUCTION ACTIVITY SHALL BE LIMITED OR CEASED IF DUST CANNOT BE CONTROLLED BY WETTING.

17. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOT AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS WHEN AUTHORIZED BY LOCAL GOVERNING AUTHORITY. FILE NOT (NOTICE OF TERMINATION) WITH GOVERNING AUTHORITY RESPONSIBLE FOR REGULATING STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES PER NPDES.

PHASE I CONSTRUCTION SEQUENCE

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT.
2. INSTALL SILT FENCE(S) ON THE SITE (CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL SILT FENCE PROTECTION).
3. INSTALL SILT SACK INLET PROTECTIONS.
4. INSTALL TREE PROTECTIONS.
5. PREPARE TEMPORARY PARKING AND STORAGE AREAS.
6. HALT ALL ACTIVITIES AND CONTACT THE ENGINEER OF RECORD TO PERFORM INSPECTION AND CERTIFICATION OF BEST MANAGEMENT PRACTICES (BMP'S). GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT THE STORM WATER PRE-CONSTRUCTION MEETING WITH THE ENGINEER, AGENCIES AND GROUND-DISTURBING CONTRACTOR BEFORE PROCEEDING WITH CONSTRUCTION.
7. REMOVE ALL EXISTING DRAINAGE STRUCTURES, PIPING AND INFILTRATION SYSTEMS PROPOSED TO BE REMOVED.
8. CUT AND CAP ALL DRAINAGE PIPES AS DIRECTED ON PLAN HEREON.
9. BEGIN CLEARING AND GRUBBING THE SITE.
10. BEGIN GRADING THE SITE.

PHASE II CONSTRUCTION SEQUENCE

1. TEMPORARILY SEED, THROUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE.
2. INSTALL CURBS.
3. INSTALL INLET PROTECTION AT ALL PROPOSED STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED. PROTECT AND MAINTAIN ALL EXISTING INLET PROTECTION THAT WERE INSTALLED DURING PHASE I.
4. INSTALL UTILITIES AS SHOWN ON SHEET 2.21.
5. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
6. PREPARE SITE FOR PAVING.
7. PAVE AREA SHOWN ON PHASE II PLAN.
8. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
9. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS INCLUDING OUT LOTS.
10. CONSTRUCT SIDEWALK
11. OBTAIN CONCURRENCE WITH THE CONSTRUCTION MANAGER THAT THE SITE HAS BEE FULLY STABILIZED THEN:
    11.1. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES,
    11.2. STABLIZE ANY AREAS DISTURBED BY THE REMOVAL OF BMP'S, AND
    11.3. ASK THE CM TO CONTACT THE ENGINEER TO COMPLETE THE ENGINEERS ON-SITE INSPECTIONS AND REPORT.
12. CONTINUE DAILY INSPECTION REPORTS UNTIL THE FINAL DAILY INSPECTION REPORT IS SIGNED BY THE CONSTRUCTION MANAGER AND SUBMITTED.

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
1	05/10/21	BWSC Response to Comments

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	EJP
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	NTS

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS	2.41

May 11, 2021 - 11:58am Sam
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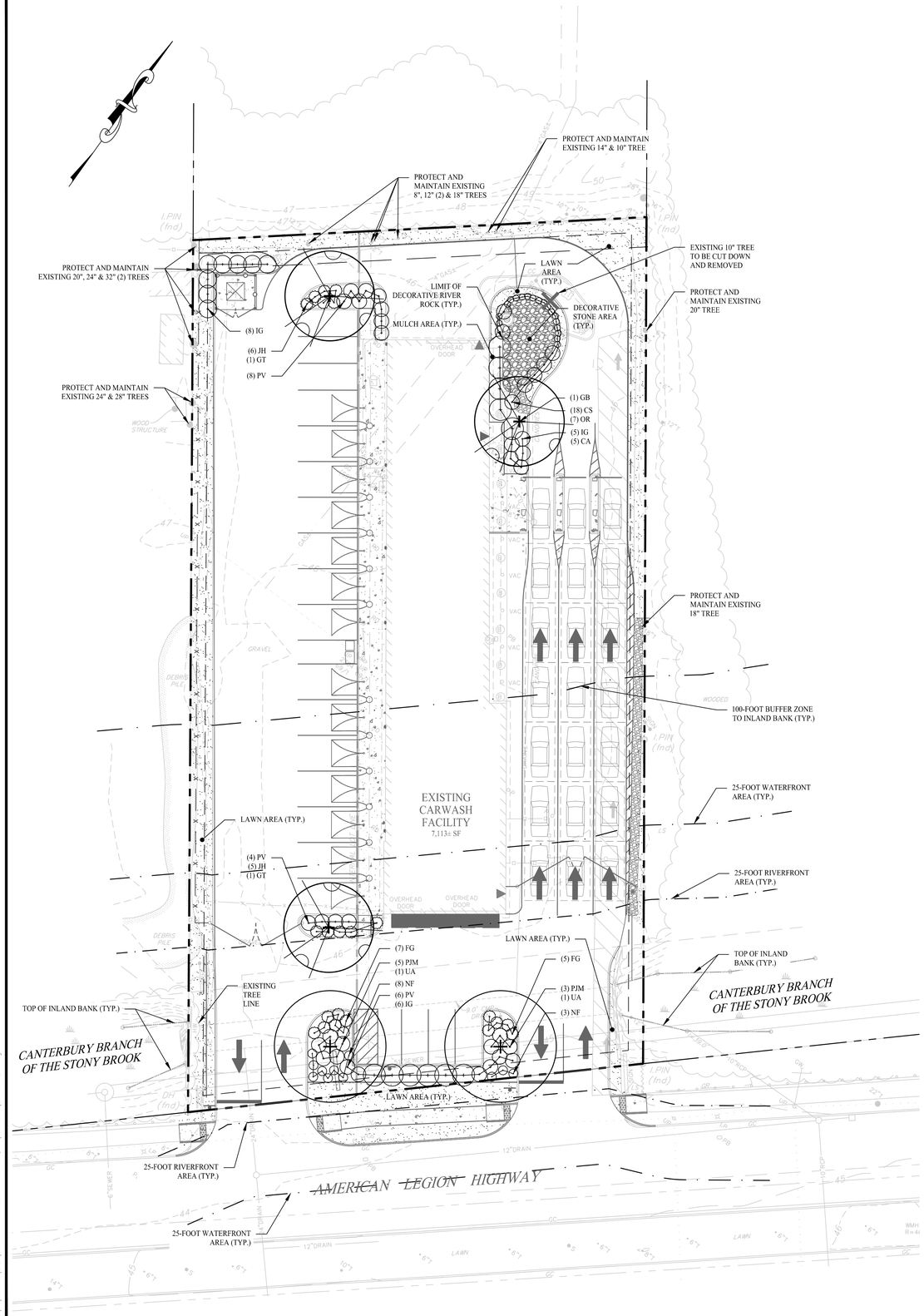

Jun 08, 2021 - 12:43pm Sam
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PROPOSED PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	COMMENTS
TREES						
GT	2	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS COMMON HONEYLOCUST	B&B	2" - 2 1/2" CAL	FULL, EXTRA HEAVY
UA	2	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	B&B	2" - 2 1/2" CAL	FULL, EXTRA HEAVY
UNDERSTORY TREES						
GB	1	GINKGO BILOBA 'FASTIGATA'	MAIDENHAIR TREE	B&B	2" - 2 1/2" CAL	FULL, EXTRA HEAVY
UPLAND SHRUBS / GRASSES						
CA	5	CLETHRA ALNIFOLIA 'RUBY SPICE'	RUBY SPICE SUMMERSWEET	CONT	24"-36" HT	FULL, EXTRA HEAVY
FG	13	FESTUCA GLAUCA 'ELIJAH BLUE'	ELIJAH BLUE FESCUE GRASS	CONT	#1 CONT	FULL, EXTRA HEAVY
IG	19	ILEX GLABRA	INKBERRY	CONT	24"-36" HT	FULL, EXTRA HEAVY
PJM	8	RHODODENDRON PJM	PJM RHODODENDRON	CONT	24"-36" HT	FULL, EXTRA HEAVY
PV	18	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCHGRASS	CONT	24"-36" HT	FULL, EXTRA HEAVY
GROUNDCOVER						
JH	11	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	CONT	#1 CONT	FULL, EXTRA HEAVY
PERENNIALS / SEDGES/ FERNS						
CS	18	CAREX STRICTA	TUSSOCK SEDGE	CONT	#1 CONT	FULL, EXTRA HEAVY
NF	11	NEPETA FAASSENII 'WALKER'S LOW'	WALKER'S LOW CATMINT	CONT	#1 CONT	FULL, EXTRA HEAVY
OR	7	OSMUNDA REGALIS	ROYAL FERN	CONT	#1 CONT	FULL, EXTRA HEAVY
SEED MIX						
LAWN: PENNINGTON SMART SEED SUN AND SHADE APPLICATION RATE PER MFR. RECOMMENDATIONS						

GENERAL NOTES

1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.

PLANTING SOIL NOTES

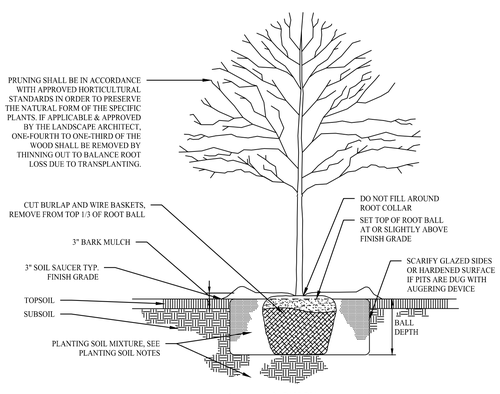
1. ALL PLANTING MIXES SHALL BE PREPARED PRIOR TO DELIVERY TO SITE
2. PLANTING MIX FOR TREES AND SHRUBS SHALL BE AS FOLLOWS
   3 PARTS SCREED TOPSOIL
   1 PART CLEAN WASHED COARSE SAND
   1 PART PEAT HUMUS
   5 LBS. SUPER PHOSPHATE PER CUBIC YARD OF MIX
3. MYCORRHIZAL INNCOULANT TO BE MYCOR TREE SAVER TRANSPLANT BY PLANT HEALTH CARE, INC. (1-800-421-9051) OR APPROVED EQUAL.
4. TERRASORB AVAILABLE FROM PLANT HEALTH CARE, INC. OR APPROVED EQUAL
5. SUBMIT CERTIFICATION OF PLANTING MIX FOR TREES AND SHRUBS FROM SOIL DISTRIBUTOR.
6. TOPSOIL MIX SHALL INCLUDE:
   3 PARTS SCREENED TOPSOIL
   1 PART SAND
   1 PART HUMUS
   5 LBS. SUPER PHOSPHATE PER CU. YD. OF MIX
7. TOPSOIL:
   A. PROVIDE A NATURAL, FERTILE, FRIABLE, NATURAL LOAM SURFACE SOIL CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH, OF UNIFORM COMPOSITION THROUGHOUT AND WITHOUT ADMIXTURES OF SUBSOIL, AND FREE OF STONES, LUMPS, PLANTS, ROOTS, STICKS OR OTHER EXTRANEOUS MATTER.
   B. TOPSOIL SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 20% ORGANIC MATTER AS DETERMINED BY THE WET COMBUSTION METHOD.
   C. MECHANICAL ANALYSIS

SCREEN SIZE	% BY WEIGHT PASSING
1"	100
V4"	97 - 100
NO. 200	20 - 65

   D. CONTRACTORS SHALL BE RESPONSIBLE FOR ALL TESTING AND ANALYSIS OF EXISTING AND IMPORTED SOILS. FURNISH A SOIL ANALYSIS MADE BY A QUALIFIED INDEPENDENT SOIL - TESTING AGENCY STATING PERCENTAGES OF ORGANIC MATTER, INORGANIC MATTER (SILT, CLAY, AND SAND), DELETERIOUS MATERIAL, PH, AND MINERAL AND PLANT - NUTRIENT CONTENT OF TOPSOIL.
   E. REPORT SUITABILITY OF TOPSOIL FOR LAWN AND SHRUB PLANTING GROWTH. RECOMMEND QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENT AND ANY LIMESTONE, ALUMINUM SULFATE, OR OTHER SOIL AMENDMENTS TO BE ADDED TO PRODUCE A SATISFACTORY TOPSOIL.

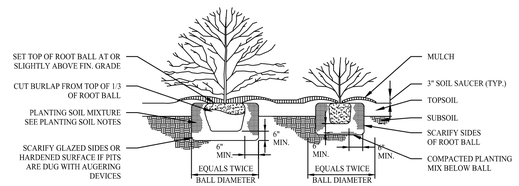
PLANTING NOTES

1. BE AWARE OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OR PLANTING OPERATIONS. USE CARE TO PROTECT EXISTING UTILITIES FROM DAMAGE, CONTACT "CALL BEFORE YOU DIG" PRIOR TO EXCAVATION.
2. ALL PLANTINGS ARE TO BE INSTALLED BY A QUALIFIED LANDSCAPE CONTRACTOR.
3. THE CONTRACTOR SHALL BE REQUIRED TO CARRY WORKMEN'S COMPENSATION INSURANCE AND COMPREHENSIVE GENERAL LIABILITY INSURANCE. CERTIFICATES WILL BE REQUIRED PRIOR TO SIGNING CONTRACTS.
4. CONTRACTOR IS RESPONSIBLE FOR JOBSITE SAFETY. CONTRACTOR SHALL MAINTAIN A SAFE JOBSITE AT ALL TIMES.
5. CONTRACTOR SHALL BE FAMILIAR WITH THE SITE VERIFY ALL DIMENSIONS, GRADES AND EXISTING CONDITIONS, REPORT ANY DISCREPANCIES TO LANDSCAPE DESIGNER.
6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED FOR COMPLETING WORK.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL EXCAVATED SOIL, BRUSH AND DEBRIS OFF-SITE IN A SAFE AND LEGAL MANNER.
8. NOTIFY OWNER OR LANDSCAPE DESIGNER 72 HOURS MINIMUM IN ADVANCE OF STARTING PLANTING OPERATIONS. RECEIVE APPROVAL FOR LAYOUT OF ALL BED LINES AND MATERIAL LOCATIONS PRIOR TO INSTALLATION.
9. PROTECT EXISTING VEGETATION TO REMAIN FROM DAMAGE DURING CONSTRUCTION. IT IS THE INTENT OF THIS CONTRACT TO AVOID ANY DISTURBANCE TO EXISTING VEGETATION ON THE SITE OTHER THAN THOSE SPECIFICALLY DESIGNATED FOR REMOVAL. ADJUSTMENTS SHALL BE MADE IN THE FIELD AT THE DIRECTION OF THE LANDSCAPE DESIGNER.
10. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL PLANTING, SEEDING AND TREE WORK WITH OTHER TRADES. RESPECT OTHER TRADES WORK AT ALL TIMES.
11. CONTRACTOR IS TO EXERCISE EXTREME CARE DURING THE COURSE OF DEMOLITION AND REMOVALS ANY DAMAGE TO EXISTING FACILITIES, UTILITIES OR TREES TO REMAIN SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE IN KIND.
12. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL AREAS DAMAGED TO PRE-EXISTING CONDITIONS AS A RESULT OF PLANTING OPERATIONS TO OWNERS AND/OR LANDSCAPE DESIGNERS APPROVAL.
13. VEGETATION TO BE REMOVED, NOT INDICATED ON PLAN, SHALL BE TAGGED IN FIELD BY LANDSCAPE DESIGNER.
14. THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO REJECT INFERIOR PLANT MATERIALS AND SUBSTITUTIONS. THE LANDSCAPE DESIGNER IS WILLING TO MAKE TWO TRIPS TO SUPPLIERS TO TAG, REVIEW AND APPROVE MATERIALS. PREVIOUSLY UNAPPROVED MATERIALS MAY BE REJECTED AT THE SITE. MINIMALLY, ALL MATERIALS WILL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1 - 2004) OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
15. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN GOOD, HEALTHY AND FLOURISHING CONDITION FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE. THE CONTRACTOR SHALL REPLACE, AS SOON AS WEATHER AND SEASONAL CONDITIONS PERMIT, ALL DEAD PLANTS AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE DESIGNER DURING, AND AT THE END OF THE GUARANTEE PERIOD. WARRANTY REPLACEMENT WILL BE PROVIDED AT NO COST TO THE OWNER AND INCLUDE MATERIALS AND LABOR. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE INCURRED DURING REPLACEMENT OF WARRANTY MATERIALS.
16. WHEN THERE IS A DISCREPANCY BETWEEN PLANT QUANTITIES SHOWN ON THE PLANT LIST & THE PLAN, USE THE QUANTITIES FROM THE PLAN.
17. PERENNIALS, GROUNDCOVERS & GRASSES TO BE FIELD LOCATED BY LANDSCAPE DESIGNER. COORDINATE TO NOTIFY LANDSCAPE DESIGNER AT LEAST 72 HOURS IN ADVANCE OF EXPECTED INSTALLATION DATE. ON THAT DATE ALL BEDS SHALL BE PREPARED & ALL PLANT MATERIAL SHALL BE ON SITE.
18. PROVIDE A MINIMUM 6" TOPSOIL FOR ALL DISTURBED AREAS. SUBMIT SAMPLE OF TOPSOIL AND SOIL TEST RESULTS FOR LANDSCAPE DESIGNER APPROVAL PRIOR TO DELIVERING TO SITE.
19. MULCH ALL BEDS SHOWN AS CONTINUOUS WITH A 3" MINIMUM OF DOUBLE SHREDDED CEDAR BARK MULCH. SAMPLE TO BE SUBMITTED TO LANDSCAPE DESIGNER FOR APPROVAL.
20. ALL PLANT MATERIALS TO BE SOURCED FROM LOCALLY GROWN GROWERS.
21. TRANSPLANTED MATERIALS TO BE WATERED, HEELED IN AND TENDED BY CONTRACTOR UNTIL FINAL PLACEMENT.



TREE PLANTING

SCALE: NTS



NOTE
1. IN AREAS OF MASS PLANTING, CONTINUOUSLY EXCAVATE AND MULCH ENTIRE BED.

SHRUB / GROUNDCOVER PLANTING

SCALE: NTS

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- TOP OF INLAND BANK
- 25-FOOT RIVERFRONT AREA
- 25-FOOT WATERFRONT AREA
- 100-FOOT BUFFER ZONE TO INLAND BANK
- EXISTING TREE LINE
- OVERSTORY TREE
- UNDERSTORY TREE
- SHRUBS & GROUNDCOVER
- LAWN
- 1 - 3" DECORATIVE RIVER ROCK
- EXISTING TREE TO BE CUT DOWN AND REMOVED

OWNER INFORMATION

SITE ADDRESS:	565 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155
SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
3	06/08/21	Boston Con. Comm. Initial Comments
2	05/10/21	BWSC Response to Comments
1	03/15/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	MFB
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

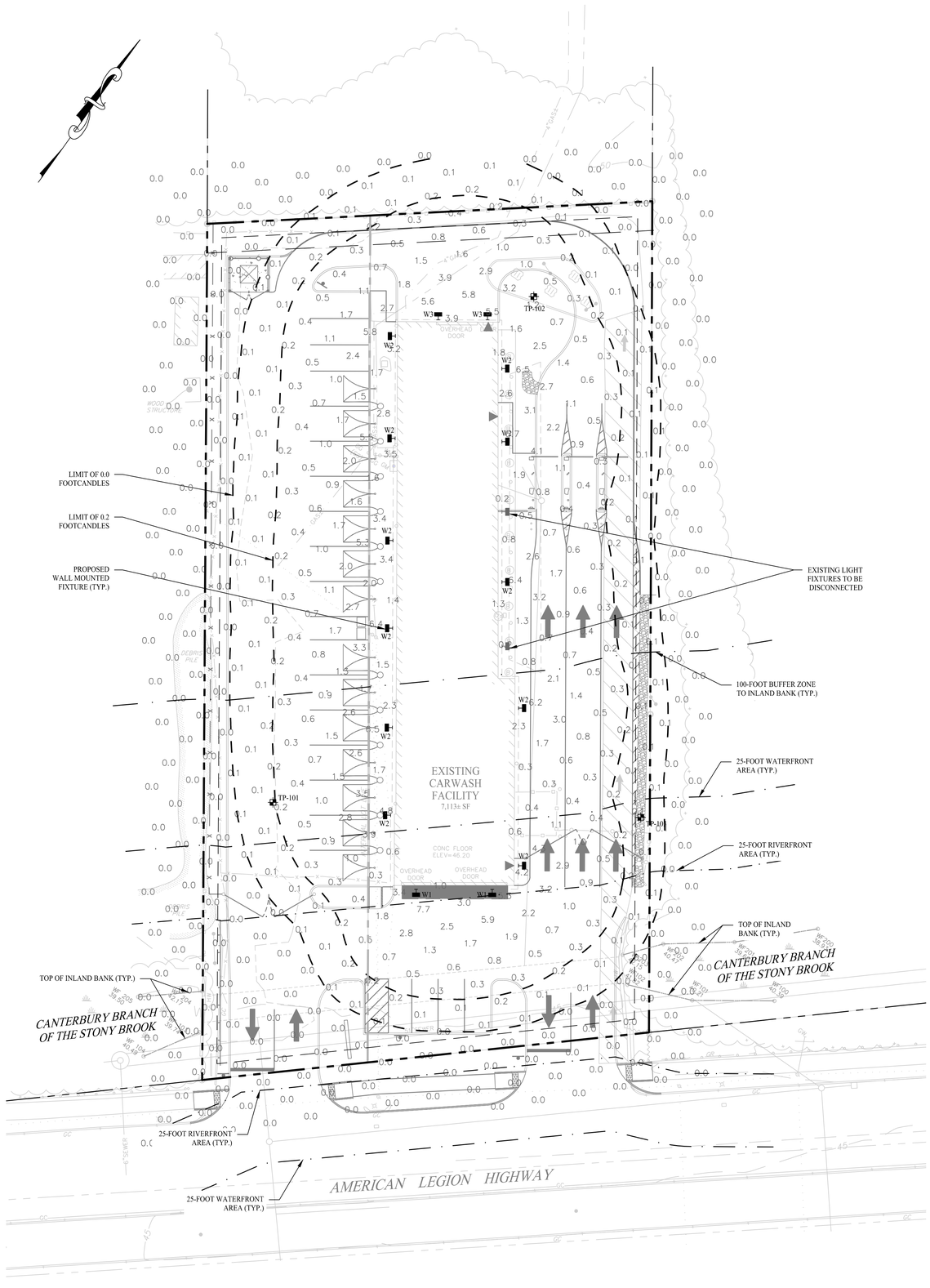
COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
LANDSCAPING PLAN	2.61



LIGHTING NOTES

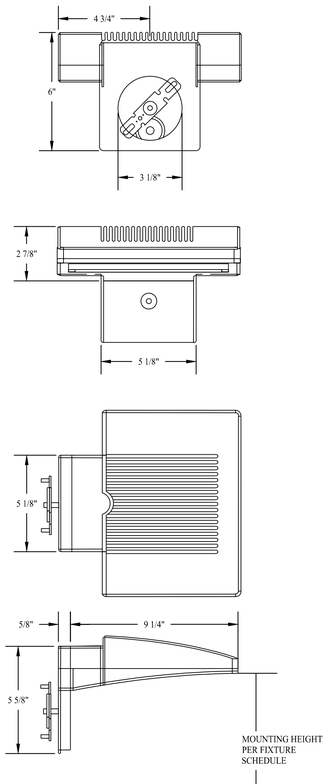
1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
2. CONTRACTOR TO PERFORM ALL SITE WORK PROPOSED HEREON IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITS AND CONDITIONS OF APPROVALS ISSUED FOR THIS PROJECT.
3. EXISTING SITE CONDITIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "EXISTING CONDITIONS PLAN IN BOSTON, MA", PREPARED FOR SCRUB-A-DUB AUTO WASH, SCALE 1"=20', DATED JULY 15, 2020, PREPARED BY PRECISION LAND SURVEYING, INC.
4. ALL LIGHT FIXTURES TO BE MOUNTED AND INSTALLED PER MANUFACTURER SPECIFICATIONS.
5. ALL WORK AND RELATED MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
6. PROPOSED WALL MOUNTED FIXTURES ON THE NORTH AND EAST FACADES OF THE BUILDING ARE TO REPLACE EXISTING FIXTURES. EXISTING FIXTURES NOT PROPOSED FOR REPLACEMENT SHALL BE DISCONNECTED.

LEGEND

0.1 0.1 0.1 / 0.1 0.1 0.0 / 0.1 0.0 0.0	PROPOSED FOOTCANDLES
	PROPOSED WALL MOUNTED FIXTURE
	LINE OF 0.2 & 0.0 FOOTCANDLES
	EXISTING WALL MOUNTED FIXTURE TO BE DISCONNECTED

FIXTURE SCHEDULE

QTY	CALLOUT	SYMBOL	FIXTURE DESCRIPTION	MODEL	NOTES	LUMENS
2	W1		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 11' MOUNTING HEIGHT	3529
11	W2		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 12' 6" MOUNTING HEIGHT	3529
2	W3		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 13' 2" MOUNTING HEIGHT	3529



PROPOSED WALL MOUNTED LIGHT FIXTURE - W1, W2 & W3

RAB LIGHTING LED WALL PACK, MODEL WPLED26N, POWDER COATED ALUMINUM, BRONZE
SCALE: NTS

OWNER INFORMATION

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PROPERTY OWNER:	565 REALTY INC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
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SITE ADDRESS:	569 AMERICAN LEGION HWY ROSLINDALE, MA 02131
PROPERTY OWNER:	R&D ROSLINDALE LLC DANIEL PAISNER / PRINCIPAL
OWNER ADDRESS:	172 WORCESTER STREET NATICK, MA 01760
OWNER PHONE:	(508) 650-1155

BWSC INFORMATION

BWSC ACCOUNT #: 1302693
BWSC SITE PLAN #: 20386

Rev. #:	Date	Description
2	06/08/21	Boston Con. Comm. Initial Comments
1	05/10/21	BWSC Response to Comments

Graphic Scale: 20 0 20 40

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	MFB
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	1" = 20'

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — No. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title: LIGHTING PLAN

Sheet #: 2.71

Jun 09, 2021 - 12:44pm Sam
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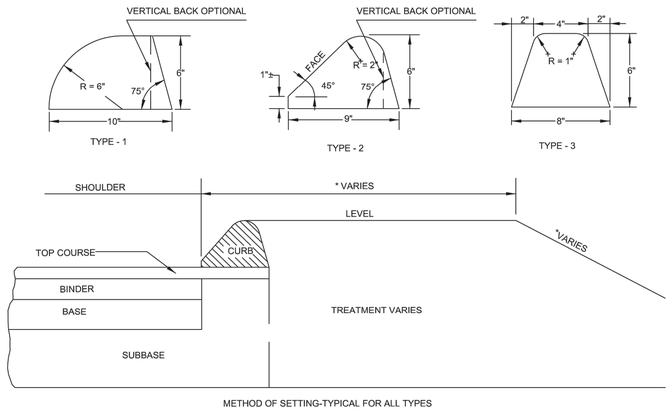
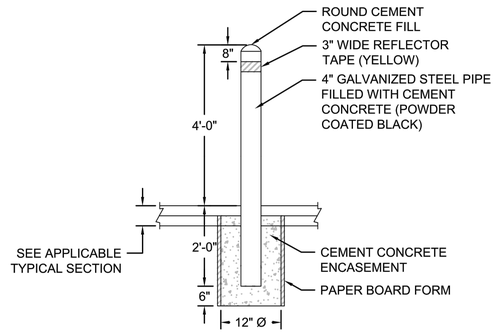


* SEE TYPICAL SECTIONS FOR PROJECT.

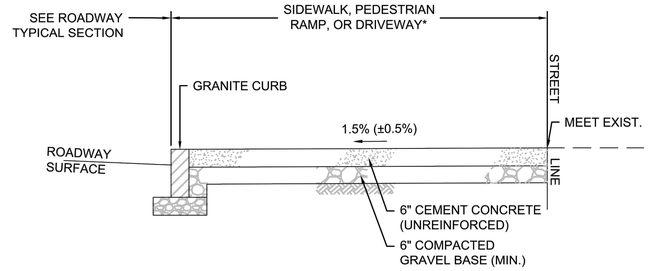
BITUMINOUS LIP CURB DETAIL

SCALE: NTS DETAIL PER MASSDOT



STEEL BOLLARD DETAIL

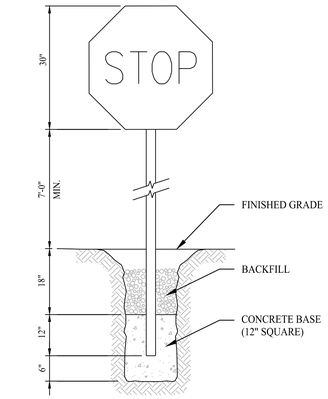
SCALE: NTS DETAIL PER BOSTON ENGINEERING DIVISION



*DETAIL DEPICTS SIDEWALK CONDITION ALTHOUGH THE SAME CROSS SECTION SHALL BE USED FOR CURB RAMPS OR DRIVEWAYS.

CONCRETE SIDEWALK DETAIL

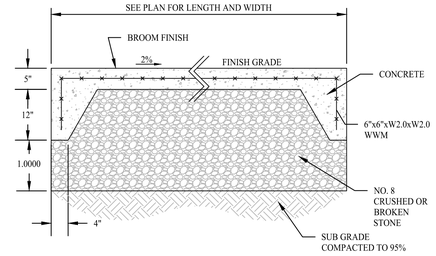
SCALE: NTS DETAIL PER BOSTON ENGINEERING DIVISION



NOTE:
CONSTRUCT SIGN IN ACCORDANCE WITH DOT SPECIFICATIONS.

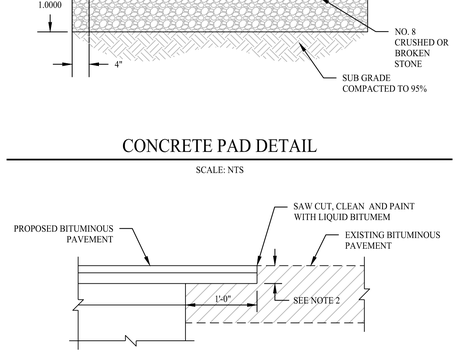
STOP SIGN DETAIL

SCALE: NTS



CONCRETE PAD DETAIL

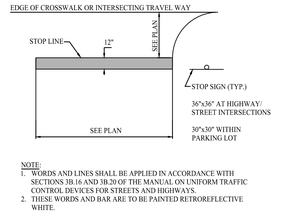
SCALE: NTS



NOTES
1. OVERLAP BOTH PROPOSED BITUMINOUS CONCRETE COURSES (CLASS 1 AND CLASS 2) OVER EXISTING SUBBASE.
2. MINIMUM THICKNESS TO BE SAME AS PROPOSED BITUMINOUS OR MATCH THICKNESS OF EXISTING PAVEMENT, WHICH EVER IS GREATER.

PAVEMENT MATCH TREATMENT DETAIL

SCALE: NTS



NOTE:
1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 3B.16 AND 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS AND BAR ARE TO BE PAINTED RETROREFLECTIVE WHITE.

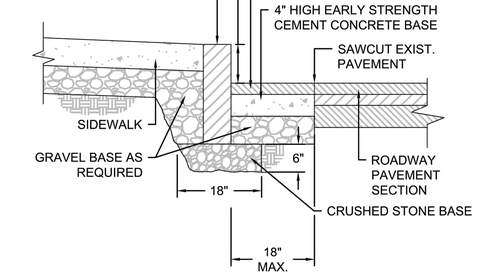
STOP SIGNAGE AND MARKING

SCALE: NTS

NOTES:
LOCATE AT EDGE OF PARKING SPACE UNLESS ACCOMPANIED BY "VAN" LETTERING

ACCESSIBLE PARKING SYMBOL

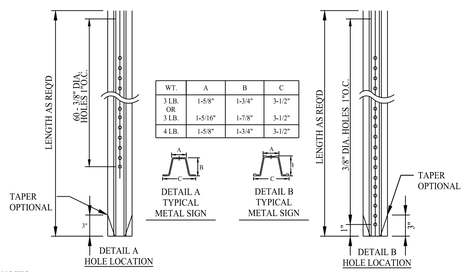
SCALE: NTS



*6" REVEAL TYPICAL. REVEAL MAY VARY FROM 3" TO 9" WITH PWD APPROVAL.

GRANITE CURB DETAIL

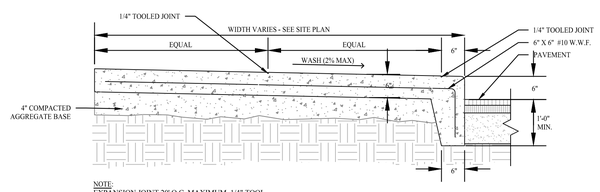
SCALE: NTS DETAIL PER BOSTON ENGINEERING DIVISION



NOTES
1. STEEL FOR POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM AS 499-81 GRADE 60 AND TO THE CHEMICAL REQUIREMENTS OF ASTM AI-76 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT OF 91 LBS OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION ALL STEEL POSTS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A-123.
3. SIGN MOUNTING HEIGHT TO BE APPROVED BY THE ENGINEER.

TYPICAL METAL SIGN POSTS

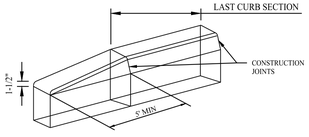
SCALE: NTS



NOTE:
EXPANSION JOINT 20' O.C. MAXIMUM. 1/4" TOOL JOINT 4' O.C. OR AS DIRECTED. CONCRETE TO BE 3000 P.S.I.

INTEGRAL CURB

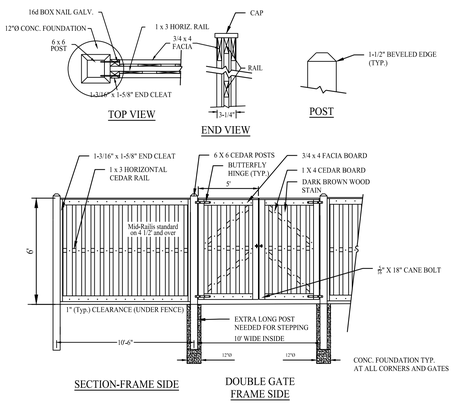
SCALE: NTS



NOTES
1. CONCRETE SHALL BE 3500 PSI AIR ENTRAINED AT A 4" SLUMP.
2. TRANSVERSE CONTROL JOINTS 1/4" WIDE BY 3/4" DEEP, TO BE FORMED EVERY 4'.
3. EXPANSION JOINTS WITH 1/2" PREMOLDED MATERIALS SHALL BE PLACED EVERY 28' TO FULL DEPTH.
4. WEATHER PROTECTION AND CURING COMPOUNDS SHALL BE USED IN ACCORDANCE WITH CTDOT SPECIFICATIONS.
5. ALL EDGES SHALL BE ROUNDED WITH A 1/4" EDGE TOOL

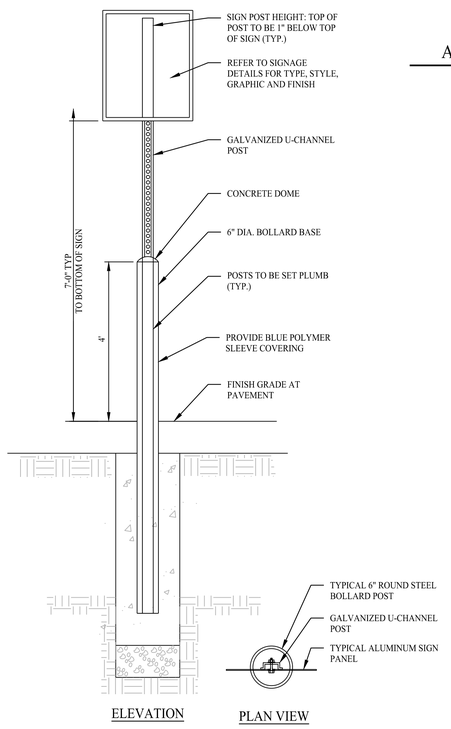
CURB TRANSITION DETAIL

SCALE: NTS



DUMPSTER PAD ENCLOSURE - BOARD ON BOARD FENCE

SCALE: NTS



SIGN MOUNTING FOR ACCESSIBLE SIGN

SCALE: NTS

Rev. #:	Date	Description

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	NTS

COMMONWEALTH OF MASSACHUSETTS — KEVIN M. SOLLI — CIVIL — NO. 51952 — REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

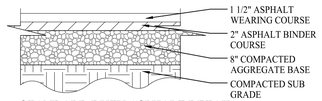
Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

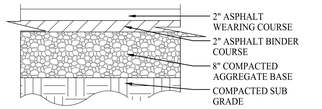
Sheet Title:	Sheet #:
CONSTRUCTION DETAILS	3.01

Mar 25, 2021 - 12:42pm Corey
X:\SE Files\Project Data\2020\2001001 - ScrubaDub - Roslindale, MA\Cadd Data\2001001-3.01.dwg



STANDARD DUTY ASPHALT DETAIL

SCALE: NOT TO SCALE



HEAVY DUTY ASPHALT DETAIL

SCALE: NOT TO SCALE

STANDARD DUTY CONCRETE DETAIL

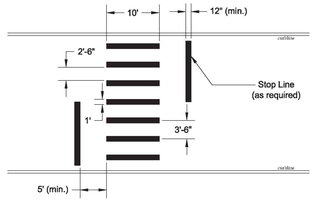
SCALE: NOT TO SCALE

HEAVY DUTY CONCRETE DETAIL

SCALE: NOT TO SCALE

PAVEMENT DETAILS

SCALE: NTS



Not to Conventional Scale

Notes:

1.) All crosswalks shall be installed to the width of ten feet (10'), unless indicated otherwise in writing.

2.) All twelve inch (12") reflectorized pavement marking lines shall be applied in one application. No combinations (i.e. two 6" lines) will be accepted.

3.) Layout of crosswalk installation shall be approved by a Boston Transportation Department Engineer prior to installation.

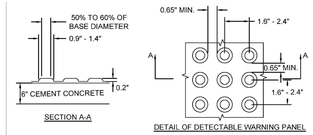
4.) All crosswalks installed shall conform to all relevant provisions of the Massachusetts Highway Department "Standard Specifications for Highway and Bridges" dated 1995, Section 860 regarding Reflectorized Pavement Markings.

5.) Crosswalks with 12" Longitudinal Lines shall be installed at the direction of a Boston Transportation Department Engineer only.

CROSSWALK DETAIL

SCALE: NTS

DETAIL PROVIDED BY BOSTON TRANSPORTATION DEPT.



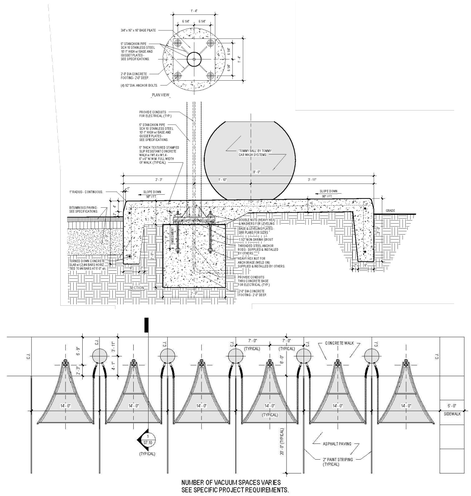
NOTES:

1. DETECTABLE WARNING PANELS SHALL BE PERMANENTLY APPLIED TO THE CURB RAMP.
2. DETECTABLE WARNING PANELS SHALL BE PALE YELLOW IN COLOR, CONFORMING TO FEDERAL NO. 23594, UNLESS OTHERWISE SPECIFIED BY PWD.
3. DETECTABLE WARNING PANELS SHALL BE COMPOSITE.
4. DETECTABLE WARNING PANELS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

DETECTABLE WARNING PANEL DETAIL

SCALE: NTS

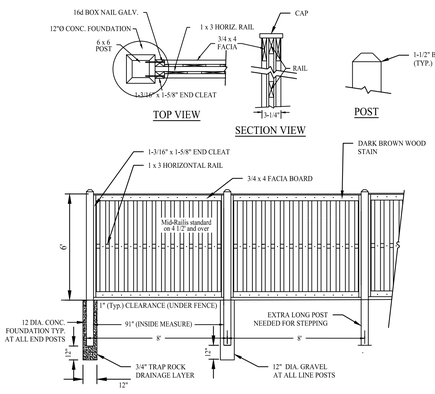
DETAIL PROVIDED BY BOSTON ENGINEERING DIVISION



VACUUM SYSTEM DETAIL

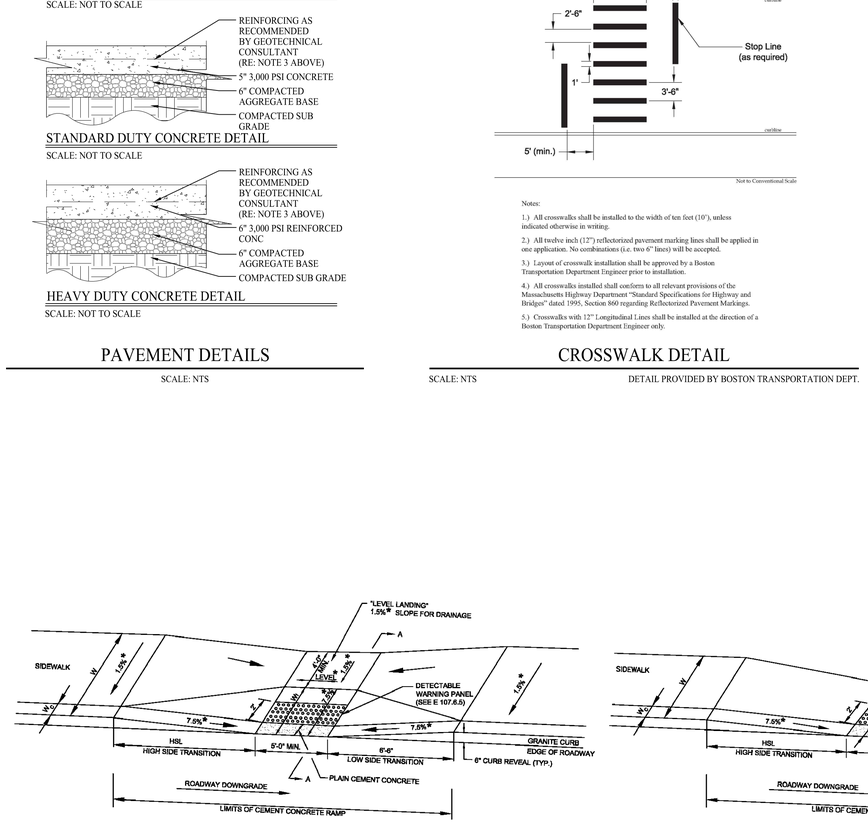
SCALE: NTS

DETAIL PROVIDED BY TOMMY VAC CAR WASH SYSTEMS



BOARD ON BOARD SCREEN FENCE

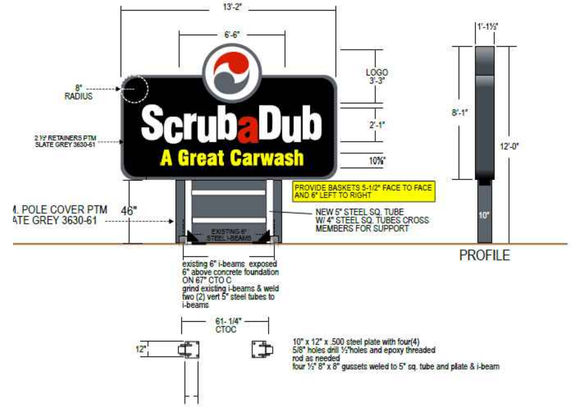
SCALE: NTS



ADA ACCESSIBLE PARKING RAMPS

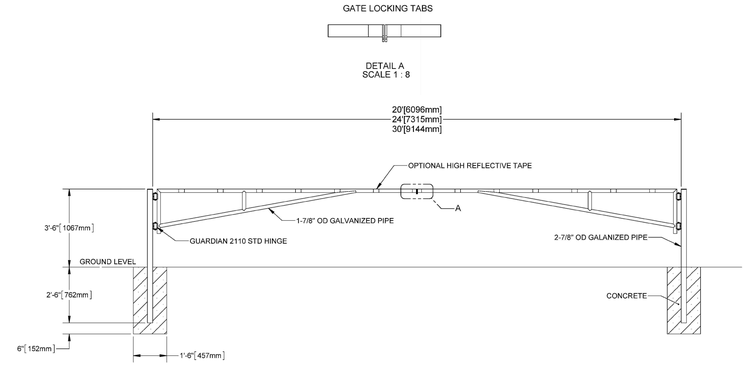
SCALE: NTS

DETAILS PROVIDED BY MASSDOT



PROPOSED PYLON SIGN

SCALE: NTS



SWING BARRIER GATE DETAIL (OR APPROVED EQUAL)

SCALE: NTS

DETAILS PROVIDED BY FAST ACCESS SECURITY CORP.

Rev. #:	Date	Description

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Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	NTS

COMMONWEALTH OF MASSACHUSETTS KEVIN M. SOLLI CIVIL NO. 51952 REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
CONSTRUCTION DETAILS	3.02

Mar 25, 2021 - 12:42pm Corey
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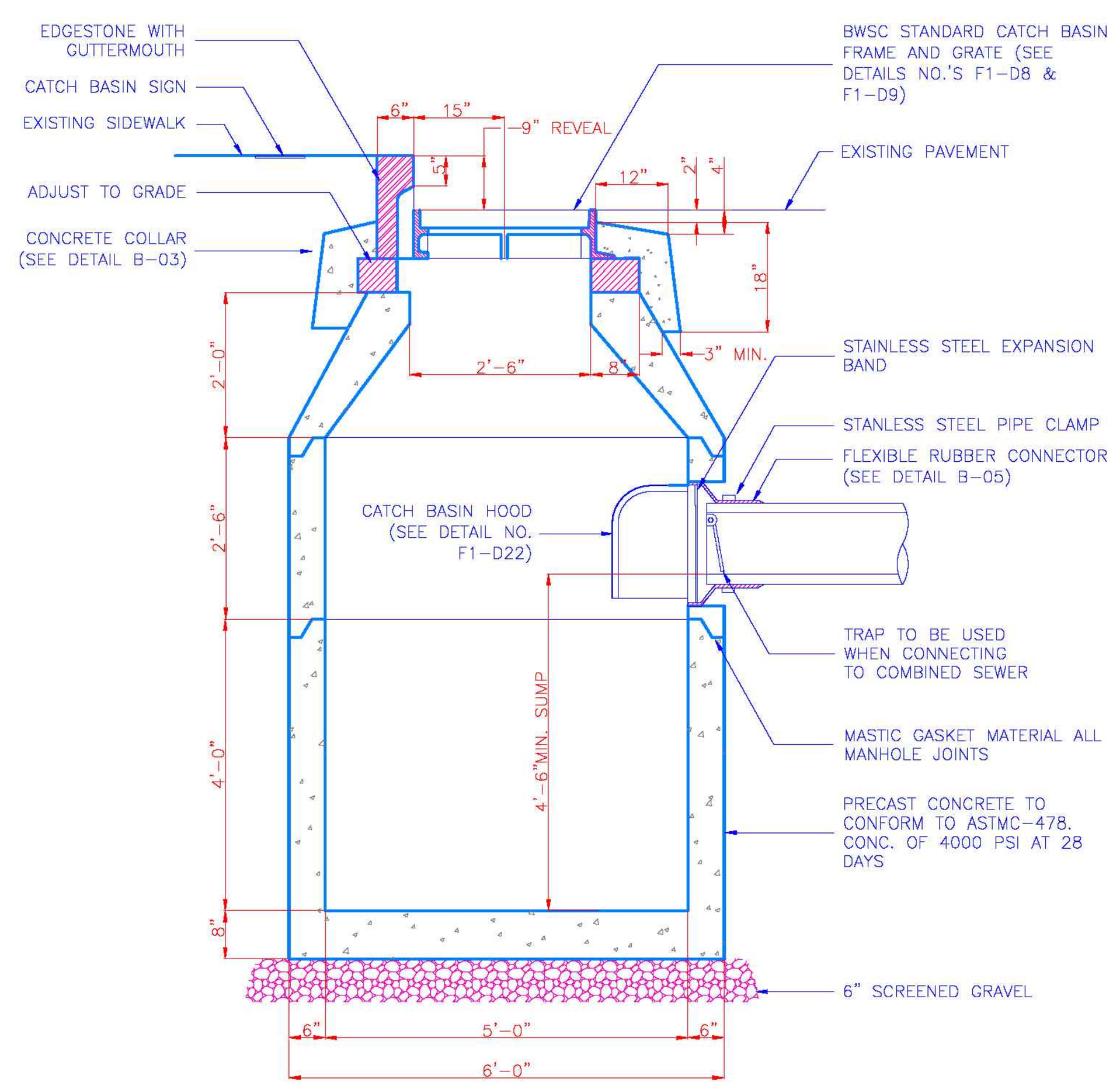
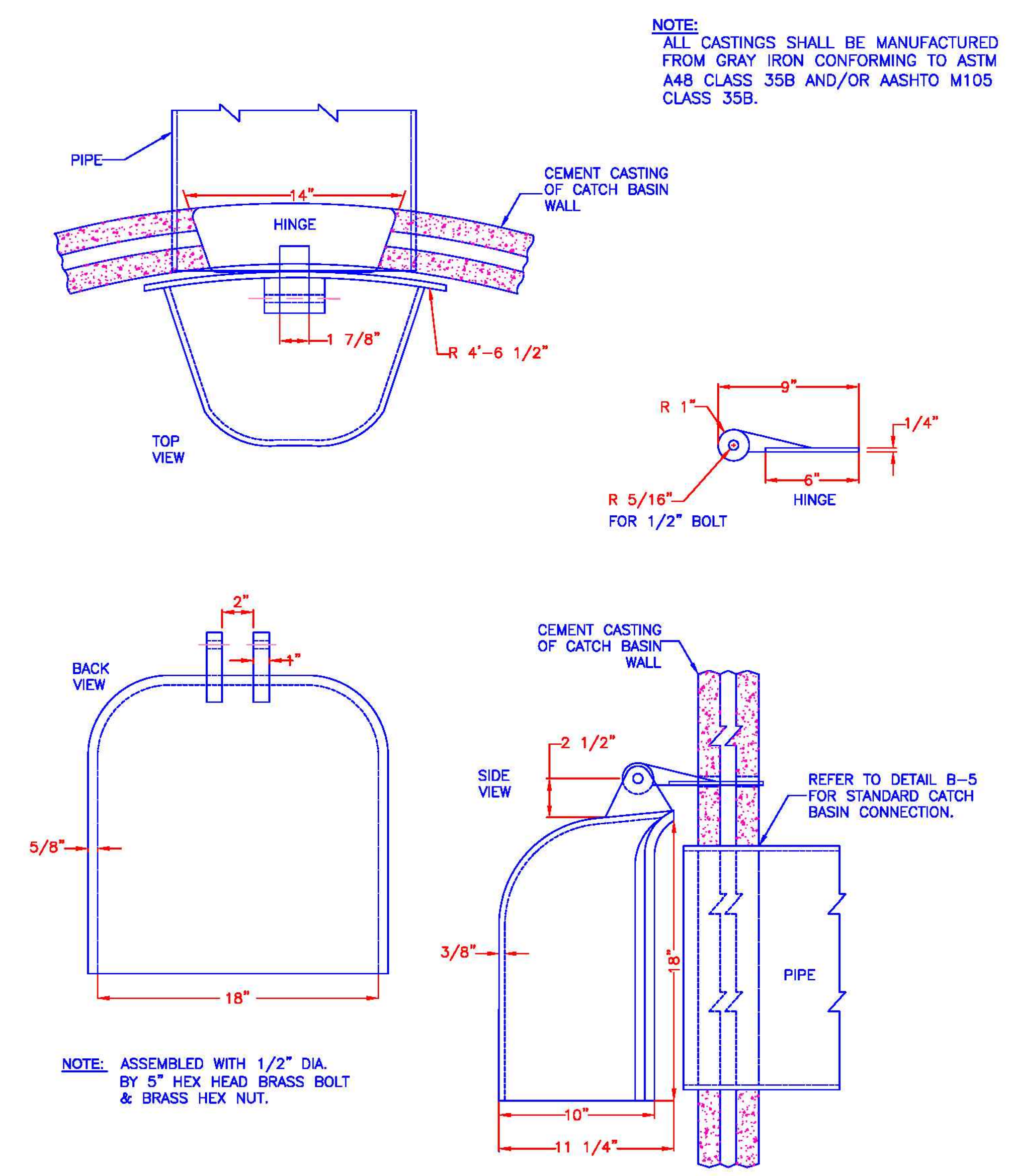


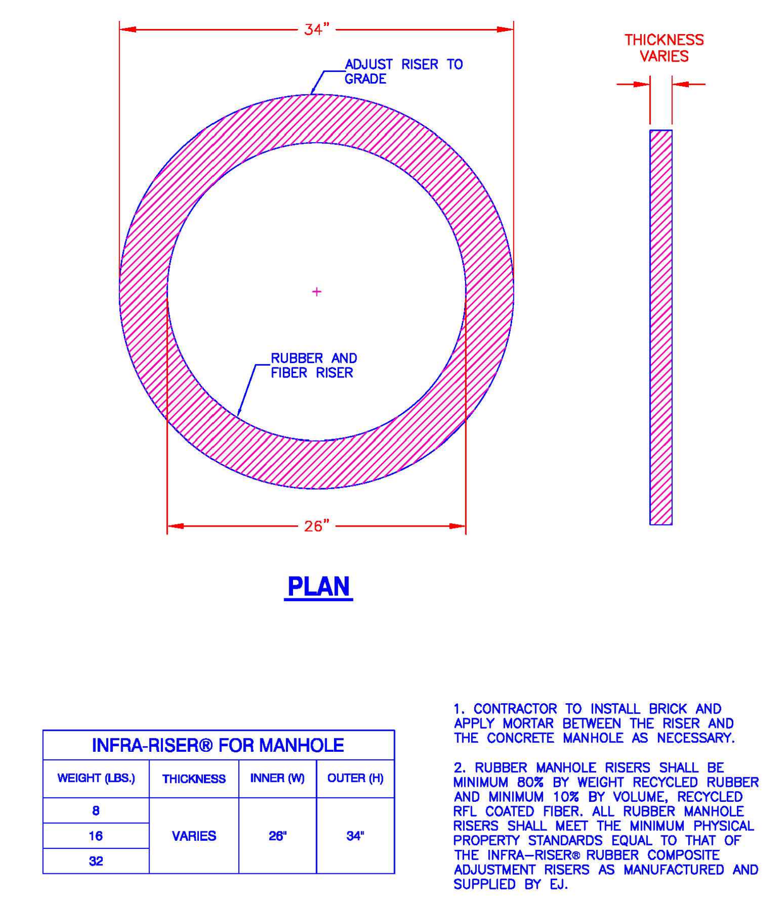
CATCH BASIN DETAIL

SCALE: NTS — DETAIL PROVIDED BY BOSTON WATER AND SEWER COMMISSION



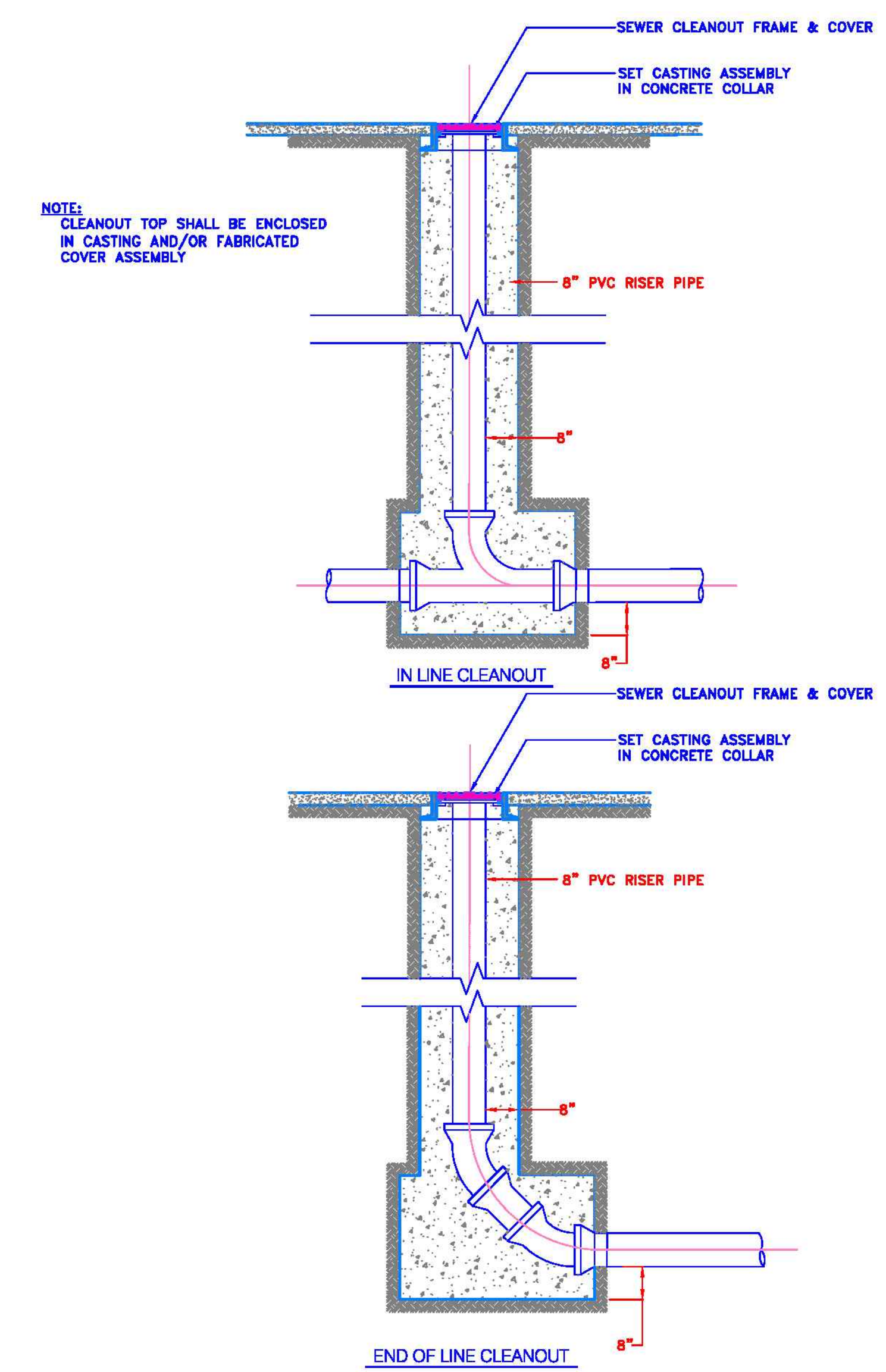
CATCH BASIN HOOD DETAIL

SCALE: NTS — DETAIL PROVIDED BY BOSTON WATER AND SEWER COMMISSION



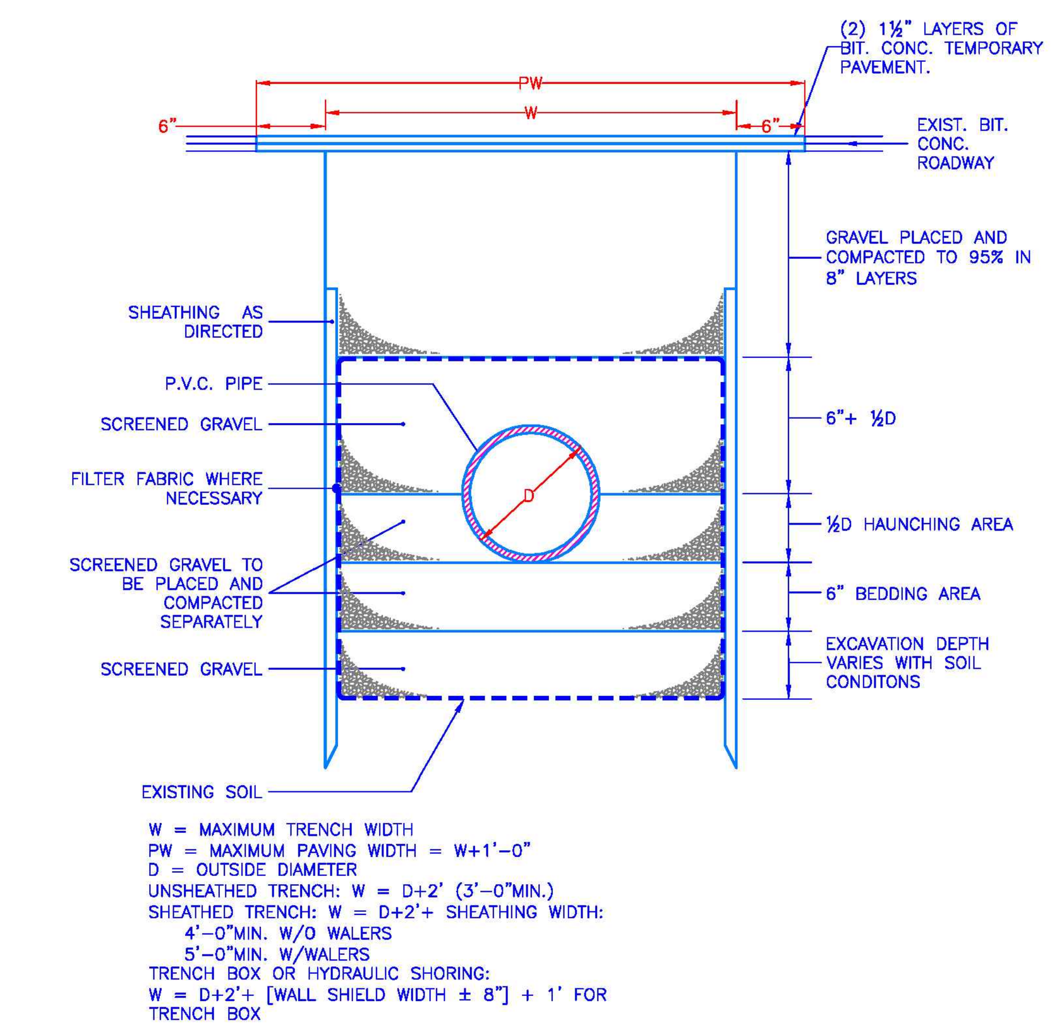
MANHOLE RISER

SCALE: NTS — DETAIL PROVIDED BY BOSTON WATER AND SEWER COMMISSION



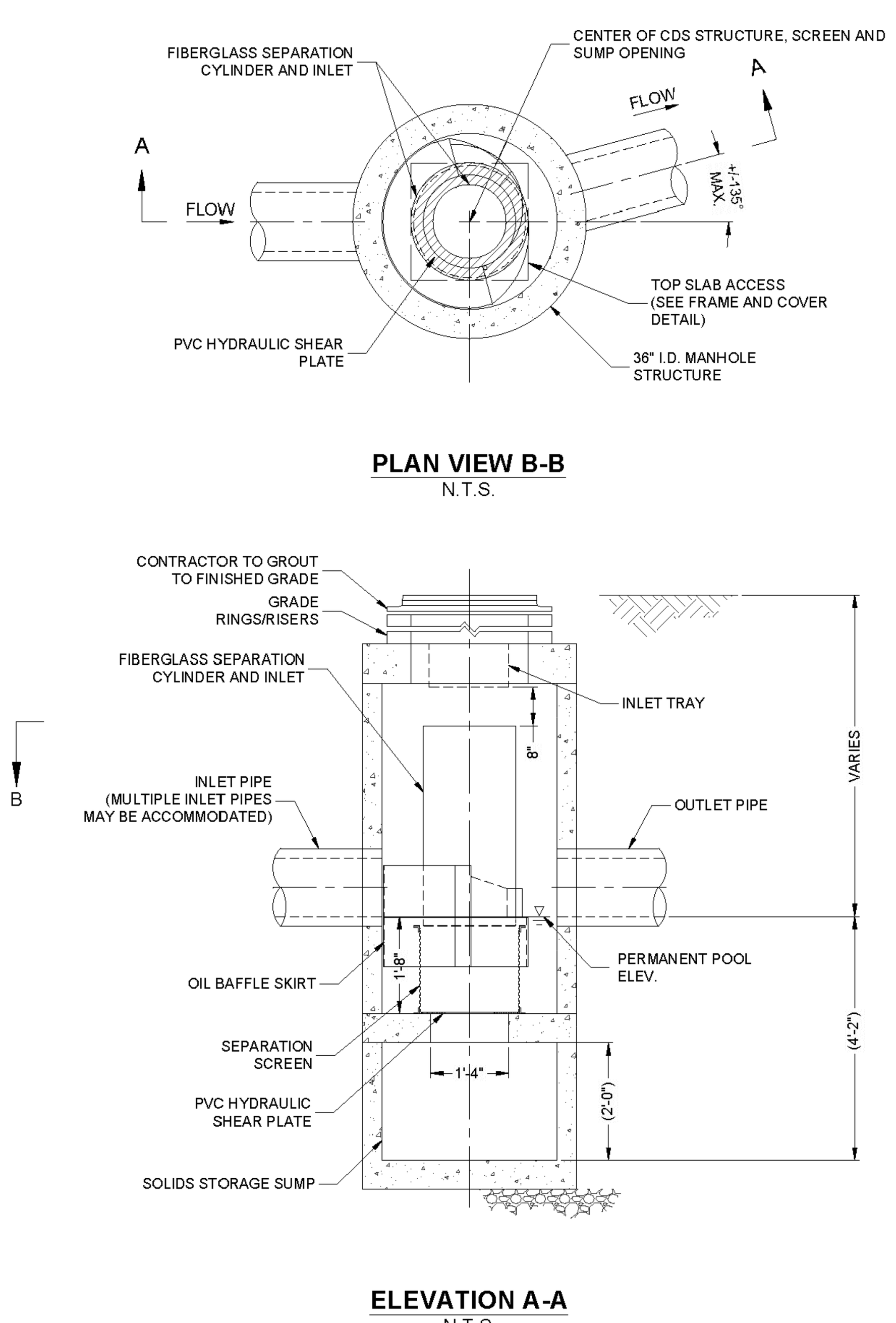
CLEANOUT DETAIL

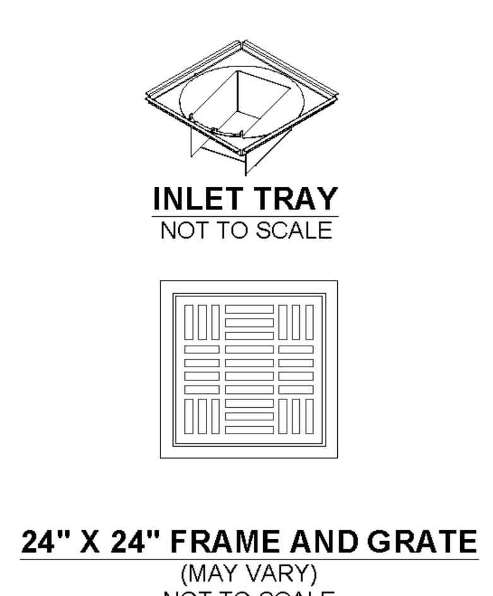
SCALE: NTS — DETAIL PROVIDED BY BOSTON WATER AND SEWER COMMISSION



PVC PIPE TRENCH DETAIL

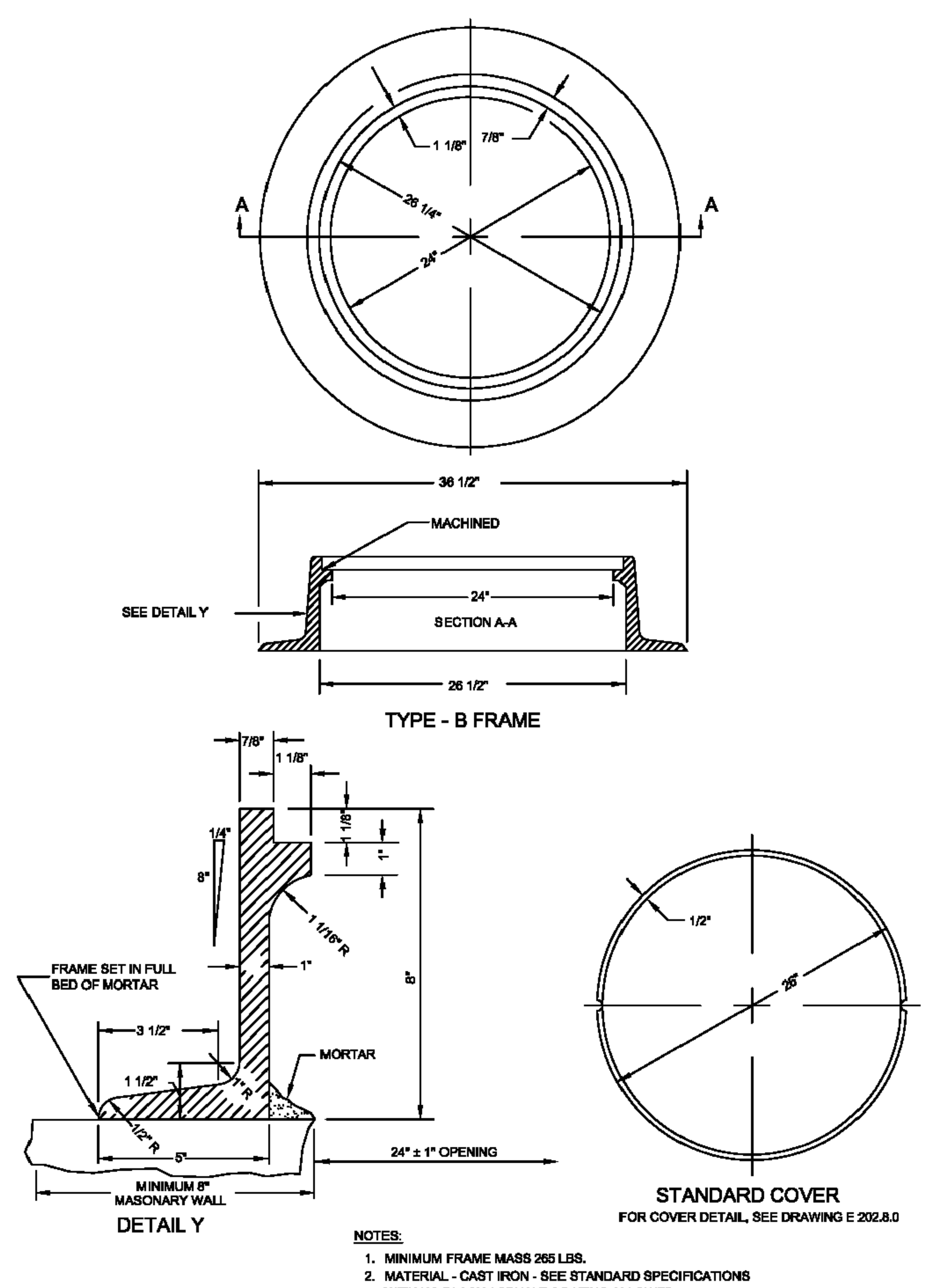
SCALE: NTS — DETAIL PROVIDED BY BOSTON WATER AND SEWER COMMISSION





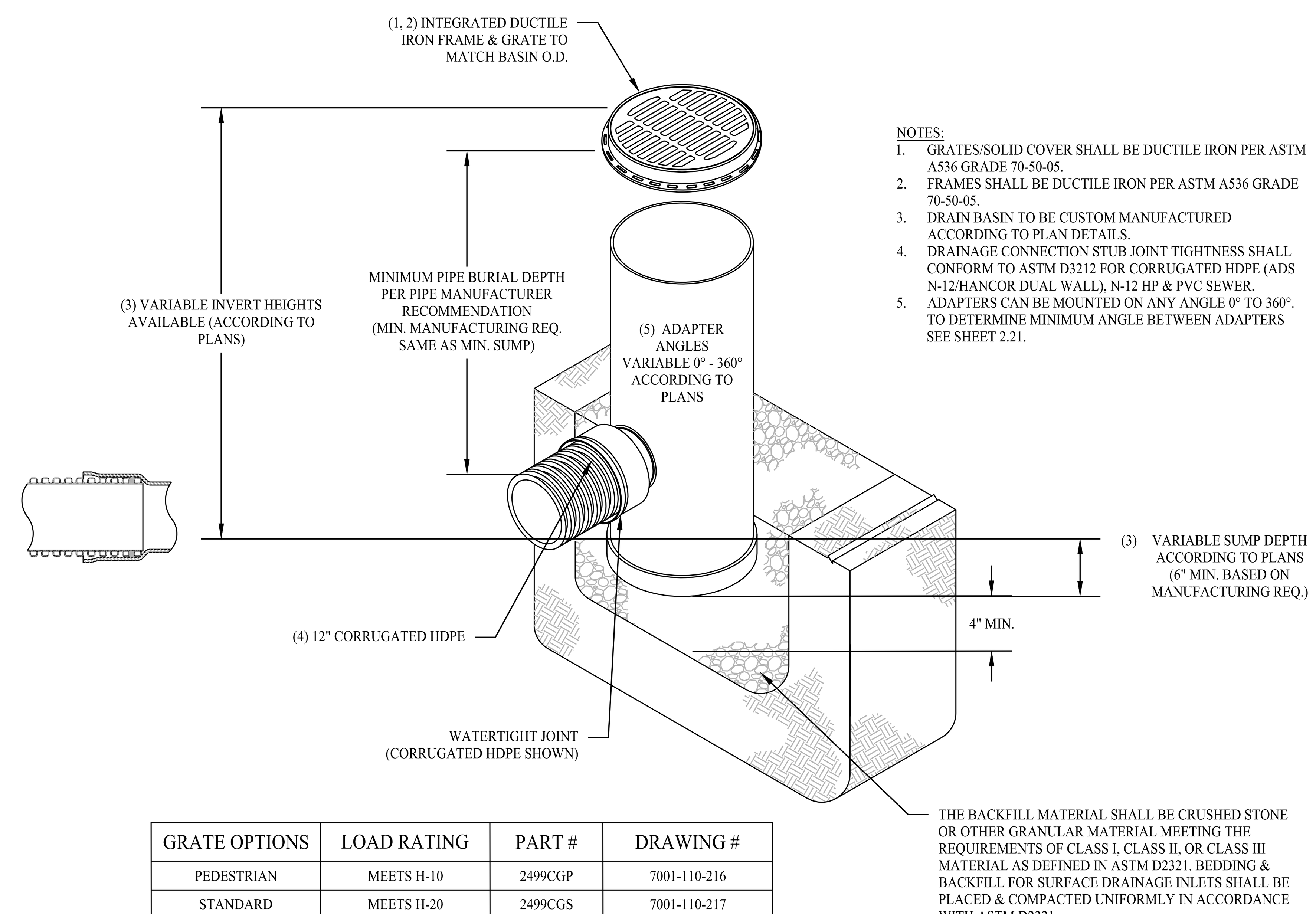
CONTECH HYDRODYNAMIC SEPARATOR (CDS1515-3-C) OR APPROVED EQUAL

SCALE: NTS — DETAIL PROVIDED BY CONTECH



MANHOLE FRAME & COVER

SCALE: NTS — DETAIL PROVIDED BY MASSDOT



NOTES:
1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP & PVC SEWER.
5. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE SHEET 2.21.

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	2499CGP	7001-110-216
STANDARD	MEETS H-20	2499CGS	7001-110-217
SOLID COVER	MEETS H-20	2499CGC	7001-110-218
DOME	N/A	2499CGD	7001-110-219
DROP IN GRATE	LIGHT DUTY	2401DI	7001-110-075

NYLOPLAST DRAIN BASIN (YARD DRAIN) DETAIL

SCALE: NTS — DETAIL PROVIDED BY NYLOPLAST

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Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	10/19/20
Scale:	NTS

Kevin Solli, P.E.
MA 51952

Project:

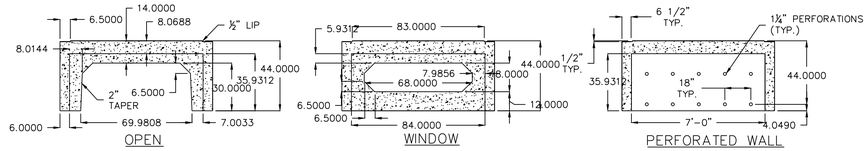
PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

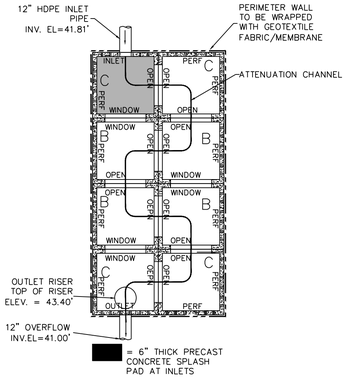
Sheet Title: CONSTRUCTION DETAILS

Sheet #: 3.03

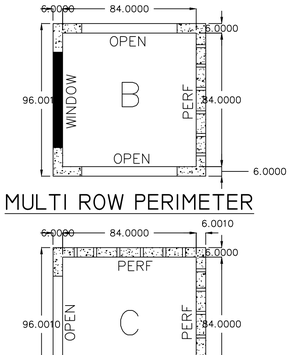
Mar 25, 2021 - 1:25pm Casey



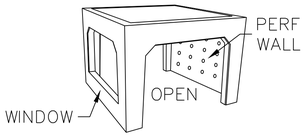
TYPICAL 3' UNIT DIMENSIONS



PLAN VIEW



MULTI ROW PERIMETER



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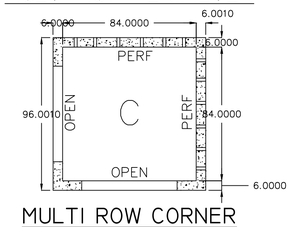
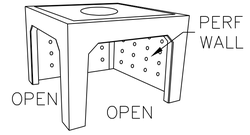


MULTI ROW CORNER



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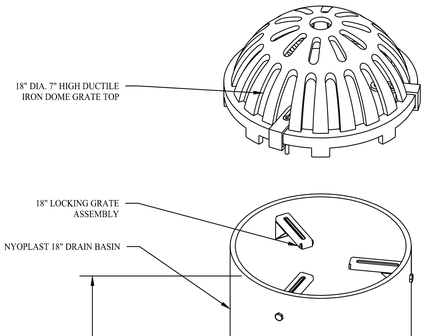
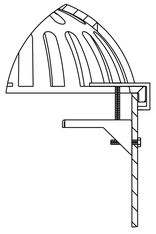
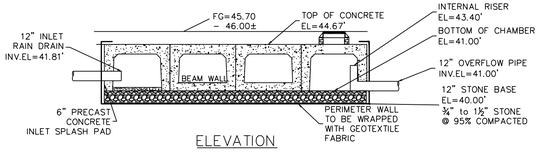




CUTOUT DETAIL

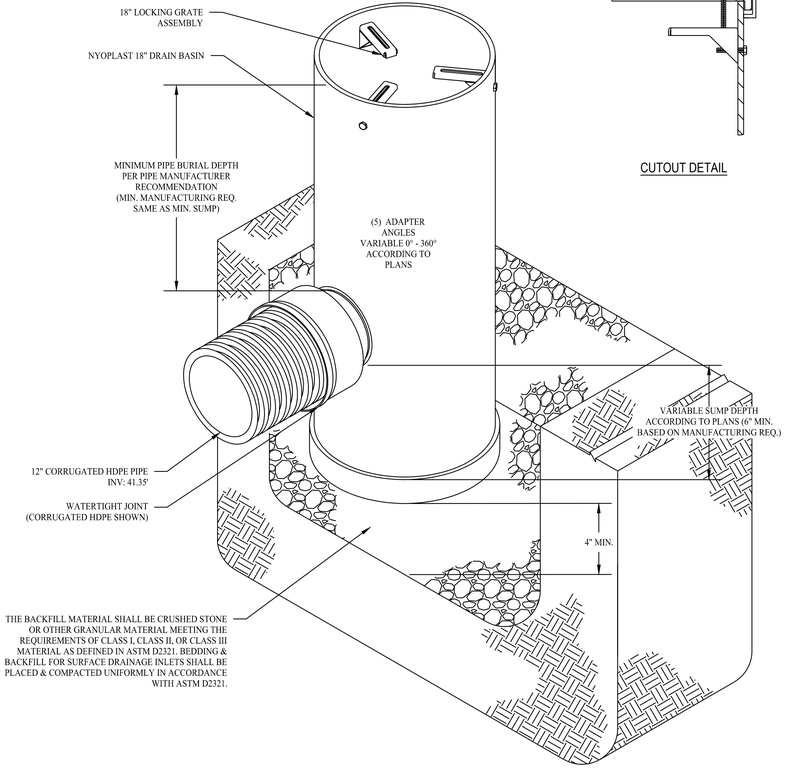


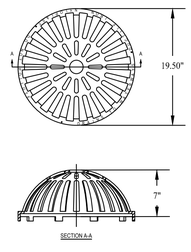
ELEVATION

3-FOOT CONCRETE INFILTRATION CHAMBERS (RETAIN-IT OR APPROVED EQUAL)

SCALE: NTS

DETAIL PROVIDED BY RETAIN-IT





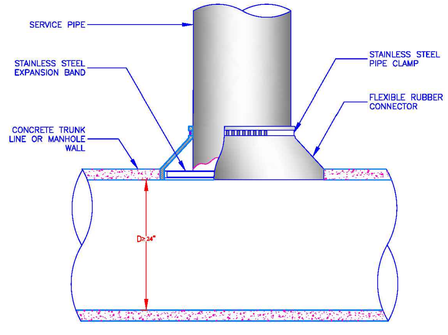
FRAME SIZE	EXTENSION HEIGHT	PART NUMBER
18"	1.50	1899CGER150
	2.00	1899CGER200
24"	1.50	2499CGER150
	2.00	2499CGER200
30"	1.50	3099CGER150
	2.00	3099CGER200

1 - GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - GRATE RISER EXTENSIONS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
4 - DIMENSIONS ARE IN INCHES

NYLOPLAST OUTLET CONTROL STRUCTURE DETAIL

SCALE: NTS

DETAIL PROVIDED BY NYLOPLAST



NOTES:
1. OPENING IN CONCRETE WALL SHALL BE CORED USING HIGH SPEED DIAMOND DRILL
2. ALL METAL FIXTURES SHALL BE OF STAINLESS STEEL
3. SERVICE LINE SHALL BE FLUSH WITH THE INSIDE OF THE CONCRETE PIPE OR WALL
4. IF TRUNK LINE DIAMETER IS LESS THAN 24" THEN A SADDLE TYPE CONNECTION WILL BE USED

TYPICAL FIELD CONNECTION TO LARGE CONCRETE PIPE OR CONCRETE MANHOLE

SCALE: NTS

DETAIL PROVIDED BY RETAIN-IT

Rev. #:	Date	Description
1	05/10/21	BWSC Response to Comments

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351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	STM
Checked By:	CJB
Approved By:	KMS
Project #:	2001001
Plan Date:	03/17/21
Scale:	NTS

COMMONWEALTH OF MASSACHUSETTS
KEVIN M. SOLLI
No. 51952
REGISTERED PROFESSIONAL ENGINEER
Kevin Solli, P.E.
MA 51952

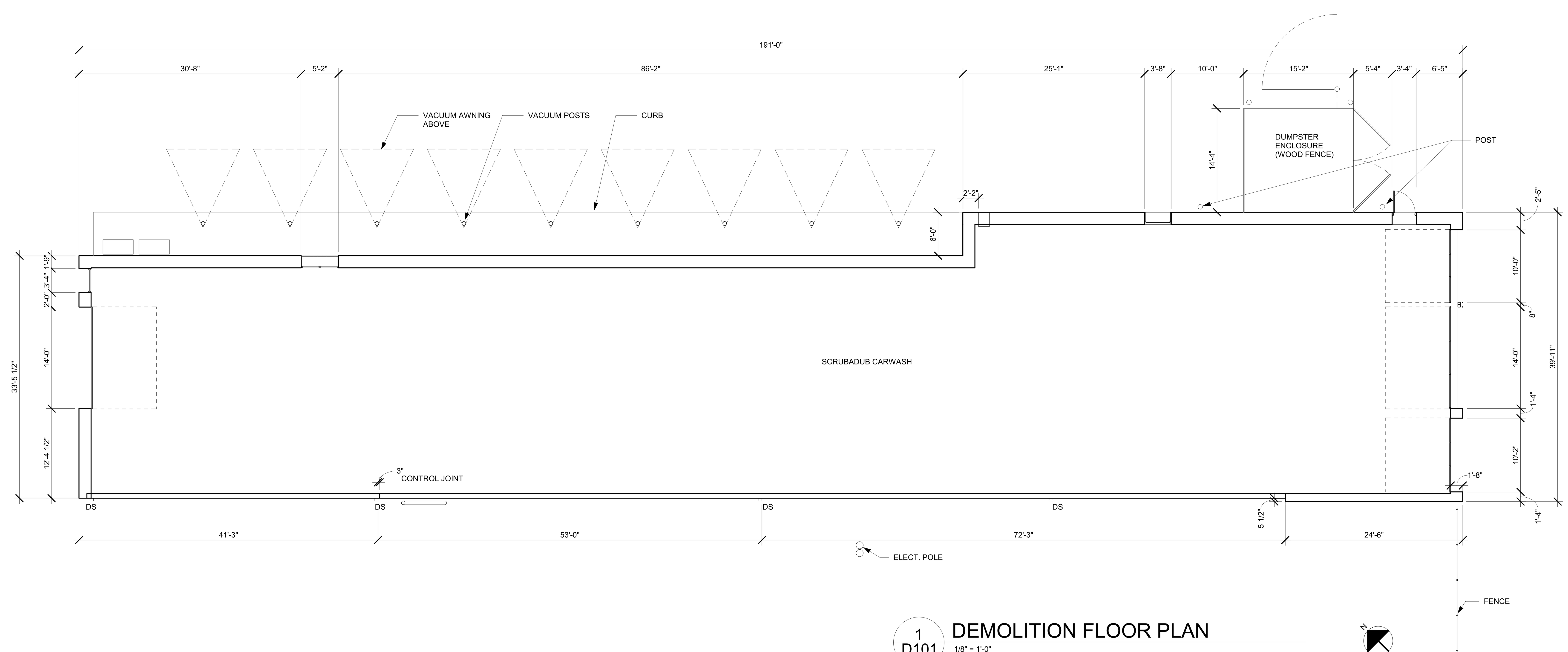
Project:

PROPOSED CARWASH IMPROVEMENT

565 AMERICAN LEGION HIGHWAY
ROSLINDALE, MASSACHUSETTS

Sheet Title:	Sheet #:
CONSTRUCTION DETAILS	3.04

May 11, 2021 – 12:00pm Sam
X:\SE Files\Project Data\2020\2001001 – ScrubaDub – Roslindale, MA\Cadd Data\2001001-3.04.dwg



1 D101 DEMOLITION FLOOR PLAN
1/8" = 1'-0"

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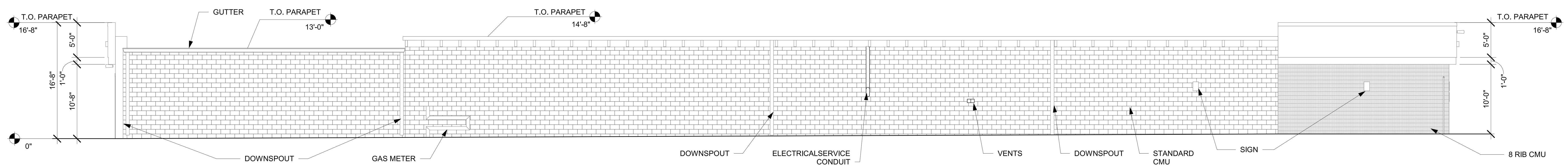
SCRUBADUB CARWASH
FACADE RENOVATION
565 AMERICAN LEGION HWY.
ROSLINDALE, MA 02131
JOB NUMBER: 40-20-27000

ISSUE BLOCK

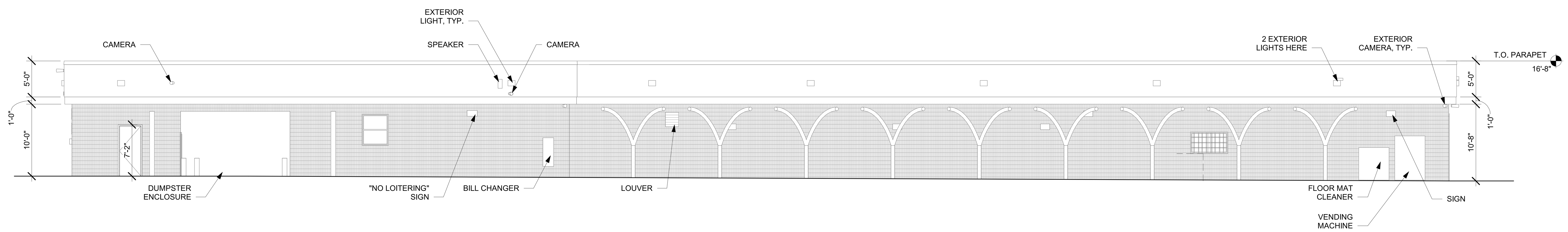
CHECKED BY:		VW
DRAWN BY:		BRN
DOCUMENT DATE:		Issue Date

DEMOLITION FLOOR PLAN

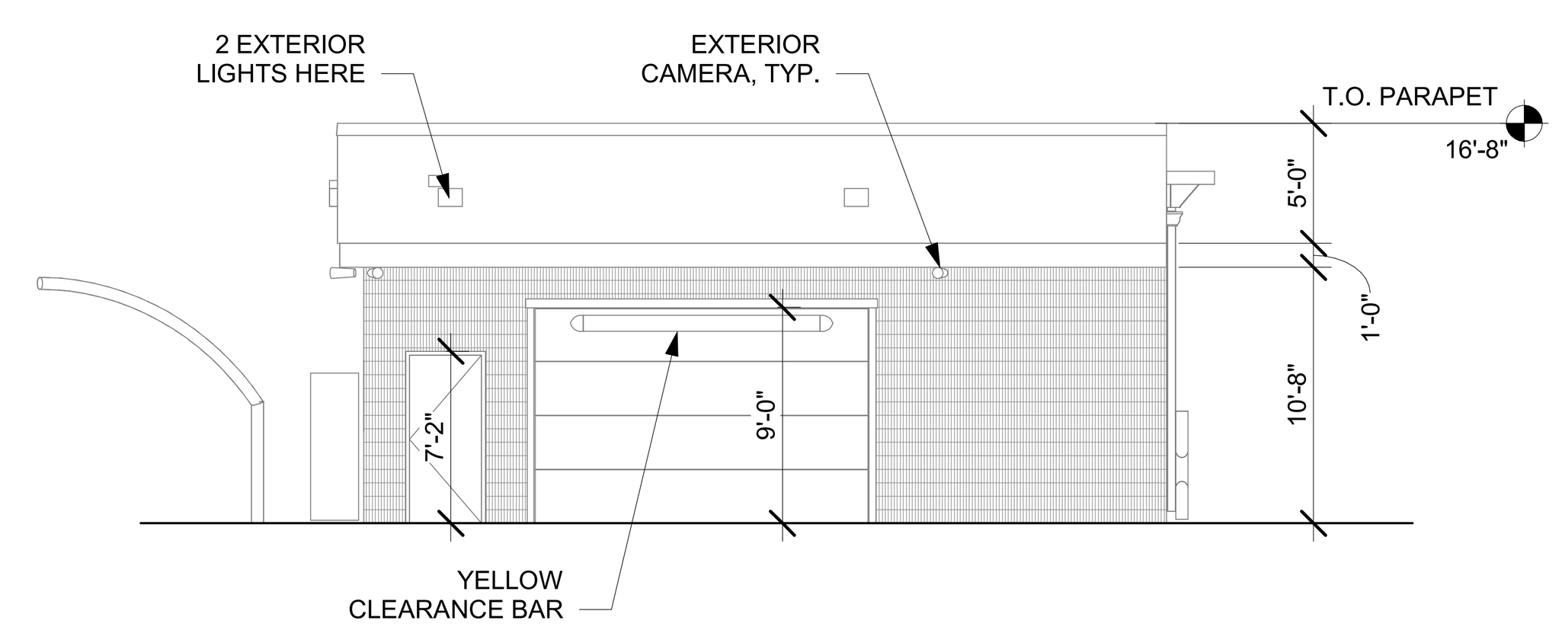
SHEET:
D101



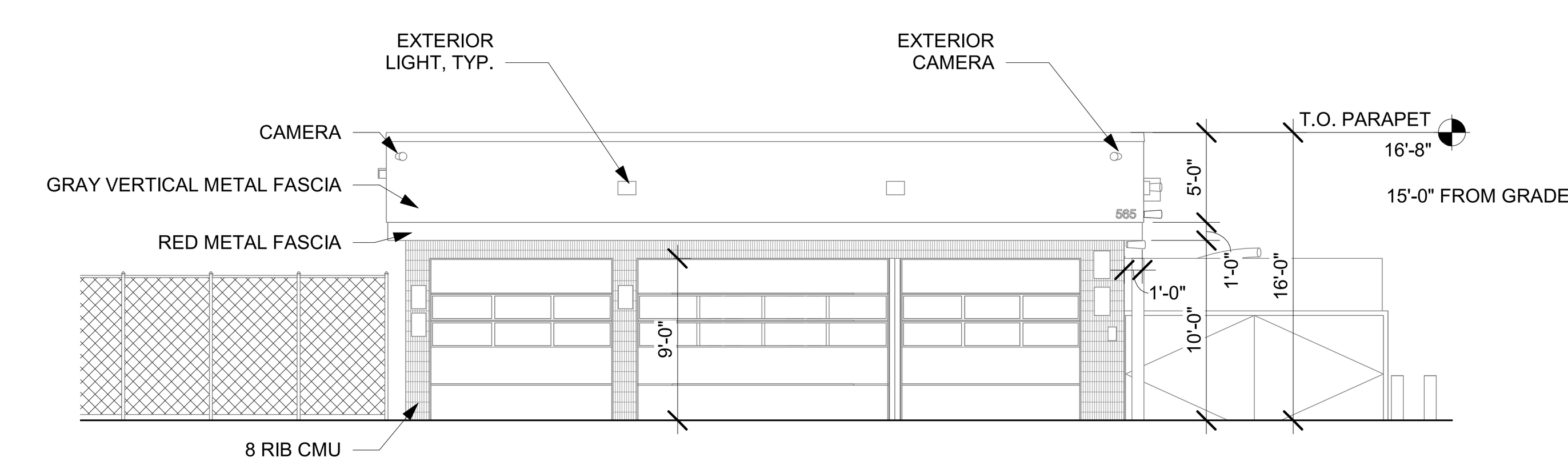
4 D201 SOUTH ELEVATION
1/8" = 1'-0"



2 D201 NORTH ELEVATION
1/8" = 1'-0"



3 D201 WEST ELEVATION
1/8" = 1'-0"



1 D201 EAST ELEVATION
1/8" = 1'-0"

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SCRUBADUB CARWASH FACADE RENOVATION

565 AMERICAN LEGION HWY.
ROSLINDALE, MA 02131
JOB NUMBER: 40-20-27000

ISSUE BLOCK

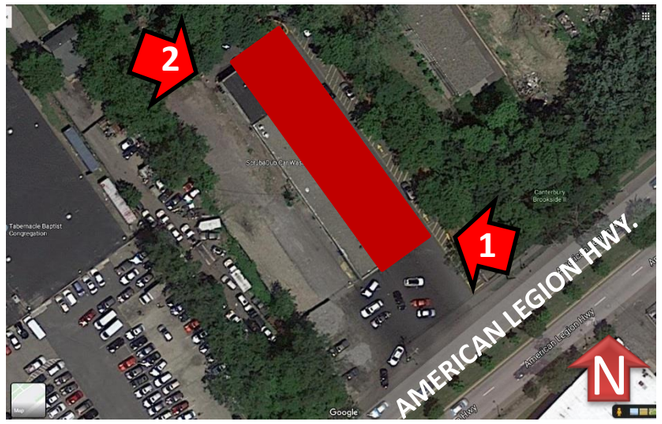
CHECKED BY: VW
DRAWN BY: BRN
DOCUMENT DATE: Issue Date

NOT FOR CONSTRUCTION

DEMOLITION ELEVATIONS

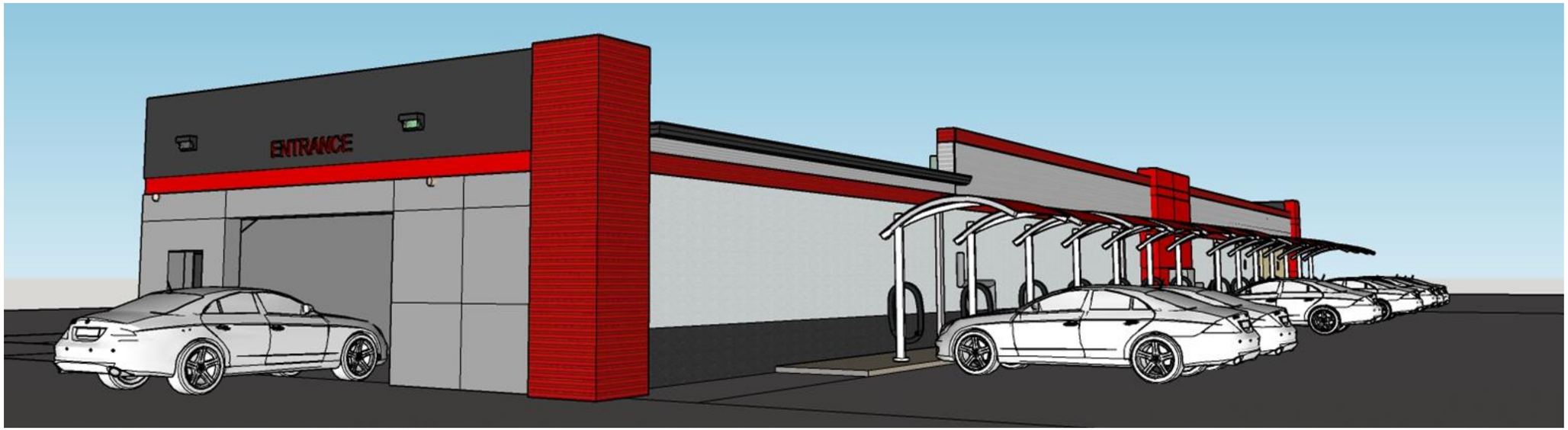
SHEET: D201

Car Wash Conceptual Design



Key Plan

View 1



View 2

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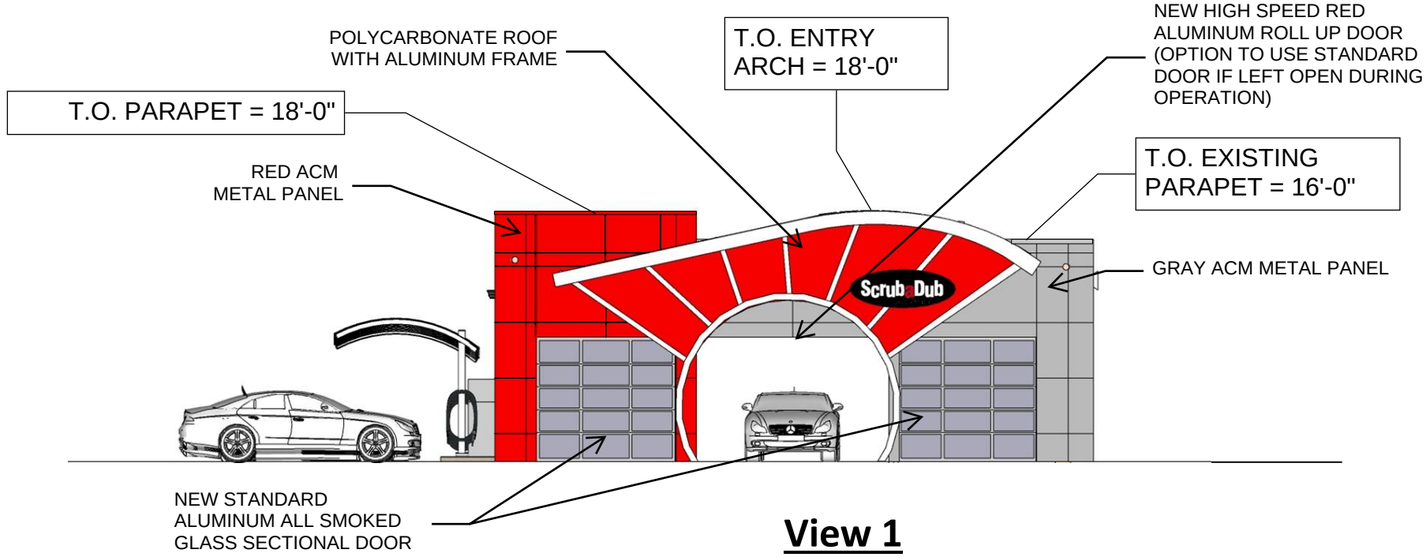
September 24, 2020

ScrubaDub Roslindale, MA

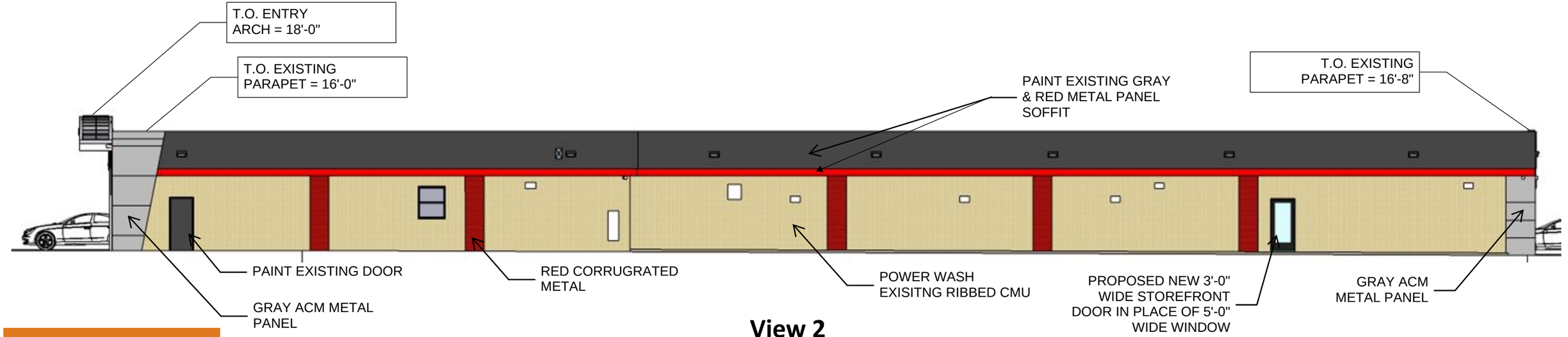
Facade Renovation

ScrubaDub
A Great Carwash

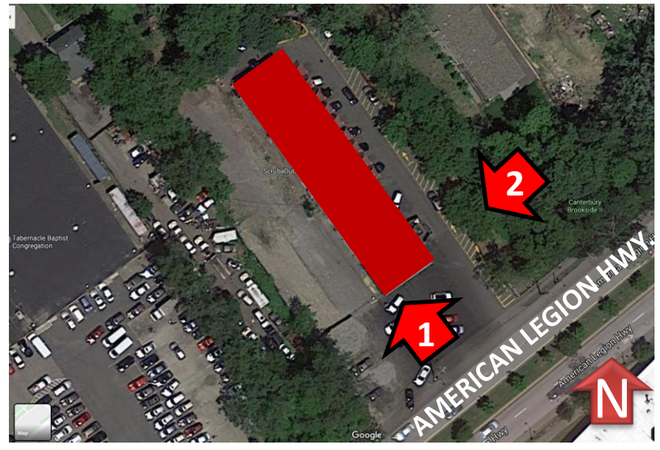
Car Wash Elevation View



View 1



View 2



Key Plan

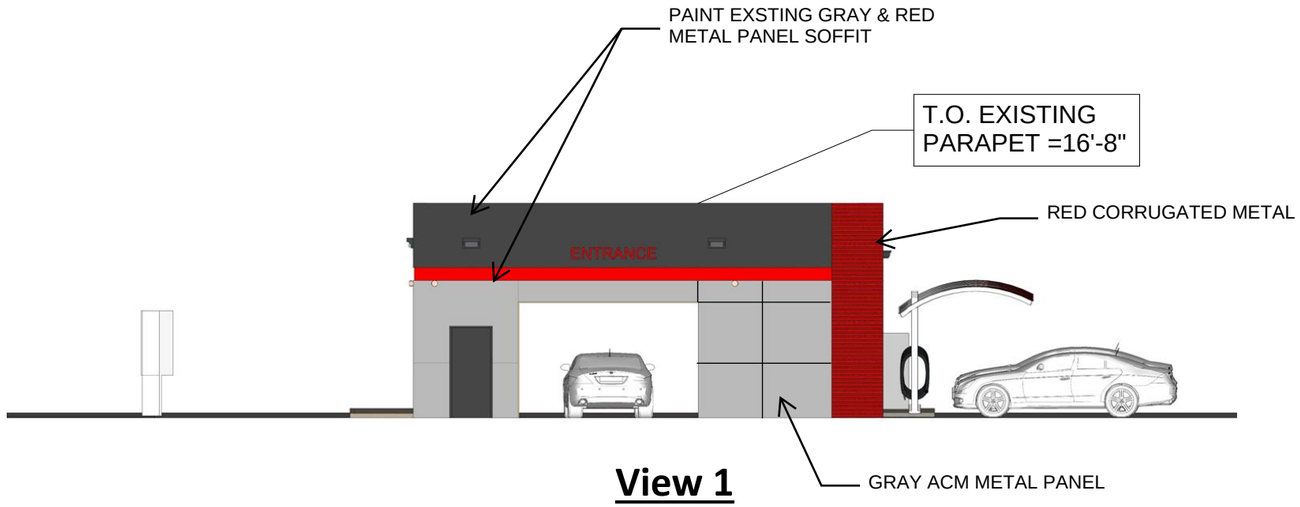
HFA
Creative Solutions
Meaningful *Places*

ScrubaDub Roslindale, MA

Facade Renovation

September 24, 2020

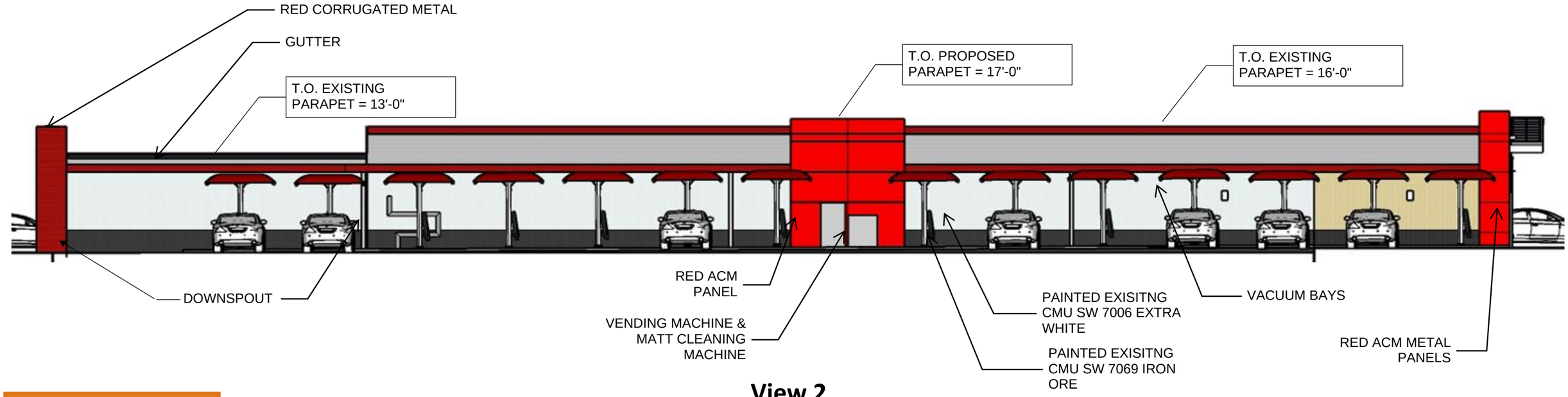
ScrubaDub
A Great Carwash



View 1

Overall Perspective View

Key Plan



View 2

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Car Wash Existing Condition Photos

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Precedent Photos

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